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FALL QUARTER, 1983
August 1. Application for admission and transcripts for day students should be on file.
August 29. Beginning advisement and registration for Fall Quarter for new and former students.
September 19. Instruction begins.
September 30. Last day to enter a class.
October 7. Deadline for filing for graduation or certificate for Fall Quarter.
October 14. Last day to elect for CR/NC or letter grade.
November 11-12. Veterans Day Holiday.
November 23. Last day to withdraw from course without penalty.
November 24-25-26. Thanksgiving Holiday.
December 13-16. Final Examinations.
December 16. Fall Quarter Ends.

WINTER QUARTER, 1984
November 14. Application for admission and transcripts for day students should be on file.
January 3. Instruction begins.
January 16. Last day to enter a class.
January 20. Deadline for filing for graduation or certificate for Winter Quarter.
January 27. Last day to elect for CR/NC or letter grade.
February 13. Lincoln Day Holiday.
March 2. Last day to withdraw from course without penalty.
March 22. Winter Quarter ends.
March 23. Spring Recess.

SPRING QUARTER, 1984
February 14. Application for admission and transcripts for day students should be on file.
March 26. Instruction begins.
April 6. Last day to enter a class.
April 13. Deadline for filing for graduation or certificate for Spring Quarter.
April 20. Last day to elect for CR/NC or letter grade.
April 24. Last day to withdraw from course without penalty.
May 28. Memorial Day Holiday.
June 14. Spring Quarter ends.
June 15. Graduation.

1983
JULY .......................... JANUARY ..........................
1 2 3 4 5 6 7
3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31

AUGUST .......................... FEBRUARY ..........................
1 2 3 4 5 6
7 8 9 10 11 12
13 14 15 16 17 18
19 20 21 22 23 24
25 26 27 28 29 30

SEPTEMBER .......................... MARCH ..........................
1 2 3 4 5 6
7 8 9 10 11 12
13 14 15 16 17 18
19 20 21 22 23 24
25 26 27 28 29 30

OCTOBER .......................... APRIL ..........................
1 2 3 4 5 6
7 8 9 10 11 12
13 14 15 16 17 18
19 20 21 22 23 24
25 26 27 28 29

NOVEMBER .................................. MAY ..........................
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31

DECEMBER .......................... JUNE ..........................
1 2 3 4 5 6 7 8
9 10 11 12 13 14 15
16 17 18 19 20 21 22
23 24 25 26 27 28 29
30 31

Additional information pertaining to advisement, registration, final examinations, as well as other dates will be listed in the Schedule of Classes.
<table>
<thead>
<tr>
<th>Name</th>
<th>Position/Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAULA A. MAUCERE (1979)</td>
<td>Instructional Aide, Learning Disabilities Center</td>
</tr>
<tr>
<td>ANDREW B. MAURER (1974)</td>
<td>Graphic Artist, Instructional Materials Center</td>
</tr>
<tr>
<td>NEIL A. MILL (1973)</td>
<td>Instructional Aide, Social Sciences</td>
</tr>
<tr>
<td>JOHN H. MILLER (1971)</td>
<td>Supervisor, Buildings and Maintenance</td>
</tr>
<tr>
<td>NANCY M. MYERS (1982)</td>
<td>Program Aide, Career Center</td>
</tr>
<tr>
<td>LUIS C. RAMIREZ (1979)</td>
<td>Supervising Custodian</td>
</tr>
<tr>
<td>DAVID A. RICHMOND (1975)</td>
<td>Electronics Technician, Instructional Materials Center</td>
</tr>
<tr>
<td>RONALD R. ROACH (1976)</td>
<td>Media Assistant, Library</td>
</tr>
<tr>
<td>JOHN R. ROSS (1978)</td>
<td>Director, Instructional Materials Center</td>
</tr>
<tr>
<td>MARGARET A. SCIARONI (1975)</td>
<td>Coordinator, College Re-entry and Student Placement/ Clerk, Admissions and Records</td>
</tr>
<tr>
<td>JILL L. SOUTHARD (1982)</td>
<td>Instructional Aide, Physical Education</td>
</tr>
<tr>
<td>PATRICIA C. THOMAS (1972)</td>
<td>Account Clerk, Business Services</td>
</tr>
<tr>
<td>CAROL A. VAUGHN (1974)</td>
<td>Typist Clerk, Instructional Materials Center</td>
</tr>
<tr>
<td>BEE A. WADDELOW (1978)</td>
<td>Secretary, Dean of Instruction</td>
</tr>
<tr>
<td>CHRISTINE M. WALKER (1978)</td>
<td>Instructional Aide, Learning Skills</td>
</tr>
<tr>
<td>ARLENE F. WALLACE (1968)</td>
<td>Secretary, President</td>
</tr>
<tr>
<td>JAMES B. WOOD, SR. (1977)</td>
<td>Custodian</td>
</tr>
<tr>
<td>MELINDA G. WRIGHT (1975)</td>
<td>Instructional Aide, Learning Skills</td>
</tr>
</tbody>
</table>

-NOTES-
COLUMBIA COLLEGE

History

Columbia College and Modesto Junior College are the two community colleges located in the Yosemite Community College District. The former Modesto Junior College District was expanded into the larger Yosemite Community College District in 1964 by action of the district electorate. The district boundaries include more than ten miles of the Sierra Nevada on the east, the foothills of the Coast Range on the west, San Joaquin Valley from the Coast Range to the Sierra Nevada on the east. The boundaries include nearly 4,000 square miles encompassing all of Tuolumne and Stanislaus Counties and parts of San Joaquin, Merced, Calaveras and Santa Clara Counties.

Because of an increase in student enrollment, the need for greater educational opportunities in the mountain counties, and the great distance schools are forced to travel for students to attend Modesto Junior College, the Yosemite Community College District Board of Trustees authorized the formation of Columbia Junior College and scheduled its opening for September, 1968. The word "Junior" was dropped from the College name in 1978.

Campus and Facilities

Campus buildings are planned around San Diego Reservoir from which 4,000 foot foothills join the rugged majesty of the Sierra Nevada. In keeping with the historic atmosphere of the Mother Lode Region, the design concept of the campus is in the architectural style of early California during the Gold Rush Days. In this unusual and picturesque setting, the College is committed to a comprehensive program of academic and occupational education which focuses on the worth and dignity of each student.

More than 200 acres of forest and land adjacent to Columbia State Historic Park in Tuolumne County were acquired from the U.S. Department of Interior, Bureau of Land Management, as the site for the Columbia College.

Accreditation

Columbia College is accredited by the Accrediting Commission for Junior Colleges, Western Association of Schools and Colleges. The College is listed in directories of the United States Office of Education, the California State Board of Education, and the Western Association of Schools and Colleges.

Appropriate lower division courses completed at Columbia College will be accepted with full credit upon transfer to California State Universities and other four-year colleges.

Philosophy

This community college is dedicated to the worth and dignity of each student. Its primary responsibility is to the goals of the student, his/her needs, desires, and aspirations.

We believe an effective education teaches that one has a life to live as well as a living to earn. Columbia College will, therefore, involve the student in developing his/her capabilities to become a useful and contributing member of society. This objective will be accomplished through a living, dynamic and continuing exciting experience in which each individual can confront opportunities to participate actively in the learning process. In effect, education will not happen to him/her, but with him/her and by him/her.

Guiding Principles

Each student is a separate and unique individual who shall be accepted as such. It shall be the responsibility of each student and staff member to accept and perpetuate the philosophy of this College.

This College shall provide a focus on learning as an individual process that can be best accomplished through active involvement in a setting of reality. It shall be recognized that learning is a logical outgrowth of experiences that are meaningful to each student and not the rote acquisition of a specific body of knowledge.

The College shall be characterized by its flexibility in meeting student needs. Every facet of the institution shall expect and promote this quality.

This College shall serve the total community. It will provide educational opportunities for all people of post high school age, regardless of socioeconomic class, level of aspiration, or previous performance. Thus, this college shall adhere strictly to the open-door policy.

The College shall combine the strengths of the various disciplines, so that each will contribute to and support the bases used by students to reach their goals. No single instructional area or individual will be self-sustaining, but only as a component of the student's educational progress.

This College shall perceive achievement as a function of individual growth and not of time alone. Progress will not terminate at an artificial barrier, but continue on through the student's goals.

This College shall focus on student success. This will be accomplished by preserving an environment where each individual will be nourished by their specific ability to profit from education to the fullest extent of his capabilities.

This College shall be responsive to the needs and desires of the total community. This responsibility will transgress the artificial boundaries of town, county, or region in providing a meaningful expression of the occupational, intellectual, sociological, and cultural needs of this community.

The personnel, functions, and services provided at this College shall be continuously enhanced by their specific ability to meet the needs of students in reaching their particular goals. None shall base its existence upon the sole fact that it is a usual occurrence at a Community College.

This College shall enable each student to acquire the trait of learning as a lifelong pattern. Learning will be considered a continuous process and not an isolated incident in given time or place.

This College shall require that each member of the faculty assume the dual roles of academic advisor in general and specific academic counselor in his/her discipline. This responsibility shall be apparent in student-faculty relationships and will not be the sole responsibility of Student Services personnel.

This College shall be committed to continuous planning, development, and improvement. It shall seek and expect constant reexamination as a natural process for making appropriate modifications in every phase of its activities.

There shall be change with a purpose. Toward this end the College shall seek innovation, support creativity and imagination, while conformity for its own sake will be ignored. It shall consider technological and methodical advances which appear to have promise.

The natural and human resources adjacent to and beyond the campus shall be an integral part of the educational program.

The College shall encourage student involvement in responsible citizenship.

College Functions

Implementation of the philosophy and guiding principles of this College shall be carried out through a variety of functional actions which may be described as the actions the College will perform in meeting the defined needs of its students.

I. General Education Function

Provide a broad program of knowledge and skill acquisition in humanities, arts, and sciences for personal development.

II. Transfer Education Function

Provide a comprehensive program that meets the lower division requirements for acceptance at designated institutions.

III. Occupational Education Function

Provide specialized training programs needed to develop occupational competencies.

IV. Remedial Education Function

Provide assistance to those basic competencies needed for effective participation in programs leading to his/her goal.

V. Educational and Planning Function

Provide an opportunity for students to attain personal goals through a program of realistic planning and direction.

VI. Continuing Education Function

Provide continuing educational and vocational activities for adults.

ADULT AND CONTINUING EDUCATION

Columbia College is committed to meeting the educational needs of adults in our community. Through Continuing Education programs a variety of credit and non-credit classes are offered which fulfill requirements leading to an A.A. or A.S. Degree, a high school diploma, or an assortment of vocational certificates. Most of these classes are offered during the evening at locations both on and off campus. Continuing Education classes are designed to provide opportunities to resume interrupted education, to investigate new fields of interest, and for general education for self-improvement and enriched living.

HIGH SCHOOL CREDIT COURSES

A high school student may be admitted to the college if he/she:

1) Is 18 years of age or older.
2) Is married and less than 18 years of age.
3) Is less than 18 years of age, but he/she is required to obtain a signed release from the superintendent of his/her high school district of residence, stating the classes he/she is allowed to take.

The College will certify completion of courses which fulfill high school graduation requirements as determined by the high school of residence. The high school of residence will officially award the diploma.

College units used toward the High School diploma are not applicable toward the Associate degree.

High School Equivalency Diploma (G.E.D.)

Columbia College serves as an official General Educational Development Testing Center and provides the opportunity to obtain the High School Equivalency (G.E.D.) Diploma.

COMMUNITY SERVICES

Community Services sponsors many programs including public lectures, forums, concerts, art exhibits, and film series. The Citizen's Information Center is a one-stop service without charge; campus tours; short courses; community recreation; and a public information program. A citizen's committee advises the College of needs and evaluates proposals and programs.

The College is a center for community functions of various kinds. College facilities are available for use by recognized community groups when such use does not interfere with the regular educational program.

NON-DISCRIMINATION

In compliance with Title VI of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Age Discrimination Act of 1975, Columbia College does not discriminate on the basis of race, color, national origin, sex, handicap or age in its educational programs or employment.
Inquiries concerning the application of the above Federal laws to programs or activities of the College may be directed to the following persons at Columbia College, P.O. Box 1849, Columbia, CA 95310:

**Title IX:** Ms. Jerry Lyon, Coordinator  
(209) 533-5216

**Section 504:** Mr. Paul Lockman, Director  
Handicapped Students Program  
(209) 533-5132

**OPEN CLASS POLICY**

Unless specifically exempted from statute, every course, course section, or class, the average daily attendance of which is to be reported for state aid, is open to enrollment and participation by any person who has been admitted to the college and who meets such prerequisites as may be established.

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Exception to this policy will be made where health, safety, legal requirements or the facility is a limiting factor in the conduct of the course. Students denied enrollment by this policy may appeal to the Dean of Student Services.

**STATEMENT OF INTENT**

The Yosemite Community College District and Columbia College have made every reasonable effort to determine that everything stated in this catalog is accurate. Courses and programs offered together with other matters contained herein, are subject to change without notice by the administration of the Yosemite Community College District or Columbia College for reasons related to student enrollment, level of financial support, or for any other reason, at the discretion of the District and the College. The District and the College further reserve the right to add, amend, or repeal any of their rules, regulations, policies and procedures.
Eligibility
Graduates of accredited high schools, persons holding a high school Certificate of Proficiency, or those persons 18 years of age or older who are able to profit from instruction and who meet the residence requirement are eligible for admission to Columbia College. Admission with previously earned credits will be granted upon evidence of official transcripts showing satisfactory scholarship and an unqualified honorable dismissal from an accredited college. The students must request the previous colleges of attendance to mail transcripts directly to Columbia College.

Residence Requirements
Persons 18 years of age and older have the legal right to establish their own residence for purposes of admission. A statement verifying legal residence is required to be filed with the College prior to initial registration. A student is qualified to attend Columbia College if he/she meets one of the following residence requirements:

(1) Is a legal resident of the Yosemite Community College District with a local address.
(2) Is a legal resident of a California high school district not affiliated with a community college district.
(3) Is a student whose legal residence is in another state and pays the out-of-state fee.
(4) Is an international student who complies with special admission requirements and pays the non-resident fee.

Admission of Non-Resident Students
Columbia College accepts students who are residents of other states if they meet all admission requirements. A minor's residence is the same as that of his/her parents or legal guardian.

Residency determination dates for 1983-84 are September 19, 1983, for Fall Quarter; January 3, 1984, for Winter Quarter; and March 26, 1984, for Spring Quarter.

Nonresidents of California, including international students, are required to pay an out-of-state tuition fee of $58.00 per unit. Tuition refunds are based on the following schedule: before or during the first week of instruction, 90 percent; second week of instruction, 50 percent. No refund permitted after the second week of instruction.

Applications should be submitted as early as possible in order to allow for processing. A local address must be submitted before completion of registration.

Readmission
A student who plans to return to Columbia College after an absence of one calendar year or more must file an application for readmission. Transcripts are required if the student has attended another college since last attending Columbia College.

Notice of Acceptance
New and former students will be notified officially of their acceptance and advisement appointment after all application forms and documents have been received. This notice is mailed approximately four weeks prior to the first day of the quarter. Early advisement is available to allow the student a maximum choice of classes.

Schedule of Classes
A Schedule of Classes is the official listing of courses. It is published each quarter of the academic year.

The College reserves the right to make additions or deletions to the Schedule of Classes. Any class in which the enrollment is too small to justify continuance may be cancelled.

Admission of International Students
In the belief that students from foreign countries make significant contributions to the college community while preparing for leadership roles in their home countries, Columbia College accepts a limited number of international students each year.

The College may restrict the number of international students from a foreign country so that many nations of the world may be represented on the Columbia campus. Students are required to submit the following information by May 1 for admission to the following Fall Quarter.

(1) Complete the COLUMBIA COLLEGE INTERNA­TIONAL STUDENT SUPPLEMENTAL APPLICATIONS FOR ADMISSION.
(2) Submit the following credentials translated into English and certified:
(a) Complete secondary or school leaving records listing courses taken and examination results (rank in class if available)
(b) Other diplomas or certificates (rank in class if available)
(c) National examination results
(d) University entrance examination results (rank in class if available)
(e) Complete record of any college, university or other postsecondary records listing courses taken and examination results. Specify any course not completed (rank in class if available)
(f) Submit official results of the Test of English as a Foreign Language (TOEFL) if your native language is other than English. (Citizens of Canada, Great Britain, Ireland, Australia and New Zealand whose native language is English are exempt from taking the TOEFL)
(g) Furnish evidence of satisfactory financial support by completing the form and providing a written guarantee from the bank of a parent, relative or sponsor in the United States.
(h) Furnish two letters of recommendation, one of which must be from a teacher with whom you recently studied, attesting to your ability to do college work.
(6) Have a physician complete the PHYSICIANS CERTIFICATE OF HEALTH. The certificate must be completed and show immunization clearance examination. Applicant completes the STUDENT CERTIFICATE OF HEALTH. Both certificates must be completed in English.
(7) Furnish evidence of a sickness and accident insurance policy (if proof is not provided, applicant if accepted must purchase Columbia College International Student Sickness and Accident Insurance prior to registration).
(8) Applicants selected for admission are responsible for making arrangements for their own housing and notifying the College of their local address. The College does not have student resident housing. However, the College may be of assistance in providing information for short-term housing upon arrival in the area.

Upon completion of all application requirements listed, by the deadline date, application for admission will be given equal consideration along with all other qualified applicants. If selected, the I-20 form and information requesting travel plans will be mailed. The I-20 form must be presented to the appropriate officials in order to obtain an F-1 (Student) Visa and enter the United States.

A college counselor serves as advisor to international students.

Admission of High School Students
High school students in their junior or senior year, upon written authorization of their principal and approval of the College, or those holding a Certificate of Proficiency, may take community college courses.

This opportunity is designed to introduce high school students to a college environment when, in the judgment of their principal and the College, the student can profit from the experience. Units earned will apply toward the requirements of a college degree if not used for high school graduation.
Counseling Services
Counselors are available to all students during the day and evenings by appointment or drop-in basis. Counseling is provided by trained personnel to assist students concerning personal or academic problems related to the college experience. Counselors may also function in the advisement process. Testing services to evaluate occupational interests, general ability or evaluations of personal and social skills are provided by counselors. When appropriate, counselors may refer students to other services provided by the College or other agencies.

Faculty Advisement Program
Advisement is an on-going service whereby students meet with faculty to discuss educational objectives, plan an academic/vocational program, gain assistance in registration procedures, evaluate occupational interests, class schedule, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. A student's records are open to the student, employees of the College acting in the course of their duties and State and Federal officials as defined in Section 5618 of the California Administrative Code. The College may grant access to individual student records for educational or emergency purposes and for court orders as permitted in Sections 56460 and 56462 of the California Administrative Code.

Student's Rights and Procedures for Grievance
Information pertaining to students' rights, conduct and grievance procedure is available in the Student Handbook. Student Handbook issues are made to each student at the time of registration.

Transcripts
Upon written request to the Admissions and Records Office, two transcripts will be issued without charge for each student in good standing. Additional transcripts are $1 each. No transcripts are issued for students who have outstanding financial obligations to the College. To comply with the Buckley Amendment, Family Educational Rights and Privacy Act of 1974, transcripts cannot be sent in response to a telephone request. Transcripts from other colleges may not be released to students, other colleges, or agencies.

Privacy Rights of Students
All students attending Columbia College are kept in accordance with the provisions of the "Buckley Amendment" also known as the Family Educational Rights and Privacy Act of 1974. All students, including former students, have the right to review their records and the right to challenge the content of their records if, in their opinion, the records contain material that is incorrect, inaccurate or otherwise inappropriate. The Dean of Student Services is the official to be contacted by any student desiring to exercise his/her representative rights.

Written student consent is needed for release or review of student records to all parties or officials except for those who have been specifically authorized access under the Act. Copies of the Family Educational Rights and Privacy Act of 1974, as amended, are available for inspection in the Admissions and Records Office.

Disabled Student Services
The Disabled Student Services Program is designed to provide access to educational programs and activities for any time unless the College has received prior written objection from the student specifying information which should not be released. Directory information includes the student's name, address, telephone listing, date and place of birth, major fields of study, class schedule, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. A student's records are open to the student, employees of the College acting in the course of their duties and State and Federal officials as defined in Section 5618 of the California Administrative Code. The College may grant access to individual student records for educational or emergency purposes and for court orders as permitted in Sections 56460 and 56462 of the California Administrative Code.

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Disabled Student Services
The Disabled Student Services Program is designed to provide access to educational programs and activities for students with disabilities. The College has made changes in campus design to allow the disabled student access to the College campus.

Services offered:
Physical Disabilities
Disabled parking, on-campus transportation, mobility assistance, academic tutoring, assistance in locating note-takers and readers.

Communication Disabilities
Sign language, speech therapy, note-takers, and academic tutoring.

Learning Disabilities
Assessment of learning potential and learning modalities, an Individualized Educational Plan to remediate learning deficits, and individualized instruction.

Additional Services
Personal and vocational counseling, academic advising, use of special equipment, and liaison with campus and community resources.

Special Instruction
Adaptive physical education and diagnostic learning.

Scholarships and Awards Program
Columbia College has an extensive number of scholarships and awards provided by various organizations and individuals from the community. Scholarships and awards are generally based on grade point average, financial need, units completed, or/and participation in extracurricular activities including employment and/or homemaking. Special awards are available for students majoring in Fire Science, Conservation, Forestry Technology, Natural Resources, Hospitality Management, Vocational Nursing, Business, Music, Special Education, other vocational majors, and Sonora or Summerville High School graduates. Scholarships and awards are available to Columbia College students who are new, continuing, returning and/or transferring to another college or university.

When a student applies for a specific scholarship or award at the beginning of the quarter, the application is considered for all other scholarships and awards for which the student qualifies that quarter. Most awards are granted during the Spring Quarter for the following academic year; others are awarded throughout the school year. The MONEYBOARD bulletin board, containing detailed information about the Scholarship Program, is available in the Student Service Office and the Admissions and Records Office. The MONEYBOARD bulletin board, located near the Office of Admissions and Records, lists the criteria for scholarships and awards as they become available throughout the year.

Veterans Affairs
Students who are eligible to apply for Federal and State educational benefits, veterans should contact the Financial Aid Office at the time of registration each quarter for regular certification.

Those veterans who are eligible and wish to apply for advancement payment, should contact the College Veterans Office at least 6-8 weeks prior to the first day of the College term. Veterans students are required to notify the Veteran Affairs Office of any changes in their program during the quarter.

Health Services
A variety of health services are available to students registered at the College. As part of the enrollment application, students are asked to complete an emergency health card. Students having chronic health problems, however, are advised to inform the College Nurse so that the best possible help may be rendered in case of an emergency. Illnesses or accidents should be reported immediately to the College Nurse or any administrator. A fee, payable at the time of registration, is charged for health services.

Student Insurance
Student accident insurance is provided by the student health fee. Students who desire additional accident or health insurance information may contact the College Business Office.

Student Identification Cards
Student Identification Cards are required for checking out library books and audio visual equipment and materials. Students may obtain identification cards in the College Library at the beginning of the quarter.

Student Activities
College life fosters an attitude and a pattern for social and college-community involvement. Student activities are offered to widen horizons of students and develop an awareness of social and public responsibility. The framework of social events, publications, clubs, intramural activities, community projects, musical programs, dramatics, campus sports, and cultural events is developed through student-faculty interaction. A program must meet the needs of students to be meaningful. Students interested in planning and developing an activity are encouraged to discuss their ideas with any faculty member or person involved in student activities. Faculty members serve as advisors to foster and help the student.

All students are members of the Associated Students of Columbia College and they in turn develop a student government. Student affairs, coordinates the social activities of campus organizations, and serves as spokesman for the student body. The government is developed to fit the needs of the students at that particular time.

Inter-Collegiate Athletics
The College is a member of the Central Valley Conference in basketball, baseball, and track. To be eligible to participate in intercollegiate athletics, a student must be enrolled in at least 12 units of credit.
Career Information Center
The College maintains a career information center to assist students to explore a variety of resources available to those seeking information pertaining to educational and occupational programs. Assistance is provided in the use of EUREKA—a computerized vocational/education information system.

Student Employment
Employers are encouraged to report job openings, part or full-time, to the Career Center which maintains a list of off-campus employment opportunities. Students seeking employment should register with the Career Center and update their availability each quarter.

College Bookstore
The Manzanita Bookstore, located in the Learning Resources Center, carries textbooks, materials and supplies required for classes. The bookstore also sells paperbacks, greeting cards, sundries, snacks, and many other items.

Costs of textbooks and educational supplies vary with the type of program the student is pursuing. Costs normally range from $75 to $120 each quarter depending on the program.

Library
The Columbia College Library is a center for study, class research, and leisure reading, and welcomes use by students, staff and community members. The Library’s collections include nearly 30,000 books, current subscriptions to 300 magazines and six newspapers, pamphlets, maps and art prints. Available in the Audio-Visual Department are more than 5,000 cassette tapes of popular, folk, and classical music, local oral history, shorthand, and a wide variety of other topics, as well as cassette players and slide-tape kits. A typing room with electric and manual typewriters is open for use during Library hours. Photocopying can be done on a coin-operated machine near the Library.

The Library can locate and borrow on Interlibrary Loan materials not in the College Library. As a member of the Central Association of Libraries, the Library has quick access to the collections of more than 50 libraries. This service is available to students, community residents, and college staff.

The Library is open when college is in session Monday through Thursday, 8:00 a.m. to 9:00 p.m., and Friday, 8:00 a.m. to 4:30 p.m. It is closed weekends and school holidays.

Living Accommodations
There are no facilities for on-campus housing at Columbia College. Information regarding off-campus housing is available at the Career Center and is posted on College bulletin boards. The College does not supervise, recommend or assume responsibility for any off-campus housing facility.

Security/Parking
Campus Security is available to assist students, staff and visitors as needed. Security may be contacted through the Dean of Student Services’ Office or the Campus Fire Department.

The College maintains parking areas for students, staff, disabled persons and visitors. Parking regulations are strictly enforced by Campus Security.
Academic Policies And Procedures

Unit of Credit
A "unit of credit" is earned on the basis of one hour of lecture-recitation per week or three hours of laboratory per week during a quarter. In some physical education, art, drama, and music courses, a unit of credit is earned for each two hours of class time. It is common to find courses composed of learning activities resulting in combinations of lecture-recitation, independent and tutorial study, or directed and individual laboratory experiences. In all cases these are to be equated with the unit of credit.

The following terms are synonymous in expressing a unit of credit: quarter unit, quarter hour, class hour, credit and credit hour.

Conversion of Units
To convert quarter and semester units of credit, the following methods of computation are used:
1. Quarter units of credit are converted to semester units of credit by multiplying the number of quarter units by two-thirds.
2. Semester units of credit are converted to quarter units of credit by multiplying the number of semester units by one and one-half.

Prerequisites
Course prerequisites are intended to ensure that the student will have sufficient preparation before entering a course and to assure a reasonable chance for his/her success. Knowledge of course prerequisites is the student's responsibility.

No prerequisite is stated as part of the course description, none is required.

Prerequisites may be waived when in the instructor's judgment the student has adequate preparation to satisfy the course objectives. An instructor has the prerogative to refuse admission to class or officially drop a student from class who has not satisfied the course prerequisites as published in the College catalog.

Grading System
Evaluation of student achievement is made in relation to the attainment of specific course objectives. At the beginning of a course the instructor will explain the course objectives and the basis upon which grades will be determined by one of the following symbols:
- A: Excellent
- B: Good
- C: Satisfactory
- D: Passing, Less Than Satisfactory
- F: Failure
- W: Withdrawal From Course
- I: Incomplete
- CR: Credit (At Least Satisfactory)
- NC: No Credit (Less Than Satisfactory)

Grading Scale
Columbia College uses the following system of grade points appraising the student's level of achievement:
- A: 4 grade points per unit
- B: 3 grade points per unit
- C: 2 grade points per unit
- D: 1 grade point per unit
- F: 0 grade points per unit

Grade Point Average
The Grade Point Average — GPA — is determined by the following formula:

\[
GPA = \frac{\text{Total grade points earned}}{\text{Total quarter units attempted}}
\]

For example, a student who earns 5 units of "A", 4 units of "B", 3 units of "C", 2 units of "D", and 2 units of "F" would compute his GPA as follows:
- 5 units A x 4 = 20 grade points
- 4 units B x 3 = 12 grade points
- 3 units C x 2 = 6 grade points
- 2 units D x 1 = 2 grade points
- 2 units F x 0 = 0 grade points

16 units 40 grade points

\[
GPA = \frac{40 \text{ grade points}}{16 \text{ units attempted}}
\]

The result in this example is a GPA of 2.50.

Units for which a grade of "W", "I", "CR", "NC", or "IP" has been assigned are not counted in computing the Grade Point Average.

Adding A Course
Adding a course or adding units to a course in which a student is already enrolled is permitted during the first five days of instruction each quarter. Entrance into a class in days six through ten requires the instructor's written approval. After the tenth day, students may be admitted to certain classes with the written consent of the instructor. Refer to the Quarterly Schedule of Classes for designation of those classes. Students who are not eligible for self-programming must obtain their advisor's written approval before adding a course.

Dropping A Course
A student may drop a course or reduce the number of units in a course during the first three weeks of instruction. The course or units will be removed from the student's program of attendance without a grade being recorded. From the fourth week to the last day to drop without penalty, a student may drop a course and a grade of W will be recorded on the Permanent Record Card. The last day to withdraw without penalty for all full-term credit courses shall be the last day of 75 percent of the quarter as noted in the college calendar of the Schedule of Classes. For courses less than full term, an equivalent withdrawal period will in effect. When dropping a course, it is important for the student to inform the instructor of the class.

Auditing A Course
Enrollment on an auditing basis is not permitted.

Repetition of Courses
Courses may be repeated only to improve a grade of D, F, IP, CR, or NC except as otherwise noted in the College catalog.

When repeating a course in which a "D" grade was earned, the new grade and grade points will be recorded, but no additional units for the course will be allowed. When repeating a course in which "F", "IP", or "NC" grades were earned, the new grade, grade points, and units for the course will be recorded.

Incomplete Grades
An incomplete grade ("I") may be given for an unforeseeable emergency and justifiable reason if a student does not complete all requirements. Responsibility for removal of incomplete grades within the time granted by the instructor rests with the student. Incomplete grades must be made up within one quarter or will automatically revert to the alternate grade assigned by the instructor on the Incomplete Grade Removal Contract.

Forgiveness of "F" Grades
For graduation purposes, "F" grades recorded on the transcript for the first 45 quarter units of college work attempted will not be included in computing the Grade Point Average. An "F" or "IP" grade earned after the quarter in which 45 quarter units of college work are completed will be computed in the Grade Point Average for graduation.

95-199 Independent Study Courses
Independent study courses are intended to give students an opportunity to independently research specialized areas not available as regular course offerings of the College.

Independent Study courses do not appear in the catalog as such since these courses are designed to meet specific student interests. Independent study courses may be made available in any subject matter area. Consult your advisor for specific procedures. Conditions

To be admitted to independent study, a student shall:
1. Complete one quarter (12 units) in residence and have a Grade Point Average of 2.5 either cumulative or for the previous quarter as a full-time student.
2. Have written approval of the instructor directing the student's Independent Study, and written verification by the Admissions and Records Office that the maximum credit limitation for Independent Study will not be exceeded. Maximum unit value for any Independent Study course for any one quarter will be 3 units of credit.

LIMITATIONS
The following limitations apply to Independent Study courses:
1. Registration is restricted to one Independent Study course per quarter and registration must be completed prior to the fourth week of the quarter.
2. An overall maximum of 7 units of credit completed will be allowed for Independent Study.

Students who intend to transfer are advised that Independent Study credit may not fulfill either major or General Education Breadth Requirements. Independent Study credit earned by students not transferring may be evaluated in partial fulfillment of major requirements.

Credit/No Credit
Each student may choose to take one course per quarter for a grade (Credit or No Credit) or credit (the usual letter grades, subject to the following limitations: (1) Time of choice: Students have only the first 30 percent of the length of the course to choose Credit/No Credit evaluation, although the instructor may grant the student that option any time during the term if extenuating circumstances warrant it. (2) Limit of one per quarter: Each student is limited to only one course per quarter for Credit/No Credit evaluation. (3) Exclusions: Courses which are offered with only Credit/No Credit evaluation (such as Work Experience) are not subject to the above limitations, and may be taken in addition to the other course chosen for Credit/No Credit. (4) Total units: No more than 21 total units of CR (credit) grade may be counted toward graduation. CR/NC units are not computed in determining the student's grade point average, nor can they be applied toward the major required for graduation.

Credit by Examination
A student may challenge a course by examination and obtain credit. Grades and grade points are entered on the student's transcript of record in the same manner as for
Credit for Military Service
Institutions.

(I) Three quarter units and waive P.E. requirement for (3) Credit for certain USAF lower division college-level Armed forces personnel or veterans with a minimum of attendance. A maximum of 15 quarter units will be allowed one year of satisfactory service may receive:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>(I)</td>
<td>Three quarter units</td>
<td>waive P.E. requirement</td>
</tr>
</tbody>
</table>

Credit granted to armed forces personnel and veterans by another institution is subject to re-evaluation by Columbia College.

Student Load
A student who desires to carry more than 18 units must secure approval from his/her advisor or the Dean of Students. Self-programmed students must obtain approval from a counselor. Students on academic probation will be limited to a unit load recommended by their advisor.

Classification of Students
While the minimum full-time program that will qualify a student for graduation in two years is 15 units per quarter, the following classifications have been established:

- Full-time — registered for 12 or more units.
- Freshman — fewer than 45 units completed.
- Sophomore — 45 or more units completed.

Attendance
Students are responsible for making arrangements with their instructors to correct work missed. An instructor has the prerogative to lower a student's grade or drop a student from class because of excessive absence. Absence from the first class meeting may cancel registration in the course.

Final Examinations
Students are responsible for taking final examinations at the time scheduled unless prior arrangements are made with the instructor.

Scholarship Reports
Grade reports are made after the end of each quarter. If the student is on academic probation when the current progress report is issued, he/she must meet the conditions set forth in the Progress Report, or he/she may request a reevaluation of his/herself by a re-evaluation by the Dean of Students.

Satisfactory Scholarship
A student whose cumulative Grade Point Average is 2.0 ("C" average) is scholastically in "good standing." All units and grade points are counted on a cumulative basis. The method of computing the Grade Point Average is illustrated below.

A student with a Grade Point Average less than 2.0 is doing unsatisfactory work, will be placed on academic probation, and is subject to disqualification.

Academic Probation
The purpose of academic probation at Columbia College is to ensure that students who are deficient in scholastic achievement will receive special advisement. Self-programmed students who are on probation will be assigned an advisor by a counselor. A student who has attempted at least 18 quarter units as shown by the official academic record shall be placed on probation if either of the following occur:

1. The student has earned a Grade Point Average below 2.0 in all units which were graded on the basis of the grading scale described in the section entitled "Grading System." 2. When the percentage of cumulative units in which a student has enrolled and for which entries of "W," "I," and "NC" are recorded reaches or exceeds 50 percent.

Status While on Probation
Probationary students will be limited to a unit load recommended by their advisor. Students on probation are subject to disqualification at any time their academic work shows neglect of studies.

Removal From Probationary Status
Clear status will be granted to a student on academic probation when:

1. In the case of probation based on Grade Point Average, the student's cumulative Grade Point Average is 2.0 or better.
2. In the case of probation based on percentage of "W," "I," or "NC" grades, the percentage of units in this category drops below 50 percent.

If a student has been placed on academic probation and feels he/she has extenuating circumstances worthy of consideration, he/she may request the Dean of Student Services to waive such a status.

Disqualification
A student on academic probation may be disqualified under any of the following:

1. Completion of a second quarter on probation with a cumulative Grade Point Average below 1.75.
2. Completion of a third quarter on probation with a cumulative Grade Point Average below 2.0.
3. Where a student who has been placed on probation for two academic years does not wish to re-enter and would remain on probation for a third consecutive quarter enrolled because of an accumulation of "W," "I," or "NC" grades.

A student who earns a Grade Point Average of less than 1.0 in any quarter may be disqualified without a period of probation.

A disqualified student may not be reinstated under the admissions provisions until one quarter from the date of disqualification. If the Grade Point Average of a student readmitted after disqualification falls below 2.0 for a quarter's work, the student may be permanently disqualified.

In the event a student is disqualified, he/she may petition for readmission on the basis of the following circumstances that might warrant an exception:

(a) Evidence of consistent improvement in the student's record.
(b) A change from one major to a field of study more appropriate to the student.
(c) Circumstances in the personal life of the student which the advisor of the student believes may have been of sufficient gravity to affect adversely the performance of the student.
(d) The recommendation of the student's physician that the continuing educational program would be of sufficient therapeutic benefit to the student to warrant the granting of an additional opportunity.

If a student has been disqualified and feels he/she has extenuating circumstances worthy of consideration, he/she may request in writing to the Dean of Student Services that the one quarter period of disqualification be waived.

Conduct
A Code of Student Conduct was adopted by the Yosemite Community College District Board of Trustees January 6, 1970, based on the following philosophical concept:

The students and faculty at Columbia form a closely knit educational community which is engaged in the process of learning through involvement. Regulations are needed but the broader concept of personal honor is based on integrity, common sense, and respect for civil and moral law.

The College expects its students to conduct themselves as responsible citizens both on and off campus. Recognizing the students' responsibilities as individuals, it is the policy of the College not to discipline students for acts occurring away from the campus and not connected with College-sponsored activities. The complete Code of Student Conduct can be found in the Student Handbook.

Withdrawal From College
It is the student's responsibility to officially withdraw from the college and notify the Admissions and Records Office.
Instructional Materials and Breakage Fees
In many classes, instructional materials and breakage fees must be borne by students. Generally, these fees are assessed in those classes where the materials are utilized or consumed during the course of instruction or become the property of students at the end of the class. Such fees are indicated in the quarterly Schedule of Classes. The College makes every effort to see that students are fully informed about fees but reserves the right to add or modify fees as necessary.

Additional Education Expenses
Other educational expense depends upon the type of program undertaken. Certain classes may assess special fees for consumable items such as materials used in welding, science, or art courses. Other classes may require special clothing such as some of the physical education classes. Special activity or field trip classes may require additional expenses. A health fee is assessed each quarter. The health fee is required of all students except those exempted by California Administrative Code Title V and senior citizens who have or are eligible for a gold card. Parking permits may be purchased quarterly from the Business Office. Students who do not wish to purchase a permit may pay on a per entry basis. These fees are indicated in the class schedule for each quarter.

The following cost breakdown for 9 months is used as a guide for single students:

<table>
<thead>
<tr>
<th></th>
<th>Dependent</th>
<th>Independent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books/Supplies/Fees</td>
<td>$300</td>
<td>$300</td>
</tr>
<tr>
<td>Meals/Housing</td>
<td>1,100</td>
<td>2,700</td>
</tr>
<tr>
<td>Personal</td>
<td>665</td>
<td>665</td>
</tr>
<tr>
<td>Transportation</td>
<td>535</td>
<td>535</td>
</tr>
<tr>
<td></td>
<td>$2,600</td>
<td>$4,200</td>
</tr>
</tbody>
</table>

The above costs are only approximate and are subject to change.

Refund Schedule
Materials fees are refundable as follows:
100 percent for classes cancelled by the College or the student withdraws from class prior to the first class meeting.
90 percent of the fee will be refunded if the student drops during the first week of instruction.
50 percent will be refunded if the student drops during the second week of instruction. No refunds will be given after the second week.
Health and parking fees are not refundable except prior to the first class meeting.
No refunds will be processed after the fourth week of instruction.
Short-term courses will be prorated accordingly.
Students eligible for refunds must obtain a Request for Refund Form from the Admissions and Records Office. The completed form must be returned to the Admissions and Records Office with the Student Drop Card, or a completed Withdrawal from College Form, and a self-addressed, stamped envelope.

—NOTES—
CERTIFICATES, DEGREES, TRANSFER
Columbia College awards the Associate in Arts and the Bachelor of Arts degrees in accordance with require­ments outlined on page 35. Requirements for the Associate in Science degree include a major of no fewer than 30 units in the fields of physical and biological sciences or occupational curricula.

The College offers many programs of study leading to cer­tificates. Course lists are designed to prepare the vocational students for employment. Requirements of each such certificate have been determined by the depart­ment offering the program with the help of its advisory committee.

For students entering Columbia College for the first time in Fall, 1983, the following certificate requirements are valid through the 1986-87 academic year. A student taking more than four (4) courses to complete may only use certificate requirements in effect up to four (4) years prior to the date of completion.

In order to qualify for a certificate, a student must complete required and elective courses with at least a Grade Point Average of 2.0 (“C”). No more than 30 percent of the courses required for the certificate may be fulfilled with parallel courses completed at other accredited institutions. Units earned in obtaining a certificate may be applied toward the 90 units required for an Associate degree.

Certificates of achievement are offered in the following disciplines:

Automotive Technology
Business Administration
Management
Retailing
Computer Science
Fire Technology
Forestry Technology
Heavy Equipment
Truck Repair
Hospitality Management
Food Service Technology
Hotel Management
Human Services
Disabled
Gerontology
Social Welfare
Natural Resources
Interpretation
Natural Resources Technology
Occupations
Clinic Typist
General Clerk
Legal Secretarial
Medical Transcription
Secretarial
Search and Rescue
Teacher Aide
Vocational Nursing
Welding Technology
General Welding
Pipe Welding

Following are the specific requirements for the certificate programs listed above. Completion of certain certificate programs may not be available during even­ing only or a combination of both day and evening classes.

COMPLETION OF CERTIFICATE:
Students must complete a certificate application in the Admissions and Records Office during the quar­
ter in which they are fulfilling the certificate re­quirements.

AUTOMOTIVE TECHNOLOGY
REQUISITE COURSES:
<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto. Tech. 117a Fuel Systems</td>
<td>2</td>
</tr>
<tr>
<td>Auto. Tech. 16 Engine Rebuilding</td>
<td>2</td>
</tr>
<tr>
<td>Auto. Tech. 115a Diesel Engine Tune-up</td>
<td>2</td>
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<tr>
<td>Auto. Tech. 112 Pulling and Installing Engines</td>
<td>2</td>
</tr>
<tr>
<td>Auto. Tech. 114 Machine Shop Procedures</td>
<td>2</td>
</tr>
<tr>
<td>Auto. Tech. 111a Automotive Trans­mission Rebuilding</td>
<td>2</td>
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<tr>
<td>Auto. Tech. 11la Automatic Trans­mission-Ford</td>
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<tr>
<td>Auto. Tech. 110 Brakes - Disc</td>
<td>2</td>
</tr>
<tr>
<td>Auto. Tech. 116 Brakes - Drum</td>
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<tr>
<td>Auto. Tech. 115a Electrical Systems</td>
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<tr>
<td>Auto. Tech. 103a Electrical Systems</td>
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<td>Auto. Tech. 103b Electrical Systems</td>
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<td>Auto. Tech. 103c Electrical Systems</td>
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<tr>
<td>Auto. Tech. 102a Electrical Systems</td>
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<td>Auto. Tech. 103c Electrical Systems</td>
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<td>Auto. Tech. 103d Electrical Systems</td>
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<td>Auto. Tech. 103e Electrical Systems</td>
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<td>Auto. Tech. 103f Electrical Systems</td>
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<td>Auto. Tech. 103g Electrical Systems</td>
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<td>Auto. Tech. 103h Electrical Systems</td>
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<td>Auto. Tech. 103i Electrical Systems</td>
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<td>Auto. Tech. 103k Electrical Systems</td>
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<td>Auto. Tech. 103l Electrical Systems</td>
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<td>Auto. Tech. 103n Electrical Systems</td>
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<td>Auto. Tech. 103w Electrical Systems</td>
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<td>Auto. Tech. 103x Electrical Systems</td>
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<tr>
<td>Auto. Tech. 103y Electrical Systems</td>
<td>2</td>
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<tr>
<td>Auto. Tech. 103z Electrical Systems</td>
<td>2</td>
</tr>
</tbody>
</table>

TOTAL REQUIRED UNITS: 41-46

PROVEN COMPETENCY REQUIREMENT:
Business Mathematics Examination or Bus. Ad. 63 Business Math.

BUSINESS ADMINISTRATION RETAILING
REQUISITE COURSES:
<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus. Ad. 60a Business Bookkeeping</td>
<td>5</td>
</tr>
<tr>
<td>Bus. Ad. 60b Business Bookkeeping</td>
<td>5</td>
</tr>
<tr>
<td>Bus. Ad. 61 Small Business Accounting</td>
<td>5</td>
</tr>
<tr>
<td>Bus. Ad. 101 Principles of Business</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ad. 115a Commercial Law</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ad. 120 Principles of Marketing</td>
<td>5</td>
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<tr>
<td>Bus. Ad. 122 Sales</td>
<td>5</td>
</tr>
<tr>
<td>Bus. Ad. 123 Display &amp; Advertising Promotion</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ad. 145 Retail Business Management</td>
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</tr>
<tr>
<td>Econ. 101 Principles of Economics</td>
<td>5</td>
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<tr>
<td>Econ. 102 Principles of Economics</td>
<td>5</td>
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<tr>
<td>Off. Of 68 Business Correspondence</td>
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</tr>
</tbody>
</table>

TOTAL REQUIRED UNITS: 39-44

PROVEN COMPETENCY REQUIREMENT:
Business Mathematics Examination or Bus. Ad. 63 Business Math.

RECOMMENDED OPTIONAL COURSES:
<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus. Ad. 65 Business Management</td>
<td>4</td>
</tr>
<tr>
<td>Work Exp. 98 Vocational Work Experience</td>
<td>6</td>
</tr>
</tbody>
</table>

FORESTRY TECHNOLOGY
REQUISITE COURSES:
<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biol. 46 Natural History &amp; Ecology</td>
<td>3</td>
</tr>
<tr>
<td>Fire Sci. 117 Wildland Fire Control</td>
<td>3</td>
</tr>
<tr>
<td>For. Tech. 50 Intro. to Forest Science</td>
<td>4</td>
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<tr>
<td>For. Tech. 53 Forest Surveying Technique</td>
<td>3</td>
</tr>
<tr>
<td>For. Tech. 56 Tree &amp; Plant Identification</td>
<td>3</td>
</tr>
<tr>
<td>For. Tech. 59 Forest Fire Management</td>
<td>3</td>
</tr>
<tr>
<td>For. Tech. 62 Applied Forest Management</td>
<td>5</td>
</tr>
<tr>
<td>Heavy Equip. 70 Logging Equipment</td>
<td>3</td>
</tr>
<tr>
<td>Nat. Res. Tech. 52 Applied Wildlands Management</td>
<td>3</td>
</tr>
<tr>
<td>Nat. Res. Tech. 53 Interp. Guided Tours</td>
<td>3</td>
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<tr>
<td>Nat. Res. Tech. 60 Aerial Photog. &amp; Map Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>Nat. Res. Tech. 81 California Wildlife: Main/Urban</td>
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<tr>
<td>Nat. Res. Tech. 83 California Wildlife: Game/Fish</td>
<td>3</td>
</tr>
<tr>
<td>Nat. Res. 109 Parks &amp; Forests Law Enforcement</td>
<td>4</td>
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</table>

TOTAL REQUIRED UNITS: 45

PROVEN COMPETENCY REQUIREMENT:
Mathematics Examination or Math 50 Basic Math (or higher).

READING EXAMINATION OR SKILLS
Skills 50 Basic Reading (or English 51 or 101a).

Typing Examination or Off. Of 50 Personal Typing (or Off. Oc. 101a).

Writing Examination or Skills 50 Writing Skills (or English 51 or 101a).

ADDITIONAL REQUIREMENT:
Appropriate Summer Employment.

RECOMMENDED OPTIONAL COURSES:
<table>
<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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</thead>
<tbody>
<tr>
<td>Nat. Res. 122 Fire Ecology</td>
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HEAVY EQUIPMENT AND TRUCK REPAIR
TRUCK REPAIR
REQUISITE COURSES:
<table>
<thead>
<tr>
<th>COURSE</th>
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<tbody>
<tr>
<td>Auto Tech. 114 Machine Shop Procedures</td>
<td>2</td>
</tr>
<tr>
<td>Auto Tech. 150a Electrical Theory</td>
<td>2</td>
</tr>
<tr>
<td>Auto Tech. 150b Charging Systems</td>
<td>2</td>
</tr>
<tr>
<td>Auto Tech. 150c Starting and Ignition Systems</td>
<td>2</td>
</tr>
<tr>
<td>Auto Tech. 150d Lighting and Chassis Electrics</td>
<td>2</td>
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<tr>
<td>Auto Tech. 150e Electrical Systems</td>
<td>2</td>
</tr>
<tr>
<td>For. Tech. 59 Forest Fire Management</td>
<td>3</td>
</tr>
<tr>
<td>For. Tech. 62 Applied Forest Management</td>
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</tr>
<tr>
<td>For. Tech. 104 Preventive Maintenance (Trucks)</td>
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Any two of the following for eight (8) units.
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<thead>
<tr>
<th>COURSE</th>
<th>UNITS</th>
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<tbody>
<tr>
<td>Hvy. Equip. 115a Diesel Engine Rebuilding - Cummins</td>
<td>2</td>
</tr>
<tr>
<td>Hvy. Equip. 115b Diesel Engine Rebuilding - Detroit</td>
<td>2</td>
</tr>
<tr>
<td>Hvy. Equip. 115c Diesel Engine Rebuilding - Caterpillar</td>
<td>2</td>
</tr>
<tr>
<td>Hvy. Equip. 116a Diesel Engine Tune-up - Caterpillar</td>
<td>2</td>
</tr>
<tr>
<td>Hvy. Equip. 116b Diesel Engine Tune-up - Detroit</td>
<td>2</td>
</tr>
<tr>
<td>Hvy. Equip. 116c Diesel Engine Tune-up - Cummins</td>
<td>2</td>
</tr>
<tr>
<td>Hvy. Equip. 120a Transmission Repair - Cummins</td>
<td>2</td>
</tr>
<tr>
<td>Hvy. Equip. 134 Rear Axles and Drive Lines</td>
<td>3</td>
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<tr>
<td>Hvy. Equip. 140 Heavy Duty Brake Systems</td>
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<tr>
<td>Hvy. Equip. 144 Steering and Suspensions</td>
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<tr>
<td>Hvy. Equip. 170a Predictive Technology</td>
<td>2</td>
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<td>Hvy. Equip. 170b Practical Lab</td>
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<tr>
<td>Weld. Tech. 101 Introduction to Welding</td>
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TOTAL REQUIRED UNITS: 48
**HOSPITALITY MANAGEMENT**

**FOOD SERVICE TECHNOLOGY**

**REQUIRED COURSES:**
- Health Ed. 120 Nutrition .................................. 4
- Health Ed. 101 Personal Hygiene .................................. 3
- Hosp. Mgmt. 103 Marketing of Hospitality Services .................................. 4
- Hosp. Mgmt. 130 Food Service Management .................................. 3
- Hosp. Mgmt. 131 Dining Room Service .................................. 3
- Hosp. Mgmt. 134 Fast Foods .................................. 3
- Hosp. Mgmt. 135 Commercial Baking .................................. 3
- Hosp. Mgmt. 137 Buffet Catering .................................. 3
- Hosp. Mgmt. 138 Family Restaurant Service .................................. 3
- Hosp. Mgmt. 140c Classical Cuisine: Beginning .................................. 3
- Hosp. Mgmt. 140e Classical Cuisine: Advanced .................................. 3
- Hosp. Mgmt. 144 Meat Analysis .................................. 3

**TOTAL REQUIRED UNITS 42**

**HUMAN SERVICES**

**GERIATROLOGY**

**REQUIRED COURSES:**
- Health Ed. 50 Cardiopulmonary Resuscitation ........... 3
- Health Ed. 105 CPR Training .................................. 3
- Physical Ed. 171 Introduction to Adult Fitness ................. 2
- Physical Ed. 172 Multisport Fitness Testing Program ............. 1
- Physical Ed. 173a Adult Fitness Program ............... 2-3
- Psychology 10a General Psychology .................................. 5
- Psychology 120 Interpersonal Growth .................................. 2
- Psychology 130 Personality and Social Adjustment .................................. 5
- Sociology 101 People in Groups .................................. 5
- Sociology 112 Family, Marriage, and the Individual .................................. 4
- Sociology 127 Aging .................................. 4
- Sociology 128 Death and Dying .................................. 4
- Sociology 140 Human Services .................................. 4
- Sociology 141 Human Services Laboratory .................................. 2

**TOTAL REQUIRED UNITS 43½-44½**

**HUMAN SERVICES**

**SOCIAL WELFARE**

**REQUIRED COURSES:**
- Psychology 10a General Psychology .................................. 5
- Psychology 120 Interpersonal Growth .................................. 2
- Psychology 130 Personality and Social Adjustment .................................. 5
- Psychology 142b Developmental Psychology .................................. 4
- Sociology 101 People in Groups .................................. 5
- Sociology 110 Deviance and Conflict .................................. 5
- Sociology 112 Family, Marriage, and the Individual .................................. 4
- Sociology 128 Death and Dying .................................. 4
- Sociology 140 Human Services .................................. 4
- Sociology 141 Human Services Laboratory .................................. 2
- Speech 135 Interpersonal Communication .................................. 3

**TOTAL REQUIRED UNITS 47**

**NATURAL RESOURCES**

**INTERPRETATION**

**REQUIRED COURSES:**
- Art 145 Basic Photography .................................. 2
- Biology 58 Birds of the Mother Lode .................................. 2
- Biology 59 Wildlife of the Mother Lode .................................. 2
- Biology 60 Natural History and Ecology .................................. 3
- Earth Sci. 59 Geology of the Mother Lode .................................. 3
- Earth Sci. 114 Earthquakes in California .................................. 3
- Earth Sci. 114c Physical Geology .................................. 5
- Earth Sci. 125 Geology of the National Parks .................................. 5
- Earth Sci. 142 Descriptive Astronomy .................................. 3
- Fire Sci. 117 Wildland Fire Control .................................. 3
- Fire Tech. 56 Fire Sprinkler Systems .................................. 3
- Health Ed. 113 Adv. First Aid and Emergency Care .................................. 5
- History 149 The Mother Lode .................................. 3
- History 155 The American West .................................. 3
- Nat. Res. 100 Conservation of Natural Resources .................................. 4
- Nat. Res. 109 Parks and Forests Law Enforcement .................................. 4
- Nat. Res. 132 Wild Edible Plants .................................. 3
- Nat. Res. 52 Applied Wildlife Management .................................. 3
- Nat. Res. 55 Interpretive Guided Tours .................................. 3
- Nat. Res. 83 Calif. Wildlife—Upland Game and Fish .................................. 3

**TOTAL REQUIRED UNITS 79-84**

**NATURAL RESOURCES TECHNOLOGY**

**REQUIRED COURSES:**
- Biology 60 Natural History & Ecology .................................. 3
- Earth Sci. 125 Geology of National Parks .................................. 4
- Fire Sci. 117 Wildland Fire Control .................................. 3
- For. Tech. 50 Intro. to Technical Forestry .................................. 3
- For. Tech. 53 Forest Surveying Techniques .................................. 3
- For. Tech. 56 Tree & Plant Identification .................................. 3
- Huy. Eqpl. 70 Logging Equipment .................................. 3
- Nat. Res. 52 Applied Wildlife Management .................................. 3
- Nat. Res. 55 Interpretive Guided Tours .................................. 3
- Nat. Res. 60 Aerial Photo. & Map Interpretation .................................. 3
- Nat. Res. 61 California Wildlife: Mam. & Furbas .................................. 3
- Nat. Res. 83 Calif. Wildlife: Game/Fish .................................. 3
- Nat. Res. 109 Parks & Forests Law Enforcement .................................. 4

**TOTAL REQUIRED UNITS 42**

**OFFICE OCCUPATIONS**

**CLERK TYPIST**

**REQUIRED COURSES:**
- Bus. Ad. 63 Business Mathematics .................................. 4
- Bus. Ad. 60b Bookkeeping .................................. 5
- Bus. Ad. 60b Bookkeeping .................................. 5
- Bus. Ad. 59 Bookkeeping .................................. 5
- Bus. Ad. 61 Small Business Accounting .................................. 5
- Bus. Ad. 130a Accounting .................................. 4
- Bus. Ad. 130b Accounting .................................. 4
- Office Mgr. 65 Business English .................................. 3
- Office Mgr. 68 Business Correspondence .................................. 3
- Office Mgr. 101a Keyboarding .................................. 3
- Office Mgr. 101b Basic Typing Applications .................................. 2
- Office Mgr. 13 Review Typing .................................. 3
- Office Mgr. 103 Intermediate Typing .................................. 4
- Office Mgr. 130c Filing Systems .................................. 3
- Office Mgr. 103c Typewriter Mechanics .................................. 3
- Office Mgr. 136 Electronic Printing Calculators .................................. 3

**TOTAL REQUIRED UNITS 27-33**

**LEGAL SECRETARIAL**

**REQUIRED COURSES:**
- Bus. Ad. 58 Prehogg Payroll .................................. 1
- Bus. Ad. 115a Commercial Law .................................. 3
- Bus. Ad. 115b Commercial Law .................................. 3
- Computer Sci. 105 Computers and Software .................................. 3
- Bus. Mgmt. 65 Business English .................................. 3
- Bus. Mgmt. 68 Business Correspondence .................................. 3
- Office Mgr. 60 Intro. to Technical Forestry .................................. 4
- Office Mgr. 60b Applied Wildlands Management .................................. 3
- Office Mgr. 61 Aerial Photo. & Map Interpretation .................................. 3
- Office Mgr. 62 Review Typing .................................. 3
- Office Mgr. 67 Word Processing: Memory Typewriter .................................. 1
- Office Mgr. 107 Word Processing: Electronic Typewriter .................................. 1
- Office Mgr. 109 Word Processing: Display System .................................. 3
- Office Mgr. 111a Machine Shorthand II .................................. 4
- Office Mgr. 111c Machine Shorthand III .................................. 4
- Office Mgr. 112a Machine Shorthand IV .................................. 4
- Office Mgr. 112b Intermediate Shorthand .................................. 4
- Office Mgr. 122b Intermediate Shorthand .................................. 4
- Office Mgr. 130c Typing Examination .................................. 2
- Office Mgr. 130d Reading Examination .................................. 2
- Office Mgr. 136 Electronic Printing Calculators .................................. 3

**TOTAL REQUIRED UNITS 48-53**
### Office Occupations

#### Medical Transcription

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>Health Oc. 110</td>
<td>Emergency Med. Tech. Training</td>
<td>8</td>
</tr>
<tr>
<td>S.A.R. 103</td>
<td>S.A.R. 110 Introduction to Search Theory</td>
<td>3</td>
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<tr>
<td>S.A.R. 112</td>
<td>Managing the Search Function</td>
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<tr>
<td>S.A.R. 114</td>
<td>Intro. to Tracking and Sign Cutting</td>
<td>1</td>
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<tr>
<td>S.A.R. 118</td>
<td>Basic Survival Skills</td>
<td>2</td>
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<tr>
<td>S.A.R. 122</td>
<td>Wilderness Navigation</td>
<td>2</td>
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<td>S.A.R. 126</td>
<td>Intro. to Non-Winter Grid Techniques</td>
<td>1</td>
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<tr>
<td>S.A.R. 130</td>
<td>Introduction to Rescue Techniques</td>
<td>4</td>
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<tr>
<td>S.A.R. 132</td>
<td>Ascending and Descending Techniques</td>
<td>2</td>
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<tr>
<td>S.A.R. 134</td>
<td>Helicopter Operations and Personnel Safety</td>
<td>2</td>
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<tr>
<td>S.A.R. 135</td>
<td>Introduction to Litter Management</td>
<td>2</td>
</tr>
<tr>
<td>S.A.R. 146</td>
<td>Introduction to Swiftwater Rescue</td>
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<td>TOTAL REQUIRED UNITS</td>
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*Must earn a letter grade of "B" in Office Oc. 132 before enrolling in Office Oc. 142b.

#### Secretarial

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<td>Bus. Ad. 60b</td>
<td>Bookkeeping</td>
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<tr>
<td>Bus. Ad. 61</td>
<td>Small Business Accounting</td>
<td>5</td>
</tr>
<tr>
<td>Bus. Ad. 130a</td>
<td>Accounting</td>
<td>4</td>
</tr>
<tr>
<td>Bus. Ad. 130b</td>
<td>Accounting</td>
<td>4</td>
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<tr>
<td>Computer Sci. 105</td>
<td>Computers and Society</td>
<td>4</td>
</tr>
<tr>
<td>Office Oc. 65</td>
<td>Business English</td>
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<td>Office Oc. 68</td>
<td>Business Correspondence</td>
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<tr>
<td>Office Oc. 103</td>
<td>Intermediate Typing</td>
<td>4</td>
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<td>or</td>
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<tr>
<td>Office Oc. 107</td>
<td>Word Processing: Memory Typewriter</td>
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<tr>
<td>or</td>
<td>Office Oc. 108 Word Processing: Electronic Typewriter</td>
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<tr>
<td>Office Oc. 109</td>
<td>Word Processing: Display System</td>
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</tr>
<tr>
<td>Office Oc. 111a</td>
<td>Machine Shorthand I</td>
<td>2</td>
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<tr>
<td>Office Oc. 111b</td>
<td>Machine Shorthand II</td>
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<td>Machine Shorthand III</td>
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<td>Office Oc. 112a</td>
<td>Intermediate Shorthand</td>
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<td>Intermediate Shorthand</td>
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<td>Office Oc. 130</td>
<td>Filing Systems</td>
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<td>Office Oc. 132</td>
<td>Machine Transcription</td>
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<tr>
<td>Office Oc. 133</td>
<td>Ten-Key Adding Machine</td>
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<td>Office Oc. 136</td>
<td>Electronic Printing Calculators</td>
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<td>Office Oc. 138</td>
<td>Office Procedures</td>
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### Search and Rescue

#### General Welding

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<tr>
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<th>Course Title</th>
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<tr>
<td>Mathematics 50</td>
<td>Basic Mathematics</td>
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<td>or</td>
<td>Skills Dev. 60 Mathematics Skills</td>
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<tr>
<td>Weld. Tech. 101</td>
<td>Introduction to Welding</td>
<td>3</td>
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<tr>
<td>Weld. Tech. 103</td>
<td>Adv. Arc Welding Technique</td>
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<tr>
<td>Weld. Tech. 110</td>
<td>Blueprint Reading for Welders</td>
<td>2</td>
</tr>
<tr>
<td>Weld. Tech. 130</td>
<td>Maintenance Welding</td>
<td>2</td>
</tr>
<tr>
<td>Weld. Tech. 132</td>
<td>Attachment Repair</td>
<td>2</td>
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<tr>
<td>Weld. Tech. 140</td>
<td>Welding Non-Ferrous Metal</td>
<td>2</td>
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<tr>
<td>Weld. Tech. 145</td>
<td>Metal Fabrication</td>
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<td>Weld. Tech. 160</td>
<td>Practical Laboratory</td>
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### Teacher Aide

#### Vocational Nursing

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<th>Course Title</th>
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<tbody>
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<td>Intro. to Vocational Nursing</td>
<td>5</td>
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<tr>
<td>Health Oc. 113a</td>
<td>Anatomy &amp; Physiology for Voc. Nurses</td>
<td>5</td>
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<td>Health Oc. 113b</td>
<td>Anatomy &amp; Physiology for Voc. Nurses</td>
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<tr>
<td>Health Oc. 112</td>
<td>Maternity Nursing</td>
<td>3</td>
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<tr>
<td>Health Oc. 118</td>
<td>Pharmacology for Voc. Nurses</td>
<td>2</td>
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<tr>
<td>Health Oc. 120a</td>
<td>Effects of Medication</td>
<td>2</td>
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<tr>
<td>Health Oc. 120b</td>
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<td>Health Oc. 123</td>
<td>Pediatrics</td>
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<tr>
<td>Health Oc. 124a</td>
<td>Medical-Surgical Nursing</td>
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<td>Health Oc. 125a</td>
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<tr>
<td>Health Oc. 128</td>
<td>Community Health</td>
<td>3</td>
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<tr>
<td>Health Oc. 140a</td>
<td>Clinic</td>
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<tr>
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<td>Clinic</td>
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<td>Health Oc. 140c</td>
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### TOTAL REQUIRED UNITS 34

### TOTAL REQUIRED UNITS 46-56

### TOTAL REQUIRED UNITS 21

### TOTAL REQUIRED UNITS 34

### TOTAL REQUIRED UNITS 23

### Vocational Nursing

#### Search and Rescue

<table>
<thead>
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<td>Intro. to Vocational Nursing</td>
<td>5</td>
</tr>
<tr>
<td>Health Oc. 113a</td>
<td>Anatomy &amp; Physiology for Voc. Nurses</td>
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<td>Health Oc. 113b</td>
<td>Anatomy &amp; Physiology for Voc. Nurses</td>
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</table>

### TOTAL REQUIRED UNITS 21

### TOTAL REQUIRED UNITS 34
DEGREE REQUIREMENTS

Columbia College will confer the Associate in Arts Degree or the Associate in Science Degree upon completion of the following requirements. The Associate in Science Degree is awarded to students who major in physical or biological sciences or occupational curricula. The Associate in Arts Degree is awarded for all other majors.

TOTAL UNITS: Satisfactory completion of 90 quarter units of which the last 18 of the required units must be completed in residence at Columbia College.

A student taking more than four (4) years to graduate may only use graduation requirements in effect up to four (4) years prior to the date of graduation.

SCHOLARSHIP: A cumulative Grade Point Average of 2.0 ("C") average.

MAJOR: Satisfactory completion of a major as listed in the college catalog.

More than one Associate Degree may be granted to a student who has completed the applicable requirements as well as an additional 18 quarter units in residence.

The Board of Governors of the California Community Colleges has recently adopted new regulations for the Associate degree effective July 1, 1983. At the time this catalog was being prepared, Columbia College was revising its General Education requirements to comply with the new regulations. When this process has been completed, copies of the new requirements will be available upon request in the Office of Admissions and Records.

Students are advised to consult a member of the counseling staff for assistance in planning their programs.

NOTICE OF INTENT TO GRADUATE: A Notice of Intent to Graduate must be filed in the Admissions and Records Office no later than the second week of the quarter in which the student plans to complete his requirements for graduation.

Graduation requirements may be completed during any quarter. Degrees are conferred at graduation exercises at the close of the Spring Quarter.
MAJORS

AUTOMOTIVE TECHNOLOGY

REQUIRED COURSES: UNITS
Auto. Tech. 101 Intro. to Auto. Tech. ..... 2
Auto. Tech. 114 Machine Shop Procedures... 2
Auto. Tech. 116 Engine Rebuilding... 2
Auto. Tech. 117 Basic Electrical Systems.... 2
Auto. Tech. 118 Emission Control... 2
Auto. Tech. 119 Gasoline Engine Tune up .... 2
Auto. Tech. 120 Manual Trans. Rebuilding... 2
Auto. Tech. 124 Air Conditioning Systems.... 2
Auto. Tech. 136 Auto. Transmissions (GM) .... 2
Auto. Tech. 140a Electrical Theory .... 2
Auto. Tech. 140b Charging Systems .... 2
Auto. Tech. 150c Starting & Ignition Systems ... 2
Auto. Tech. 150d Lighting & Chassis Elec. ... 2

TOTAL REQUIRED UNITS 30

BUSINESS

BUSINESS ADMINISTRATION (OCCUPATIONAL)

REQUIRED COURSES: UNITS
Bus. Ad. 40a Bookkeeping ..... 5
Bus. Ad. 40b Bookkeeping or
Bus. Ad. 61 Small Business Accounting .... 5
and
Bus. Ad. 63 Business Mathematics .... 4

and

Bus. Office 68 Business Correspondence .... 4

AND 9 UNITS FROM: Bus. Ad. 65 Business English (3)
Bus. Ad. 66 Bookkeeping or
Bus. Ad. 67 Bookkeeping or
Bus. Ad. 68 Small Business Accounting or
Bus. Ad. 130a Accounting or
Bus. Ad. 130b Accounting or
Computer Sci. 105 Computers and Society (4)

TOTAL 19-20

AND 10-11 UNITS FROM:
Bus. Ad. 104 Human Relations in Business (3)
Bus. Ad. 115a Commercial Law (3)
Bus. Ad. 120 Principles of Marketing (3)
Bus. Ad. 123 Sales (3)
Bus. Ad. 125 Advertising & Display Promotion (3)
Bus. Ad. 140 Principles of Management (3)
Bus. Ad. 145 Retail Business Management .... (4)
Bus. Ad. 150 Small Business Management .... (4)

TOTAL REQUIRED UNITS 30

CHEMISTRY

REQUIRED COURSES: UNITS
Chemistry 101 General Chemistry .... 5
Chemistry 101b General Chemistry .... 5
Chemistry 101c General Chemistry .... 5
Chemistry 101b General Chemistry .... 5
Chemistry 108a Chem. of Carbon Compounds (4)
Chemistry 108b Chem. of Carbon Compounds (4)
Physics 110b Applied Physics ..... (4)
Physics 110a Applied Physics ..... (4)
Physics 120a General Physics ..... (4)
Physics 120b General Physics ..... (4)

TOTAL REQUIRED UNITS 30

BUSINESS CLERICAL

REQUIRED COURSES: UNITS
Bus. Ad. 60a Bookkeeping or
Bus. Ad. 60b Bookkeeping or
Bus. Ad. 61 Small Business Accounting or
Bus. Ad. 130a Accounting or
Bus. Ad. 130b Accounting or
Office Occ. 65 Business English (3)
Office Occ. 103 Intermediate Typing .... (3)
Office Occ. 107 Memory Typewriter ..... 1
Office Occ. 108 Electronic Typewriter ..... 1
Office Occ. 130 Filing Systems & Records Mgmt .... 3
Office Occ. 132 Machine Transcription .... 4

TOTAL REQUIRED UNITS 30

BUSINESS

BUSINESS ADMINISTRATION (PROFESSIONAL)

REQUIRED COURSES: UNITS
Bus. Ad. 115a Commercial Law (3)
Computer Sci. 105 Computers and Society .... 4
Computer Sci. 120 Computer Logic .... 4
Computer Sci. 120a Computer Programming: Intro .... 3
Computer Sci. 120b Computer Programming: Intro .... 3
Computer Sci. 120c Computer Programming: Adv. .... 3
Computer Sci. 120d Computer Programming: Adv. .... 3
Computer Sci. 140 Machine Language Programming .... 3
Computer Sci. 145 Computer Programming: Applications .... 3
Computer Sci. 150 Computers and Control .... 3
Mathematics 115 Matrices Mathematics .... 2

TOTAL REQUIRED UNITS 33

EARTH SCIENCE

REQUIRED COURSES: UNITS
Earth Science 114 Physical Geology .... 5
Earth Science 123 Geology of National Parks 4
Earth Science 133 Global Technology .... 4
Earth Science 139 Field Geology .... 1
Earth Science 142 Descriptive Astronomy .... 3
Earth Science 144 General Astronomy .... 4
Earth Science 161 Survey of Meteorology .... 3
Earth Science 171 Survey of Oceanography .... 3

TOTAL 23-26

AND 6-9 UNITS FROM:
Comp. Sci. 120a Computer Programming .... (3)
Earth Science 149 Observational Astronomy .... (2)
Geography 105 Physical Geography .... (5)
Nat. Res. Tech. 60 Art & Media Interp. .... (3)
Nat. Res. 102 Property of Soils .... (3)

TOTAL REQUIRED UNITS 32

RECOMMENDED COURSES:

Physics, Chemistry, and Mathematics to include College Algebra and Calculus.

ENGLISH

REQUIRED COURSES: UNITS
English 101a Reading and Composition .... 5
English 101b Reading and Composition .... 5

TOTAL 10

AND AT LEAST 20 UNITS FROM:
English 110 Intro. to Creative Writing .... (5)
English 117a Literature of the U.S. .... (5)
English 117b Literature of the U.S. .... (5)
English 146a Survey of English Literature .... (5)
English 146b Survey of English Literature .... (5)
English 149 California Literature .... (5)
English 150 Introduction to Shakespeare .... (4)

TOTAL REQUIRED UNITS 30

RECOMMENDED COURSES:

Literature of the U.S., American Literature, and College Composition.

FIRE TECHNOLOGY

REQUIRED COURSES: UNITS
Fire Tech. 101 Introduction to Fire Technology .... 3
Fire Tech. 102 Fund. of Personal Fire Safety and Emergency Action .... 3
Fire Tech. 103 Fundamentals of Fire Prevention .... 2
Fire Tech. 104 Fund. of Fire Behavior and Control .... 3
Fire Tech. 105 Fundamentals of Fire Protection .... 2
Fire Tech. 106 Firefighting Strategies & Tactics .... 3
Fire Tech. 114 Fire Apparatus & Equipment .... 3
Fire Tech. 115 Wildland Fire Control .... 3
Fire Tech. 122 Fire Hydraulics .... 3
Fire Tech. 130 Fire Protection Equip. and Sys. .... 3

TOTAL REQUIRED UNITS 30
HEAVY EQUIPMENT AND TRUCK REPAIR TRUCK

REQUIRED COURSES:

Heavy Equip. 109a Diesel Engine Repair: Detroit... 4
Heavy Equip. 110a Diesel Engine Repair: Caterpillar... 4

TOTAL REQUIRED UNITS 12

HOSPITALITY MANAGEMENT

RECOMMENDED OPTIONAL COURSES

Bus. Ad. 10a Accounting... 5
Bus. Ad. 10b Accounting... 5
Bus. Ad. 11b Business Math... 4
Bus. Ad. 11c Business Math... 4

Total Required Units: 22

COLUMBIA COLLEGE PHOTO

MATHEMATICS

REQUISITE COURSES: UNITS

Math. 120a Calculus w/ Analytic Geometry... 5
Math. 120b Calculus w/ Analytic Geometry... 5
Math. 120c Calculus w/ Analytic Geometry... 5
Math. 101 College Algebra or... 5
Math. 102 Elements of Statistics... 5

Total Required Units: 30

AND 10 UNITS FROM:

Comp. Sc. 120a Computer Programming... 3
Comp. Sc. 120b Computer Programming... 3
Comp. Sc. 120c Computer Programming... 3
Math. 110 Finite Mathematics... 5
Physics 120a General Physics... 5
Physics 120b General Physics... 5
Physics 120c General Physics... 5

Total Required Units: 30

MUSIC

REQUISITE COURSES: UNITS

Music 120a Music Theory... 5
Music 120b Music Theory... 5
Music 120c Music Theory... 5

Total Required Units: 30

AND AT LEAST 6 UNITS FROM:

Music 130a Advanced Keyboard... 3
Music 130b Advanced Keyboard... 3

Total Required Units: 30

AT LEAST 9 UNITS OF MUSIC HISTORY FROM:

Music 110a Survey of Music History & Lit... 3
Music 110b Survey of Music History & Lit... 3
Music 110c Survey of Music History & Lit... 3
Music 112a Survey of Jazz & Popular Music... 3
Music 115 Survey of Eastern Music... 4

Total Required Units: 15

AT LEAST 6 UNITS OF KEYBOARD FROM:

Music 140a Beginning Keyboard... 3
Music 140b Beginning Keyboard... 3

Total Required Units: 15

ADVANCED STUDENTS MAY SUBSTITUTE MUSIC ELECTIVES FOR KEYBOARD REQUIREMENTS FROM:

Music 140a Composition... 3
Music 140b Composition... 3
Music 140c Composition... 3

Total Required Units: 15
# MAJORS

## NATURAL RESOURCES TECHNOLOGY

**REQUIRED COURSES:**
- Nat. Res. Tech. 60: Aerial Photo / Map Interp.
- Nat. Res. 102: Properties of Soil

**TOTAL REQUIRED UNITS 30**

AND 16-18 UNITS FROM:
- Fire Sci. 117: Wildland Fire Control
- For. Tech. 50: Intro. to Technical Forestry
- For. Tech. 53: Forest Surveying Techniques
- For. Tech. 56: Tree & Plant Identification
- For. Tech. 59: Forest Inventory
- Heavy Equip. 70: Logging Equipment
- Math. 50: Basic Mathematics
- Nat. Res. Tech. 61: Water for Consumption
- Nat. Res. Tech. 83: California Wildlife: Game/Fish

**TOTAL REQUIRED UNITS 22**

## PHYSICAL EDUCATION

**REQUIRED COURSES:**
- P.E. 101: Introduction to Physical Education
- P.E. 105: Personal Fitness Concepts and Evaluation
- Health Ed. 101: Health and Fitness Education
- Health Ed. 110: Safety and First Aid Education

**PHYSICS 110a:** Applied Physics

- Chemistry 100: Fundamentals of Chemistry
- Biology 110: Fundamentals of Biology
- Minimum of six (6) units from P.E. 120, 130, and 140

**TOTAL REQUIRED UNITS 26**

AND AT LEAST 4 UNITS FROM:
- P.E. 106: Theory and Practice of Adaptive P.E.
- P.E. 107: Corrective Rehab. P.E. Assisting
- P.E. 112: Theatre Production: Dance Emphasis
- P.E. 116: Dance Production
- P.E. 117: Choreography and Composition
- P.E. 119: Dance Touring Company
- P.E. 171: Introduction to Adult Fitness
- P.E. 177: Introduciton to Exercise Stress Testing
- Health Ed. 103: Consumer Health
- Health Ed. 113: Advanced First Aid
- Biology 140: Introductory Human Anatomy
- Biology 160a: Introduction to Human Physiology
- Mathematics 105: Elements of Statistics

**TOTAL REQUIRED UNITS 32**

## PHYSICAL SCIENCE

**REQUIRED COURSES:**
- Chemistry 110a: General Chemistry
- Chemistry 110b: General Chemistry
- Chemistry 110c: General Chemistry
- Earth Science 114: Physical Geology
- Earth Science 114: General Astronomy
- Mathematics 105: Elements of Statistics
- Mathematics 120a: Calculus with Analytic Geometry
- Mathematics 120b: Calculus with Analytic Geometry
- Mathematics 120c: Calculus with Analytic Geometry
- Physics 120a: General Physics
- Physics 120b: General Physics
- Physics 120c: General Physics

**TOTAL REQUIRED UNITS 32**

## PSYCHOLOGY

**REQUIRED COURSES:**
- Psychology 101a: General Psychology
- Psychology 101b: General Psychology
- Psychology 145b: Developmental Psychology
- Psychology 149a: Developmental Psychology
- Psychology 160: Personality Theory

**TOTAL REQUIRED UNITS 23**

AND AT LEAST 7 UNITS FROM:
- Psychology 107: Search for Self
- Psychology 120: Interpersonal Growth
- Psychology 125: Brief/Out and Self-Control
- Sociology 101: People in Groups: Intro. to Soc.

**TOTAL REQUIRED UNITS 34**

## SOCIETY

**REQUIRED COURSES:**
- Sociology 101: People in Groups: Intro. to Soc.
- Sociology 102: American Social Patterns
- Sociology 110: Deviance and Conflict
- Sociology 112: Family, Marriage, Individual
- Sociology 127: Aging
- Sociology 128: Death and Dying

**TOTAL REQUIRED UNITS 30**

AND AT LEAST 7 UNITS FROM:
- Sociology 103: Social Psychology
- Sociology 107: Search for Self
- Sociology 120: Interpersonal Growth

**TOTAL REQUIRED UNITS 30**

## SEARCH AND RESCUE

**REQUIRED COURSES:**
- S.A.R. 110: Intro. to Search Theory
- S.A.R. 112: Managing the Search Function
- S.A.R. 114: Search for Self, Field
- S.A.R. 118: Basic Survival Skills
- S.A.R. 122: Wilderness Navigation
- S.A.R. 126: Search for Self, Field
- S.A.R. 130: Intro to Rescue Techniques
- S.A.R. 132: Ascending & Descending Techniques
- S.A.R. 134: Helicopter Oper. and Personnel Safety
- S.A.R. 136: Introduction to Line Management
- S.A.R. 146: Introduction to Swiftwater Rescue

**TOTAL REQUIRED UNITS 34**

### TOTAL REQUIRED UNITS 62
LOWER DIVISION REQUIREMENTS  
CALIFORNIA FOUR-YEAR COLLEGES AND UNIVERSITIES

Students should consult the latest catalog of the institution to which they intend to transfer to ensure that all required lower division courses are included in their Columbia program of study. Advisors will help students select courses that fulfill major and General Education Breadth Requirements. The responsibility for fulfilling requirements rests with the student.

CALIFORNIA STATE UNIVERSITY TRANSFER

The California State University system has established the following campuses:

California State College, Bakersfield
California State University, Chico
California State University, Dominguez Hills
California State University, Fresno
California State University, Fullerton
California State University, Hayward
Humboldt State University
California State University, Long Beach
California State University, Los Angeles
California State University, Northridge
California State Polytechnic University, Pomona
California State University, Sacramento
California State College, San Bernardino
San Diego State University
San Francisco State University
San Jose State University
California State University, Stanislaus

Students may complete their lower division preparation for transfer to one of the state universities without loss of credit or grades. Students should check the University catalog to include lower division courses which may be required for upper division work in a minor.

To earn the Associate degree and enter a state university with junior standing, a student should complete at least 90 transferable quarter units with a cumulative Grade Point Average of 2.0 ("C" average) or better. A maximum of 105 quarter units of junior college credit will be accepted by a state university. Units in excess of 105 may be applied toward fulfillment of requirements in the General Education Breadth Requirement, the major, or the minor.

THE COLUMBIA COLLEGE PATTERN OF GENERAL EDUCATION FOR STATE UNIVERSITY TRANSFER

One of the specific requirements to obtain a baccalaureate degree from the California State University System is the General Education requirement. This requirement can be met by completing satisfactorily a minimum of 72 quarter units of general education. 13.5 quarter units of General Education must be taken in the upper division at the four-year college from Areas B, C, and D listed below.

A.1 Critical Thinking

Each transfer college will certify a maximum of 58 quarter units as having fulfilled the CSU lower division General Education requirements. A class taken at another participating institution may be included on Columbia's certification list if the class would have been certified at another institution.

GENERAL EDUCATION REQUIREMENTS:

Completion of 58.5 quarter units specified in Areas A-E below will be given full certification. The balance of 13.5 quarter units minimum must be taken as designated by the State University conferring the BA/BS degree.

No course may be used to meet more than one requirement.

The CSU General Education requirements are effective for students entering Columbia College for the first time in the Fall of 1983 or thereafter.

Students who entered Columbia College prior to Fall of 1983 should continue to use the old Columbia College pattern so long as they make normal and continuous progress toward the baccalaureate degree.

DISTRIBUTION OF COURSES

The courses below are applicable to the General Education requirement to be certified by Columbia and must be distributed as follows:

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

Three courses are required: REQUIRED:

A.1 Oral Communication

Speech 101, Fundamentals of Speech (5)

A.2 Written Communication

English 101a, Reading and Composition (5)

English 101b, Reading and Composition (5)

A.3 Creative Thinking

Mathematics 100a, Logic (5)

AREA B. Physical Universe, Its Life Forms and Mathematical Concepts:

A minimum of thirteen and one-half (13.5) quarter units are required from B.1, B.2, and B.3. One course from B.1 or B.2 must be a laboratory course, A minimum of 3 units each must be taken from B.1, B.2, and B.3.

REQUIRED:

B.1 Physical Sciences

Chemistry 100, Fundamentals of Chemistry (5) (lab course)

Chemistry 101, General Chemistry (5) (lab course)

Earth Science 101, Survey of Geology (2)

Earth Science 114, Physical Geology (5)

Earth Science 141, Survey of Astronomy (2)

Earth Science 142, Descriptive Astronomy (3)

Earth Science 144, General Astronomy (4) (lab course)

Earth Science 161, Survey of Meteorology (3)

Earth Science 171, Survey of Oceanography (3)

B.2 Biological Sciences

Biology 100, Human Biology (4) (lab course)

Biology 110, Fundamentals of Biology (4), (lab course)

Biology 120, Principles of Biology (5), (lab course)

Biology 120, Fundamentals of Plant Biology (3) (lab course)

Biology 130, Fundamentals of Animal Biology (3) (lab course)

B.3 Quantitative Reasoning and Mathematics

Math. 101, Intermediate Algebra (5)

Math. 102, Trigonometry (5)

Math. 103, College Algebra (5)

Math. 105, Elements of Statistics (5)

Math. 110, Finite Mathematics (5)

Math. 115, Matrix Mathematics for Computers (2)

Math. 120a, Calculus with Analytic Geometry (5)

Comp. Sc. 120a, Computer Programming (3)

AREA C. Arts, Literature, Philosophy, and Foreign Language: Thirteen and one-half (13.5) quarter units with at least one course from C.1 and C.2.

REQUIRED:

C.1 Arts (Art, Dance, Drama, Music)

Art 110a or 111b or 111c, History of Art (3)

Drama 102, Oral Expression and Interpretation (5)

Music 102, Introduction to Music (4)

C.2 Literature, Philosophy, and Foreign Language

English 117a or 117b, Literature of the United States (4)

English 146a or 146b or 146c, Survey of English Literature (4) (4) (4)

Humanities 101, Old World Culture (4)

Humanities 102, Modern Culture (4)

Philosophy 101, Knowledge and Reality (4)

Philosophy 125, Twentieth Century Philosophy (4)

AREA D. Social, Political, and Economic Institutions and Behavior:

One course each from D.1 and D.2, and two courses from D.3 are required for the General Education Pattern. (Only 13.5 units will apply toward the required 58.5 quarter units.)

D.1 General Social Sciences

Economics 101a, Principles of Economics (5)

Psychology 101a, General Psychology (5)

Sociology 101, Introduction to Sociology (5)

D.2 Civilization and Cultures

Anthropology 101a or 101b, Introduction to Anthropology (5)

Geography 102, Introduction to Cultural Geography (5)

History 104a, 104b, or 104c, World Civilization (4) (4) (4)

History 111, Asia (4)

D.3 U.S. History and Government

History 117a, United States (5)

History 117b, United States (5)

Political Science 101, Constitutional Government (5)

Note: California law includes a requirement in U.S. History and Government for the BA/BS Degree. Completion of two courses from D.3 will meet the requirement. The student should be aware that only 4.5 quarter units will be credited toward the 58.5 certified General Education units.

Some CSU campuses place the U.S. History and Government requirement outside the General Education requirement, while others include it within. Consult the catalog of the state university to which you are transferring or see a counselor for this information.
AREA E. Lifelong Understanding and Self-Development: Four and one-half (4.5) quarter units are required.

REQUIRED:
- Health Education 101, Health and Fitness Education (4)
- Physical Education 171, Introduction to Adult Fitness (3)
- Physical Education 173A, Adult Fitness Program (2-3)
- Psychology 107, Search for Self (2)

AREA F. Upper Division Requirement: A minimum of 13.5 quarter units as designated by the State University conferring the BA/BS Degree is required.

UNIVERSITY OF CALIFORNIA TRANSFER

The University of California has established campuses at Berkeley, Davis, Irvine, Los Angeles, Riverside, San Diego, San Francisco, Santa Barbara, and Santa Cruz. To earn the Associate degree and enter the University of California with junior standing, a student should complete at least 90 transferable quarter units with a cumulative Grade Point Average of 2.0 ("C") or better.

The University will not grant credit toward graduation for work completed in excess of 105 lower division quarter units. A student not eligible for direct admission to the University from high school may become eligible and transfer upon completion of all deficiencies. If the deficiency occurred because of a failure to complete required high school subjects, the student may be admitted when he/she has:
(1) established a cumulative Grade Point Average of 2.0 ("C") or better.
(2) satisfied subject requirements with a grade of "C" or better. There is an exception to this requirement. Up to two units of credit in the required high school subjects will be excused if the student has earned a Grade Point Average of 2.4 or better in 84 quarter units (56 semester units) of college credit in courses accepted by the University for transfer. Any deficiency over two units in the required high school subjects must be made up by completing appropriate college courses with a grade of "C" or better.

The University of California has stated breadth requirements in terms of courses completed, not units. Because there may be individual variations between the several University campuses, students planning to transfer to a campus of the University of California should obtain a catalog from that campus and, in consultation with his/her advisor, determine the proper courses needed to fulfill requirements. The Career Center maintains a collection of University catalogs for student reference.

TRANSFER TO PRIVATE COLLEGES AND UNIVERSITIES

Students planning to transfer to private colleges and universities should consult the catalog of the college to which they plan to transfer for specific lower division required courses which may be completed at Columbia College. The student should consult with his/her advisor for guidance.
ANTHROPOLOGY

Numbering of Courses
Courses numbered 1 to 49 are non-credit courses; courses numbered 50 to 99 are not intended for transfer but may be accepted for transfer credit by agreement with specific four-year colleges and universities.

Courses numbered 100 and above are designated baccalaureate level courses.

Students must understand that some courses designated as baccalaureate level may not meet requirements at the transferring institution; however, they may be used for elective credit.

Course Description
A course description is given for each credit course offered by the College. Students are urged to refer to the course description for information concerning course prerequisites and allocation of class hours for lectures, laboratory, field trips, or other required learning activities.

Courses Not Listed In The Catalog
1. Credit Free Courses
   In an effort to meet some of the special interest needs of the populations served by the College, Credit Free Courses are usually offered each quarter. These courses are traditionally offered either through Continuing Education or Community Services sponsorship. Credit Free Courses cannot be applied toward fulfilling graduation, transfer, or vocational education programs, but such courses do provide information and/or training on a variety of societal subjects.

2. 80/180 Courses: Special Topics
   Lecture and/or laboratory hours and units of credit may vary. Classes in which a particular topic is directed by (such as history) is treated in an in-depth study. The topic, the number of units and hours, and prerequisites(s) (if any), will be determined in advance and published in the Quarterly Schedule of Classes. 80/180 Courses may be repeated for credit with different topics only. These courses may provide elective credit but will not fill requirements.

3. 85/185 Courses: Interdisciplinary Studies — Special Topics
   Lecture and/or laboratory hours and units of credit may vary. Classes in which a particular topic which crosses interdisciplinary lines is studied in-depth. The topic, the number of units and hours, and prerequisites(s) (if any), will be determined in advance and published in the Quarterly Schedule of Classes. 85/185 Courses may be repeated for credit with different topics only. These courses may provide elective credit but will not fill requirements.

4. 99/199 Courses: Independent Study
   Independent study courses are intended to give students an opportunity to independently research specialized areas not available in regular course offerings of the college. They are designed to meet specific student interests and may be made available in any subject matter area. Consult your advisor for specific procedures. (See page 23 for conditions, limitations).

Prerequisites
Prerequisites are intended to ensure that the student will have sufficient preparation before entering a course. Where no prerequisite is stated for a course, none is required.

A prerequisite may be waived when, in the instructor's judgment, the student has adequate preparation to satisfy the course objectives.

Credit Value
The number after the course indicates the unit credit value of the course. Courses listed in this catalog are described in quarter units. One and one-half quarter units are equal to one semester unit.

Field Trips
Field trips may be required in a number of courses where such a statement is not currently a part of the course description.

ANTHROPOLOGY

101a INTRODUCTION TO ANTHROPOLOGY: Physical
   Lecture: 5 hours
   Evolutionary history with emphasis on recent developments: primateology; the fossil sequence beginning with pre-human through Paleolithic era to domestication of plants and animals and the dawn of civilization. Cultural adaptation resulting from biological and genetic background.

101b INTRODUCTION TO ANTHROPOLOGY: Cultural
   Lecture: 5 hours
   Primitive beings and the concept of culture basic to anthropology. Emphasis on methods of fieldwork, cultural ecology, language, social structure, the psychological perspective, religion, medicine, and cultural change.

101c INTRODUCTION TO ANTHROPOLOGY: Current Problems
   Prerequisite: Anthropology 101a
   Lecture: 5 hours
   Problems in anthropology. In-depth study of the research armamentarium for solving current problems in the field. Required of all first year students who are planning to major in anthropology.

110 INTRODUCTION TO ARCHAEOLOGY
   Lecture: 3 hours
   Development of archaeology as an anthropological study, a review of archaeological projects in North and South America. Archaeological methods, techniques, and site survey methods reviewed.

115 INDIANS OF NORTH AMERICA
   Lecture: 3 hours
   A survey of the origins, cultures, and customs of peoples indigenous to the North American continent with a primary emphasis upon folkways dominant prior to interference by foreign cultures, and a secondary emphasis upon the status of the Indians in the USA today.

112a DESIGN: Basic
   Studio: 6 hours
   Fundamental elements and principles of design explored through lectures, reading problems, and studio projects.

112b DESIGN: Color
   Studio: 6 hours
   Continuation of Art 112a with emphasis on the principles and application of color theory.

112c DESIGN: Structure
   Studio: 6 hours
   Continuation of Art 112b working with three dimensional designs and structures.

103 PERSPECTIVE DRAWING
   Lecture: 3-4 hours
   Through an investigation of the principles of linear perspective and how these principles can be applied to creative visual art.

109a LIFE DRAWING: Introductory
   Studio: 3-4 hours
   Problems in figure drawing, working from the draped model.
   May be repeated for a maximum of three units.

109b LIFE DRAWING: Advanced
   Studio: 3-4 hours
   An extension of Art 109a emphasizing various media and compositional problems.
   May be repeated for a maximum of three units.

109c LIFE DRAWING: Special Problems
   Studio: 3-4 hours
   An extension of Art 109b emphasizing individual growth on the part of the student as an artist.
   May be repeated for a maximum of six units.

111b HISTORY OF ART: Renaissance and Baroque
   Lecture: 3 hours
   Survey of art history from the 15th through the 16th centuries.
   Field trips may be required.

111c HISTORY OF ART: 19th and 20th Century
   Lecture: 3 hours
   The background, causes, and evolution of contemporary art.
   Field trips may be required.

121a ACRYLIC PAINTING: Introductory
   Studio: 3-4 hours
   Introduction to the painting process using acrylic as a medium. Special attention will be paid to design elements and color theory.
   May be repeated for a maximum of three units.

121b ACRYLIC PAINTING: Advanced
   Studio: 3-4 hours
   An extension of Art 121a emphasizing individual growth on the part of the student as an artist.
   May be repeated for a maximum of six units.

121c ACRYLIC PAINTING: Special Problems
   Studio: 3-4 hours
   An extension of Art 121b emphasizing individual growth on the part of the student as an artist.
   May be repeated for a maximum of three units.

122a OIL PAINTING: Introductory
   Studio: 3-4 hours
   Basic principles, techniques, and problems of oil painting.
   May be repeated for a maximum of three units.

122b OIL PAINTING: Advanced
   Studio: 3-4 hours
   Continuation of Art 122a emphasizing advanced oil painting techniques and problems.
   May be repeated for a maximum of three units.

122c OIL PAINTING: Special Problems
   Studio: 3-4 hours
   Study and application of 19th and 20th Century painting techniques to contemporary studio practice.
   May be repeated for a maximum of six units.

123a WATERCOLOR: Introductory
   Studio: 3-4 hours
   Introduction to the basic techniques and problems of transparent watercolors.
   May be repeated for a maximum of three units.
141a PHOTOGRAPHY: Beginning
Lecture: 2 hours Laboratory: 3 hours
Introduction to history, development, and capabilities of the art/science of photography and elementary procedures with camera and in darkroom.
Field trips may be required.

141b PHOTOGRAPHY: Intermediate
Prerequisite: Art 141a or consent of instructor. Lecture: 2 hours Laboratory: 3 hours
Expansion of previous knowledge stressing creative expression through a variety of photographic techniques.
Field trips may be required.

141c PHOTOGRAPHY: Advanced
Prerequisite: Art 141b. Art 102a recommended. Lecture: 2 hours Laboratory: 3 hours
Continuation of Art 141b with further attention to practical and aesthetic system technique and advanced negative and printing methods. Particular attention will be paid to medium and large format photography. Emphasis on visual literacy, elements of design, composition, and semiotics.
Field trips may be required.

142a COLOR PHOTOGRAPHY: Slide Making and Positive Printing
Prerequisite: Art 141a or consent of instructor. Lecture: 2 hours Laboratory: 3 hours
Development and printing of color slides. Includes the history and theory of color photography, analysis of color films, color balance, exposure latitude, color separation, and printing positive to positive printing, print display and critique.
Field trips may be required.

142b COLOR PHOTOGRAPHY: Intermediate
Prerequisite: Art 142a. Arts 141a, 141b required. Lecture: 2 hours Laboratory: 3 hours
Continuation of Art 142b with emphasis on practical and aesthetic system technique and advanced negative and printing methods. Particular attention will be paid to medium and large format photography. Emphasis on visual literacy, elements of design, composition, and semiotics.
Field trips may be required.

142c COLOR PHOTOGRAPHY: Advanced
Prerequisite: Art 142b or consent of instructor. Lecture: 2 hours Laboratory: 3 hours
Continuation of Art 142b with emphasis on practical and aesthetic system technique and advanced negative and printing methods. Particular attention will be paid to medium and large format photography. Emphasis on visual literacy, elements of design, composition, and semiotics.
Field trips may be required.

145 FIELD PHOTOGRAPHY
Lecture: 3.5 hours Laboratory: 1.5 hours
The art of producing professional quality nature photographs. Field instruction in locations of natural beauty will be emphasized and followed up with lectures, demonstrations, and critique sessions.

148 SPECIAL TOPICS IN PHOTOGRAPHY
Prerequisite: Will vary according to topic scheduled. Lecture: 1.5-3 hours or Laboratory: 1.5-3 hours
Continuation of special advanced photographic topics. Field trips may be required.
Course may be repeated for credit with different topics only.

149 PORTFOLIO AND EXHIBITION PREPARATION
Prerequisite: Art 102a, Art 141a, Art 142b. Lecture: 1 hour Laboratory: 3 hours
For students preparing for professional photographic careers. May be repeated for a maximum of three units.

150 COMMERCIAL FREEHAND LETTERING: Beginning
Prerequisite: Art 102a. Lettering: Intermediate. Studio: 3 hours
Introductory course in commercial lettering. Emphasis will be placed on the craft and technique involved in assembling and installing a photographic portfolio for exhibitions.

150a COMMERCIAL FREEHAND LETTERING: Intermediate
Prerequisite: Art 150a. Lettering: Intermediate. Studio: 2 hours
Field instruction in locations of natural beauty will be emphasized and followed up with lectures, demonstrations, and critique sessions.

150b COMMERCIAL FREEHAND LETTERING: Advanced
Prerequisite: Art 150b. Lettering: Advanced. Studio: 2 hours
Field instruction in locations of natural beauty will be emphasized and followed up with lectures, demonstrations, and critique sessions.

152 INTAGLIO PRINTMAKING
Prerequisite: Art 150a or consent of instructor. Lecture: 3 hours Studio: 3 hours
Course may be repeated one time.

153a SILKSCREEN PRINTMAKING: Beginning
Prerequisite: 3-6 hours. Introduction to basic silkscreen printing.

153b SILKSCREEN PRINTMAKING: Intermediate
Prerequisite: Art 153a or consent of instructor. Studio: 3-6 hours
An extension of Art 153a with emphasis on exploring various screen techniques with special reference to creative design.

153c SILKSCREEN PRINTMAKING: Advanced
Prerequisite: Art 153b or consent of instructor. Studio: 3-6 hours
An extension of Art 153b with emphasis on exploring various screen techniques with special reference to creative design.

155d COMMERCIAL FREEHAND LETTERING: Beginning
Prerequisite: Art 150a or consent of instructor. Studio: 3 hours
For students preparing for professional photographic careers. May be repeated for a maximum of three units.

156 COMMERCIAL FREEHAND LETTERING: Intermediate
Prerequisite: Art 156a or consent of instructor. Studio: 4 hours
Continuation of Art 156a with emphasis on the craft and technique involved in assembling and installing a photographic portfolio for exhibitions.

156b COMMERCIAL FREEHAND LETTERING: Advanced
Prerequisite: Art 156b or consent of instructor. Studio: 4 hours
Continuation of Art 156b with emphasis on original concepts in textile design.

156c TEXTILE DESIGN: Special Problems
Prerequisite: Art 167a or consent of instructor. Studio: 4 hours
Continuation of Art 167a with special emphasis on advanced individual projects and non-traditional approaches. May be repeated one time.

159a SILVERSMITHING: Introductory
Prerequisite: Art 159a or consent of instructor. Studio: 3 hours
Manufacture of jewelry and related items made of silver. Selecting and polishing stones to be mounted.

159b SILVERSMITHING: Advanced
Prerequisite: Art 159a or consent of instructor. Studio: 3 hours
A continuation of Art 159a, emphasizing advanced problems and techniques of silversmithing.
169a SILVERSMAITHING: Design 1.5 Units
Prerequisite: Art 169c or consent of instructor. Studio: 3 hours.
Study of basic principles of design as they may relate to the art of silversmithing.

169d SILVERSMAITHING: Practical Experience in Head, Block Service and Chasing 1.5 Units
Prerequisite: Art 169c or consent of instructor. Studio: 3-6 hours.
Continuation of Art 169c, with emphasis on experimentation and development of personal expression.

171a SCULPTURE: Introductory 1.5-3 Units
Studio: 3-6 hours.
Basic principles, techniques, and problems of sculpture.

171b SCULPTURE: Advanced 1.5-3 Units
Studio: 3-6 hours.
Continuation of Art 171a emphasizing advanced problems and techniques in sculpture.

171c SCULPTURE: Special Problems 1.5-3 Units
Studio: 3-6 hours.
Continuation of Art 171b with emphasis on experimentation and development of personal expression.

172 METAL SCULPTURE 1.5-3 Units
Studio: 3-6 hours.
Introduction to various metalworking techniques with an emphasis on aesthetic design.

AUTOMOTIVE TECHNOLOGY

See Page 28 for Certificate Requirements

101 INTRODUCTION TO AUTOMOTIVE TECHNOLOGY 2 Units
Lecture: 2 hours
Theory of operation of automobile systems. Fundamentals of math, micrometers, fasteners. Shop safety and tools will be covered.

103 PREVENTIVE MAINTENANCE 2 Units
Lecture: 1 hour Laboratory: 3 hours
Preventive maintenance procedures, emphasis on lubrication and safety inspection as well as record keeping.

112 PULLING AND INSTALLING ENGINES 2 Units
Lecture: 1 hour Laboratory: 3 hours
Practical experience in pulling and installing engines.

114 MACHINE SHOP PROCEDURES 2 Units
Lecture: 1 hour Laboratory: 3 hours
Practical experience in head, block service and common machine shop procedures used in repair shops.

116 ENGINE REBUILDING 5 Units
Lecture: 3.5 hours Laboratory: 7.5 hours
Techniques involved in engine rebuilding.

117a CARBURETION AND EMISSION CONTROL: Fuel Systems 2 Units
Lecture: 1 hour Laboratory: 3 hours
Techniques and procedures for overhaul and service of carburetor and accessories. Fuel injection service is also covered.

117b CARBURETION AND EMISSION CONTROL: Emission Control 2 Units
Prerequisite: Auto. Tech. 117a Lecture: 1 hour Laboratory: 3 hours
Installation, operation and repair of automotive pollution control devices. State and federal regulations are also covered.

119 GASOLINE ENGINE TUNE-UP 2 Units
Prerequisite: Auto. Tech. 117b Lecture: 1 hour Laboratory: 3 hours
Operation principles of various types of ignition systems. Emphasis on use of handheld test equipment as well as oscilloscope and infrared analyzer.

130 MANUAL TRANSMISSION REBUILDING 2 Units
Lecture: 1 hour Laboratory: 3 hours
Principles and operation of automatic power trains, including diagnosis and overhaul of clutches, manual transmission, overdrives, and transfer cases.

134 AXLES AND DRIVE LINES 2 Units
Prerequisite: Auto. Tech. 130 Lecture: 1 hour Laboratory: 3 hours
Service, diagnosis and repair of drive lines, rear axles and third members, front wheel drive hubs, and 4 x 4 front axles and hubs.

136 AUTOMATIC TRANSMISSION (GM) 2 Units
Lecture: 1 hour Laboratory: 3 hours
Theory of automatic transmissions and their advantages and disadvantages.

138 AUTOMATIC TRANSMISSION (Ford) 2 Units
Lecture: 1 hour Laboratory: 2 hours
Practical experience in disassembly and assembly, failure and analysis, trouble shooting, pressure testing, and automatic transmission rebuilding.

140a BRAKES: Drum 2 Units
Prerequisite: Auto. Tech. 140a Lecture: 1 hour Laboratory: 5 hours
Principles of operation of automotive drum brakes, including diagnosis and overhaul techniques.

140b BRAKES: Disc 1 Unit
Prerequisite: Auto. Tech. 140b Lecture: 3 hours Laboratory: 1.5 hours
Service procedures, including overhaul techniques of disc brakes.

144 FRONT-ENDE AND SUSPENSION 2 Units
Prerequisite: Auto. Tech. 144 Lecture: 1 hour Laboratory: 3 hours
Fundamentals and theory of automotive suspension and steering systems. Adjustment, diagnosis, inspection and repair of alignment problems, including wheel balancing and tire problems.

146 FRONT-ENDE AND SUSPENSION 2 Units
Prerequisite: Auto. Tech. 146 Lecture: 1 hour Laboratory: 3 hours
Front-end and suspension rebuilding and maintenance. Rear axle alignment is included.

150a VEHICLE ELECTRICITY: Electrical Theory 2 Units
Prerequisite: Auto. Tech. 150a Lecture: 1 hour Laboratory: 3 hours
Principles of operation of automotive suspension and steering systems. Adjustment, diagnosis, inspection and repair of alignment problems, including wheel balancing and tire problems.

150b VEHICLE ELECTRICITY: Charging Systems 2 Units
Prerequisite: Auto. Tech. 150b Lecture: 1 hour Laboratory: 3 hours
Diagnosis and repair of the battery and charging systems.

150c VEHICLE ELECTRICITY: Starting and Ignition Systems 2 Units
Prerequisite: Auto. Tech. 150c Lecture: 1 hour Laboratory: 3 hours
Diagnosis and repair of starting systems, magneto and battery ignition systems.

150d VEHICLE ELECTRICITY: Lighting and Chassis Electronics 2 Units
Prerequisite: Auto. Tech. 150d Lecture: 1 hour Laboratory: 3 hours
Diagnosis and repair of headlamp, stoplight, turn signals, as well as fuse box, trailer wiring, gauges.

362 AIR CONDITIONING 2 Units
Lecture: 1 hour Laboratory: 3 hours
Understanding the principles and operation of air conditioning, as well as the techniques of recharging diagnosis and service.
130a AIRPORT AND OPERATIONS
Lecture: 3 hours
An overview of the major functions of an airport from a management point of view.

130b AIRPORT AND OPERATIONS
Prerequisite: Aviation 155a
Lecture: 3 hours
Continuation of Aviation 130a.

130c AIRPORT AND OPERATIONS
Prerequisite: Aviation 130b
Lecture: 3 hours
Continuation of Aviation 130b.

150 LIGHT AIRCRAFT ENGINES
Lecture: 3 hours
The operation and the principles of maintenance of light aircraft engines common to privately owned aircraft.

BIOLOGY

50 HORTICULTURE FOR THE HOME GARDENER
Lecture: 2 hours
An introduction to the science of growing fruits, vegetables and turf. Demonstrations of plant propagation, tree planting, and grafting. Field trips may be required.

53 ORGANIC LIVING
Lecture: 1 hour
A course in living a simple, self-sufficient life style. Producing and preserving foods, dietary requirements and food additives, and small animal husbandry are among topics discussed and demonstrated.

55 ORGANIC GARDENING
Lecture: 1 hour
Laboratory: 3 hours
Lecture and laboratory instruction in the techniques of organic gardening. The campus garden and greenhouse will provide the setting for instruction.

58 BIRDS OF THE MOTHER LODGE
Lecture: 1 hour
Laboratory: 3 hours
A survey of the birds of the Mother Lodge area of California through field observations. Stresses recognition by plumage, song, and behavior patterns. Discusses ecological relationships, nesting habits, and economic importance. Field trips may be required. May be repeated one time.

59 WILDFLOWERS OF THE MOTHER LODGE
Lecture: 1-3 hours
Wildflowers of the Mother Lodge with emphasis on their botanical beauty. A non-technical approach to botanical traits will be used to learn common and scientific names of wild flowers.

60 NATURAL HISTORY AND ECOLOGY
Lecture: 3 hours
Laboratory: 3 hours
Natural history of California flora and fauna with emphasis on ecological principles and relationships. Field trips may be required.

65 DESERT WILDFLOWERS
1 Unit
Lecture: 5 hours
Laboratory: 1.5 hours
An introduction to desert wildflowers and their common names. Field trips may be required.

68 BIRDS OF THE SIERRA NEVADA
2 Units
Lecture: 1 hour
Laboratory: 3 hours
Study of bird species inhabiting alpine meadows and forests of the Sierra Nevada through field observations and lectures. Normally offered during summer only.

100 HUMAN BIOLOGY
Lecture: 4 hours
Field trips required. May be repeated one time.

110 FUNDAMENTALS OF BIOLOGY
Lecture: 3 hours
Laboratory: 3 hours
Modern concepts, inquiry methods, and historical background of biological unity and processes.

111 PRINCIPLES OF BIOLOGY
Prerequisite: One year of high school chemistry with a B average or Chemistry 100.
Lecture: 1 hour
Laboratory: 3 hours
A general biology course with the emphasis on the human being as an organism.

115 HEREDITY AND EVOLUTION
4 Units
Lecture: 2 hours
Introductory genetic principles; inheritance, population variation and evolution in plants and animals. Social implications of genetics and evolution.

120 FUNDAMENTALS OF PLANT BIOLOGY
Lecture: 2 hours
Laboratory: 3 hours
A course in botany with an emphasis on plant biology. The topics discussed are anatomy, physiology, ecology, heredity, and relationships of plants to human history. Field trips may be required.

121 PRINCIPLES OF PLANT BIOLOGY
Prerequisite: Biology 111
5 Units
Lecture: 3 hours
Laboratory: 6 hours
A general botany course with an emphasis on plant anatomy, plant physiology, and plant morphology. Field trips may be required.

125 PLANT TAXONOMY OF THE SIERRA NEVADA
4 Units
Lecture: 3 hours
Laboratory: 1 hour
A study of the flora of the Sierra Nevada with emphasis on the classification of angiosperms. The taxonomy characteristics of 35 plant families are studied. The use of standard taxonomic manuals is a fundamental part of the laboratory. Field trips may be required.

130 CONTINUATION OF AVIATION 130a.
Lecture: 3 hours
Field trips may be required.

131 PRINCIPLES OF ANIMAL BIOLOGY
Prerequisite: Biology 111
5 Units
Lecture: 3 hours
Laboratory: 3 hours
A general zoology course with emphasis on animal diversity, taxonomy, anatomy, and physiology. Field trips may be required.

139 FIELD BIOLOGY
Prerequisite: A previous course in biology is desirable.
Lecture: 1-2 hours
A field course in biology to be held in natural surroundings. The site will vary with the seasons. The natural history, ecology, and biology of the locale will be the subject of the course. May be repeated for a maximum of four units.

140 INTRODUCTORY HUMAN ANATOMY
Prerequisite: Biology 110 or consent of instructor.
4 Units
Lecture: 2 hours
Laboratory: 6 hours
A study of the gross anatomy of the human body with emphasis on skeletal, muscular, and nervous systems. Individual systems studied for their function, interaction and interrelationships with other systems. The cadaver is used for laboratory dissection.

151 THE TERRESTRIAL ENVIRONMENT
Prerequisite: Any one of the following: Biology 110, Biology 121, Biology 125 or consent of instructor.
3 Units
Lecture: 2 hours
Laboratory: 3 hours
Field trips required.

155 THE AQUATIC ENVIRONMENT
Prerequisite: Biology 110, Biology 111, or Earth Science 114 or consent of instructor.
3 Units
Lecture: 1 hour
Laboratory: 6 hours
Field studies of aquatic ecosystems with emphasis on techniques for gathering and analysis of physical and biological data. Field trips are required.

160a INTRODUCTION TO HUMAN PHYSIOLOGY
Prerequisite: Biology 110 or Biology 111 and a high school or college Chemistry course, or consent of instructor.
3 Units
Lecture: 2 hours
Laboratory: 3 hours
Introduction to physiology of cells, body fluids, the circulatory, muscular, excretory, and respiratory systems.

160b INTRODUCTION TO HUMAN PHYSIOLOGY
Prerequisite: Biology 160a.
3 Units
Lecture: 2 hours
Laboratory: 3 hours
A continuation of Biology 160a including the physiology of the digestive, nervous, endocrine, and reproductive systems.

165a MICROBIOLOGY
Prerequisite: High School Chemistry or Chemistry 100, and Biology 110 or Biology 111.
3 Units
Lecture: 2 hours
Laboratory: 3 hours
Prerequisite: High School Chemistry or Chemistry 100, and Biology 110 or Biology 111.

165b MICROBIOLOGY
Prerequisite: Biology 165a.
3 Units
Lecture: 2 hours
Laboratory: 3 hours
Field trips are required.

165c MICROBIOLOGY
Prerequisite: Biology 165a.
3 Units
Lecture: 2 hours
Field trips are required.
BANKING AND FINANCE / BUSINESS ADMINISTRATION

BUSINESS

Banking and Finance

110 PRINCIPLES OF BANK OPERATION 4 Units Lecture: 4 hours
The importance of banking to American economic functions, banking operations, legal relationships between bank and depositors, the Federal Reserve System, banking and public service.

113 FINANCING BUSINESS ENTERPRISES 4 Units Lecture: 4 hours
A survey of financial institutions; problems and solutions of providing capital for American business.

120 INSTALLMENT CREDIT 4 Units Lecture: 4 hours
Principles and practice of installment lending, establishing credit, obtaining and checking information, loan servicing and collections, inventory financing, special loan programs, business development and advertising and public relations.

125 MONEY AND BANKING 4 Units Lecture: 4 hours
An introduction to and evaluation of banks and banking systems, price movements, international business.

130 ANALYZING FINANCIAL STATEMENTS 4 Units
Prerequisite: Bus. Ad. 60b or Bus. Ad. 61 or Bus. Ad. 130a, or equivalent work experience with consent of instructor.
Lecture: 4 hours
Tools and techniques for the evaluation of financial condition and operating performance of a modern business enterprise. Topics include financial statement analysis, financial statements and funds flow, analysis of operations and long-term financial strength.

Business Administration

See Page 20-21 for Certificate Requirements

58 PEGBOARD PAYROLL SYSTEM 1 Unit Lecture: 1 hour
A business simulation designed to give realistic experience in keeping payroll records using a pegboard system.

60a BOOKKEEPING 5 Units Lecture: 5 hours
Double entry bookkeeping; general journal and general ledger, business forms, financial statement and completion of the bookkeeping cycle for service and trade businesses; notes in credit transactions.

60b BOOKKEEPING 5 Units
Prerequisite: Business Administration 60a
Lecture: 5 hours
Special journals and controlling accounts with subsidiary ledgers; discounts on purchases and sales; promissory notes and interest; bank services and petty cash; payroll records; adjustments for prepaid, unearned, and accrued items, bad debts, and depreciation.

61 SMALL BUSINESS ACCOUNTING 5 Units Lecture: 5 hours
Accounting procedures and analysis for most small businesses. Includes study of the accounting cycle, accounts receivable and bad debts, notes receivable and payable, merchandise inventory, depreciation, accruals and deferrals, the voucher system, payroll, financial statements, costs for decision-making, partnerships and corporations.

63 BUSINESS MATHEMATICS 4 Units Lecture: 4 hours
Mathematical problems of buying, selling, discounts, interest, credit, insurance, commissions, payrolls, depreciation, taxes, and bank reconciliations.

65 THE METRIC SYSTEM 1 Unit Lecture: 1 hour
The new language of the modernized metric system in areas of common, everyday application: volume, weight, linear and cubic measures, temperature, and electricity.

101 PRINCIPLES OF BUSINESS 3 Units Lecture: 3 hours
Business and its functions. Business organization; governmental institutions and controls; economics in business.

104 HUMAN RELATIONS IN BUSINESS 3 Units Lecture: 3 hours
Influence of industrial development on employer and employee unions, management practices, methods of supervision, employer-employee relationships, mass production and the employer.

112 INDUSTRIAL RELATIONS 3 Units Lecture: 3 hours
Introductory course in labor relations, collective bargaining agreements, grievance procedures, arbitration, unfair labor practices.

115a COMMERCIAL LAW 3 Units Lecture: 3 hours
Historical development of common law; statutes of California, Federal and State court decisions; legal aspects of business; law of contracts, agency and employment.

115b COMMERCIAL LAW 3 Units
Lecture: 4 hours
Law of sales, negotiable instruments, personal property, real property, partnerships, corporations, insurance, suretyship.

120 PRINCIPLES OF MARKETING 5 Units Lecture: 5 hours
Marketing principles, policies and functions, price policies and controls, trade channels, merchandising, market research, advertising, and competitive practices.

123 SALES 3 Units Lecture: 3 hours
Description of the fundamental principles and practices of sales. Critical look at the selling process.

125 ADVERTISING AND DISPLAY PROMOTION 3 Units Lecture: 3 hours
Fundamental principles and practices of merchandising through advertising and display.

130a ACCOUNTING 4 Units
Prerequisite: Business Ad. 130a
Lecture: 4 hours
Accounting principles and procedures, closing books, revenue and expense adjustments, merchandising operations, statement and ledger organization, receivables and payables, deferrals and accruals.

130b ACCOUNTING 4 Units
Prerequisite: Business Ad. 130a
Lecture: 4 hours
Plant and intangible assets; systems and controls; payroll; concepts and principles; partnerships; corporate organization, operation, stockholders equity, earnings, and dividends; long term liabilities and investments.

130c ACCOUNTING 4 Units
Prerequisite: Business Ad. 130b
Lecture: 4 hours
Departments and branches, process and job order accounting for manufacturing, budgets and standard costs, income tax, cost and revenue relationships, managerial reports and analysis, statement of changes in financial position, financial statement analysis.

140 PRINCIPLES OF MANAGEMENT 5 Units Lecture: 3 hours
The functions of management, techniques of decision making and problem solving, and methods by managers to achieve organizational goals, various theories of management, lines of authority, functions of departments, and the importance of policies, procedures, and controls.

145 RETAIL BUSINESS MANAGEMENT 4 Units
Lecture: 4 hours
The retailing world and its functions including organization, buying, merchandising, store management and operations, customer operations, financial control, and systematic problem solving techniques.

150 SMALL BUSINESS MANAGEMENT 4 Units
Lecture: 4 hours
Small business operation with proper balance between business functions of purchasing, production, sales and finance, and the management functions of planning, organizing, actuating, and controlling.

160 INTRODUCTION TO PUBLIC ADMINISTRATION 3 Units Lecture: 3 hours
Fundamental principles and practices underlying the field of public administration in federal, state, and local government, career opportunities, and responsibilities.

163 PUBLIC PERSONNEL ADMINISTRATION 3 Units Lecture: 3 hours
Development and administration of various public personnel systems including recruitment, selection and training programs, labor relations and public unions, testing and evaluation processes.

165 PUBLIC FINANCE ADMINISTRATION 3 Units Lecture: 3 hours
Fundamental principles and practices underlying public fiscal policy including budget process, taxing and revenue systems, federal government financial assistance, fiscal legislation and regulations.

Office Occupations
See Pages 31-32 for Certificate Requirements.

50 PERSONAL TYPING 3 Units
Instruction for personal use, including learning keyboard by the touch system, practical application of typing skills to simple letter writing, manuscripts, and tabulation.

52 REVIEW TYPING 3 Units
Lecture: 2 hours
Laboratory: 1 hour
Development of speed and accuracy; review of correspondence, tabulation, manuscripts, and composition at the typewriter.

55
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFFICE OCCUPATIONS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56 TYPING SPEED AND ACCURACY</td>
<td>4 Units</td>
<td>Further development of speed and accuracy; study of business forms, complicated tabulated material, legal forms, typing for reproduction, and special problems in letter placement.</td>
</tr>
<tr>
<td>58 PROPORTIONAL SPACE TYPING</td>
<td>1 Unit</td>
<td>Introduction and practice on the proportional space typewriter, special keys, centering, statistical typing, line justification, manuscripts and business letter typing.</td>
</tr>
<tr>
<td>60 REVIEW SHORTHAND</td>
<td>4 Units</td>
<td>Effective business practices in the construction of sentences, paragraphs, and letters; the writing of effective business letters such as sales, applications, orders, requests, adjustments, refunds, credit and collection.</td>
</tr>
<tr>
<td>65 BUSINESS ENGLISH</td>
<td>3 Units</td>
<td>The mechanics of English as applied to the field of business, including skills of written communication, sentence structure, punctuation, spelling, and use of the dictionary.</td>
</tr>
<tr>
<td>68 BUSINESS CORRESPONDENCE</td>
<td>3 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Emphasizing typing accuracy, speed building, and preparation of business letters, tables and reports.</td>
</tr>
<tr>
<td>70 REPORT WRITING</td>
<td>3 Units</td>
<td>Lecture: 3 hours, Study and practice of the skills necessary to write well organized reports.</td>
</tr>
<tr>
<td>101 BEGINNING SHORTHAND</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Development of speed and accuracy for advanced correspondence, tabulation, manuscripts, outlines, and business forms.</td>
</tr>
<tr>
<td>103 MACHINE SHORTHAND: I</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Introduction to the machine system of shorthand including instruction in theory, keyboard, reading notes, and the ability to take dictation at 60 words per minute.</td>
</tr>
<tr>
<td>104 ADVANCED TYPING</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Further development of speed and accuracy; study of business forms, complicated tabulated material, legal forms, typing for reproduction, and special problems in letter placement.</td>
</tr>
<tr>
<td>105 MACHINE SHORTHAND: II</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of dictation speed and dictation skill.</td>
</tr>
<tr>
<td>106 MACHINE SHORTHAND: III</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Development of machine shorthand speed and dictation skill.</td>
</tr>
<tr>
<td>107 BEGINNING SHORTHAND</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Complete theory of Gregg shorthand; foundation for dictation and transcription.</td>
</tr>
<tr>
<td>108 ADVANCED SHORTHAND</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Development of speed and accuracy; correlation of grammar, spelling, punctuation, and typing.</td>
</tr>
<tr>
<td>109 CONTINUATION OF OFFICE Oc. 112a</td>
<td>3 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a.</td>
</tr>
<tr>
<td>110 BEGINNING SHORTHAND</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Study of alphabetic, numeric, geographic, and subject filing systems; survey of records management procedures.</td>
</tr>
<tr>
<td>111 MACHINE SHORTHAND: I</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Practical course instruction in the operation of the 10-key adding machine.</td>
</tr>
<tr>
<td>112 CONTINUATION OF OFFICE Oc. 112a</td>
<td>3 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Study of alphabetic, numeric, geographic, and subject filing systems; survey of records management procedures.</td>
</tr>
<tr>
<td>113 MACHINE SHORTHAND: I</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 103 or equivalent experience.</td>
</tr>
<tr>
<td>114 MACHINE SHORTHAND: III</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
</tr>
<tr>
<td>115 MACHINE SHORTHAND: III</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of the machine system of shorthand including instruction in theory, keyboard, reading notes, and the ability to take dictation at 60 words per minute.</td>
</tr>
<tr>
<td>116 MACHINE SHORTHAND: II</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of the machine system of shorthand including instruction in theory, keyboard, reading notes, and the ability to take dictation at 60 words per minute.</td>
</tr>
<tr>
<td>117 MACHINE SHORTHAND: I</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 103 or equivalent experience.</td>
</tr>
<tr>
<td>118 MACHINE SHORTHAND: II</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
</tr>
<tr>
<td>119 MACHINE SHORTHAND: III</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
</tr>
<tr>
<td>120 MACHINE SHORTHAND: III</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
</tr>
<tr>
<td>121 MACHINE SHORTHAND: I</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Practical course instruction in the operation of the 10-key adding machine.</td>
</tr>
<tr>
<td>122 MACHINE SHORTHAND: I</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
</tr>
<tr>
<td>123 MACHINE SHORTHAND: II</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
</tr>
<tr>
<td>124 MACHINE SHORTHAND: III</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
</tr>
<tr>
<td>125 MACHINE SHORTHAND: III</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
</tr>
<tr>
<td>126 MACHINE SHORTHAND: I</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
</tr>
<tr>
<td>127 MACHINE SHORTHAND: II</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
</tr>
<tr>
<td>128 MACHINE SHORTHAND: III</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
</tr>
<tr>
<td>129 MACHINE SHORTHAND: III</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
</tr>
<tr>
<td>130 MACHINE SHORTHAND: I</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
</tr>
<tr>
<td>131 MACHINE SHORTHAND: II</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
</tr>
<tr>
<td>132 MACHINE SHORTHAND: III</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
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<tr>
<td>144 MACHINE SHORTHAND: III</td>
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<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
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<tr>
<td>145 MACHINE SHORTHAND: I</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
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<td>146 MACHINE SHORTHAND: II</td>
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<td>150 MACHINE SHORTHAND: III</td>
<td>4 Units</td>
<td>Lecture: 3 hours, Laboratory: 3 hours, Continuation of Office Oc. 112a or equivalent typing skill.</td>
</tr>
</tbody>
</table>
Prerequisite: Real Estate 101.

Lecture: 4 hours

The basis for management; planning, organization, staffing and controlling management functions.

CHEMISTRY

60 CONSUMER CHEMISTRY: Food
Lecture: 1 hour
A study of the chemicals found in our food; where they come from, what they are, and what happens to them when they are consumed.

71 CHEMICAL CALCULATIONS
Prerequisite: Mathematics 55 or equivalent.
Lecture: 1 hour
A basic math course designed to prepare the student for solving problems in Chemistry 100 and Chemistry 101.

100 FUNDAMENTALS OF CHEMISTRY
Prerequisite: Mathematics 55 or one year of high school algebra.
Lecture: 3 hours
Laboratory: 3 hours
Fundamental theories and principles of inorganic chemistry: atomic and molecular structure, chemical and physical changes, solutions, colloids, gases, nonmetals, metals, and nuclear chemistry.

101a GENERAL CHEMISTRY
Prerequisite: One year of high school chemistry with a "B" average and Math. 101 or equivalent, or Chemistry 100 and Math. 101, or consent of instructor.
Lecture: 4 hours
Laboratory: 3 hours
Survey of atoms, nuclear chemistry, molecules, ions, chemical bonding, gases, liquids and solids.

101b GENERAL CHEMISTRY
Prerequisite: Chemistry 101a or equivalent or consent of instructor.
Lecture: 4 hours
Laboratory: 3 hours
Survey of solutions, colloids, acids, bases, salts, kinetics, equilibria, thermodynamics, electricity, chemistry, and nonmetals.

101c GENERAL CHEMISTRY
Prerequisite: Chemistry 101b or equivalent.
Lecture: 4 hours
Laboratory: 3 hours
Survey of the atmosphere, nonmetals, metals, organic compounds, coordination compounds and qualitative analysis.

108a CHEMISTRY OF CARBON COMPOUNDS
Prerequisite: Chemistry 101a with a grade of "C" or better or consent of instructor.
Lecture: 1 hour
Laboratory: 1 hour
Chemistry 108a is designed to train the student for employment as a secretary in a law office. Specialized training in preparation of legal papers and court documents, assistance in legal research, bookkeeping and filing in a law office.

MIDDLE MANAGEMENT

Prerequisite: Supervisory Training 110.
Lecture: 3 hours
The basis for management; planning, organization, staffing and controlling management functions.

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Lecture: 4 hours
Laboratory: 3 hours
Survey of the atmosphere, nonmetals, metals, organic compounds, coordination compounds and qualitative analysis.
110a BASIC DRAFTING
Prerequisite: Drafting 110a.
Lecture: 3 hours
Orthographic projecting, auxiliary views, dimensioning, tolerancing, threads, fasteners and springs.

110c BASIC DRAFTING
Prerequisite: Drafting 110a.
Lecture: 2 hours, Laboratory: 1 hour
Complete drawings (tracing and prints), applied design, shop processes and fabrication.

115a ADVANCED DRAFTING
Prerequisite: Drafting 110c.
Lecture: 2 hours, Laboratory: 1 hour
Review of basic drafting, lettering devices, and special templates. Intersections and developments in sheet metal, welding representations, and design of cans and gears.

115b ADVANCED DRAFTING
Prerequisite: Drafting 110c.
Lecture: 2 hours
Map drafting, electrical and electronic, aerospace, and technical illustration.

115c ADVANCED DRAFTING
Prerequisite: Drafting 110c.
Laboratory: 6 hours
Independent study in a concentrated area of drafting. Student's choice must involve current industrial practices.

123 BLUEPRINT READING
Lecture: 2 hours
Residential and commercial print reading, printing processes applied to drafting and trade competency testing.

130a ARCHITECTURAL DRAFTING
Prerequisite: Drafting 110c.
Lecture: 1 hour
Area planning, basic plans, locations, sections, foundations, framing, schedules and specifications.

130b ARCHITECTURAL DRAFTING
Prerequisite: Drafting 110c.
Lecture: 1 hour
Technical architectural plans, creative architectural drafting and design.

130c ARCHITECTURAL DRAFTING
Prerequisite: Drafting 110c.
Lecture: 1 hour
Codes, related plans, modulars, design, theories, checking, and costs.

143b ACTING: Acting-Directing
Prerequisite: Drama 143a or consent of instructor.
Lecture: 3 hours
Activity: 2 hours
A workshop in techniques of both acting and directing with specific focus upon the production of short scenes from a variety of theatrical genres.

133a DRAMATIC LITERATURE:
Greek to Renaissance
Lecture: 4 hours
An investigation into the history and development of the theatre, its significant figures and selected plays from the Greeks through Renaissance, 500 B.C. - 1550 A.D.

133b DRAMATIC LITERATURE:
Shakespeare to 19th Century
Lecture: 4 hours
A study in-depth of the historical and literary development of the theatre from Shakespeare through the 19th Century with focus upon selected plays, significant theatrical figures, the physical theatre and the social and philosophical contexts.

133c DRAMATIC LITERATURE:
Contemporary
Lecture: 4 hours
An in-depth study of historical and literary development of the theatre in the 20th century with focus upon selected plays, significant theatrical figures, the physical theatre and the social and philosophical contexts.

136 PLAYWRITING
Lecture: 3 hours
Theory and practice of writing for the theatre; analysis of relevant literature and productions; investigation of dramatic methods appropriate to the playwright. May be repeated one time.

143c ACTING: Advanced Projects
Prerequisite: Either Drama 102, Drama 143a or Drama 145a. Depending upon the focus of the course during the quarter it will be offered.
Laboratory: 3 hours equals 1 unit of credit.
Lecture: 1 hour, Laboratory: 3 hours equals 4 units of credit.
Lecture: 1 hour, Laboratory: 6 hours equals 5 units of credit.
Advanced workshop activity for production of one-act plays, segments of longer plays or full length plays whose technical requirements are minimal; intensive workshop concentration designed for public performances in the areas of improvisation or mime.

144 MIME
Lecture: 1 hour
Laboratory: 3 hours
Techniques of mime, pantomime, silent acting, and "the clown," concentration on classical mime illusions, elements of mime conditioning, movement, coordination, juggling exercises, and their incorporation into theatrical presentations.

145 IMPROVISATION
Lecture: 3 hours
Laboratory: 3 hours
Intensive study of the basic techniques of improvisational acting with specific concentration on improvisational theatre production formats as well as development of group inspired and created scenarios and one-act plays. May be repeated one time.

147 AUDITIONS
Lecture: 3 hours
Laboratory: 3 hours
Theory, techniques, and practice in auditioning for performance; development of audition materials, practical audition experience for theatre, film, and television.

152 MEDIA TECHNOLOGY
Lecture: 5 hours
A technical survey of television production, audio production, theatre lighting and related electronics; designed to prepare student technicians for practical application.

155 SURVEY OF TECHNICAL THEATER
Lecture: 3 hours
An overview of the basic techniques, materials and concepts of design and construction related to physical theatre production. Survey of costumes, make-up, stagecraft, properties, lighting and sound.
<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Units</th>
<th>Description</th>
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<tbody>
<tr>
<td>163a</td>
<td>PUPPETRY</td>
<td>4</td>
<td>Lecture: 3 hours Laboratory: 3 hours The design and construction of puppets and puppet theaters; techniques in manipulation and puppet play production; the survey and adaptation of appropriate literature for the puppet stage; rehearal and performance experience in creative puppetry.</td>
</tr>
<tr>
<td>139</td>
<td>FIELD GEOLOGY</td>
<td>1-3</td>
<td>Prerequisite: A previous course in Earth Science is desirable. Lecture: 2-3 hours Laboratory: 1.5-3.5 hours A field study of selected geologic features and related Earth Science topics. A one to seven day field trip will be taken with pre and post-classroom sessions. May be repeated for a maximum of 6 units of credit.</td>
</tr>
<tr>
<td>141</td>
<td>SURVEY OF ASTRONOMY</td>
<td>2</td>
<td>Lecture: 1.5 hours Laboratory: 1.5 hours A brief survey of the principles of astronomy with emphasis on selected astronomical methods.</td>
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<tr>
<td>71</td>
<td>SURVEY OF OCEANOGRAPHY</td>
<td>3</td>
<td>Lecture: 4 hours Laboratory: 3 hours A brief survey of the principles of oceanography and their effect on modern society.</td>
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<tr>
<td>142</td>
<td>DESCRIPTIVE ASTRONOMY</td>
<td>3</td>
<td>Lecture: 2-3 hours Laboratory: 1.5-3 hours A non-mathematical survey course in astronomy for non-science majors. Topics include history of astronomy, telescopes, solar system, stars, galaxies, origin of universe, and extra-terrestrial life.</td>
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<tr>
<td>101b</td>
<td>PRINCIPLES OF ECONOMICS</td>
<td>5</td>
<td>Lecture: 3 hours Micro-economics. The corporation, analysis of costs, theory of production, pricing factor inputs including wages, rent, and industry.</td>
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<tr>
<td>107</td>
<td>CONSUMER ECONOMICS</td>
<td>3</td>
<td>Lecture: 3 hours Values and attitudes which result in &quot;conspicuous consumption&quot; habits. Emphasis will be placed on family financial planning, buying, borrowing, investing, and investment protection.</td>
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<tr>
<td>55</td>
<td>UNDERSTANDING THE AMERICAN ECONOMY</td>
<td>3</td>
<td>Lecture: 5 hours Introduction to macro-economic principles with an emphasis on U.S. economic policies and institutions. Topics are gross national product, recession, inflation, fiscal policy, money and the Federal Reserve System, monetary policy, wage and price controls, balance of payment policies.</td>
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<tr>
<td>101a</td>
<td>PRINCIPLES OF ECONOMICS</td>
<td>5</td>
<td>Lecture: 5 hours Macroeconomics. Introduction to the U.S. economy, capitalism, and socialism. National income and employment analysis, economic fluctuations, monetary and fiscal policy.</td>
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<tr>
<td>105</td>
<td>TOPICS IN ECONOMICS</td>
<td>3</td>
<td>Lecture: 3 hours Topics of current interest to economics such as international economics and imperialism, pollution, and environment economics; developing countries, land use, and poverty problems.</td>
</tr>
<tr>
<td>149</td>
<td>OBSERVATIONAL ASTRONOMY</td>
<td>2</td>
<td>Prerequisite: Previous or concurrent enrollment in Earth Science 144 or consent of instructor. Lecture: 2 hours Laboratory: 1.5 hours A brief survey of the principles of modern society. Field trips may be required.</td>
</tr>
<tr>
<td>141a</td>
<td>PRINCIPLES OF ECONOMICS</td>
<td>3</td>
<td>Lecture: 5 hours Individualized instruction in the basic fundamentals of writing. May be repeated for a maximum of 2 units.</td>
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</table>
101a READING AND COMPOSITION: Beginning
Prerequisite: English 10a. Lecture: 3 hours Laboratory: 2 hours
Development of reading and composition skills with emphasis on applying techniques of logic in interpreting and writing the expository essay and reading and interpretation of the short story. A writing sample will be required in the first class session to conform placement in the appropriate English course.

101b READING AND COMPOSITION: Advanced
Prerequisite: English 10a. Lecture: 3 hours
Further development of reading and composition skills with an emphasis on reading and interpreting one novel with secondary sources, poetry, and drama, with the composition of a longer, documented paper.

110 CREATIVE WRITING
Prerequisite: English 10a, English 31, or consent of instructor. Lecture: 3 hours
Instruction and practice in writing poetry, fiction, and drama. Analysis of contemporary works with respect to literary techniques. May be repeated one time.

111 FILM APPRECIATION
Lecture: 4 hours
Development of sensitivity and critical judgment in audience response to film. Field trips may be required.

117a LITERATURE OF THE UNITED STATES
Prerequisite: English 51 or English 10a. Lecture: 4 hours
A study of the literature of the United States from the beginning of the English colonization to the work of Hawthorne, Poe, and Melville. Reading, analysis, and discussion of the major literary trends and authors of the time.

117b LITERATURE OF THE UNITED STATES
Prerequisite: English 51 or English 10a. Lecture: 4 hours
A study of the literature of the United States from the beginning of the English colonization to the work of Hawthorne, Poe, and Melville. Reading, analysis, and discussion of the major literary trends and authors of the time.

55a VOLUNTEER FIREFIGHTER TRAINING
Lecture: 2 hours Laboratory: 1 hour
Basic concepts, techniques, skills and theories for volunteer firefighters.

55b VOLUNTEER FIREFIGHTER TRAINING
Prerequisite: Fire Science 55a. Lecture: 2 hours Laboratory: 1 hour
Continuation of Fire Technology 55a.

61 ORGANIZATION AND FIRE CONTROL
Lecture: 3 hours
Basic concepts in fire service organization and theories of fire control, including the laws and regulations affecting the fire service, fire service personnel and functions, professional fire service organizations, principles of behavior and the basic considerations in fire strategy and tactics.

62 EQUIPMENT OPERATION
Lecture: 2 hours Laboratory: 1 hour
Manipulative and technical training in the identification and operation of fire service tools and equipment. The course also includes basic considerations of building construction and the tending and employment of fire service knots and hitches.

63 EXTINGUISHERS AND PROTECTIVE EQUIPMENT
Lecture: 2 hours
Manipulative and technical training in the identification, action, and employment of portable fire service extinguishers of all types; donning and testing of protective breathing apparatus and clothing; operation of building protective systems, elevators, and fire escape ladders; and stairs; employment of life lines, life belts, life guns, and life nets.

64 HOSE, NOZZLES AND FITTINGS
Lecture: 2 hours Laboratory: 1 hour
Manipulative and technical training in basic hose evolutions and recognition of fire service equipment used in hose evolution, including the operation of hydrants; determining range and reaction of fire streams; identifying the characteristics of good fire streams; and loading hose on apparatus.

65 HOSE EVOLUTIONS
Prerequisite: Fire Science 55. Lecture: 3 hours
Basic concepts, techniques, skills and theories for volunteer firefighters.

66 FIRE SERVICE LADDERs
Lecture: 2 hours Laboratory: 3 hours
Manipulative and technical training in fire service ladder evolutions, including removing, carrying, raising, and lowering of ladders; climbing, locking-in on, working on and footing of ladders; employing ladders as improvised equipment in foreground situations.

67 SALVAGE AND OVERHAUL PROCEDURES
Prerequisite: Fire Science 55. Lecture: 3 hours Laboratory: 3 hours
Manipulative and technical training in basic salvage and overhaul techniques, including salvage cover operations, protection of property, removal of water, overhaul and fire investigation.

101 INTRODUCTION TO FIRE TECHNOLOGY
Lecture: 3 hours
An introduction to fire protection; career opportunities in fire protection and related fields; history of fire protection; fire less analysis; public, quasi-public and private fire protection services; specified fire protection functions; basic fire chemistry and physics. Designed to give the learner an overview of fire technology, the fire service and the fire protection field as career potentials.

102 FUNDAMENTALS OF PERSONAL FIRE SAFETY AND EMERGENCY ACTION
Prerequisite: Fire Science 55. Lecture: 1 hour Laboratory: 3 hours
Designed to provide basic skills in assessing fire dangers, handling common fire situations in the home and/or industry, basic CPR and Standard First Aid.

103 FUNDAMENTALS OF FIRE PROTECTION
Prerequisite: Fire Science 55. Lecture: 3 hours
Theory and fundamentals of fire protection, including fire protection laws, water systems and public fire protection systems; fire protection in buildings and open areas.

104 FUNDAMENTALS OF FIRE BEHAVIOR AND CONTROL
Prerequisite: Fire Science 55. Lecture: 3 hours
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. Designed to give the learner a comprehensive exposure to basic fundamentals of fire behavior and control in preparation for more advanced study in the field of fire protection.

105 FUNDAMENTALS OF FIRE PREVENTION
Prerequisite: Fire Science 55. Lecture: 3 hours
Organization and function of fire prevention, inspection, safety and mapping procedures, recognition of fire and life hazards, engineering solution of a fire hazard, enforcing the solution of a fire hazard, public education aspects of fire prevention.
<table>
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<tr>
<td>108</td>
<td>FIRE FIGHTING STRATEGY AND TACTICS</td>
<td>3</td>
<td>Includes hand tools, small auxiliary gas or electric powered tools, hydraulic mechanisms and personnel safety devices. Includes preventive maintenance, inspection procedures and measuring tolerances of calibrated equipment and devices.</td>
</tr>
<tr>
<td>110</td>
<td>RURAL FIRE COMPANY OPERATIONS</td>
<td>2</td>
<td>Emphasis on utilization of resources at maximum potential where conditions peculiar to small and remote fire service operations exist. Includes training, pre-planning and incident control in the rural setting.</td>
</tr>
<tr>
<td>114</td>
<td>FIRE APPARATUS AND EQUIPMENT</td>
<td>3</td>
<td>Factors affecting wildland fire prevention, fire behavior, and control techniques.</td>
</tr>
<tr>
<td>115</td>
<td>PUBLIC FIRE EDUCATION</td>
<td>4</td>
<td>Concepts and processes in designing, implementing, and evaluating fire education programs. Includes specific instruction in establishing programs through the media, use of appropriate audio/visual aids and use and selection of household safety appliances and equipment.</td>
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<td>117</td>
<td>WILDLAND FIRE CONTROL</td>
<td>3</td>
<td>Factors affecting wildland fire prevention, fire behavior, and control techniques.</td>
</tr>
<tr>
<td>120</td>
<td>HEAVY EQUIPMENT IN FIRE CONTROL</td>
<td>3</td>
<td>Theory of heavy equipment used by a coordinated fire control team in fighting range fires.</td>
</tr>
<tr>
<td>123</td>
<td>FIRE HYDRAULICS</td>
<td>3</td>
<td>Review of basic mathematics, hydraulic laws and formulas as applied to the fire service; application of formulas and mental calculation to hydraulic problems; water supply problems; underwriters' requirements for pumps.</td>
</tr>
<tr>
<td>125</td>
<td>FIRE EQUIPMENT REPAIR AND MAINTENANCE</td>
<td>3</td>
<td>Repair of commonly used fire service equipment.</td>
</tr>
</tbody>
</table>

**FOREIGN LANGUAGE**

<table>
<thead>
<tr>
<th>LANGUAGE</th>
<th>COURSE TITLE</th>
<th>UNITS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>French</td>
<td>CONVERSATIONAL FRENCH</td>
<td>1</td>
<td>Practice in vocabulary, idioms and grammatic usage. May be repeated for a maximum of 6 units.</td>
</tr>
<tr>
<td>Italian</td>
<td>CONVERSATIONAL ITALIAN</td>
<td>1</td>
<td>Practice in vocabulary, idioms and grammatic usage. May be repeated for a maximum of 6 units.</td>
</tr>
<tr>
<td>Spanish</td>
<td>CONVERSATIONAL SPANISH: Beginning</td>
<td>3-4</td>
<td>Practice in vocabulary, idioms, and grammatic usage with emphasis in conversational use of the language spoken in Mexico. May be repeated one time.</td>
</tr>
<tr>
<td></td>
<td>CONVERSATIONAL SPANISH: Intermediate</td>
<td>3-4</td>
<td>Practice in vocabulary, idioms, and grammatic usage with emphasis in conversational use of the language spoken in Mexico. May be repeated one time.</td>
</tr>
<tr>
<td></td>
<td>CONVERSATIONAL SPANISH: Advanced</td>
<td>3-4</td>
<td>Practice in vocabulary, idioms, and grammatic usage with emphasis in conversational use of the language spoken in Mexico. May be repeated one time.</td>
</tr>
</tbody>
</table>

**FOREST SURVEYING TECHNIQUES**

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>UNITS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>065</td>
<td>INTRODUCTION TO FOREST SURVEYING INSTRUMENTS</td>
<td>2</td>
<td>Use of various forest surveying instruments; storage, transportation, and basic maintenance. Recording and interpretation.</td>
</tr>
<tr>
<td>059</td>
<td>FOREST INVENTORY</td>
<td>5</td>
<td>Forest inventory techniques; applied timber cruising, scaling and marketing. Field tabulation and computation techniques. Field trip may be required.</td>
</tr>
<tr>
<td>062</td>
<td>APPLIED FOREST MANAGEMENT</td>
<td>5</td>
<td>Locate and inventory a given forest property in the field; develop property boundaries; inventory timber and other natural resources. Design topographic and timber type map and road system for property.</td>
</tr>
</tbody>
</table>
110 SAFETY AND FIRST AID EDUCATION 3 Units
Lecture: 3 hours
Causes and prevention of accidents. Covers Red Cross Standard First Aid with certificate available upon satisfactory completion of course. May be repeated one time.

113 ADVANCED FIRST AID AND EMERGENCY CARE 5 Units
Lecture: 5 hours
To develop functional capabilities of individuals who are a part of everyday experiences may be required to provide emergency first aid care prior to care by qualified medical personnel. May be repeated one time.

115 ADVANCED FIRST AID AND EMERGENCY CARE REFRESHER 2 Units
Prerequisite: A valid certificate in advanced first aid. Lecture: 2 hours
A review of emergency first aid care. Upon the successful completion of the course, a certificate is issued for Advanced First Aid and Emergency Care. May be repeated without limit.

120 NUTRITION 4 Units
Prerequisite: One year of high school or college chemistry. Lecture: 4 hours
Introductory study of energy and nutrient requirements of the body including growth, maintenance, and reproduction; factors influencing normal metabolism; construction of the adequate diet. Emphasis is placed upon the chemical aspects of nutrition.

129b MEDICAL-SURGICAL NURSING 5 Units
Prerequisite: Current enrollment in Vocational Nursing Program. Lecture: 5 hours

130b CLINIC 3 Units
Prerequisite: Health Occupations 120a or consent of Instructor. Lecture: 3 hours
The driver's responsibility for pupils, care and pupil transportation.

135a MEDICAL-SURGICAL NURSING 5 Units
Prerequisite: Health Occupations 125a. Lecture: 5 hours
A continuation of Health Occupations 125a with emphasis on care and treatment of the medical patient.

135b COMMUNITY HEALTH 3 Units
Prerequisite: Health Occupations 110 or consent of instructor. Lecture: 3 hours
Disease control and prevention, mental health and first aid, the community services available in prevention of disease and promotion of good health.

136 CLINIC 3 Units
Prerequisite: Current enrollment in Vocational Nursing Program. Lecture: 3 hours
Practical clinical experience in a hospital: to include hospital routine, departments, and patient care.

137b VITAMIN AND MINERAL NURSING 3 Units
Prerequisite: Health Occupations 110 or consent of instructor. Lecture: 3 hours
Study of the human body with emphasis on the individual systems and their function.

139b ANATOMY AND PHYSIOLOGY FOR VOCATIONAL NURSES 5 Units
Prerequisite: Health Occupations 113a. Lecture: 5 hours
A study of the human body emphasizing the body's systems. An introduction to the care of the surgical patient.

139b EMERGENCY MEDICAL TECHNICIAN REFRESHER 2 Units
Prerequisite: E.M.T. Certificate. Lecture: 2 hours
Lecture: 1 hour
Laboratory: 1 hour
An intensive course to assist the student in developing skill in recognition of illness and injuries and proper procedures in administering emergency care.

139b EMERGENCY MEDICAL TECHNICIAN REFRESHER 2 Units
Prerequisite: E.M.T. Certificate. Lecture: 2 hours
Laboratory: 5 hour
Update of the existing E.M.T. certificates which are expiring. May be repeated without limit.

140 CLINIC 3 Units
Prerequisite: Current enrollment in Vocational Nursing Program. Lecture: 3 hours
Clinical experience in a hospital: to include hospital routine, departments, and patient care.

141 EFFECTS OF MEDICATION ON BODY SYSTEMS 2 Units
Prerequisite: Satisfactory completion of Health Occupations 110 or consent of instructor. Lecture: 2 hours
Medications used to alleviate patient discomfort. Medications used for the treatment of common symptoms of allergy, neoplastic, circulatory, and respiratory diseases.

142 EFFECTS OF MEDICATION ON BODY SYSTEMS 2 Units
Prerequisite: Health Occupations 120a. Lecture: 2 hours
Medications used in the treatment of diseases of the gastro-intestinal system, diseases with an endocrine disorder, and diseases of the specialized systems.

143b PEDIATRICS 3 Units
Prerequisite: Health Occupations 113 or consent of instructor. Lecture: 3 hours
A continuation of Health Occupations 113a with emphasis on care and treatment of the medical patient.

144b EFFECTS OF MEDICATION ON BODY SYSTEMS 2 Units
Prerequisite: Consent of instructor. Lecture: 2 hours
Medications used to alleviate patient discomfort. Medications used for the treatment of common symptoms of allergy, neoplastic, circulatory, and respiratory diseases.

145b VITAL SIGNS CONDUCTED DURING ADMISSIONS 3 Units
Prerequisite: Consent of instructor. Lecture: 3 hours
Knowledge of the signs, symptoms, and care of the obstetrical patient.

146 EFFECTS OF MEDICATION ON BODY SYSTEMS 2 Units
Prerequisite: Health Occupations 110 or consent of instructor. Lecture: 2 hours
Drug sources, standards, and dosages. Basic procedures for administering drugs.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisite</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>116b</td>
<td>DIESEL ENGINE TUNE-UP: Detroit</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>116c</td>
<td>DIESEL ENGINE TUNE-UP: Cummins</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>130</td>
<td>TRANSMISSIONS</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>134</td>
<td>REAR AXLES AND DRIVE LINES</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>140</td>
<td>HEAVY DUTY BRAKE SYSTEMS</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>144</td>
<td>STEERING AND SUSPENSION SYSTEMS</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>150a</td>
<td>ELECTRICAL THEORY</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>150b</td>
<td>CHARGING SYSTEMS</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>150c</td>
<td>STARTING AND IGNITION SYSTEMS</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>150d</td>
<td>LIGHTING AND CHASSIS ELECTRICS</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>117a</td>
<td>UNITED STATES</td>
<td></td>
<td>5</td>
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<tr>
<td>121b</td>
<td>HISTORY OF CALIFORNIA</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>133</td>
<td>ORAL HISTORY</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>139</td>
<td>THE MOTHER LODE</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>155</td>
<td>THE AMERICAN FRONTIER</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>113</td>
<td>CHINA</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>101</td>
<td>INTRODUCTION TO THE HOSPITALITY INDUSTRY</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>117c</td>
<td>UNITED STATES</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>123</td>
<td>THE HOSPITALITY INDUSTRY</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>101</td>
<td>INTRODUCTION TO THE HOSPITALITY INDUSTRY</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
112 FRONT OFFICE MANAGEMENT/ LAWS OF INNKEEPING 4 Units
Prerequisite: Hosp. Management 101 or consent of instructor. Lecture: 2 hours, Laboratory: 6 hours
Essential equipment, routines, and duties of the front desk clerk and responsibility to other hotel departments. Legal relationships between California innkeepers and others; rights, duties, and liabilities of innkeepers and their personnel.

Field trips may be required.

134 FAST FOODS 3 Units
Prerequisite: Previous or concurrent enrollment in Hospitality Management 130 or consent of instructor.
Lecture: 1.5 hours Laboratory: 4.5 hours
Introduction to the fast food style of service; packaging, promotion, design, labor problems, food preparation, storage and control of supplies.

135 COMMERCIAL BAKING 3 Units
Prerequisite: Hosp. Management 130 or consent of instructor.
Lecture: 1 hour Laboratory: 6 hours
Tools, terms, and functions in preparation of baked goods, cake decorating, and gourmet desserts.
Field trips may be required.

136 ADVANCED BAKING 3 Units
Prerequisite: Hosp. Management 135 or consent of instructor.
Lecture: 1 hour Laboratory: 6 hours
Formulas used in commercial pastry shop; gum paste work, design, sugar decoration, wax work.
Field trips may be required.

137 BUFFET CATERING 3 Units
Prerequisite: Hosp. Management 130 or consent of instructor.
Lecture: 1.5 hours Laboratory: 4.5 hours
Selecting and handling of specialized equipment, planning and preparation of foods, advertising and customer relations, food service costs, beverages.

138 FAMILY RESTAURANT SERVICE 3 Units
Prerequisite: Previous or concurrent enrollment in Hospitality Management 130 or consent of instructor.
Lecture: 1.5 hours Laboratory: 4.5 hours
Introduction to the family restaurant, use of equipment, preparation of foods, table service, employee development controls.

140 CLASSICAL CUISINE: Intermediate 3 Units
Prerequisite: Hospitality Management 140a.
Lecture: 1.5 hours Laboratory: 4.5 hours
A continuation of Hospitality Management 140a with emphasis on preparation of vegetables, sauces, rice and farinaeuse products. Basic techniques of browning, roasting, sautéing, and deep fat frying.

144 MEAL ANALYSIS 3 Units
Prerequisite: Hosp. Management 130 or consent of instructor.
Lecture: 2 hours Laboratory: 3 hours
Study of various grades and cuts of meat, and their use in restaurant sales. Cost control and fabrication.
Field trips may be required.

147A BEVERAGE MANAGEMENT 3 Units
Prerequisite: At least 21 years of age and Hospitality Management 138.
Laboratory: 3 hours
Study of all aspects of beverage management including federal, state and local regulations, mixology, background, and future of beverage industry.
Field trips may be required.

147B BEVERAGE MANAGEMENT 3 Units
Prerequisite: Hosp. Management 140a or consent of instructor.
Laboratory: 3 hours
Control, distribution, planning of bar inventories, purchases, labor planning, laws.

148 HISTORY AND PRODUCTION OF CALIFORNIA WINES 3 Units
Lecture: 3 hours
Introduction to the history, development, production, and types of wines, pronunciations and label reading, and service.
Field trips may be required.

151 INTRODUCTION TO PARKS AND RECREATION 3 Units
Lecture: 2 hours Laboratory: 3 hours
An introductory course for individuals interested in parks and recreation, with exposure to park management, design, maintenance and construction. Recreational aspects, job opportunities and duties.

HUMANITIES

101 OLD WORLD CULTURE 4 Units
Lecture: 4 hours
An introductory survey of humanistic culture, historically structured from classical Greece to the Renaissance, presenting highlights from history, philosophy, literature, drama, art, and music.

102 MODERN CULTURE 4 Units
Lecture: 4 hours
An introductory survey of humanistic culture, historically structured from the Enlightenment to the present scene, presenting highlights from history, philosophy, literature, drama, art and music.

110 CURRENT RELIGIOUS MOVEMENTS 3 Units
Lecture: 3 hours
The search for religious meaning in the contemporary world, reflecting the influence of such religious movements as New Age, Scientology, Urantia, Satanism, and Transcendental Meditation, and current trends in old religions like the Jesus Movement, the Ecumenical Movement, Hari Krishna Hinduism and Zen Buddhism.

120 AMERICA'S RELIGIOUS HERITAGE 3 Unit
Lecture: 3 hours
Historical forces in American Religion traced from the sixteenth century to the present, including the impact of the European colonizers and the development of the American religious scene.

130 WORLD RELIGIONS 3 Units
Lecture: 3 hours
Development of religious consciousness from primitive belief to major religions of the world: Judaism, Buddhism, Taoism, Judaism, Christianity, and Islam.
**INDUSTRIAL ARTS**

55 BASIC WOODWORKING 1 Unit
- Woodworking skills and processes and the safe use of hand and woodworking tools.

56 ADVANCED WOODWORKING 1 Unit
- Prerequisite: Industrial Arts 55.
- Development of skills using hand and major tools. Students will design and complete a major project. Advanced machine skills will include tapering, mitering, and dovetailing.

70 AUTO MAINTENANCE I 1 Unit
- Prerequisite: Industrial Arts 74.
- Designed to provide the student with information needed to maintain his/her own vehicle.
- May be repeated one time.

71 AUTO MAINTENANCE II 1 Unit
- Prerequisite: Industrial Arts 70 or auto maintenance experience.
- A continuation of Industrial Arts 70 to provide the student with additional supervised experience and subject area knowledge.

74 BASIC ENGINE TUNE-UP 2 Units
- Lecture: 1 hour
- Laboratory: 1 hour
- Beginning class in basic ignition system tune-up using hand tools and meters reasonably affordable for home use; will include practical experience on the student's vehicles.

**INTERDISCIPLINARY STUDIES**

50 INTRODUCTION TO MOTHER LODGE STUDIES 1 Unit
- (Six Week Short Course)
- Lecture: 1 hour
- An introduction to the Mother Lode. Topics covered may include any of a wide variety such as history and folklore, wildflowers, art, music, geology, the environment, and the writers of the Mother Lode.
- Field trips may be required.

101 INTRODUCTION TO FINE ARTS 4 Units
- Lecture: 3 hours
- Laboratory: 3 hours
- A cross-disciplinary introduction to contemporary styles, important works, major figures, trends, and techniques common to art, dance, and music, with related field experiences in fine arts toward understanding and appreciation.
- Field trips may be required.

105 HUMANITIES THROUGH THE ARTS 4 Units
- Lecture: 4 hours
- Humanities through the arts: a cross-disciplinary historical survey of the origins and development common to art, music, and drama; a survey of the major literature, periods, styles, works, and figures in art, music, and drama within the context of prevailing historical, social and philosophical periods.

**JOURNALISM**

101a INTRODUCTION TO JOURNALISM 3 Units
- Prerequisite: Typing speed of 30 words per minute recommended.
- Lecture: 2 hours
- Laboratory: 3 hours
- Introduction to basic gathering, writing techniques, production methods, photography, and the legal aspects of journalism careers.

101b INTRODUCTION TO JOURNALISM 3 Units
- Prerequisite: Journalism 101a.
- Lecture: 2 hours
- Laboratory: 3 hours
- Continuation of Journalism 101a.

101c INTRODUCTION TO JOURNALISM 3 Units
- Prerequisite: Journalism 101b.
- Lecture: 2 hours
- Laboratory: 3 hours
- Continuation of Journalism 101b.

107 NEWSPAPER PRODUCTION 1-3 Units
- Prerequisite: Previous or concurrent enrollment in Journalism 101a.
- Laboratory: 3-9 hours
- Laboratory using campus newspaper publications and other programs for application of gathering, writing skills and production methods.
- Field trips may be required.
- May be repeated to a maximum of 9 units of credit.

**LAW ENFORCEMENT**

100 INTRODUCTION TO ADMINISTRATION OF JUSTICE 4 Units
- Lecture: 4 hours
- The history and philosophy of administration of justice in America; theories of crime, punishment, rehabilitation; ethics, education, and training of professionals in the system.

140a ARSON INVESTIGATION: Beginning 4 Units
- Lecture: 4 hours
- Designed to prepare fire suppression officers and police patrol officers to carry out the responsibility of arson detection and establish the foundations for an in-depth arson investigation.

140b ARSON INVESTIGATION: Advanced 4 Units
- Prerequisite: Law Enforcement 140a or consent of instructor
- Lecture: 4 hours
- A continuation of the introductory course emphasizing preservation of evidence, explosive devices, testimony as an expert, insurance laws, and advanced fire problems.

160 ADVANCED OFFICERS' TRAINING 2-4 Units
- Prerequisite: 24 Units in Law Enforcement or completion of recognized academy or consent of instructor.
- Lecture: 2-4 hours
- Designed to upgrade officers currently working in any phase of law enforcement. Studies include administration of justice, patrol procedures, criminal law, and criminal investigation.

**LIBRARY**

101 INTRODUCTION TO LIBRARY RESOURCES 2 Units
- Lecture: 1 hour
- Laboratory: 1 hour
- Instruction and practice in locating and utilizing library resources. Emphasis on basic library techniques with respect to preparing bibliographies.

**MATHEMATICS**

- The five unit Mathematics courses may be offered either as five lecture hours or as four lecture and three laboratory hours. Refer to the Schedule of Classes.

50 BASIC MATHEMATICS 2 Units
- Lecture: 2 hours
- Lecture: 1 hour
- Laboratory: 3 hours
- A basic course in arithmetic.

55 BEGINNING ALGEBRA 5 Units
- Lecture: 3 hours
- Laboratory: 3 hours
- Extension of elementary algebra; includes complex numbers.

102 TRIGONOMETRY 5 Units
- Prerequisite: Math 60 or Math 101 or second year high school algebra and one year geometry.
- Lecture: 5 hours
- Lecture: 4 hours
- Laboratory: 3 hours
- An analytic approach to trigonometric functions.

103 COLLEGE ALGEBRA 5 Units
- Prerequisite: Mathematics 101 or equivalent high school course.
- Lecture: 5 hours
- Lecture: 4 hours
- Laboratory: 2 hours
- Extension of algebraic concepts; includes quadratic equations, inequalities, complex numbers, mathematical induction, binomial theorem, determinants, permutations, combinations and logarithms.

105 ELEMENTS OF STATISTICS 5 Units
- Prerequisite: Math 101 or second year high school algebra.
- Lecture: 5 hours
- Lecture: 4 hours
- Laboratory: 3 hours
- Statistical concepts of probability, analysis and significance of measurements, measures of central tendency, correlation, variation, distributions, and reliability and validity of tests.

**LAW ENFORCEMENT/LIBRARY/MATHEMATICS**

100a LOGIC 5 Units
- (See also Philosophy 110b.)
- Lecture: 5 hours
- Basic principles of classical logic and some major aspects of modern logic: deductive reasoning, including syllogisms, fallacies, truth functions, and techniques of symbolic logic.
- (Credit for this course will be awarded for either Mathematics 100a or Philosophy 110a, but not both. May not be repeated.)

100b LOGIC 5 Units
- (See also Philosophy 110b.)
- Prerequisite: Mathematics 100a or equivalent
- Lecture: 5 hours
- A brief review of syllogistic and truth-functional logic, and a survey of quantification logic, induction, probability, and the logic of the scientific method.
- (Credit for this course will be awarded for either Mathematics 100b or Philosophy 110b, but not both. May not be repeated.)

101 INTERMEDIATE ALGEBRA 5 Units
- Prerequisite: Math 55 or one year high school algebra.
- Lecture: 5 hours
- Lecture: 4 hours
- Laboratory: 3 hours
- Extension of elementary algebra; includes complex numbers.

102 TRIGONOMETRY 5 Units
- Prerequisite: Math 60 or Math 101 or second year high school algebra and one year geometry.
- Lecture: 5 hours
- Lecture: 4 hours
- Laboratory: 3 hours
- An analytic approach to trigonometric functions.

103 COLLEGE ALGEBRA 5 Units
- Prerequisite: Mathematics 101 or equivalent high school course.
- Lecture: 5 hours
- Lecture: 4 hours
- Laboratory: 2 hours
- Extension of algebraic concepts; includes quadratic equations, inequalities, complex numbers, mathematical induction, binomial theorem, determinants, permutations, combinations and logarithms.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisites</th>
<th>Lecture</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>FINITE MATHEMATICS</td>
<td>5</td>
<td>Math 55 or one year of high school algebra.</td>
<td>5 hours</td>
<td></td>
</tr>
<tr>
<td>115</td>
<td>MATRIX MATHEMATICS FOR COMPUTERS</td>
<td>2</td>
<td>Math 55 or one year high school algebra.</td>
<td>1 hour</td>
<td></td>
</tr>
<tr>
<td>102</td>
<td>INTRODUCTION TO MUSIC</td>
<td>4</td>
<td>Music 120.</td>
<td>4 hours</td>
<td></td>
</tr>
<tr>
<td>109</td>
<td>PERFORMANCE PRACTICUM</td>
<td>5</td>
<td>Music 102.</td>
<td>1 hour</td>
<td></td>
</tr>
<tr>
<td>110c</td>
<td>ANALYTIC GEOMETRY</td>
<td>5</td>
<td>Varies.</td>
<td>3 hours</td>
<td></td>
</tr>
<tr>
<td>110b</td>
<td>SURVEY OF MUSIC HISTORY AND LITERATURE</td>
<td>3</td>
<td>Music 103.</td>
<td>3 hours</td>
<td></td>
</tr>
<tr>
<td>120a</td>
<td>CALCULUS WITH ANALYTIC GEOMETRY</td>
<td>5</td>
<td>Math 120.</td>
<td>5 hours</td>
<td></td>
</tr>
<tr>
<td>112</td>
<td>SURVEY OF JAZZ AND POPULAR MUSIC</td>
<td>4</td>
<td>Music 122.</td>
<td>4 hours</td>
<td></td>
</tr>
<tr>
<td>115</td>
<td>SURVEY OF EASTERN MUSIC</td>
<td>4</td>
<td>Music 120.</td>
<td>4 hours</td>
<td></td>
</tr>
<tr>
<td>120c</td>
<td>CALCULUS WITH ANALYTIC GEOMETRY</td>
<td>5</td>
<td>Math 120.</td>
<td>5 hours</td>
<td></td>
</tr>
<tr>
<td>120m</td>
<td>MUSIC THEORY</td>
<td>5</td>
<td>Music 120.</td>
<td>4 hours</td>
<td></td>
</tr>
<tr>
<td>120b</td>
<td>ADVANCED MUSIC THEORY</td>
<td>5</td>
<td>Music 120 or equivalent.</td>
<td>4 hours</td>
<td></td>
</tr>
<tr>
<td>122b</td>
<td>ADVANCED MUSIC THEORY</td>
<td>5</td>
<td>Music 122a.</td>
<td>4 hours</td>
<td></td>
</tr>
<tr>
<td>131a</td>
<td>ELEMENTARY CLASS PIANO</td>
<td>3</td>
<td>Music 136a or consent of instructor.</td>
<td>2 hours</td>
<td></td>
</tr>
<tr>
<td>131b</td>
<td>ELEMENTARY CLASS PIANO</td>
<td>3</td>
<td>Music 136a or consent of instructor.</td>
<td>2 hours</td>
<td></td>
</tr>
<tr>
<td>131c</td>
<td>ELEMENTARY CLASS PIANO</td>
<td>3</td>
<td>Music 135a or consent of instructor.</td>
<td>2 hours</td>
<td></td>
</tr>
<tr>
<td>134</td>
<td>BEGINNING STRINGS</td>
<td>3</td>
<td>Music 136b.</td>
<td>2 hours</td>
<td></td>
</tr>
<tr>
<td>136a</td>
<td>ELEMENTARY CLASS VOICE</td>
<td>3</td>
<td>Music 136a or consent of instructor.</td>
<td>2 hours</td>
<td></td>
</tr>
<tr>
<td>136b</td>
<td>ELEMENTARY CLASS VOICE</td>
<td>3</td>
<td>Music 136b.</td>
<td>2 hours</td>
<td></td>
</tr>
<tr>
<td>136c</td>
<td>ELEMENTARY CLASS VOICE</td>
<td>3</td>
<td>Music 136c.</td>
<td>2 hours</td>
<td></td>
</tr>
<tr>
<td>137</td>
<td>BEGINNING GUITAR</td>
<td>3</td>
<td>Music 136a or consent of instructor.</td>
<td>2 hours</td>
<td></td>
</tr>
<tr>
<td>138</td>
<td>BEGINNING JAZZ IMPROVISATION</td>
<td>3</td>
<td>Music 136b.</td>
<td>2 hours</td>
<td></td>
</tr>
</tbody>
</table>
MUSIC

140 INTERMEDIATE GUITAR 3 Units
Prerequisite: Music 130, or consent of instructor. Concurrent enrollment in Music 108 recommended.
Lecture: 2 hours
Activity: 2 hours
Intermediate instruction in a class situation of methods and techniques of playing the guitar.
May be repeated one time.

141a INTERMEDIATE CLASS PIANO 3 Units
Prerequisite: Music 141a or consent of instructor. Concurrent enrollment in Music 108 recommended.
Lecture: 2 hours
Activity: 2 hours
Study of playing techniques requiring the full range of the piano and covering piano literature from 1700 to the present, emphasizing style and interpretation.

141b INTERMEDIATE CLASS PIANO 3 Units
Prerequisite: Music 141a or consent of instructor. Concurrent enrollment in Music 108 recommended.
Lecture: 2 hours
Activity: 2 hours
Continuation of Music 141a.

141c INTERMEDIATE CLASS PIANO 3 Units
Prerequisite: Music 141b or consent of instructor. Concurrent enrollment in Music 108 recommended.
Lecture: 2 hours
Activity: 2 hours
Continuation of Music 141b.

144 INTERMEDIATE STRINGS 3 Units
Prerequisite: Music 134, or consent of instructor. Concurrent enrollment in Music 108 recommended.
Lecture: 2 hours
Activity: 2 hours
Intermediate instruction in a class situation of methods and techniques of playing string instruments.
May be repeated one time.

146a INTERMEDIATE CLASS VOICE 3 Units
Prerequisite: Music 136c or consent of instructor. Concurrent enrollment in Music 108 recommended.
Lecture: 2 hours
Activity: 2 hours
Group instruction in the refinement of singing technique, using classical and popular solo and choral repertoire from 1600 to the present, emphasizing style and interpretation.

146b INTERMEDIATE CLASS VOICE 3 Units
Prerequisite: Music 146b or consent of instructor. Concurrent enrollment in Music 108 recommended.
Lecture: 2 hours
Activity: 2 hours
Continuation of Music 146b.

146c INTERMEDIATE CLASS VOICE 3 Units
Prerequisite: Music 146c or consent of instructor. Concurrent enrollment in Music 108 recommended.
Lecture: 2 hours
Activity: 2 hours
Continuation of Music 146b.

148 INTERMEDIATE JAZZ IMPROVISATION 3 Units
Prerequisite: Music 158 or consent of instructor.
Lecture: 2 hours
Activity: 2 hours
Study and practice of jazz improvisation techniques including basic chord scales, style, selected ear training, and analysis of transcribed solos.
May be repeated one time.

150 APPLIED MUSIC, Guitar 1 Unit
Prerequisite: Audition; concurrent enrollment in Music 109 recommended.
Activity: 2 hours
Study of performance of mixed choral works of various periods and styles.
May be repeated without limit.

154 APPLIED MUSIC, Strings 1 Unit
Prerequisite: Audition; concurrent enrollment in Music 109 recommended.
Activity: 2 hours
Study and performance of vocal jazz and improvisation in an ensemble of limited size.

160 CHOIR 1-2 Units
Prerequisite: Concurrent enrollment in Music 109 recommended.
Activity: 2 hours
Study and performance of vocal and instrumental music.
May be repeated without limit.

165 THEATRE PRODUCTION: Music Emphasis 1-3 Units
Prerequisite: Audition; Laboratory: 2 hours
Activity: 2 hours
Directed activities in theatre production for public performance with a concentration in vocal or instrumental music.
May be repeated without limit.

166 COMMUNITY CHORUS 1-2 Units
Prerequisite: Concurrent enrollment in Music 109 recommended.
Activity: 2 hours
Study and performance of mixed choral works of various periods and styles.
May be repeated without limit.

169 MADRIGAL ENSEMBLE 1.5 Unit
Prerequisite: Audition; concurrent enrollment in Music 109 recommended.
Activity: 2 hours
Study and performance of vocal chamber music with emphasis on the Renaissance and contemporary periods.
May be repeated without limit.

170 WIND ENSEMBLE 1-2 Units
Prerequisite: Audition; concurrent enrollment in Music 109 recommended.
Activity: 2-4 hours
Study and performance of advanced wind ensemble literature.
Attendance at all scheduled performances is required.
May be repeated without limit.

176 ORCHESTRA 1-2 Units
Prerequisite: Audition; concurrent enrollment in Music 109 recommended.
Activity: 2-4 hours
Study and performance of orchestral literature of various styles and media.
May be repeated without limit.

179 ENSEMBLE: INSTRUMENTAL EMphasis 1 Unit
Prerequisite: Audition; concurrent enrollment in Music 109 recommended.
Activity: 2 hours
Study and performance of instrumental jazz and improvisation; techniques of improvisation will be explored.
May be repeated without limit.

180 CONSERVATION OF NATURAL RESOURCES See Page 30 for Certificate Requirements 4 Units
Lecture: 4 hours
Field trips may be required.
Natural resources conservation; history of land use, field practices, and current problems of physical and biological natural resources conservation.
Field trips may be required.

181 INTRODUCTION TO SOIL, WATER AND ATMOSPHERIC RESOURCES 4 Units
Prerequisite: Biology 110 recommended.
Activity: 4 hours
Characteristics, properties, formation, development, and utilization of soils, water and atmosphere. Problems of wildlands and agricultural management.
Field trips may be required.

182 PROPERTIES OF SOILS 4 Units
Prerequisite: Previous or concurrent enrollment in Chemistry 100.
Activity: 3 hours
Physical, chemical, and biological properties of soils related to wildland and cultivated soils.
Field trips may be required.

185 APPLIED WILDLANDS MANAGEMENT 3 Units
Prerequisite: Previous or concurrent enrollment in Chemistry 100.
Activity: 3 hours
Techniques of managing wildlands for maximum forage, water, and soil quality. Field observations and applications for prediction and protection of range and watershed values. Field identification of important forage and browse species.
Field trips may be required.
NATURAL RESOURCES TECHNOLOGY/PHILOSOPHY/PHYSICAL EDUCATION

55 INTERPRETIVE GUIDED TOURS 3 Units
Lecture: 1 hour Laboratoty: 3 hours
Methods of meeting and serving diverse public groups in their social, cultural, and recreational use of multiple recreation lands. Field trips may be required.

60 AERIAL PHOTOGRAPHY AND MAP INTERPRETATION 3 Units
Lecture: 2 hours Laboratory: 3 hours
Basic photogrammetric instruments and equipment. Techniques of delineating soil-vegetation types and distinguishing physical features on aerial photographs and topographic maps. Field trips may be required.

63 WATER FOR CONSUMPTION 4 Units
Lecture: 4 hours Study of present and future sources of community water supply with special attention to state standards for potable water. Analysis processing, treatment, quality control, storage and distribution of community water. Field trips may be required.

81 CALIFORNIA WILDLIFE—GAME MAMMALS AND FURBEARERS 3 Units
Lecture: 2 hours Laboratory: 3 hours
Methods and problems of manipulating and appraising game mammals and furbearers. Field identification and life history of local game mammals and furbearers. Field trips may be required.

83 CALIFORNIA WILDLIFE—UPLAND GAME AND FISH 3 Units
Lecture: 2 hours Laboratory: 3 hours
Methods and problems of manipulating and appraising upland game and fisheries habitats. Field identification and life history of local game birds and fish. Field trips may be required.

PHILOSOPHY

101 KNOWLEDGE AND REALITY 4 Units
Lecture: 4 hours
Survey of the problems of philosophy with emphasis on epistemology, metaphysics and existentialism.

102 ETHICS AND RELIGION 4 Units
Lecture: 4 hours
Problems in ethics and philosophy of religion (Western and Oriental).

103 VALUES IN POLITICS AND ESTHETICS 4 Units
Prerequisite: Philosophy 101 or consent of instructor.
Lecture: 4 hours
Problems of individuals and social values in political philosophy and esthetics.

105 ALTERNATE VIEWS IN PHILOSOPHY 4 Units
Prerequisite: Philosophy 101 or 102, or consent of instructor.
Lecture: 4 hours
Major viewpoints in philosophy studied by reading and discussing the original writings of the philosophers.

108 HUMANISTIC AND SCIENTIFIC THOUGHT 4 Units
(See also Physics 108)
Lecture: 4 hours
A study of the relationships between the sciences and the humanities, and the major problems in the philosophy of science.

110 LOGIC (See also Mathematics 180a.) 5 Units
Lecture: 5 hours
Basic principles of classical logic and some major aspects of modern logic: deductive reasoning, including syllogisms, fallacies, truth functions, and techniques of symbolic logic.

110b LOGIC (See also Mathematics 180b.) 5 Units
Prerequisite: Philosophy 108 or equivalent.
Lecture: 5 hours
A brief review of syllogistic and truth-functional logic, and a survey of quantificational logic, induction, probability, and the logic of the scientific method.

125 TWENTIETH CENTURY PHILOSOPHY 4 Units
Lecture: 4 hours
A brief survey of the twentieth century philosophy emphasizing the leading exponents of each school of thought and their contributions to our understanding of humankind, nature, society, philosophy, science, technology, human values, and the meaning of life.

PHYSICAL EDUCATION

101 INTRODUCTION TO PHYSICAL EDUCATION 2 Units
Lecture: 1 hour
Background and principles of Physical Education and sports. Study of the aims and objectives of modern physical education with a view toward development of basic philosophy and background for professional education.

105 BASKETBALL: ADVANCED—THEORY AND PRACTICE 3 Units
Prerequisite: P.E. 120, Basketball, or consent of instructor.
Lecture: 1 hour Activity: 4 hours
Advanced concepts, strategy, and practice necessary in the playing and understanding of collegiate basketball.

107 PERSONAL FITNESS CONCEPTS AND EVALUATION 3 Units
Lecture: 2 hours Activity: 2 hours
A study of "how," "why," and "what" of physical activity and exercise. This course is intended to help students make important lifetime decisions about their own personal fitness directions. Evaluative laboratory testing includes oxygen capacity, rest and exercise electrocardiography, flexibility strength and body composition analysis. An ensuing exercise prescription is individualized to ameliorate determined weaknesses.

108 THEORY AND PRACTICE OF ADAPTIVE PHYSICAL EDUCATION 3 Units
Prerequisite: Physical Education 107, or equivalent.
Lecture: 2 hours Laboratory: 3 hours
Designed to provide formal training and practical experience for students interested in pursuing a career in physical education, physical therapy, corrective rehabilitative physical education, therapeutic recreation, corrective therapy and cardiac rehabilitation or any other area which involves working with the physically limited.

109 CORRECTIVE REHABILITATIVE PHYSICAL EDUCATION 3 Units
Prerequisite: Physical Education 106.
Lecture: 2 hours Laboratory: 3 hours
Designed to allow P.E. 106 students who have gone through the training program to assist in P.E. 144 activities in the training program. Students are led in a clear, meaningful progression from the physiological mechanisms underlying training techniques to actual practices of them.

111 PHYSICAL THEATRE: PERFORMANCE ART 3 Units
Prerequisite: Permission of instructor.
Lecture: 1 hour Laboratory: 3 hours
A study of the relationships between the sciences and the humanities, and the major problems in the philosophy of science.

112 THEATRE PRODUCTION: DANCE EMPHASIS 1-3 Units
Prerequisite: Audition Laboratory: 3 hours Directed activities in theatre production for public performance with a concentration in dance. May be repeated without limit.

116 DANCE PRODUCTION 4 Units
Prerequisite: Audition. Lecture: 1 hour Laboratory: 9 hours
Dance production for public performance; theory and practice in choreography, performance styles, and dance rehearsal combined with theatrical structure, non-verbal dramatic techniques, and technical staging designed for concert presentation.

117 CHOREOGRAPHY AND COMPOSITION 4 Units
Prerequisite: Previous or concurrent enrollment in Modern Dance or Modern Dance II or Ballet I or Jazz I or Physical Education 116.
Lecture: 3 hours Laboratory: 3 hours
Exploration of choreography fundamentals through a problem solving approach. Studies deal with aspects of time, space, dynamics and design in movement with emphasis on extending communication skills of the body. Offered only once a year and not offered the same quarter as P.E. 116.

119 DANCE TOURING COMPANY 3 Units
Prerequisite: Physical Education 116 or consent of instructor.
Lecture: 1 hour Laboratory: 3 hours
Directed activities in theatre production for public performance and community organizations. Dance workshops will be offered at selected sites. May be repeated without limit.

120 AEROBIC EXERCISE I 2 Units
Prerequisite: Physical Education 108 or equivalent.
Lecture: 1 hour Laboratory: 3 hours
A study of the relationships between the sciences and the humanities, and the major problems in the philosophy of science.

121 THEATRE PRODUCTION: DANCE EMPHASIS 1-3 Units
Prerequisite: Audition Laboratory: 3 hours Directed activities in theatre production for public performance with a concentration in dance. May be repeated without limit.

116 DANCE PRODUCTION 4 Units
Prerequisite: Audition. Lecture: 1 hour Laboratory: 9 hours
Dance production for public performance; theory and practice in choreography, performance styles, and dance rehearsal combined with theatrical structure, non-verbal dramatic techniques, and technical staging designed for concert presentation. May be repeated without limit.

117 CHOREOGRAPHY AND COMPOSITION 4 Units
Prerequisite: Previous or concurrent enrollment in Modern Dance or Modern Dance II or Ballet I or Jazz I or Physical Education 116.
Lecture: 3 hours Laboratory: 3 hours
Exploration of choreography fundamentals through a problem solving approach. Studies deal with aspects of time, space, dynamics and design in movement with emphasis on extending communication skills of the body. Offered only once a year and not offered the same quarter as P.E. 116.

119 DANCE TOURING COMPANY 3 Units
Prerequisite: Physical Education 116 or consent of instructor.
Lecture: 1 hour Laboratory: 3 hours
Directed activities in theatre production for public performance and community organizations. Dance workshops will be offered at selected sites. May be repeated without limit.

120 AEROBIC EXERCISE I 2 Units
Prerequisite: Physical Education 108 or equivalent.
Lecture: 1 hour Laboratory: 3 hours
A study of the relationships between the sciences and the humanities, and the major problems in the philosophy of science.

BASKETBALL Instruction and practice in the basic fundamentals of the game, including individual and team concepts with intra-class competition. May be repeated three times.
BODY MECHANICS
Exercise for body balance, agility, coordination, confidence, poise, and weight control.
May be repeated three times.

DANCE, FOLK
Instruction and participation in folk dances from countries around the world. Background information on dances, and an introduction to basic folk dance steps.
May be repeated three times.

FENCING
Introduction to foil fencing. Instruction in basic skills and rules of the sport.
May be repeated three times.

HATHA YOGA
Fitness through the practice of Hatha Yoga posture, movement, and breath exercises; progressive exercise emphasizing balance, coordination, strength, flexibility, concentration, and relaxation.
May be repeated three times.

130 Series: Courses meeting 3 hours per week for 1 unit of credit.

AEROBIC EXERCISE II
Prerequisite: Aerobic Exercise I.
Laboratory: 3 hours
An advanced exercise class designed to increase cardiovascular fitness. Each workout will include exercises to build strength, flexibility, and endurance.
May be repeated 3 times.

BALLETT I
Introduction to fundamental classical ballet forms, including basic concepts, positions, and combinations designed to acquaint the student with the technical and expressive elements of ballet.

BALLETT II
Prerequisite: Ballet I or consent of instructor.
Study of advanced techniques and principles of classical ballet including phrasing, combinations, and stylistic elements.
May be repeated three times.

DANCE, MODERN I
Introduction to modern dance movement. Fundamentals, basic movement, and composition presented and practiced as an opportunity for the student to express himself/herself creatively through dance forms.

DANCE, MODERN II
Prerequisite: Modern Dance I or consent of instructor.
Advanced work on Modern Dance movement and elements of rhythm, space and dynamics, emphasis on contemporary dance techniques, individual and group choreography, and cultural influences on expressive dance forms.
May be repeated three times.

DANCE, SOCIAL I
Instruction and practice in the beginning ballet and social dance steps including waltz, fox-trot, tango, swing, Latin dances, and currentfad dances.
May be repeated three times.

GOLF I
Instruction and practice in fundamentals.

GOLF II
Prerequisite: Golf I or consent of instructor.
Instruction and practice in skills, rules and strategy.
May be repeated three times.

INTRAMURALS
Intramural participation in varied sports activities.
Low key approach to competition, with participation being the meaningful factor.
May be repeated three times.

JOGGING AND CONDITIONING
Instruction in progressive exercises: hiking, running, and jogging techniques for physical fitness.

WEIGHT TRAINING I
Instruction in use of weights and body building equipment with emphasis upon individual program development.

WEIGHT TRAINING II
Prerequisite: Weight Training I.
Designed to help individuals accomplish a fine state of physical fitness through the use of "overload equipment and progressive resistance exercises. Each person shall, with the counseling of the instructor, analyze his particular needs and establish a program that will help accomplish these goals.
May be repeated 3 times.

WRESTLING
Instruction in basic skills, knowledge, and strategy. Class participation to develop fundamental holds and movements.
May be repeated three times.

140 Series: Courses meeting 4 hours per week for 2 units of credit.

BACKPACKING I
Prerequisite: Backpacking I or consent of instructor.
Advanced practical experience in the sport of backpacking; intensive field activity in extended trail and cross-country packing; related techniques and equipment.
May be repeated three times.

BACKPACKING, WINTER
Prerequisite: Backpacking I or consent of instructor.
Introduction to snow camping, winter travel, and survival techniques. Practical experience in constructing and sleeping in igloos and snow caves. Discusses winter perils, mountain safety, and navigation.
May be repeated three times.

HORSEMANSHIP I
Fundamentals of Western style riding, as well as the care of the horse and equipment, feeding, grooming, tack, shoeing problems, common ailments, and their prevention. What to look for when purchasing a horse.

HORSEMANSHIP II
Prerequisite: Horsemanship I or consent of instructor.
An in-depth study of various horse training techniques and fundamentals. The use of training equipment and aids. A close study of ailments, unsoundnesses and their prevention and cure. Emphasis on training and corrective measures.
May be repeated three times.

JOGGING AND CONDITIONING:
ADVANCED (Old Mill Run)
Designed to prepare students to run in the annual 6.2 mile Old Mill Run which starts and ends in Columbia State Park.
May be repeated three times.

MOUNTAINEERING
Introduction to rope management, knots, and technical climbing equipment. Experience and practice in belaying, rappelling and the basic climbing skills.

MOUNTAINEERING II
Prerequisite: Mountaineering I or consent of instructor.
Introduction to direct aid climbing, jumar techniques, mountain rescue techniques, and advanced knots and rope management. Experience and practice in difficult free climbing, chock and piton placement, aid climbing, and rescue work.
May be repeated three times.

SOCCER
Instruction, practice, and participation in game play. Emphasis on rules, individual skills and strategy in the field.
May be repeated three times.
PHYSICAL EDUCATION

WINTER EXPEDITIONS
Prerequisite: 3 hours Backpacking or consent of instructor. Practical experience in planning and carrying out a major winter expedition into or across the Sierra Nevada mountains. A three or four day expedition involving cross country travel on snow and snow camping is required. Covers mountain perils and safety, special equipment, and high altitude physiology. Special equipment required. May be repeated three times.

144 ADAPTIVE PHYSICAL EDUCATION
Activity: 2-6 hours
Designed to offer individually prescribed fitness direction to the physically limited with emphasis on the improvements of cardiovascular flexibility and strength components. May be repeated without limit.

150 Series: Courses meeting 3 hours per week for 2 units of credit.

ALPINE SKIING
Instruction and practice in basic fundamentals of snow skiing on the slopes. Care and selection of equipment, terminology and safety included.

CROSS COUNTRY SKIING
Instruction and practice for snow skiing in the open country. Care and selection of equipment, safety, and outdoor orientation emphasized. May be repeated one time.

INTERCOLLEGIATE ATHLETICS
These courses are for full-time students and require daily practice plus travel time and competition with other colleges.

160 Series: Courses meeting 5 or more hours per week for 2 units of credit. May be repeated for credit to limit of student's eligibility.

BASKETBALL

TENNIS

Volleyball (Women's Rules)
Preparation and training for intercollegiate varsity competition. Participation in contests with other colleges will be scheduled. Field trips are required.

ADULT FITNESS PROGRAM

170b CARDIAC THERAPY:

PHASE IV
Prerequisite: Physical Education 170a.
Lecture: 1 hour
Activity: 4 hours
Continuation of Physical Education 170a.

171 INTRODUCTION TO ADULT FITNESS
Lecture: 2 hours
An overview of the essential principles of physical fitness theory and health appropriate to adults; a survey of exercise theory and techniques designed for adults.

172 MULTIPHASIC FITNESS TESTING PROGRAM
Prerequisite: Concurrent enrollment in P.E. 175a or P.E. 170b.
Lecture: 3 hour
Activity: 1 hour
Physician supervised multiphasic fitness evaluation including exercise stress test on a treadmill or bicycle ergometer with electrocardiographic monitoring for the purpose of determining functional capacity and an ensuing safe exercise prescription. Evaluations also include pulmonary function, body composition to determine percent fat and blood chemistry.

173a ADULT FITNESS PROGRAM
Activity: 4-6 hours
Individual evaluation of cardio-vascular function and development of a personalized prescription program for aerobic fitness improvement; monitoring and supervision of exercise regimens and related fitness activities for continued health and fitness maintenance.

173b ADULT FITNESS PROGRAM
Prerequisite: Physical Education 173a.
Activity: 4-6 hours
A continuation of Physical Education 173a.
May be repeated three times.

175 HEALTH AND PHYSICAL FITNESS WORKSHOP
Lecture: 1 hour
Activity: 2 hours
Instruction in the relationship between the human body, health and physical fitness. Testing to establish individual fitness status involves exercise electrocardiogram, body composition analysis, flexibility and strength evaluations followed by the design of and participation in a personal fitness program with particular emphasis on aerobic type activities.
May be repeated without limit.

177 INTRODUCTION TO EXERCISE STRESS TESTING
Lecture: 2 hours
Activity: 2 hours
The study of graded exercise tolerance testing; concepts, protocols, and practices in measuring cardio-vascular response and functional capacity employing the treadmill and bicycle ergometer.

PHYSICS

100 MODERN PHYSICS
Prerequisite: Mathematics 101.
Lecture: 1 hour
An algebra level investigation of the special and general theories of relativity as well as the later physical theories that gave rise to the concepts of anti-matter and black holes.

108 HUMANISTIC AND SCIENTIFIC THOUGHT
Prerequisite: Philosophy 108
Lecture: 4 hours
A study of the relationships between the sciences and the humanities, and of major problems in the philosophy of science.
(Credit for this course will be awarded for either Physics 108 or Philosophy 108 but not both. May not be repeated.)

110a APPLIED PHYSICS
Prerequisite: Mathematics 102.
Lecture: 3 hours
Laboratory: 3 hours
A trigonometry level investigation of physics that includes mechanics, heat, light, sound, electricity and magnetism, and an introduction to modern physics.

110b APPLIED PHYSICS
Prerequisite: Physics 110b.
Lecture: 3 hours
Laboratory: 3 hours
A continuation of Physics 110a.

110c APPLIED PHYSICS
Prerequisite: Physics 110c.
Lecture: 3 hours
Laboratory: 3 hours
A calculus level investigation of physics covering the topics of mechanics, heat, light, sound, electricity and magnetism as well as modern physics.

120a GENERAL PHYSICS
Prerequisite: Mathematics 120abc or Mathematics 102 and concurrent enrollment in Mathematics 120a.
Lecture: 5 hours
Laboratory: 3 hours
A general calculus level investigation of physics covering the topics of mechanics, heat, light, sound, electricity and magnetism as well as modern physics.

120b GENERAL PHYSICS
Prerequisite: Physics 120a.
Lecture: 3 hours
Laboratory: 3 hours
Continuation of Physics 120a.

120c GENERAL PHYSICS
Prerequisite: Physics 120c.
Lecture: 3 hours
Laboratory: 3 hours
Continuation of Physics 120b.

125 MODERN PHYSICS
Prerequisite: Physics 120c.
Lecture: 3 hours
Laboratory: 3 hours
A continuation of Physics 120c.

PHYSICS/ POLITICAL SCIENCE/PSYCHOLOGY

101 CONSTITUTIONAL GOVERNMENT
Prerequisite: English 101
Lecture: 5 hours
Basic principles of United States and California constitutional governments with emphasis on the dynamics of the American federal system, governmental powers and sources of power at the national, state, and local levels, and the rights and responsibilities of democratic citizenship.

110 AMERICAN POLITICAL THOUGHT
Prerequisite: Political Science 110
Lecture: 4 hours
Historical survey of American political doctrines and issues; influence of political traditions on American politics; contemporary American political issues.

112 INTERNSHIP IN GOVERNMENT
Prerequisite: Political Science 112
Lecture: 4 hours
Laboratory: 3 to 36 hours
Laboratory experience in the practical operation of Political Science through individual student participation in an approved internship program in national, state or local government.
May be repeated for a maximum of 12 units.

115 INTERNATIONAL RELATIONS
Prerequisite: Political Science 115
Lecture: 4 hours
A general calculus level investigation of physics covering the topics of mechanics, heat, light, sound, electricity and magnetism as well as modern

125 COMPARATIVE POLITICAL SYSTEMS
Prerequisite: Political Science 125
Lecture: 4 hours
Comparative analysis of major political cultures and systems in the Western and non-Western world.

POLITICAL SCIENCE

101a GENERAL PSYCHOLOGY
Prerequisite: Psychology 101a.
Lecture: 5 hours
An introduction to the field of psychology. Topics to be covered include conditioning, personality development, aggression, emotions, stress, anxiety, therapy, sexuality, values, self-direction, and self-control.

101b GENERAL PSYCHOLOGY
Prerequisite: Psychology 101b.
Lecture: 5 hours
More advanced areas in psychology, including abnormal behavior and its treatment; stress and mental health; psychoanalytic medicine; hypnosis and imagery; the nervous system; perception and optical illusions; memory; IQ testing. Also current issues in the field.
Field trips may be required.
PSYCHOLOGY/SEARCH AND RESCUE

103 SOCIAL PSYCHOLOGY 5 Units
Prerequisite: Psychology 10. Lecture: 3 hours
Interrelationship between the individual and social environment. Social influence upon motivation, perception, group pressure, conformity, attraction, prejudice, behavior. Development of changes of attitudes and opinions. Psychological analysis of small groups, social stratification and mass phenomena.
Field trips may be required.

105 PHYSIOLOGICAL PSYCHOLOGY 5 Units
Prerequisite: Psychology 10a. Lecture: 2 hours
Study of the biological basis of behavior; body behavior relationships, neural, mechanical, and chemical integrating systems.

107 SEARCH FOR SELF 2 Units
Lecture: 2 hours
An inquiry into "What does it mean to be me?" Field trips may be required. May be repeated one time.

115 INTRODUCTION TO TRANSACTIONAL ANALYSIS 2 Units
Lecture: 2 hours
Theory of transactional analysis and its application to interpersonal situations.

120 INTERPERSONAL GROWTH 2 Units
Lecture: 2 hours
A small group experience offering the opportunity to share opinions and feelings. Field trips may be required. May be repeated one time.

122 ASSERTIVE BEHAVIOR 2 Units
Lecture: 2 hours
Exploring responsible independence. Field trips may be required. May be repeated one time.

124 PSYCHOLOGY OF CONSCIOUSNESS 4 Units
Lecture: 4 hours
A cross-cultural approach to the study of human awareness using a bimodal or left brain, right brain model of consciousness including: EEG studies, psychoactive drugs, meditation, near-death experiences, non-western psychologies, and other non-traditional approaches to mind-brain and mind-body theories.

125 BIOFEEDBACK AND SELF-CONTROL 3 Units
Lecture: 2 hours Laboratory: 3 hours
An introduction to and a practical application of the self-regulatory technique of biofeedback training.

126 BIOFEEDBACK AND SELF-CONTROL LABORATORY 1 Unit
Prerequisite: Psychology 125 or consent of instructor. Laboratory: 3 hours
A practical application of the self-paced regulatory technique of biofeedback training. (This course will be offered on a Credit-No Credit grading system, except for those students who opt for a letter grade before the end of the fourth week of the quarter.) May be repeated two times.

130 PERSONAL AND SOCIAL ADJUSTMENT 5 Units
Lecture: 5 hours
Group process experience in which students have the opportunity to learn more about themselves in relation to others. Field trips may be required. May be repeated one time.

144 CREATIVE PROCESS IN GROUPS 4 Units
Prerequisite: Psychology 10b. Lecture: 4 hours
Creative process of small groups; understanding the creative potential in interpersonal relations.

145A DEVELOPMENTAL PSYCHOLOGY 4 Units
Prerequisite: Psychology 10a. Lecture: 4 hours
Research and theories in developmental psychology from prenatal life through early childhood, covering physical, social, emotional, cognitive, language, and personality development. Issue of heredity and environment considered.

145B DEVELOPMENTAL PSYCHOLOGY 4 Units
Prerequisite: Psychology 145a. Lecture: 4 hours
Prenatal Through Early Childhood
Creative process of small groups; understanding the creative potential in interpersonal relations.

145C DEVELOPMENTAL PSYCHOLOGY 4 Units
Prerequisite: Psychology 145b. Lecture: 4 hours
Later Childhood Through Adulthood
Research and theories in developmental psychology from prenatal life through early childhood, covering continuing developmental changes and special concerns of these years, e.g., peer acceptance, sexuality, sex roles, drug usage, parent-child relations, career choices, mid-life crisis, etc.

150 PERSONALITY THEORY 5 Units
Prerequisite: Psychology 10a. Lecture: 5 hours
A survey course of the various theories of personality development.

160 SEARCH AND RESCUE 1 Unit
See Page 31 for Certification Requirements

103 ENVIRONMENTAL INJURIES 2 Units
Prerequisite: Health Education 115 or Health Occupations 103 recommended. Lecture: 2 hours
A review of injuries caused by recreational and vocational activities in the outdoors, including heat, cold, water, altitude, and animal-caused injuries.

105 MOUNTAIN MEDICINE 1 Unit
Prerequisite: Health Education 115 or Health Occupations 103 recommended. Lecture: 1 hour
Review of common injuries and illness encountered in the outdoors. Emphasis on improved treatment of trauma with a minimum of manpower equipment and mobility, includes discussion of psychological aspects, proper nutrition and diseases arising from travel in rural areas and recommended first aid supplies.

110 INTRODUCTION TO SEARCH THEORY 3 Units
Lecture: 3 hours
An overview of search theories as developed by the National Park Service and the National Association for Search and Rescue.

111 INTRODUCTION TO SEARCH MANAGEMENT 3 Units
Prerequisite: Search and Rescue 110. Lecture: 3 hours
An in-depth presentation of those areas unique to search management. The student will be taken through selected chalkboard search missions and assume the role of a search management person.

126 MANAGING THE SEARCH FUNCTION 3 Units
Prerequisite: Search and Rescue 111
A comprehensive review of Search and Rescue 110 expanding into multi-agency considerations. Designed for the invasive professional or volunteer. National Association of Search and Rescue certification available to the student upon successful completion of courses.

134 INTRODUCTION TO RECREATIONAL MOUNTAIN CLIMBING 1 Unit
Lecture: 1 hour
An overview of current non-winter grid search techniques as developed by William G. Syrotuck and the National Association of Search and Rescue.

130 INTRODUCTION TO RESCUE TECHNIQUES 4 Units
Lecture: 4 hours
A survey course covering the following three specialized areas: critical to an effective and safe search and rescue person: rescue carriage, rope management and communication.

132 ASCENDING AND DESCENDING TECHNIQUES IN RESCUE 2 Units
Prerequisite: Search and Rescue 130 or consent of instructor. Lecture: 1.5 hours Laboratory: 1.5 hours
Review of rope safety techniques for rescue personnel with emphasis on methods of ascent and descent for rescue and ambulance victims in various rescue environments. Instruction and demonstration of safe techniques for the ascent and descent of slopes, buildings and cliffs. Emphasis on rope safety techniques, knots, belaying and anchors, basic four-point climbing techniques and use of friction knots and mechanical ascenders. Handling and safe use of fire-service ladders reviewed. Field trips may be required.

134 HELICOPTER OPERATIONS AND PERSONNEL SAFETY 1 Unit
Lecture: 1 hour
The role of the helicopter in rescue situations with emphasis on the role of ground rescue personnel. Helicopter safety rules, interagency helicopter request information and procedures, selecting a landing zone, evaluations, insert, crash procedures, and communications.

140 BASIC SURVIVAL SKILLS 2 Units
Lecture: 2 hours
A seminar in short-term survival in various wilderness environments.
### INTRODUCTION TO LITTER MANAGEMENT
- **Prerequisite:** Search & Rescue 146, Search & Rescue 152, or consent of instructor.
- **Lecture:** 2 hours
- **Laboratory:** 1 hour
- Instruction in techniques used to evacuate injured parties over gentle and moderate terrain in urban settings. Demonstration of the use of the Stokes litter in conjunction with mechanical advantage rope systems in gentle and moderate terrain situations. Review of rope safety belaying and anchoring techniques.

### TECHNICAL LITTER EVACUATION
- **Prerequisite:** Search & Rescue 130, Search & Rescue 132, or consent of instructor.
- **Laboratory:** 3 hours
- Instruction and demonstration of techniques used to evacuate injured parties over steep terrain in various settings; use of rescue litters in conjunction with mechanical advantage rope systems in high angle ascending, descending, and traversing rescue situations; review of rope safety belaying and anchoring techniques.

### VEHICLE EXTRICATION
- **Lecture:** 2 hours
- Use of the Hurst Tool and Black Hawk Extrication kits; hands-on instruction on various extrication techniques with special emphasis given to patient management and handling at the accident scene. Field trips may be required.

### INTRODUCTION TO DIVE RESCUE
- **Prerequisite:** Basic scuba diver certification.
- **Lecture:** 2 hours
- **Laboratory:** 3 hours
- A course designed to train persons as basic rescue scuba divers. Students must supply their own dive gear.

### DIVE RESCUE
- **Prerequisite:** Search & Rescue 144 or consent of instructor.
- **Lecture:** 3 hours
- **Laboratory:** 4.5 hours
- Designed to develop basic rescue scuba divers who have completed Search & Rescue 144 into fully certified advanced open water divers and Public Safety Scuba Divers. Students must supply their own dive gear.

### INTRODUCTION TO SWIFTWATER RESCUE
- **Prerequisite:** Search & Rescue 120 or consent of instructor.
- **Lecture:** 2 hours
- **Laboratory:** 3 hours
- Designed to develop a sense of confidence in rescue personnel dealing with swift water rescue situations. Topics include: swift water physiology, equipment, and basic swiftwater rescue techniques.

### ADVANCED SWIFTWATER RESCUE
- **Prerequisite:** Search & Rescue 146.
- **Lecture:** 1 hour
- **Laboratory:** 1.5 hours
- Organization of swiftwater rescue. The practical and theoretical aspect of water rescue. Special consideration given to the applicable aspects of technical alpine rescue.

### RESPONSE TO RADIATION EMERGENCIES
- **Lecture:** 1 hour
- An overview of the problem of radiation emergencies including the history of radiation accidents and basic radiation physics; monitoring devices, emergency response to radioactive accidents and procedures for emergency department personnel.

### INTRODUCTION TO AVALANCHE RESCUE
- **Lecture:** 1.5 hours
- **Laboratory:** 1.5 hours
- Introduction to the basic concept of avalanche. Study of the snowpack, meteorology, stability evaluation, avalanche phenomena, avalanche safety, avalanche search and rescue.

### TRENCH RESCUE AND SHORING PROCEDURES
- **Lecture:** 1 hour
- **Laboratory:** 4 hours
- Pre-planning, size-up and management of the trench rescue. Hands-on experience in emergency shoring techniques. (The course meets or exceeds current CAL-OSHA and California State Fire Training requirements in trench rescue procedures).

### HEAVY DUTY RESCUE
- **Prerequisite:** Search & Rescue 120 recommended.
- **Lecture:** 2 hours
- **Laboratory:** 3 hours
- Training in safe rescue techniques relating to disasters associated with building collapse, mass transportation, caves and mines, including organization, procedures, and resources.

### HEAVY RESCUE INSTRUCTOR TRAINING
- **Prerequisite:** Search & Rescue 120, Search & Rescue 130.
- **Lecture:** 5 hours
- A review and update of heavy duty rescue skills and techniques designed to prepare qualified personnel to teach those skills and techniques to others.

### EMERGENCY AND DISASTER PLANNING
- **Lecture:** 3 hours
- A course designed primarily for persons responsible for preparing emergency and disaster plans for public and private organizations, or other persons with an interest in the mitigation of emergencies.

### BASIC READING
- **Prerequisite:** Search & Rescue 146.
- **Lecture:** 1 hour
- **Laboratory:** 1 hour
- Improvement of reading and study skills necessary for college level work. May be repeated one time.

### G.E.D. PREPARATION
- **Lecture:** 1 hour
- **Laboratory:** 1 hour
- Designed to teach the general skills needed to pass the General Educational Development Test.

### DISASTER PLANNING
- **Prerequisite:** Search & Rescue 146.
- **Laboratory:** 1 hour
- May be repeated for a maximum of 3 units of credit.

### MATHEMATICS SKILLS
- **Laboratory:** 3-9 hours
- Individualized instruction in fundamental operations with whole numbers, fractions, decimals. May be repeated for a maximum of 3 units of credit.

### BASIC ARITHMETIC
- **Laboratory:** 3-9 hours
- Basic course in arithmetic, starting with percentages. May be repeated for a maximum of 3 units of credit.

### READING DEVELOPMENT
- **Prerequisite:** Basic reading skills.
- **Lecture:** 1 hour
- Provides students with an opportunity to give academic assistance to other students. (Course will be offered for Credit-No Credit only). May be repeated one time.

### WRITING SKILLS
- **Laboratory:** 3 hours
- Individualized instruction and self-instructional material in specific writing skills units. May be repeated for a maximum of 3 units of credit.

### COLLEGE SPELLING
- **Laboratory:** 3-6 hours
- Individualized instruction and self-instructional material in specific reading skills units. May be repeated for a maximum of 3 units of credit.

### VOCABULARY DEVELOPMENT
- **Laboratory:** 3 hours
- A course to help readers improve their vocabulary skills. May be repeated for a maximum of 3 units of credit.

### SKILLS DEVELOPMENT/SOCIAL SCIENCE

#### SPEED READING
- **Laboratory:** 3-6 hours
- Designed to help competent readers improve their reading rate and skimming and scanning skills, to facilitate rapid reading for any purpose. May be repeated for a maximum of 3 units of credit.

#### STUDY SKILLS
- **Laboratory:** 3-6 hours
- Improvement of the basic study skills. May be repeated for a maximum of 3 units of credit.

#### LIBRARY SKILLS
- **Laboratory:** 3 hours
- A course designed to help students develop skill in using the library.

#### TEST TAKING SKILLS
- **Laboratory:** 3 hours
- A course designed to help students develop skills in taking tests and examinations.

#### DIAGNOSTIC LEARNING
- **Laboratory:** 3-6 hours
- Intensive diagnostic-prescriptive instruction for students with learning disabilities who require specialized assistance in order to pursue regular college courses. An individualized educational plan based upon the unique learning needs of the student will be designed and implemented. May be repeated for a maximum of 3 units of credit.

#### PEER TUTORING
- **Prerequisite:** Approvals. May be repeated for a maximum of 2 units of credit.
- **Laboratory:** 2 units
- Intensive diagnostic-prescriptive instruction for students with learning disabilities who require specialized assistance in order to pursue regular college courses. An individualized educational plan based upon the unique learning needs of the student will be designed and implemented. May be repeated for a maximum of 3 units of credit.

#### HUMAN SEXUAL BEHAVIOR
- **Laboratory:** 3.6 hours
- Examination of knowledge and skills necessary for effective initial intervention when a social crisis occurs in families or for an individual.

#### EXPLORATION OF ISSUES IN HUMAN SEXUALITY
- **Laboratory:** 3.5-3 units
- Exploration of issues in human sexuality from the perspective of the social sciences. Discussion of sexual behavior, feelings and attitudes as they affect one's self and others. (Three unit course offered evenings only).
SOCIETY / SPEECH

91

127 AGING
4 Units
Lecture: 4 hours
Selected issues concerning the process of aging; the socio-psychological perspectives of older persons, and public concerns with which the society becomes involved.
Field trips may be required.

128 DEATH AND DYING
4 Units
Lecture: 4 hours
Examination of the student's feelings, beliefs, and values regarding death and dying; study of the changing technology and ethical concerns with which the society becomes involved.
Field trips may be required.

140 HUMAN SERVICES
4 Units
Prerequisite: Sociology 101 or Psychology 101 or consent of instructor.
Lecture: 2 hours
Laboratory: 6 hours
Study and development of the skills needed for community social services and some of the helping professions; direct participation in an organized community human service agency.

141 HUMAN SERVICES LABORATORY
2 Units
Prerequisite: Sociology 140 in the quarter immediately preceding.
Laboratory: 6 hours
Continuation of skills needed for community social services and some of the helping professions through direct participation in an organized community service agency.

SPEECH

101 FUNDAMENTALS OF SPEECH
5 Units
Lecture: 5 hours
Principles of oral communication; speech composition and techniques of presenting informal and formal speeches. Emphasis given to organization, ideas, critical thinking, and evaluative listening.

115 GROUP DISCUSSION
4 Units
Lecture: 4 hours
Communication processes applied to informal group discussions. Individual and group participation in problem solving discussions, parliamentary procedures, and various speaking activities.

135 INTERPERSONAL COMMUNICATION
3 Units
Lecture: 3 hours
Understanding and utilizing techniques of communication in an effective manner for better interaction between people in one-to-one and small group situations.

150a SIGN LANGUAGE
2 Units
Lecture: 2 hours
Developing receptive and expressive skills in sign language, including skills in finger spelling. Receptive skills emphasized.

150b SIGN LANGUAGE
2 Units
Prerequisite: Speech 150a or consent of instructor.
Lecture: 2 hours
Developing advanced level receptive and expressive skills in conversational sign language and finger spelling.
May be repeated one time.

TEACHER AIDE TRAINING
See Page 32 for Certificate Requirements

50 SURVEY OF EDUCATION
3 Units
Lecture: 3 hours
Personal orientation to teaching as a para-professional. The goals and objectives of public education, the teacher's role, the school system and its organization; students as learners.

55a TEACHER AIDE TRAINING: Beginning
3 Units
Lecture: 3 hours
Preparation for teacher aide duties which assist teachers in the classroom learning process with emphasis on the school environment as the place for learning.

55b TEACHER AIDE TRAINING: Intermediate
3 Units
Prerequisite: Teacher Aide 55a or consent of instructor.
Lecture: 3 hours
The classroom environment focused on the personalities in the classroom: teachers, students, teacher aides, and interpersonal relationships.

55c TEACHER AIDE TRAINING: Advanced
2 Units
Prerequisite: Teacher Aide Training 55b.
Lecture: 1 hour
Continuation of Teacher Aide Training 55b. Focuses on classroom organization in local school districts; elementary student characteristics which enhance learning; and basic teaching techniques. Students will be required to spend a minimum of 20 hours observing and assisting a certified teacher in a local school; and group participation in problem solving discussions, parliamentary procedures, and various speaking activities.

56 PIPE WELDING
3 Units
Prerequisite: Welding Technology 120 or consent of instructor.
Lecture: 2 hours
Laboratory: 6 hours
Technical training and manipulative projects in construction of the pipeline weld, practical exercises in blueprint reading, shop drawing and pipe fitting. Designed to qualify the student for certification according to American Welding Society codes.

58b WELDING TECHNOLOGY
3 Units
See Page 33 for Certificate Requirements

60 AUDIO-VISUAL MATERIALS IN CLASSROOM USE
3 Units
Lecture: 3 hours
Laboratory: 6 hours
Exploratory course in ways to assist classroom teacher to prepare, present, and fully utilize instructional media such as still and motion picture projection, graphic arts, audio systems, programmed material, bulletin boards, and other audio-visual materials.

65 READING FUNDAMENTALS FOR TEACHER AIDS
3 Units
Prerequisite: Teacher Aide 55a.
Lecture: 2 hours
Principles of teaching reading and the role of a teacher's aide. Includes approaches to reading, development of reading lessons, word analysis, including phonics; use of manipulative aids; and individualized skill development.

WELDING TECHNOLOGY
See Page 33 for Certificate Requirements

101 INTRODUCTION TO WELDING
3 Units
Prerequisite: Welding Technology 103 or consent of instructor.
Laboratory: 4.5 hours
Basic arc and oxygen-acetylene welding as it applies to shop and field techniques.

103 ADVANCED ARC WELDING TECHNIQUES
3 Units
Prerequisite: Welding Technology 103 or consent of instructor.
Laboratory: 6 hours
Field trips in all positions (flat, horizontal and overhead); special emphasis on control of heat and distortion.

110 BLUEPRINT READING FOR WELDERS
2 Units
Prerequisite: Welding Technology 103 or consent of instructor.
Lecture: 2 hours
Designed to enable the student to interpret shop drawings and blueprints common to the welding trades.

120 PIPE WELDING
3 Units
Prerequisite: Welding Technology 103 or consent of instructor.
Lecture: 3 hours
Laboratory: 6 hours
Designed to familiarize students with all phases of pipe welding, including pipeline design and the fundamental skills involved in construction of the pipe weld.

122 ADVANCED PIPE WELDING
3 Units
Prerequisite: Welding Technology 120 or consent of instructor.
Lecture: 2 hours
Laboratory: 6 hours
Technical training and manipulative projects in construction of the pipeline weld, practical exercises in blueprint reading, shop drawing and pipe fitting. Designed to qualify the student for certification according to American Welding Society codes.

130 MAINTENANCE WELDING
2 Units
Prerequisite: Welding Technology 103.
Lecture: 1 hour
Laboratory: 1 hour
Special techniques used in building up shafts, pins, gears, housings, frames, logging bunks; fabrication repair and sheet metal.
### WELDING/WORK EXPERIENCE

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### WORK EXPERIENCE

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<td>OCCUPATIONAL WORK EXPERIENCE (ALTERNATE TERM PLAN)</td>
<td>1-8</td>
<td>Employment approved by Work Experience Coordinator. Must have successfully completed 7 units of other coursework at Columbia College prior to enrollment. Between each enrollment in the Alternate Term Plan and before transferring from a regular Work Experience Program to the Alternate Term Plan an additional 7 units of other coursework must be completed. 50 hours of paid employment equals 1 unit of credit. 40 hours of unpaid employment equals 1 unit of credit. Provides students with vocational learning opportunities through supervised employment. The student's employment must be related to educational or occupational goals. May be repeated for a maximum of 24 units of credit, less any units earned in Work Experience 95 or 97.</td>
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<td>GENERAL WORK EXPERIENCE</td>
<td>1-5</td>
<td>Employment approved by Work Experience Coordinator and concurrent enrollment in Work Experience coordinating class. Must be enrolled in at least seven units including Work Experience. During Summer Session must be enrolled in at least one other course. 50 hours of satisfactory paid employment equals one quarter unit. 40 hours of satisfactory non-paid work equals one quarter unit. Provides students an opportunity to experience supervised employment in order to acquire desirable work habits and attitudes and to develop career awareness. The student's employment need not be related to the college program or occupational goal. May be repeated for a maximum of 9 units of credit.</td>
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### ATTACHMENT REPAIR
- Prerequisite: Welding Technology 103.
- Lecture: 1 hour
- Laboratory: 3 hours
- Repair of major heavy equipment components—emphasis on straightening bent and misaligned members, special electrodes, and hard surfacing techniques.

### WELDING NON-FERROUS METALS
- Prerequisite: Welding Technology 103.
- Lecture: 1 hour
- Laboratory: 3 hours
- Welding non-ferrous metals with the electric arc, oxygen-acetylene, and MIG and TIG processes.

### METAL FABRICATION
- Prerequisite: Welding Technology 103 and Welding Technology 110.
- Lecture: 1 hour
- Laboratory: 6 hours
- Project-oriented course designed to give students experience in building or modifying frames, chassis and support equipment. Aspects of layout, quality control, appearance and utility will be emphasized, as well as cost estimation.

### PRACTICAL LABORATORY
- Prerequisite: Welding Technology 103.
- Laboratory: 6 hours
- The student shall gain practical experience by working on an individual project (including certification projects). Emphasis on quality, appearance and function.
- May be repeated one time.

### GENERAL WORK EXPERIENCE (ALTERNATE TERM PLAN)
- Prerequisite: Employment approved by Work Experience Coordinator. Must have successfully completed 7 units of other coursework at Columbia College prior to enrollment. Between each enrollment in the Alternate Term Plan and before transferring from a regular Work Experience Program to the Alternate Term Plan an additional 7 units of other coursework must be completed. 50 hours of paid employment equals 1 unit of credit. 40 hours of unpaid employment equals 1 unit of credit. Provides students with vocational learning opportunities through supervised employment. The student's employment must be related to educational or occupational goals. May be repeated for a maximum of 24 units of credit, less any units earned in Work Experience 95 or 97.

### GENERAL WORK EXPERIENCE
- Prerequisite: Employment approved by Work Experience Coordinator and concurrent enrollment in Work Experience coordinating class. Must be enrolled in at least seven units including Work Experience. During Summer Session must be enrolled in at least one other course. 50 hours of satisfactory paid employment equals one quarter unit. 40 hours of satisfactory non-paid employment equals one quarter unit. Provides students an opportunity to experience supervised employment in order to acquire desirable work habits and attitudes and to develop career awareness. The student's employment need not be related to the college program or occupational goal. May be repeated for a maximum of 9 units of credit.

### OCCUPATIONAL WORK EXPERIENCE (ALTERNATE TERM PLAN)
- Prerequisite: Employment must be approved by Work Experience Coordinator. Must have successfully completed 7 units of other coursework at Columbia College prior to enrollment. Between each enrollment in the Alternate Term Plan and before transferring from a regular Work Experience Program to the Alternate Term Plan an additional 7 units of other coursework must be completed. 50 hours of paid employment equals 1 unit of credit. 40 hours of unpaid employment equals 1 unit of credit. Provides students occupational learning opportunities through supervised employment. The student's employment must be related to educational or occupational goals. May be repeated for a maximum of 24 units of credit, less any units earned in Work Experience 95 or 97.
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