COLUMBIA COLLEGE

1982-83 CATALOG
COLUMBIA COLLEGE

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Columbia, California
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1982-83

YOSEMITE COMMUNITY COLLEGE DISTRICT

PRICE $2.00
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FALL QUARTER, 1982

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 19</td>
<td>Application for admission and transcripts for day students should be on file.</td>
</tr>
<tr>
<td>September 1</td>
<td>Beginning advisement and registration for Fall Quarter for new and former students.</td>
</tr>
<tr>
<td>September 20</td>
<td>Instruction begins.</td>
</tr>
<tr>
<td>October 1</td>
<td>Last day to enter a class.</td>
</tr>
<tr>
<td>October 8</td>
<td>Deadline for filing intent to graduate for Fall Quarter.</td>
</tr>
<tr>
<td>October 27</td>
<td>Last day to elect for CR/NC or letter grade.</td>
</tr>
<tr>
<td>November 12</td>
<td>Veterans Day Holiday.</td>
</tr>
<tr>
<td>November 24</td>
<td>Last day to withdraw from course without penalty.</td>
</tr>
<tr>
<td>December 17</td>
<td>Fall Quarter ends.</td>
</tr>
<tr>
<td>December 20-January 2</td>
<td>Winter Recess.</td>
</tr>
</tbody>
</table>

WINTER QUARTER, 1983

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 18</td>
<td>Application for admission and transcripts for day students should be on file.</td>
</tr>
<tr>
<td>January 3</td>
<td>Instruction begins.</td>
</tr>
<tr>
<td>January 14</td>
<td>Last day to enter a class.</td>
</tr>
<tr>
<td>January 21</td>
<td>Deadline for filing intent to graduate for Winter Quarter.</td>
</tr>
<tr>
<td>January 28</td>
<td>Last day to elect for CR/NC or letter grade.</td>
</tr>
<tr>
<td>February 11</td>
<td>Lincoln Day Holiday.</td>
</tr>
<tr>
<td>February 21</td>
<td>Washington Day Holiday.</td>
</tr>
<tr>
<td>March 4</td>
<td>Last day to withdraw from course without penalty.</td>
</tr>
<tr>
<td>March 24</td>
<td>Winter Quarter ends.</td>
</tr>
<tr>
<td>March 25</td>
<td>Spring Recess.</td>
</tr>
</tbody>
</table>

SPRING QUARTER, 1983

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 14</td>
<td>Application for admission and transcripts for day students should be on file.</td>
</tr>
<tr>
<td>March 28</td>
<td>Instruction begins.</td>
</tr>
<tr>
<td>April 8</td>
<td>Last day to enter a class.</td>
</tr>
<tr>
<td>April 15</td>
<td>Deadline for filing intent to graduate for Spring Quarter.</td>
</tr>
<tr>
<td>April 18</td>
<td>Last day to elect for CR/NC or letter grade.</td>
</tr>
<tr>
<td>May 26</td>
<td>Last day to withdraw from course without penalty.</td>
</tr>
<tr>
<td>May 27</td>
<td>Board Declared Holiday.</td>
</tr>
<tr>
<td>May 30</td>
<td>Memorial Day Holiday.</td>
</tr>
<tr>
<td>June 16</td>
<td>Spring Quarter ends.</td>
</tr>
<tr>
<td>June 17</td>
<td>Graduation.</td>
</tr>
</tbody>
</table>

Additional information pertaining to advisement, registration, final examinations, as well as other dates will be listed in the Schedule of Classes.
BOARD OF TRUSTEES
Yosemite Community College District

* Allister A. Allen
Area 2, Patterson

* Glenda Alpers
Area 3, Riverbank

* Grant E. Bare, M.D.
Area 3, Modesto

Robert Cardoza
Area 3, Modesto

* Ian Hardie
Area 3, Modesto

* Carmen Jackson
Area 3, Turlock

* Nancy Rosasco
Area 1, Sonora

Dr. Tom Van Groningen
Superintendent,
Secretary to
Board of Trustees

* Past President
† Charter Board Member

COLUMBIA COLLEGE

MODESTO JUNIOR COLLEGE

Tuolumne County

Calaveras County

San Joaquin County

Stanslaus County

Santa Clara County

Area 1

Area 2

Area 3

COLLEGE STAFF
CERTIFICATED STAFF
(Date of District appointment follows name.)

DONALD L. ANDREWS (1977) Music
B.A., Stanford University, Stanford, CA
M.A., Stanford University
JOEL C. BARBER (1967) Art, Art History
B.A., Willamette University, Salem, OR
M.A., University of Oregon
PAUL K. BECKER (1971) Dean of Student Services
J.A., Western State College of Colorado
M.A., Stanford University
JOSHUA E. BIGELOW (1981) Physical Education
A.B., University of California, Berkeley
A.B., University of California, Berkeley
JOSHUA E. BIGELOW

ROBERT H. HAMILTON (1968) History, Political Science
A.A., University of California, Berkeley
B.A., Texas Technological University
M.A., University of California, Berkeley

ROD D. HARRIS (1979) Music
A.A., Fort Lewis Community College
B.A., Pacific Lutheran University
M.M., Pacific Lutheran University

TERRY J. HARRISON (1976) Physical Education
B.A., University of California, Berkeley
M.A., Mill City

JAMES R. HASTINGS (1973) Anthropology, Psychology
A.A., American River College
B.A., California State University, Sacramento

FRANCES V. HEGWINS (1974) Health Occupations
R.N., South Shores Hospital

FLOYD L. HOPPER (1976) Business
B.A., University of California, Long Beach

TOM G. HOLST (1974) Earth Science
A.B., Augsburg College
M.N., University of South Dakota

NANCY T. HORNBERGER (1976) Sociology
B.A., University of Rochester

GLORIA L. JACOBSON (1979) Health Occupations
B.S., Loma Linda University

A.A., Columbia College

DONALD A. JONES (1968) Biological Science
A.A., San Francisco City College

RICHARD L. DYER (1946) History, Political Science
A.A., Mount San Antonio College
B.A., La Verne College

ROBERT H. GIBSON (1970) Physical Education
A.A., Graceland College
B.A., Central College

ARLENE S. GIORDANO (1976) Psychology
A.B., Hunter College
M.A., University of California, Berkeley

JOHN L. LAUGHLIN (1962) English
A.A., Shasta College
B.A., California State University, Chico

PAUL W. LOCKMAN (1981) Director of EOPS and Disabled Student Programs
A.A., Fresno City College

JERRY D. LYNCH (1962) Business
B.A., University of Texas

ROBERT L. MCDONALD (1949) Mathematics, Physics
A.A., San Mateo College
B.S., California Polytechnic University, Pomona
M.A., California State Polytechnic University, Pomona

JAMES ROBERT MENDONSA (1981) Search and Rescue
B.A., California State College, Stanislaus
M.A., California State University, San Francisco

JOHN C. MINOR (1979) English
B.A., Lassen College
M.A., University of Washington

CHESTER H. PALMER (1956) Business
A.A., University of Arizona

FRANK E. PECK (1969) Computer Science
A.A., College of San Mateo
B.S., California State University, San Francisco

JAMES R. PERKINS (1974) Drama
B.A., California State University, San Jose
M.A., University of Washington

MELBORN N. SIMMONS (1969) Mathematics
B.S.E., Benedictine State College
M.S., University of Arizona

TERRY L. SMITH (1968) Fire Science
A.A., Miramar Community College

JAMES ROBERT MENDONSA

L. CRAIN (1976) Business

DAVID B. HARRIS (1970) Business

RONALD L. ERICKSON (1981) Credit Officer
M.A., California State College, Fresno

A.A., College of San Mateo

ROBERT H. GIBSON (1970) Physical Education

WALTER L. LEINEN (1968) Speech
B.S., California State University, Sacramento

RAYMOND D. LIEBLICH (1981) Dean of Instruction
B.A., Bowling Green State University
M.A., California State University, Los Angeles

ROBERT L. MCDONALD


LINDEN C. GRANS (1959) Drama

LAUREL M. GRANDY (1981) Counseling

RUTH O. HAGSTROM (1973) Accounting

JOSEPHINE N. HALL (1974) Counseling

WENDY L. GRIFFITHS (1981) Accounting

NELSON M. HENDY (1974) Performing Arts

SARAH M. HILL (1974) Counseling

ANNELIESE S. GIORDANO

TERRY J. HARRISON

JAMES ROBERT MENDONSA

JOHN L. LAUGHLIN

JOHN L. LAUGHLIN

WALTER L. LEINEN

RAYMOND D. LIEBLICH

PAUL W. LOCKMAN

ROBERT L. MCDONALD
STEVEN A. KOEHLER (1981)  Instructional Aide, Heavy Equipment
KENNETH R. LUCAS (1967)  Supervisor, Transportation/Grounds
WILLIAM L. LUCE (1976)  Custodian
DOROTHY A. MAECHLER (1981)  Accompanist/ Instructional Aide, Music
PAULA A. MAUCERE (1979)  Instructional Aide, Learning Disabilities Center
ANDREW B. MAURER (1976)  Graphic Artist, Instructional Materials Center
NEIL A. MILL (1975)  Instructional Aide, Social Sciences
LUIS C. RAMIREZ (1970)  Supervising Custodian
DAVID A. RICHMOND (1975)  Electronics Technician, Instructional Materials Center
RONALD R. ROACH (1970)  Photographer, Instructional Materials Center
JOHN R. ROSS (1970)  Director, Instructional Materials Center
MARGARET A. SCIARONI (1975)  Coordinator of College Re-entry and Student Placement
JILL L. SOUTHARD (1982)  Instructional Aide, Physical Education
ROY D. TENNANT (1980)  Media Assistant, Library
PATRICIA C. THOMAS (1972)  Account Clerk, Business Services
CAROL A. VAUGHN (1974)  Switchboard Operator/ Typist Clerk, Instructional Materials Center
BERNICE A. WADDELOW (1970)  Secretary, Dean of Instruction
CHRISTINE M. WALKER (1978)  Instructional Aide, Learning Skills
ARLENE F. WALLACE (1968)  Secretary, President
CAROL R. WIVELL (1972)  Manager, Bookstore
JAMES B. WOOD, SR. (1977)  Custodian
DONALD W. WRIGHT (1971)  Utility Worker
MELINDA G. WRIGHT (1975)  Instructional Aide, Learning Skills
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 each student in opportunities for developing his/her capabilities to become a useful and contributing member of society. This objective will be accomplished through a living, dynamic and continuing 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 best be 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 committed to continuous planning, development, and evaluation. It shall seek and expect constant improvement in 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 number of students enrolled each quarter, with a full-time equivalent student body of 1800.

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 each student in opportunities for developing his/her capabilities to become a useful and contributing member of society. This objective will be accomplished through a living, dynamic and continuing 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.

Programs

The College offers courses designed to meet the diverse interests, needs, educational needs, and vocational needs of its students. Vocational education is an integral part of the total educational program for preparing students for entry employment in such fields as business administration, secretarial work, diesel technology and auto mechanics, nursing, fire technology, forestry and natural resources, hospitality management, computer science and many other fields.

In response to the specific needs and personal interests of the older adults, the Columbia College Adult Education Program, Involvement for Seniors (C.C.I.F.S.) Program offers courses especially designed to meet their needs. Classes are offered at various locations throughout the community during the day for the convenience of the older adults and retired members of the community.

Cultural enrichment is offered through courses in art, literature, humanities, foreign languages, instrumental and vocal music, drama and speech. Performance by dance, drama, and musical groups is part of the cultural events offered to the community. Those who wish to broaden their horizons, to become more aware of themselves and the world about them, or to improve their home environment will be drawn to offerings in health education, consumer education, psychology, child development, sociology, speech, conservation, useful and edible plants, science today, art appreciation, the metric system and physical activities.

All students are encouraged to become active participants in the college community activities such as student government, athletics, art shows, music, drama, journalism and tutoring.

Certain courses are designed to assist the individual in personal development. These include, among others, effective study skills, improvement in reading, writing, mathematics and general problem solving skills, personal awareness, job employment skills, personal awareness, inquiry into self values.

Adult and Continuing Education

Columbia College is committed to meeting the educational needs of adults in our community. Through the Continuing Education Program a variety of credit and non-credit courses are offered which fulfill requirements leading to an A.A. or A.S. Degree, a high school equivalency diploma, or an assortment of vocational certificates. Most of these courses are offered during the evening at locations both on and off campus. Columbia College is design-
high school district of residence, stating the classes he/she is allowed to attend. 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
The Columbia College Community Services program is a response of the College to meet challenges of our society. Community Services provides that phase of the educational, recreational, and cultural program which lies beyond formalized classroom instruction. Meeting challenges such as the complexities of leisure time, cultural needs, economic and technological change, and minority group problems require unique programs. Ways constantly are sought to discover and respond to community needs. Community Service sponsors many programs including public lectures, forums, concerts, art exhibits, and film series; a speakers' bureau which offers speakers 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
Columbia College does not discriminate on the basis of race, sex, physical handicap, religion, color, creed, national origin, or age in any of its educational and employment programs, activities, policies, practices, and procedures.

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. 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 and presents a proper permit from that district (if required by interdistrict agreement). If the district of residence does not issue a permit, the student may elect to pay the cost of instruction. (See Admission of Nonresident Students.)
3. Is a legal resident of another community college district and presents a proper permit from that district.
4. Is a legal resident of another California high school district not affiliated with a community college district.
5. Is a legal resident of California for one year prior to the opening date of the quarter. A minor's residence is the same as that of his/her legal guardian.
6. Is an international student who complies with special admission requirements and pays the non-resident fee.

Admission of Nonresident Students
Columbia College accepts students who are residents of other states if they meet all admission requirements. An adult is a non-resident if he/she has not resided in California for one year prior to the opening date of the quarter. A minor's residence is the same as that of his/her parents or legal guardian.

Residency determination dates for 1982-83 are September 20, 1982, for Fall Quarter; January 3, 1983, for Winter Quarter; and March 28, 1983 for Spring Quarter.

Nonresidents of California, including international students, are required to pay an out-of-state tuition fee of $59.00 per unit. Tuition refunds are based on the following schedule: before or during week in which instruction begins, 100 percent; second week of instruction, 50 percent. No refund permitted after the second week of instruction. Questions regarding determination of residency should be referred to the Admissions and Records Office.

Interdistrict Attendance Permits
Yosemite Community College District maintains a free exchange of students with all community college districts in the State of California with the exception of San Joaquin Delta Community College District. San Joaquin Delta District residents (except those in Calaveras County) may contact San Joaquin Delta College to request a permit. Calaveras County residents and residents of any other California community college district may attend Columbia College without a permit. For further information, contact the Admissions and Records Office.

Admission Procedures
Students who desire admission to Columbia College are to complete and return application forms to the College Admissions and Records Office. Application forms are available from Columbia College, high school counselors in the Yosemite Community College District or may be obtained by writing to the College.

Before admittance, official transcripts for all previous college work must be received by the College. If no transcript is available due to withdrawal, an official letter stating this fact is required.

It is the student's responsibility to furnish the College with official documentation for previous college work or training to be evaluated for credit. These documents become the property of Columbia College. 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 start of the quarter. Early advisement is desirable 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 Schedule of Classes contains information regarding registration dates and special instructions for registering in classes.

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 continuation 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 the third week of May for admission to the following Fall Quarter:

1. Submit official transcripts, translated into English, of all high school and college work attempted.
2. Furnish one letter of recommendation, translated into English, from a former teacher.
3. Take a TOEFL test if from a non-English speaking country. Results of the test are to be forwarded to Columbia College. No other testing is required.
4. Have a physician complete a Report of Medical History and Health Evaluation including a tuberculin clearance examination. The report shall be in English and returned to the College.
5. Furnish evidence of a health and accident insurance policy.
6. Furnish evidence of satisfactory financial support. This may be accomplished by providing a written guarantee from the bank of a parent, relative or sponsor in the United States.
7. Pay tuition at the current rate of $59.00 per unit. International students must be full-time students (12 units minimum).
8. Students are responsible for making arrangements for their own housing and notifying the College of their local address.
9. There is no application fee.

Consideration for admission will be given only after all of the required information is on file. Upon acceptance for admission, the I-20 form will be mailed so that a Student Visa can be obtained.

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.
### STUDENT SERVICES

#### Student Orientation
An introduction to the College is provided for new incoming students at the time of their initial advisement appointment. Since this is a group orientation, students are encouraged to use this service to gain information concerning the College’s responsibility to the student, the student’s responsibility to the College, as well as to learn what student services are available. Academic procedures are discussed and the arrangement of the student’s first program of classes with the assignment of an advisor takes place at this orientation.

#### Counseling Services
Counselors are available to all students during the day and on selected evenings by appointment or drop-in basis. Counseling is provided by specialized and trained personnel to assist students with academic planning, determining vocational goals and resolving personal and social problems. 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 a faculty person to discuss educational objectives, plan an academic program, gain assistance in registration procedures, evaluate academic progress or gain referral to counselors and other sources concerning personal or academic problems related to the college experience. College advisors are assigned on the basis of the student’s program of study. Scheduled student-advisor conferences are held prior to the beginning of each quarter to allow continuing students an opportunity to plan an academic program for the next quarter. Students are encouraged to confer with their advisor at any time.

#### Testing Services
The College offers testing services to students requiring evaluation of their academic potential, occupational interests, or general ability. Students may be referred for individual or group testing by instructors, advisors, or counselors. Testing services also are available through the counselors upon individual student request. Columbia College serves as a General Educational Development (GED) Testing Center to provide tests of high school equivalency.

#### Services for Disabled Student
The Disabled Student Services Program is designed to open the door to educational opportunities for students with disabilities. The College has made changes in design so as to offer the disabled student access to instructional components of the College.

#### Privacy Rights of Students
All student records of 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 rights to access and challenge. Written student consent is needed for release or review of student records to all parties or officials except for those specifically authorized access under the Act.


#### Student Records Regulations
Student information designated as public directory information may be released at the discretion of the College at 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 field 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 54618 of the California Administrative Code.

The College may grant access to individual student records.

### STUDENT SERVICES

| Students who have a physical, communication, or learning disability and need special services and/or equipment are asked to contact the Disabled Student Services office in the lower level of the Learning Resource Center. Academic advising and personal counseling are available along with the following special services: on-campus transportation, mobility assistance, academic tutoring, interpreters assistance in locating readers, notetakers, testing and other services based on student needs.
| In addition to Columbia College's regularly scheduled classes, programs and services, there are selected classes that are specially adapted to the needs of the disabled students, such as the Adaptive Physical Education Class. |

### 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.

### Privacy Rights of Students

All student records of 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 rights to access and challenge. Written student consent is needed for release or review of student records to all parties or officials except for those specifically authorized access under the Act.


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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 54618 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 54620 and 54622 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 Handbooks are issued 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 will be 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.

Student Identification Cards
Student Identification Cards will be issued at the time of registration. Student Identification Cards are required for checking out library books and audio visual equipment and materials. Students who do not receive Student Identification Cards at registration may obtain them in the College Library.

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 career information system. Students may be referred to counselors for assistance.

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

Financial Aid
Students who need financial assistance to defray college expenses may be eligible for funds under the College Work Program, Educational Opportunity Grants, National Direct Student Loans, or Extended Opportunity Programs and Services (EOPS). These funds are administered by the College Financial Aid Office and EOPS Office.

Applications for the above funds are required to determine financial need. These are available in the Financial Aid Office.

Applications for applying for Federally Insured Student Loans and California Guaranteed Student Loans may also be obtained in the Financial Aid Office. Receipt of financial aid is contingent on student’s eligibility and availability of funds. To comply with federal regulations, a detailed publication regarding financial aid is available in the College Financial Aid Office, Admissions and Records Office and College Library.

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, and/or participation in extra curricular activities including employment and/or homemaking. Special awards are available for students majoring in Fire Technology, 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 a four-year college or university.

When a student applies for a specific scholarship or award at the beginning of the Spring 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 MONEYBOOK brochure, containing detailed information about the Scholarship Program, is available in the Student Services 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.

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 information form. 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. Illness 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.

Veterans Affairs
Students who are eligible to apply for Federal and State educational benefits for 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 educational benefits should contact the above office at least 6-8 weeks prior to the beginning of the term. Veteran students are required to notify the Veteran Affairs Office of any changes in their program during 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, dramas, campus involvement, 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 may serve as advisors to foster and help the student. The College is closed weekends and school holidays.

All students are members of the Associated Students of Columbia College and they in turn develop a student government. Student Government is a representative group of students which is responsible for the conduct of 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, volleyball and tennis. To be eligible to participate in intercollegiate athletics, a student must be enrolled in at least 12 units of credit.

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.

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 $100 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 250 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.
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.

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

Prerequisites may be waived with the Dean of Instruction's permission 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)
IP - In Progress (Did not meet course objectives; recommend re-enrollment in class.)
RD - Report Delayed
O - Ungraded Class

Grading Scale
Columbia College uses the following system of grade points appraising the student's level of achievement:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
</tr>
<tr>
<td>W</td>
<td></td>
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<tr>
<td>I</td>
<td></td>
</tr>
<tr>
<td>CR</td>
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<tr>
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<tr>
<td>IP</td>
<td></td>
</tr>
<tr>
<td>RD</td>
<td></td>
</tr>
</tbody>
</table>

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

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

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

Total = 40 grade points

GPA = 40 grade points

16 units attempted

The result in this example is a GPA of 2.50.

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

At the time of publication of this catalog, the Board of Governors of the California Community Colleges was reviewing the existing statewide grading system and may recommend changes. The College will make every effort to inform students of any changes, but reserves the right to amend this system accordingly.
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 these 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 be 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 awarded. 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 remitting credit earned 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. Any Grade "F" 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.

99/199. 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) have completed 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 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 quarter's first week of classes. (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 elect no later than the end of the first 30 percent of the course whether the basis for evaluation is to be Credit/No Credit or letter grade. The instructor has the privilege of selecting Credit/No Credit option at any time during the quarter due to extenuating circumstances. With the exception of Work Experience courses, a maximum of 50 quarter units of Credit/No Credit coursework may be granted. Credit for a course in which "CR" was earned may be converted to a letter grade by repeating the course or challenging the course by examination. CR/NC units are not computed in determining the student's GPA nor can they be applied toward the major. At the time of publication of this catalog, the Board of Governors of the California Community College was reviewing the existing statewide grading system and may recommend changes. The fourth week of the quarter will make every effort to inform students of any changes, but reserves the right to amend this system accordingly.

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 regular courses of instruction. The intent of this provision is to: (1) enable students to pursue courses of study at an accelerated rate and to encourage independent study, and (2) recognize training or experience for which credit or advanced standing was not previously granted.

CONDITIONS
Only Columbia College courses may be challenged by examination. A maximum of 30 units may be earned by Credit by Examination. Credit granted by examination at accredited colleges will be accepted; such credit will be included in the maximum allowed by examination. In order to challenge a course for credit, a student must: (1) register in Columbia College and enrolled in the course which is being challenged. (2) have completed at least 15 quarter units of work in residence. (3) have a cumulative Grade Point Average of 2.0 ("C" average). A student who fails to meet condition (2) or (3) above but feels it should be waived in his/her case may request a waiver from the instructor of the course and the Dean of Student Services.

PROCEDURE
The student must make arrangements for credit by examination with the individual instructor, who, on approval, will outline the challenge requirements and schedule the examination. If the student passes his/her examination, the grade will be recorded on his/her record at the end of the quarter.

PREVIOUSLY EARNED CREDITS
College Credit
Previously earned lower division college or university units will be accepted if the institution was accredited by a recognized accrediting association when the student was in attendance. A maximum of 15 quarter units will be allowed for courses taken by correspondence from accredited institutions.

Credit for Military Service
Armed forces personnel or veterans with a minimum of one year of satisfactory service may receive: (1) Three quarter units and waive P.E. requirement for graduation. (2) Credit for military service schools in accordance with credit for military courses as published by the American Council on Education. (3) Credit for certain USAF lower division college-level courses. Provisions for granting credit to armed forces personnel and veterans are subject to the following conditions:

At least 15 quarter units of work must be completed at Columbia College before a student may receive credit.

Credit will not be granted for military service or military service schools where comparable units have been earned in courses previously taken.

The maximum credit allowable is 30 ungraded quarter units.

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 complete all course 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.

Final grades are considered permanent and may be changed by the instructor only in case of error.

Scholastic Honors
Graduating students who have earned a cumulative Grade Point Average of 3.75 or better in all college work are awarded the Associate Degree With Distinction. Students whose cumulative Grade Point Average is between 3.50 and 3.74 are awarded the Associate Degree Without Honors.

Each quarter a list of student names is published to recognize scholarship in at least 12 attempted units of work. Classes taken for CR/NC are not included in attempted units. Students whose Grade Point Average is between 3.30 and 3.74 are acknowledged on the Dean's list. Students whose Grade Point Average is between 3.75 and
4.0 are recognized as Scholars of Distinction by the President and are acknowledged on the President’s list.

Scholarship Reports
Grade reports are made after the end of each quarter. If the student wishes to obtain a current progress report, he/she should initiate such a request in the Admissions and Records Office.

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 on page 21. 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 conditions:

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 consecutive quarters enrolled and who 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 continuance in college 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 the Dean of Student Services to waive the one quarter period of disqualification.

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 to create the broader concept of personal honor 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 discriminate 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 so that a grade of “W” may be recorded on the permanent record.

Instructional Materials and Breakage Fees
In some classes, instructional materials and breakage fees must be borne by students. Generally, these fees are assessed in those classes where the materials are 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. All fees are due at the time of registration. These fees are indicated in the class schedule for each quarter.

Refund Schedule
Materials fees are refundable as follows:

100 percent if class is cancelled by the College or the student withdraws from the class prior to the second class meeting.

50 percent of the fee will be refunded prior to the third class meeting.

No refunds will be given after the third class meeting. Students eligible for refunds must obtain a drop card signed and dated by the instructor and submit the card to the Admissions and Records Office for refund.
CREDENTIALS, DEGREES, TRANSFERS

CERTIFICATES, DEGREES, TRANSFERS

Columbia College awards the Associate in Arts and the Associate in Science degrees in accordance with requirements outlined on page 34. 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. Certificate programs 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, 1982, the following certificate requirements are valid through the 1985-86 academic year. A student taking more than four (4) years 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
- Forestry Technology
- Heavy Equipment
- Truck Repair
- Hospitality Management
- Food Service Technology
- Hotel Management
- Human Services
- Criminal Justice
- Disabled
- Gerontology
- Social Welfare
- Natural Resources
- Interpretation
- Natural Resources Technology
- Office Occupations
- Clerk Typist
- General Clerk
- Legal Secretary
- Medical Transcription
- Secretarial
- Real Estate
- Search and Rescue
- Teacher Aide
- Vocational Nursing

WORK EXP. 98

Following are the specific requirements for the certificate programs listed above. Completion of certain certificate programs may necessitate attending classes during evening only or a combination of both day and evening classes.

AUTOMOTIVE TECHNOLOGY

<table>
<thead>
<tr>
<th>REQUIRED COURSES:</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto. Tech. 101 Intro. to Auto Technology</td>
<td>2</td>
</tr>
<tr>
<td>Auto. Tech. 103 Preventive Maintenance</td>
<td>2</td>
</tr>
<tr>
<td>Auto. Tech. 112 Pulling and Installing Engines</td>
<td>2</td>
</tr>
<tr>
<td>Auto. Tech. 116 Engine Rebuilding</td>
<td>3</td>
</tr>
<tr>
<td>Auto. Tech. 117A Fuel System</td>
<td>2</td>
</tr>
<tr>
<td>Auto. Tech. 117B Emission Control</td>
<td>2</td>
</tr>
<tr>
<td>Auto. Tech. 119 Gasoline Engine Tune-up</td>
<td>2</td>
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<tr>
<td>Auto. Tech. 120 Manual Transmission Rebuilding</td>
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<tr>
<td>Auto. Tech. 124 Axles and Drive Lines</td>
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<tr>
<td>Auto. Tech. 125C Automatic Transmission - GM</td>
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<td>Auto. Tech. 128 Automatic Transmission - Ford</td>
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<tr>
<td>Auto. Tech. 140A Brakes - Drum</td>
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<tr>
<td>Auto. Tech. 140B Brakes - Disc</td>
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<tr>
<td>Auto. Tech. 144A Front End and Suspension</td>
<td>2</td>
</tr>
<tr>
<td>Auto. Tech. 144B Front End and Suspension</td>
<td>2</td>
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<tr>
<td>Auto. Tech. 150A Electrical Theory</td>
<td>2</td>
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<tr>
<td>Auto. Tech. 150B Charging System</td>
<td>2</td>
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<tr>
<td>Auto. Tech. 150C Starting and Ignition System</td>
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</tr>
<tr>
<td>Auto. Tech. 150D Lighting and Chassis Electrics</td>
<td>2</td>
</tr>
<tr>
<td>Auto. Tech. 170A Practical Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>Auto. Tech. 170B Practical Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>Heavy Equip. 114 Machine Shop Procedures</td>
<td>2</td>
</tr>
</tbody>
</table>

TOTAL REQUIRED UNITS 46

BÚSINESS ADMINISTRATION

MANAGEMENT

<table>
<thead>
<tr>
<th>REQUIRED COURSES:</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus. Ad. 100 Principles of Business</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ad. 115A Commercial Law</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ad. 115B Commercial Law</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ad. 122 Principles of Marketing</td>
<td>5</td>
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<tr>
<td>Bus. Ad. 130A Principles of Accounting</td>
<td>4</td>
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<tr>
<td>Bus. Ad. 130B Principles of Accounting</td>
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<td>Bus. Ad. 130C Principles of Accounting</td>
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<td>Bus. Ad. 61 Small Business Accounting</td>
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<td>Bus. Ad. 140 Principles of Management</td>
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<td>Bus. Ad. 150 Small Business Management</td>
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<td>Econ. 101A Principles of Economics</td>
<td>5</td>
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<tr>
<td>Econ. 181B Principles of Economics</td>
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<tr>
<td>Off. Oc. 68 Business Correspondence</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL REQUIRED UNITS 40-47

PROVEN COMPETENCY REQUIREMENT:

- Business Mathematics Examination or Bus. Ad. 61 Business Math | 4 |

RECOMMENDED OPTIONAL COURSES:

- Bus. Ad. 145 Retail Business Management | 4 |
- Work Exp. 98 Vocational Work Experience | Min. 4 |
### BUSINESS ADMINISTRATION RETAILING

**REQUIRED COURSES**
- Bus. Ad. 60a: Bookkeeping 
- Bus. Ad. 60b: Business Mathematics
- Bus. Ad. 61: Small Business Accounting
- Bus. Ad. 101: Principles of Business
- Bus. Ad. 115a: Commercial Law
- Bus. Ad. 120: Principles of Marketing
- Bus. Ad. 123: Sales
- Bus. Ad. 125: Advertising & Display Promotion
- Bus. Ad. 155: Retail Business Management
- Econ. 101a: Principles of Economics
- Econ. 101b: Principles of Economics
- Off. Oc. 48: Business Correspondence

**TOTAL REQUIRED UNITS 39-44**

### PROVEN COMPETENCY REQUIREMENTS:
- Business Mathematics Examination or Bus. Ad. 40
- Reading Examination or Skills 50 Basic Reading (or English 51 or 101a)
- Typing Examination or Off. Oc. 50 Personal Typing (or Off. Oc. 101)
- Writing Examination or Skills 70 Writing Skills (or English 51 or 101a)
- Appropriate Summer Employment

### RECOMMENDED ADDITIONAL COURSES:
- Nat. Res. 122 Fire Ecology

**TOTAL REQUIRED UNITS 33**

### COMPUTER SCIENCE

**REQUIRED COURSES**
- Comp. Sci. 110: Computer Logic
- Comp. Sci. 120a: Computer Programming: Introductory
- Comp. Sci. 120b: Computer Programming: Intermediate
- Comp. Sci. 120c: Computer Programming: Advanced
- Comp. Sci. 127: Computer Programming: Pascal
- Comp. Sci. 140: Machine Language Programming
- Comp. Sci. 145: Computer Programming: Applications
- Comp. Sci. 150: Computers and Control
- Math 115: Matrix Mathematics

**TOTAL REQUIRED UNITS 33**

### FORESTRY TECHNOLOGY

**REQUIRED COURSES**
- Biol. 60: Natural History & Ecology
- Fire Sci. 117: Wildland Fire Control
- Fire Tech. 150a: Intro. to Technical Forestry
- Fire Tech. 53: Forest Surveying Techniques
- Fire Tech. 54: Tree & Plant Identification
- Fire Tech. 59: Forest Inventory
- Fire Tech. 62: Applied Forest Management
- Fire Tech. 79: Logging Equipment
- Nat. Res. Tech. 60: Aerial Photo & Map Interpretation
- Nat. Res. Tech. 81: California Wildlife
- Nat. Res. Tech. 83: California Wildlife

**TOTAL REQUIRED UNITS 43**

### HEAVY EQUIPMENT AND TRUCK REPAIR

**REQUIRED COURSES**
- Arch. Tech. 150a: Technical Theory
- Auto Tech. 150b: Charging Systems
- Auto Tech. 150c: Starter Systems
- Auto Tech. 150d: Lighting and Chassis Electrics
- Hvy. Equip. 111a: Diesel Engine Rebuilding-Caterpillar
- Hvy. Equip. 111b: Diesel Engine Rebuilding-Detroit
- Hvy. Equip. 111c: Diesel Engine Rebuilding-Cummins
- Hvy. Equip. 111d: Diesel Engine Tune-up-Caterpillar
- Hvy. Equip. 111e: Diesel Engine Tune-up-Detroit
- Hvy. Equip. 111f: Diesel Engine Tune-up-Cummins
- Hvy. Equip. 113: Tractor Power Trains
- Hvy. Equip. 140: Heavy Duty Brake Systems
- Hvy. Equip. 142: Tractor Undercarriage
- Hvy. Equip. 155: Hydraulic Systems
- Hvy. Equip. 170a: Practical Maintenance Lab
- Hvy. Equip. 170b: Practical Maintenance Lab
- Weld. Tech. 101: Introduction to Welding
- Weld. Tech. 132: Attachment Repairs

**TOTAL REQUIRED UNITS 60**

### HOSPITALITY MANAGEMENT

**FOOD SERVICE TECHNOLOGY**

**REQUIRED COURSES**
- Health Ed. 121: Nutrition
- Hosp. Mgmt. 101: Introduction to Hospitality Industry
- Hosp. Mgmt. 103: Marketing of Hospitality Services
- Hosp. Mgmt. 130: Food Service Management
- Hosp. Mgmt. 131: Dining Room Service
- Hosp. Mgmt. 135: Commercial Baking
- Hosp. Mgmt. 137: Buffet Catering
- Hosp. Mgmt. 138: Family Restaurant Service
- Hosp. Mgmt. 140a: Classical Cuisine: Beginning
- Hosp. Mgmt. 140b: Classical Cuisine: Intermediate
- Hosp. Mgmt. 140c: Classical Cuisine: Advanced
- Hosp. Mgmt. 154: Meat Analysis

**TOTAL REQUIRED UNITS 44**

### HUMAN SERVICES

**CRIMINAL JUSTICE**

**REQUIRED COURSES**
- Law Enforce 100: Intro. to Admin. of Justice
- Law Enforce 102: Prin. & Proc. of the Justice System
- Law Enforce 112: Juvenile Procedures
- Psychology 101a: General Psychology
- Psychology 103: Social Psychology
- Psychology 120: Interpersonal Growth
- Psychology 130: Personal and Social Adjustment
- Sociology 101: People in Groups
- Sociology 120: Deviance and Conflict
- Sociology 140: Human Services
- Sociology 141: Human Services Laboratory

**TOTAL REQUIRED UNITS 45**

### HUMAN SERVICES - DISABLED

**REQUIRED COURSES**
- Physical Ed. 105: Personal Fitness Concepts & Evaluation
- Physical Ed. 167: Theory & Practice of Adaptive P.E.
- Physical Ed. 167: Introduction to Adult Fitness
- Physical Ed. 172: Multi-Phase Fitness Testing Program
- Physical Ed. 173: Personal Fitness Training
- Psychology 101a General Psychology
- Psychology 120 Interpersonal Growth
- Psychology 125 Biofeedback and Self-Control
- Psychology 130: Personal and Social Adjustment
- Sociology 101: People in Groups
- Sociology 110: Deviance and Conflict
- Sociology 140: Human Services
- Sociology 141: Human Services Laboratory

**TOTAL REQUIRED UNITS 47-48**

### HUMAN SERVICES - GERONTOLOGY

**REQUIRED COURSES**
- Health Ed. 35: Cardiac Pulmonary Resuscitation
- Health Ed. 101: Consumer Health
- Physical Ed. 171: Multi-Phase Fitness Testing Program
- Physical Ed. 173: Personal Fitness Training
- Psychology 101a General Psychology
- Psychology 120 Interpersonal Growth
- Psychology 130: Personal and Social Adjustment
- Sociology 101: People in Groups
- Sociology 140: Human Services
- Sociology 141: Human Services Laboratory
- Sociology 127 Aging
- Sociology 128 Death and Dying
- Sociology 130: Aging
- Sociology 140: Human Services
- Sociology 141: Human Services Laboratory
- Sociology 147 Death and Dying

**TOTAL REQUIRED UNITS 44-45**

### HUMAN SERVICES - SOCIAL WELFARE

**REQUIRED COURSES**
- Psychology 101a General Psychology
- Psychology 120 Interpersonal Growth
- Psychology 130: Personal and Social Adjustment
- Sociology 140: Human Services
- Sociology 141: Human Services Laboratory
- Sociology 146 Family, Marriage, and the Individual
- Sociology 147 Death and Dying
- Sociology 148: Human Services
- Sociology 149: Human Services Laboratory
- Sociology 157 Aging
- Sociology 158 Death and Dying
- Sociology 159: Human Services
- Sociology 160: Human Services Laboratory
- Sociology 161: Human Services

**TOTAL REQUIRED UNITS 46**

### RETAILING

**REQUIRED COURSES**
- Bus. Ad. 40: Business Mathematics
- Hosp. Mgmt. 101: Introduction to Hospitality Industry
- Hosp. Mgmt. 103: Marketing of Hospitality Services
- Hosp. Mgmt. 110: Office Management/Proced. of the Justice System
- Hosp. Mgmt. 111: Law of Interpreting
- Hosp. Mgmt. 114: Intro to Maintenance and Housekeeping
- Hosp. Mgmt. 120: Hotel Catering
- Hosp. Mgmt. 130: Food Service Management
- Hosp. Mgmt. 130: Tours

**TOTAL REQUIRED UNITS 31**

### RECOMMENDED ADDITIONAL COURSES:
- Bus. Ad. 60a: Bookkeeping
- Bus. Ad. 60b: Bookkeeping or Accounting
- Bus. Ad. 10a: Accounting
- Off. Oc. 136: Electronic Printing Calculators

**TOTAL REQUIRED UNITS 44**
### Natural Resources Technology

**Required Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>Bio 60</td>
<td>Natural History &amp; Ecology</td>
<td>3</td>
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<tr>
<td>Geo 25</td>
<td>Geology of National Parks</td>
<td>4</td>
</tr>
<tr>
<td>Env 91</td>
<td>Wildlife Control</td>
<td>4</td>
</tr>
<tr>
<td>For 35</td>
<td>Intro. to Technical Forestry</td>
<td>4</td>
</tr>
<tr>
<td>For 36</td>
<td>Forest Surveying Techniques</td>
<td>4</td>
</tr>
<tr>
<td>For 38</td>
<td>Tree &amp; Plant Identification</td>
<td>3</td>
</tr>
<tr>
<td>Bio 130</td>
<td>California Wildlife</td>
<td>4</td>
</tr>
<tr>
<td>Bio 132</td>
<td>California Wildlife</td>
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<tr>
<td>Env 190</td>
<td>California Wildlife</td>
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**Total Required Units:** 39-44

### Natural Resources Technology

**Required Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>Bio 60</td>
<td>Natural History &amp; Ecology</td>
<td>3</td>
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<tr>
<td>Geo 25</td>
<td>Geology of National Parks</td>
<td>4</td>
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<tr>
<td>Env 91</td>
<td>Wildlife Control</td>
<td>4</td>
</tr>
<tr>
<td>For 35</td>
<td>Intro. to Technical Forestry</td>
<td>4</td>
</tr>
<tr>
<td>For 36</td>
<td>Forest Surveying Techniques</td>
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<tr>
<td>For 38</td>
<td>Tree &amp; Plant Identification</td>
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<tr>
<td>Bio 130</td>
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<tr>
<td>Bio 132</td>
<td>California Wildlife</td>
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<tr>
<td>Env 190</td>
<td>California Wildlife</td>
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**Total Required Units:** 39-44

### Office Occupations

**General Clerk**

**Required Courses:**

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<th>Course Title</th>
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<tr>
<td>Bus 63</td>
<td>Business Mathematics</td>
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<tr>
<td>Bus 60a</td>
<td>Bookkeeping</td>
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<tr>
<td>Bus 60b</td>
<td>Electronic Typing</td>
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<tr>
<td>Bus 61</td>
<td>Small Business Accounting</td>
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<tr>
<td>Bus 130a</td>
<td>Accounting</td>
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<tr>
<td>Bus 130b</td>
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**Total Required Units:** 27-33

**Medical Transcription**

**Required Courses:**

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<tbody>
<tr>
<td>Comp 105</td>
<td>Computers and Society</td>
<td>3</td>
</tr>
<tr>
<td>Bus 65</td>
<td>Business Correspondence</td>
<td>3</td>
</tr>
<tr>
<td>Bus 103</td>
<td>Intermediate Typing</td>
<td>3</td>
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<tr>
<td>Bus 104</td>
<td>Legal Office Procedures</td>
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<tr>
<td>Bus 105</td>
<td>Law Enforcement</td>
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**Total Required Units:** 28-29

**LEGAL SECRETARY**

**Required Courses:**

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<th>Course Code</th>
<th>Course Title</th>
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<td>Bus 60b</td>
<td>Bookkeeping</td>
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<td>Bus 60c</td>
<td>Business Correspondence</td>
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<tr>
<td>Bus 61</td>
<td>Small Business Accounting</td>
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</tr>
<tr>
<td>Bus 130b</td>
<td>Accounting</td>
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<tr>
<td>Bus 130c</td>
<td>Accounting</td>
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<tr>
<td>Bus 131b</td>
<td>Business Correspondence</td>
<td>5</td>
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<tr>
<td>Bus 134b</td>
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**Total Required Units:** 46-56

### Real Estate

**Required Courses:**

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<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
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<tr>
<td>Bus 60b</td>
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<td>Bus 60c</td>
<td>Business Correspondence</td>
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<tr>
<td>Bus 61</td>
<td>Small Business Accounting</td>
<td>5</td>
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<tr>
<td>Bus 130b</td>
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<td>Bus 130c</td>
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<td>Bus 131b</td>
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<td>Bus 134b</td>
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<tr>
<td>Bus 136b</td>
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**Total Required Units:** 34

### Search and Rescue

**Required Courses:**

<table>
<thead>
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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>S.A.R. 110</td>
<td>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>
<td>3</td>
</tr>
<tr>
<td>S.A.R. 134</td>
<td>Intro. to Tracking and Fiber Cutting</td>
<td>3</td>
</tr>
<tr>
<td>S.A.R. 118</td>
<td>Basic Survival Skills</td>
<td>3</td>
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<tr>
<td>S.A.R. 122</td>
<td>Wilderness Navigation</td>
<td>3</td>
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<tr>
<td>S.A.R. 126</td>
<td>Intro. to Non-Water Gps Techniques</td>
<td>3</td>
</tr>
<tr>
<td>S.A.R. 130</td>
<td>Introduction to Rescue Techniques</td>
<td>3</td>
</tr>
<tr>
<td>S.A.R. 132</td>
<td>Ascending and Descending Techniques</td>
<td>3</td>
</tr>
<tr>
<td>S.A.R. 134</td>
<td>Helicopter Oper. and Personnel Safety</td>
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</tr>
<tr>
<td>S.A.R. 136</td>
<td>Introduction to Litter Management</td>
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<tr>
<td>S.A.R. 146</td>
<td>Introduction to Swiftwater Rescue</td>
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**Total Required Units:** 30

**PLUS 4 UNITS from any of the other courses in the Search and Rescue curriculum**

**Total Required Units:** 34
## TEACHER AIDE

<table>
<thead>
<tr>
<th>COURSE</th>
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<tbody>
<tr>
<td>Teacher Aide 55a: Teacher Aide Training</td>
<td>3</td>
</tr>
<tr>
<td>Teacher Aide 55b: Teacher Aide Training</td>
<td>3</td>
</tr>
<tr>
<td>Teacher Aide 55c: Teacher Aide Training</td>
<td>3</td>
</tr>
<tr>
<td>Teacher Aide 65: Reading Fundamentals for Teacher Aides</td>
<td>3</td>
</tr>
<tr>
<td>English 101: Reading and Composition</td>
<td>3</td>
</tr>
<tr>
<td>Health Ed. 110: Safety and First Aid Education</td>
<td>3</td>
</tr>
<tr>
<td>History 117a: United States History</td>
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<tr>
<td>Psychology 101a: General Psychology</td>
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<tr>
<td>Speech 135: Effective Interpersonal Communication</td>
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<tr>
<td>Skills 60: Mathematics Skills</td>
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<tr>
<td><strong>TOTAL REQUIRED UNITS</strong></td>
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## VOCATIONAL NURSING

<table>
<thead>
<tr>
<th>COURSE</th>
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<tbody>
<tr>
<td>Health Oc. 110: Intro. to Vocational Nursing</td>
<td>5</td>
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<tr>
<td>Health Oc. 113a: Anatomy &amp; Physiology for Voc. Nurses</td>
<td>5</td>
</tr>
<tr>
<td>Health Oc. 113b: Anatomy &amp; Physiology for Voc. Nurses</td>
<td>5</td>
</tr>
<tr>
<td>Health Oc. 115: Maternity Nursing</td>
<td>3</td>
</tr>
<tr>
<td>Health Oc. 118: Pharmacology for Voc. Nurses</td>
<td>2</td>
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<tr>
<td>Health Oc. 120a: Effects of Medication</td>
<td>2</td>
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<tr>
<td>Health Oc. 120b: Effects of Medication</td>
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</tr>
<tr>
<td>Health Oc. 123: Pediatrics</td>
<td>3</td>
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<tr>
<td>Health Oc. 125a: Medical-Surgical Nursing</td>
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<tr>
<td>Health Oc. 125b: Medical-Surgical Nursing</td>
<td>5</td>
</tr>
<tr>
<td>Health Oc. 128: Community Health</td>
<td>3</td>
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<tr>
<td>Health Oc. 140a: Clinic</td>
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<td>Health Oc. 140b: Clinic</td>
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<tr>
<td>Health Oc. 140c: Clinic</td>
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<tr>
<td>Health Oc. 140d: Clinic</td>
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<td><strong>TOTAL REQUIRED UNITS</strong></td>
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## WELDING TECHNOLOGY

### GENERAL WELDING

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Mathematics 50: Basic Mathematics</td>
<td>2</td>
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<tr>
<td>Skills Dev. 60: Mathematics Skills</td>
<td>2</td>
</tr>
<tr>
<td>Weld. Tech. 101: Introduction to Welding</td>
<td>3</td>
</tr>
<tr>
<td>Weld. Tech. 110: Blueprint Reading for Welders</td>
<td>3</td>
</tr>
<tr>
<td>Weld. Tech. 130: Maintenance Welding</td>
<td>2</td>
</tr>
<tr>
<td>Weld. Tech. 132: Attachment Repair</td>
<td>2</td>
</tr>
<tr>
<td>Weld. Tech. 140: Welding Non-Ferrous Metals</td>
<td>2</td>
</tr>
<tr>
<td>Weld. Tech. 145: Metal Fabrication</td>
<td>3</td>
</tr>
<tr>
<td>Weld. Tech. 160: Practical Laboratory</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL REQUIRED UNITS</strong></td>
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### PIPE WELDING

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<td>Weld. Tech. 101: Introduction to Welding</td>
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<tr>
<td>Weld. Tech. 110: Blueprint Reading for Welders</td>
<td>3</td>
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<tr>
<td>Weld. Tech. 130: Maintenance Welding</td>
<td>2</td>
</tr>
<tr>
<td>Weld. Tech. 132: Attachment Repair</td>
<td>2</td>
</tr>
<tr>
<td>Weld. Tech. 140: Welding Non-Ferrous Metals</td>
<td>2</td>
</tr>
<tr>
<td>Weld. Tech. 145: Metal Fabrication</td>
<td>3</td>
</tr>
<tr>
<td>Weld. Tech. 160: Practical Laboratory</td>
<td>2</td>
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## GRADUATION REQUIREMENTS

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<tr>
<td>Skills Dev. 60: Mathematics Skills</td>
<td>2</td>
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<tr>
<td>Weld. Tech. 101: Introduction to Welding</td>
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<td>Weld. Tech. 110: Blueprint Reading for Welders</td>
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<td>Weld. Tech. 132: Attachment Repair</td>
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<tr>
<td>Weld. Tech. 140: Welding Non-Ferrous Metals</td>
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<tr>
<td>Weld. Tech. 145: Metal Fabrication</td>
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<td>Weld. Tech. 160: Practical Laboratory</td>
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<tr>
<td><strong>TOTAL REQUIRED UNITS</strong></td>
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</tbody>
</table>
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 15 of the required units must be completed in residence at Columbia College.

For students entering Columbia College for the first time in Fall, 1982, the following graduation requirements are valid through the 1985-86 academic year. 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 minimum of 30 quarter units of study taken in a discipline or in related disciplines. (Major lists are available in the Admissions and Records Office or in the current college catalog.)

More than one Associate Degree may be granted to a student who has completed the applicable requirements as well as an additional 15 quarter units in residence.

GENERAL EDUCATION: Satisfactory completion of General Education Requirements selected from the courses listed below. Any course listed below which is taken to meet the Major Requirement may also be used to meet the General Education Requirement within the appropriate category.

NATURAL SCIENCES

A course must be completed from both Category A, Biological Sciences, and Category B, Physical Sciences.

A. BIOLOGICAL SCIENCES

Biology 60. Natural History and Ecology (3).
Biology 100. Biology and Contemporary Society (4).
Biology 110. Fundamentals of Biology (5).
Biology 120. Fundamentals of Plant Biology (5).
Health Occ. 111A. Anatomy and Physiology for Vocational Nurses (5).

B. PHYSICAL SCIENCES

Chemistry 100. Fundamentals of Chemistry (4).
Chemistry 101a. General Chemistry 1 (2).
Earth Science 141. Survey of Astronomy (2).
Earth Science 142. Descriptive Astronomy (3).
Earth Science 144. General Astronomy (4).

Earth Science 161. Survey of Meteorology (2).
Earth Science 171. Survey of Oceanography (2).
Physics 100. Modern Physics (3).

SOCIAL SCIENCES

One course must be completed from each category — A, American History and Institutions; B, Social Sciences; and C, Other Social Science Courses.

A. AMERICAN HISTORY AND INSTITUTIONS

History 117A. United States (5).
History 117B. United States (5).

B. SOCIAL SCIENCES

Anthropology 101a or 101b. Introduction to Anthropology (5)(5).
Psychology 101a. General Psychology (5).
Sociology 101. Introduction to Sociology (5).

C. OTHER SOCIAL SCIENCE COURSES

Anthropology 115. Indians of North America (5).
Geography 102. Introduction to Cultural Geography (5).
History 155. The American Frontier (4).
Psychology 130. Personal and Social Adjustment (5).
Psychology 145A or 145B, Developmental Psychology (4)(4).
Sociology 110. Deviance and Conflict (5).
Sociology 112. Family, Marriage, and the Individual (4).

HUMANITIES

One course must be completed from both Category A, Literature, History, and Philosophy, and Category B, Fine Arts.

A. LITERATURE, HISTORY AND PHILOSOPHY

English 101b. Reading and Composition (5).
English 117A or 117B or 117C. Literature of the United States (4)(4)(4).
English 146A or 146B. Survey of American Literature (4)(4).
History 104A or 104B or 104C. World Civilization (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).

B. FINE ARTS

Art 111A or 111B or 111C. History of Art (3)(3)(3).
Drama 102. Oral Expression and Interpretation (5).
Music 102. Introduction to Music (4).

LEARNING SKILLS (Basic Subjects)

One course must be completed from A, Communications; two courses must be completed from B, Computation Skills; and one course must be completed from C, Health Education/Physical Education.

A. COMMUNICATIONS

English 51. College Composition (4).
English 101a. Reading and Composition (5).
Office Oc. 65. Business English (3) and Office Oc. 68. Business Correspondence (3).

B. COMPUTATION SKILLS

Business Adm. 63, Business Mathematics (4).
Mathematics 55. Beginning Algebra (5).

C. HEALTH EDUCATION/PHYSICAL EDUCATION

P.E. activity classes (2 courses minimum) (P.E. 112, 116, 117, 119, 120, 130, 140, 150, 160 or 173A (4-5).

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.

COLUMBIA COLLEGE MAJORS

Following are the required patterns for completion of an academic major to fulfill the Associate Degree requirements of Columbia College. Each four-year college and university has its own requirements, and students who plan to transfer should examine the catalog of the transfer institution and plan accordingly. Students are encouraged to consult with a faculty advisor or counselor for assistance in program planning.

ART

REQUIRED COURSES: UNITS

Art 101 Freethinking Drawing........... (3)
Art 102a Design: Basic.................... (2)
Art 109a Life Drawing..................... (4)
Art 111a History of Art: Ancient & Medieval... (3)
Art 111b History of Art: Ren. & Baroque........ (3)
Art 111c History of Art: 19th & 20th Century.... (3)
Art 113a Ceramics: Introductory............ (3)

TOTAL 18.5

AND 8.5 UNITS FROM:

Art 121a Introductory Acrylic Painting........ (3)
Art 122a Introductory Oil Painting........... (3)
Art 123a Introductory Watercolor Painting...... (3)

TOTAL 21.5

ART PHOTOGRAPHY

REQUIRED COURSES: UNITS

Art 102a Design: Basic.................... (2)
Art 111c History of Art.................... (3)
Art 141a Photography: Beginning.............. (3)
Art 141b Photography: Intermediate......... (3)
Art 141c Photography: Advanced............. (3)
Art 142a Introduction to Color Photography... (3)
Art 142b Introduction to Color Photography... (3)
Art 148 Special Topics in Photography........ (3)
Art 149 Portfolio and Exhibition Preparation... (2)

TOTAL 25

AND AT LEAST 7 UNITS FROM:

Art 101 Freethinking Drawing........... (1.5-3)
Art 102b Design: Color.................... (2)
Art 102c Design: Structure................ (2)
Art 109a Life Drawing..................... (1.5-3)
Art 109b Life Drawing..................... (1.5-3)
Art 109c Life Drawing..................... (1.5-3)
Art 111a History of Art.................... (3)
Art 111b History of Art.................... (3)

TOTAL REQUIRED UNITS 32
### AUTOMOTIVE TECHNOLOGY

**REQUIRED COURSES:**
- Auto. Tech. 101 Intro. to Auto. Tech. .... 5
- Auto. Tech. 116 Engine Rebuilding .... 5
- Auto. Tech. 119 Fuel Systems .... 5
- Auto. Tech. 117b Emission Control .... 5
- Auto. Tech. 119 Exhaust Engine Tune-up .. 5
- Auto. Tech. 134 Aids and Drive Lines ... 5
- Auto. Tech. 136 Auto. Transmissions (GM) .. 5
- Auto. Tech. 140a Brakes (Drum) .... 5
- Auto. Tech. 144a Front-end and Suspension .. 5
- Auto. Tech. 150a Electrical Theory .... 5
- Auto. Tech. 150b Charging Systems .... 5
- Auto. Tech. 150c Starting & Ignition Systems .. 5
- Auto. Tech. 150d Lighting & Chassis Elec .. 5
- Heavy Equip. 114 Machine Shop Procedures .. 5

**TOTAL REQUIRED UNITS 33**

### BUSINESS CLERICAL

**REQUIRED COURSES:**
- Bus. Ad. 60a Bookkeeping .... 5
- Bus. Ad. 60b Bookkeeping .... 5
- Bus. Ad. 61 Small Business Acctg. .... 5
- Bus. Ad. 130a Accounting .... 4
- Bus. Ad. 130b Accounting .... 4
- Office Oc. 65 Business English .... 5
- Office Oc. 103 Intermediate Typing .... 3
- Office Oc. 107 Memory Typewriter .... 1
- Office Oc. 108 Electronic Typewriter .... 1
- Office Oc. 120 Filing Systems & Records Mgmt .... 3
- Office Oc. 132 Machine Transcription .... 3

**AND 6-11 UNITS FROM:**
- Bus. Ad. 86 Business Mathematics .... (4)
- Computer Sci. 105 Computers and Society ... (4)
- Office Oc. 68 Business Correspondence .... (3)
- Office Oc. 135 Ten-Key Adding Machines .... (1)
- Office Oc. 136 Electronic Printing Calculators .... (1)

**TOTAL REQUIRED UNITS 10**

### BUSINESS SECRETARIAL

**REQUIRED COURSES:**
- Office Oc. 68 Business Correspondence .... 3
- Office Oc. 103 Intermediate Typing .... 4
- Office Oc. 112a Intermediate Shorthand .... 4
- Office Oc. 112b Filing Systems & Records Mgmt .... 3
- Office Oc. 132 Machine Transcription .... 4

**AND 9 UNITS FROM:**
- Bus. Ad. 60a Bookkeeping .... 5
- Bus. Ad. 60b Bookkeeping .... 5
- Bus. Ad. 61 Small Business Acctg. .... 5
- Bus. Ad. 130a Accounting .... 4
- Bus. Ad. 130b Accounting .... 4
- Computer Sci. 105 Computers and Society .... (5)

**TOTAL REQUIRED UNITS 10**

### CHEMISTRY

**REQUIRED COURSES:**
- Chemistry 101 General Chemistry .... 5
- Chemistry 101b General Chemistry .... 5
- Chemistry 101c General Chemistry .... 5
- Chemistry 102a Principles of Chemistry .... (5)
- Chemistry 102b Principles of Chemistry .... (5)
- Chemistry 108b Chem. of Carbon Compounds .... 4

**AND 21 UNITS FROM:**
- Math 120a Calculus w/Analytic Geometry .... (5)
- Math 120b Calculus w/Analytic Geometry .... (5)
- Math 120c Calculus w/Analytic Geometry .... (5)
- Physics 120a General Physics .... (6)
- Physics 120b General Physics .... (6)
- Physics 120c General Physics .... (6)

**TOTAL REQUIRED UNITS 23**

### COMPUTER SCIENCE

**REQUIRED COURSES:**
- Computer Sci. 105 Computers and Society .... 4
- Computer Sci. 120 Machine Language Programming .... 3
- Computer Sci. 145 Computer Programming: Applications .... 3
- Computer Sci. 150 Computers and Control .... 3
- Mathematics 115 Matrix Mathematics .... 3

**TOTAL REQUIRED UNITS 33**

### COMPUTER SCIENCE

**REQUIRED COURSES:**
- Computer Sci. 105 Computers and Society .... 4
- Computer Sci. 120 Machine Language Programming .... 3
- Computer Sci. 145 Computer Programming: Applications .... 3
- Computer Sci. 150 Computers and Control .... 3
- Mathematics 115 Matrix Mathematics .... 3

**TOTAL REQUIRED UNITS 33**

### EARTH SCIENCE

**REQUIRED COURSES:**
- Earth Science 110 Intro. Physical Geology .... 1
- Earth Science 111 Rocks and Minerals .... 2
- Earth Science 112 Evolution—Water, Wind, Ice .... 2
- Earth Science 113 Mountains & Earthquakes .... 4
- Earth Science 125 Geology of National Parks .... 4
- Earth Science 133 Global Tectonics Geology .... 4
- Earth Science 139 Field Geology .... (1-3)
- Earth Science 142 Descriptive Astronomy .... (3)
- Earth Science 144 General Astronomy .... (4)
- Earth Science 149 Observational Astronomy .... (3)
- Earth Science 150 Survey of Meteorology .... 2
- Earth Science 171 Survey of Oceanography .... 2
- AND 6-9 UNITS FROM: TOTAL 21-24
- Comp. Sc. 120a Computer Programming .... (3)
- Earth Science 149 Observational Astronomy .... (3)
- Geography 101 Physical Geography .... (5)
- Nat. Res. Tech. 60 Aerol. Phot. & Map Intpr. .... (3)
- Nat. Res. 102 Property of Soils .... (4)

**TOTAL REQUIRED UNITS 30**

### ENGLISH

**REQUIRED COURSES:**
- English 101a Reading and Composition .... 5
- English 101b Reading and Composition .... 5
- AND AT LEAST 20 UNITS FROM: TOTAL 10
- English 110 Creative Writing .... (5)
- English 117a Literature of the U.S. .... (6)
- English 117b Literature of the U.S. .... (6)
- English 127c Literature of the U.S. .... (6)
- English 130 Survey of English Literature .... (6)
- English 146 English Lit. & Language .... (6)
- English 146c English Lit. & Language .... (6)
- English 149 California Literature .... (5)
- English 150 Introduction to Shakespeare .... (6)

**TOTAL REQUIRED UNITS 30**

### FIRE TECHNOLOGY

**REQUIRED COURSES:**
- Fire Tech. 101 Introduction to Fire Technology .... 3
- Fire Tech. 102 Fund. of Personal Fire Safety and Emergency Literature .... 4
- Fire Tech. 103 Fundamentals of Fire Protection .... 3
- Fire Tech. 104 Fund. of Fire Behavior and Control .... 3
- Fire Tech. 105 Fundamentals of Fire Prevention .... 3
- Fire Tech. 108 Firefighting Strategy & Tactics .... 3
- Fire Tech. 114 Fire Apparatus & Equipment .... 3
- Fire Tech. 117 Wildland Fire Control .... 3
- Fire Tech. 123 Fire Hydraulics .... 3
- Fire Tech. 130 Fire Protection Equip. and Syn. .... 3

**TOTAL REQUIRED UNITS 30**

### PHYSICS

**REQUIRED COURSES:**
- Physics 120a General Physics .... (6)
- Physics 120b General Physics .... (6)
- Physics 120c General Physics .... (6)

**TOTAL REQUIRED UNITS 19-20**

### BIOLOGY

**REQUIRED COURSES:**
- Biology 111 Principles of Biology .... 5
- Biology 121 Principles of Plant Biology .... 5
- Biology 131 Principles of Animal Biology .... 5

**TOTAL 15**

**A MINIMUM OF 6 UNITS FROM:**
- Biology 125 Plant Tc. of Sierra Nevada .... 6
- Biology 140 Intro. Human Anatomy .... 4
- Biology 151 The Territorial Environment .... (3)
- Biology 160a Intro. to Human Physiology .... (3)
- Biology 160b Intro. to Human Physiology .... (3)
- Biology 165a Microbiology .... (3)
- Biology 165b Microbiology .... (3)

**TOTAL 21**

### AND 3-5 UNITS FROM:**
- Chemistry 101 General Chemistry .... (5)
- Chemistry 101b General Chemistry .... (5)
- Chemistry 101c General Chemistry .... (5)
- Chemistry 102a Principles of Chemistry .... (5)
- Chemistry 102b Principles of Chemistry .... (5)
- Chemistry 108b Chem. of Carbon Compounds .... (4)

**TOTAL REQUIRED UNITS 30**
FORESTRY TECHNOLOGY

REQU ired Courses: UNITS
For. Tech. 59 Forest Inventory .......................... 5
For. Tech. 50 Intro. to Technical Forestry ................. 4
For. Tech. 52 Basic Forestry ............................ 4
For. Tech. 55 Forest Surveying Techniques ............... 3
For. Tech. 56 Tree & Plant Identification .................. 3
For. Tech. 110 Dendrology ................................ 4
TOTAL 15-18

AND 12-15 UNITS FROM:

Biology 60 Natural History & Ecology ..................... (3)
Fire 101 Intro. to Wild Fire Control ..................... (3)
For. Tech. 62 Applied Forest Management ................ (5)
Mathematics 50 Basic Mathematics ........................ (3)
Nat. Res. Tech. 52 Applied Wildlands Management ....... (3)
Nat. Res. Tech. 35 Inter. Guided Tours .................... (2)
Nat. Res. Tech. 60 Aerial Photo. & Map Interpretation .... (3)
Nat. Res. Tech. 63 Water for Consumption ................ (3)
Nat. Res. Tech. 81 California Wildlife .................... (3)
Nat. Res. 100 Conservation of Natural Resources ........ (4)

Office Oc. 50 Personal Typing ........................... (5)
Office Oc. 53 Review Typing ................................ (5)

TOTAL REQUIRED UNITS 30

HEALTH OCCUPATIONS

VOCATIONAL NURSING

REQU ired Courses: UNITS
Health Oc. 110 Intro. to Voc. Nursing ........................ 5
Health Oc. 113a Anatomy & Physiology .................... 5
Health Oc. 113b Anatomy & Physiology .................... 5
Health Oc. 115 Maternity Nursing ......................... 4
Health Oc. 120a Effects of Medication ...................... 2
Health Oc. 120b Effects of Medication ...................... 2
Health Oc. 121 Pediatrics .................................. 2
Health Oc. 122a Medical-Surgical Nursing ................. 5
Health Oc. 122b Medical-Surgical Nursing ................. 5
Health Oc. 128 Community Health .......................... 3
Health Oc. 140a Clinic ...................................... 8
Health Oc. 140b Clinic ...................................... 8

TOTAL REQUIRED UNITS 72

HEAVY EQUIPMENT AND TRUCK REPAIR

TRACTOR

REQU ired Courses: UNITS
Heavy Equip. 101 Intro. to Heavy Equip. ..................... 3
Heavy Equip. 102 Prev. Maintenance Truck ................. 3
Heavy Equip. 114 Machine Shop Procedures ................. 2
Heavy Equip. 115a Diesel Engine Rebuild ................... 3
Heavy Equip. 115b Diesel Engine Rebuild ................... 3

TOTAL REQUIRED UNITS 33

HEAVY EQUIPMENT AND TRUCK REPAIR

TRUCK

REQU ired Courses: UNITS
Heavy Equip. 101 Intro. to Heavy Equip. ..................... 3
Heavy Equip. 102 Prev. Maintenance Truck ................. 3
Heavy Equip. 114 Machine Shop Procedures ................. 2
Heavy Equip. 115a Diesel Engine Rebuild ................... 3
Heavy Equip. 115b Diesel Engine Rebuild ................... 3

TOTAL REQUIRED UNITS 32

HISTORY

REQU ired Courses: UNITS
History 104a World Civilization: 500 A.D. .......... 4
History 104b World Civilization: 1700-1945 ............ 4
History 117a U.S. History: Colonial/Revolutionary .... 5
History 117b U.S. History: Rev. to Present .............. 5
AND 8 UNITS FROM: TOTAL 22
Any Other History Course
Any Political Science Course
Any Science History Course
Any History Course

TOTAL REQUIRED UNITS 30

HOSPITALITY MANAGEMENT

FOOD SERVICE TECHNOLOGY

REQU ired Courses: UNITS
Hosp. Mgmt. 101 Introduction to Hospitality Industry .... 4
Hosp. Mgmt. 103 Marketing of Hospitality Services ...... 4
Hosp. Mgmt. 130 Food Service Management ............... 4
Hosp. Mgmt. 131 Dining Room Service .................... 3
Hosp. Mgmt. 134 Fuel Foods ................................ 3
Hosp. Mgmt. 135 Commercial Baking ...................... 3
Hosp. Mgmt. 137 Buffet Catering ......................... 3
Hosp. Mgmt. 138 Family Restaurant Service ............... 3
Hosp. Mgmt. 140a Classical Cuisine: Beginning .......... 4
Hosp. Mgmt. 140d Classical Cuisine: Intermediate ...... 3
Hosp. Mgmt. 144 Frozen Food Analysis .................... 4
Health Ed. 120 Nutrition .................................. 4

TOTAL REQUIRED UNITS 42

LAW ENFORCEMENT

REQU ired Courses: UNITS
L.E. 100 Intro. to Admin. of Justice .................... 4
L.E. 101 Intro. to Criminal Law .......................... 4
L.E. 102 Prosecution of Justice ......................... 4
L.E. 104a Concepts of Criminal Law ...................... 4
L.E. 110 Police, Court, and Correctional Systems ......... 4
L.E. 122 Concept of Enforcement Service ................. 4
L.E. 124 Principles of Investigation ...................... 4
L.E. 125 Physical Evidence ............................... 3
L.E. 130 California Penal Code ........................... 4
L.E. 131 Juvenile Procedures .............................. 4
L.E. 132 Self Defense & Restraint ........................ 4
L.E. 138 Firearms ......................................... 4
L.E. 139 Supervised Field Work ........................... 4
L.E. 160 Advanced Officers’ Training ..................... 4
Nat. Res. 109 Parks/Forests Law Enforcement ............ 4

TOTAL REQUIRED UNITS 35
### MATHEMATICS

**REQUIRED COURSES:**
- Math 120a: Calculus w/ Analytic Geometry (3)
- Math 120b: Calculus w/ Analytic Geometry (3)
- Math 120c: Calculus w/ Analytic Geometry (3)
- Math 105: College Algebra or...
- Math 103: College Algebra or...

**TOTAL UNITS FROM:**
- Math 103: College Algebra or...
- Math 105: College Algebra or...

### PHYSICS

**REQUIRED COURSES:**
- Physics 120a: General Physics (6)
- Physics 120c: General Physics (6)
- Physics 120b: General Physics (6)

**TOTAL REQUIRED UNITS 10**

### MUSIC

**REQUIRED COURSES:**
- Music 120a: Music Theory (5)
- Music 120b: Music Theory (5)
- Music 120c: Music Theory (5)

**TOTAL REQUIRED UNITS 15**

### NATURAL SCIENCES TECHNOLOGY

**REQUIRED COURSES:**
- Nat. Res. Tech. 55: Env. Guided Tournoi... (3)
- Nat. Res. Tech. 60: Env. Guided Tournoi...

**TOTAL UnITS FROM:**
- Nat. Res. Tech. 60: Env. Guided Tournoi...

### PHYSICAL EDUCATION

**REQUIRED COURSES:**
- P.E. 101: Theory and Practice of Adaptable P.E. (5)
- P.E. 107: Corrective Rehab. P.E. Assisting (5)
- P.E. 110: Intramural Leadership (5)
- P.E. 111: Leadership Laboratory (5)
- P.E. 112: Theatre Production: Dance Emphasis (5)
- P.E. 114: Dance Production (5)
- P.E. 116: Dramatic Emphasis (5)
- P.E. 117: Chorography and Composition (5)
- P.E. 119: Dance Touring Company (5)
- P.E. 170: Introduction to Adult Fitness (5)
- P.E. 177: Exercise Science (5)
- Health Ed. 105: Concepts of Public Health (5)
- Health Ed. 113: Advanced Fire Aids (5)
- Biology 140: Introduction to Human Anatomy (5)
- Biology 146: Introduction to Human Physiology (5)

**TOTAL REQUIRED UNITS 26**

### PHYSICAL SCIENCE

**REQUIRED COURSES:**
- Chem 101: General Chemistry (5)
- Chem 102: General Chemistry (5)
- Chem 104: General Chemistry (5)

**TOTAL REQUIRED UNITS 15**

### PSYCHOLOGY

**REQUIRED COURSES:**
- Psychology 101a: General Psychology (5)
- Psychology 101b: General Psychology (5)
- Psychology 145a: Developmental Psychology (5)
- Psychology 145b: Developmental Psychology (5)
- Psychology 100: Personality Theory (5)

**TOTAL REQUIRED UNITS 30**

### SOCIOLOGY

**REQUIRED COURSES:**
- Sociology 101: People in Groups: Intro. to Sociology (5)
- Sociology 102: American Social Patterns (5)
- Sociology 112: Family, Marriage, Individual (4)
- Sociology 127: Aging (4)
- Sociology 128: Death and Dying (4)

**TOTAL REQUIRED UNITS 22**

### SEARCH AND RESCUE

**REQUIRED COURSES:**
- Health Ed. 113: Adv. First Aid & Emergency Care (5)
- S.A.R. 103: Environmental Injuries (5)
- S.A.R. 110: Intro. to Search Theory (5)
- S.A.R. 112: Managing the Search Function (5)
- S.A.R. 114: Intro. to Mountain Search (5)
- S.A.R. 130: Intro. to Rescue Techniques (5)

**TOTAL REQUIRED UNITS 25**

**AND 5-8 UNITS FROM ANY OTHER COURSES IN THE SEARCH AND RESCUE CURRICULUM:** (5-8)

**TOTAL REQUIRED UNITS 30**
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 both 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 Polytechnic State University, San Luis Obispo
- Sonoma State University
- California State College, Stanislaus

Students may complete their lower division preparation for transfer to one of the state universities without loss of credit or grades.

Students should make their choice of transfer institution early and subsequently consult the catalog of the transfer college. Each state university has its own academic emphasis and program requirements.

A student should be aware that only 4.5 quarter units will be applied toward the required 58.5 quarter units.

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

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)

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

Students must complete 61.5 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.

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

A. English 101, General English (4)
B. Literature, Philosophy, Foreign Language

Area A.

B.1 Physical Sciences
Chemistry 100, Fundamentals of Chemistry (4) (lab course)
Chemistry 101a, General Chemistry (5) (lab course)
Earth Science 101, Survey Geography (2)
Earth Science 111, Rocks and Minerals (2)
Earth Science 112, Erosion-Water, Wind and Ice (1)
Earth Science 113, Mountains and Earthquakes (1)
(Three courses, E.S. 111, E.S. 112, and E.S. 113 will fulfill the General Education Breadth Requirement for a laboratory science.)
Earth Science 141, Survey of Astronomy (2)
Earth Science 142, Descriptive Astronomy (3)
Earth Science 144, General Geography (4) (lab course)
Earth Science 161, Survey of Meteorology (2)
Earth Science 171, Survey of Oceanography (2)
(A ny two courses of the Earth Science series, E.S. 101, E.S. 141, E.S. 151, and E.S. 171, will fulfill General Education Breadth Requirements for a laboratory science.)
Physics 100, Modern Physics (3)
Physics 110a, Applied Physics (4) (lab course)
Physics 120a, General Physics (6) (lab course)

B.2 Biological Sciences
Biology 100, Biology and Contemporary Society (4)
Biology 110, Fundamentals of Biology (4), (lab course)
Biology 111, 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
English 117a or 117b or 117c, Literature of the United States (4) (4) (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 (4)
Geography 102, Introduction to Cultural Geography (5)
History 104a, 104b or 104c, World Civilization (4) (4) (4)
History 111, Asian (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 28.5 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)
Psychology 125, Biofeedback and Self-Control (3)

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.

ASSOCIATE DEGREE FOR 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

COURSE INFORMATION
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 lecture, laboratory, field trips, or other required learning activities.

Courses Not Listed in The Catalog
1. Credit Free Courses
In all instances of some of the special interest needs of the populations served by the College, Credit Free Courses are usually offered such 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 vocationai education programs, but such courses do provide information and/or training on a variety of topical subjects.

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

3. 85/185 Courses: Interdisciplinary Studies — Special Topics
Lecture and/or laboratory hours and units of credit may vary. Courses in which a particular topic which crosses interdisciplinary lines is studied in-depth. The topic, the number of units and hours, and prerequisites (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 transfer for elective credit but will not fulfill requirements.

4. 99/199 Courses: Independent Study
Independent study courses are intended to give students an opportunity to independently research specialized areas not available as 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 22 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 with the Dean of Instruction’s permission 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. Course 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: 3 hours
Evolutionary history with emphasis on recent developments; primatology; the fossil sequence beginning with pre-human through Paleolithic era to domestication of plants and animals and the dawn of civilization. Race, Cultural adaptations resulting from biological and genetic background.

101b INTRODUCTION TO ANTHROPOLOGY: Cultural
Lecture: 3 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 or 101b
Lecture: 3 hours
Intra-specific aggression, territoriality, popula­tion control, primatc social organization, intra­and inter-species communication, and the present and future trends in social organization, war, religion, and cultural change.

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.

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.

APPRENTICE CARPENTRY

The Apprentice Carpentry Program is conducted in accordance with State Apprenticeship laws. The apprentice serves for a four-year period, the first three months of which are probationary. Apprenticeship training consists of full-time employment supplemented by related classroom instruction. The apprentice will be required to meet four hours of classroom instruction, by arrangement each month in addition to classroom schedule. Students whose work or attendance is not satisfactory may be dropped from the program by recommendation of the Joint Apprentice Committee. The College grants credit for the successful completion of the program.

The Associate in Science degree may be earned, in addition to the combination requirements listed on pages 34-35.

101a APPRENTICE CARPENTRY
Lecture: 3 hours

101b APPRENTICE CARPENTRY
Prerequisite: Apprentice Carpentry 101a or consent of instructor
Lecture: 3 hours
Continuation of Apprentice Carpentry 101a.

101c APPRENTICE CARPENTRY
Prerequisite: Apprentice Carpentry 101b or consent of instructor
Lecture: 3 hours
Continuation of Apprentice Carpentry 101b.

102a APPRENTICE CARPENTRY
Lecture: 3 hours
Continuation of Apprentice Carpentry 102b.

102b APPRENTICE CARPENTRY
Prerequisite: Apprentice Carpentry 102a
Lecture: 3 hours
Simplified framing, framing tables, sheathing, and insulation.

102c APPRENTICE CARPENTRY
Prerequisite: Apprentice Carpentry 102b
Lecture: 3 hours
Continuation of Apprentice Carpentry 102b.

103a APPRENTICE CARPENTRY
Prerequisite: Apprentice Carpentry 103b
Lecture: 3 hours
Heavy timber construction, reinforced concrete formwork, blueprint reading, and estimating.

103b APPRENTICE CARPENTRY
Prerequisite: Apprentice Carpentry 103a
Lecture: 3 hours
Continuation of Apprentice Carpentry 103a.

104a APPRENTICE CARPENTRY
Prerequisite: Apprentice Carpentry 104c
Lecture: 3 hours
Continuation of Apprentice Carpentry 104a.

104b APPRENTICE CARPENTRY
Prerequisite: Apprentice Carpentry 104d
Lecture: 3 hours
Continuation of Apprentice Carpentry 104b.

104c APPRENTICE CARPENTRY
Prerequisite: Apprentice Carpentry 104a
Lecture: 3 hours
Continuation of Apprentice Carpentry 104b.

ART

101 FREEHAND DRAWING
Studio: 3-6 hours
Introduction to basic drawing techniques, rendering techniques, composition and various drawing media. Special attention will be paid to principles of visual design and organization.

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

102 DESIGN: Color
Studio: 6 hours
Continuation of Art 102a with emphasis on the principles and application of color theory.

102 DESIGN: Structure
Studio: 6 hours
Continuation of Art 102a and 102b working with three dimensional designs and structures.

109a LIFE DRAWING: Introductory
Studio: 1.5-3 Units
Problems in figure drawing, working from the unde­r­ modeled shape. May be repeated for a maximum of three units.

109b LIFE DRAWING: Advanced
Studio: 1.5-3 Units
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: 3-6 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.
ART

HISTORY OF ART: Ancient and Medieval 3 Units
Lecture: 3 hours
Survey of art history from the Paleolithic Age through the Late Gothic Era.
Field trips may be required.

HISTORY OF ART: Renaissance and Baroque 3 Units
Lecture: 3 hours
Survey of art history from the 15th through the 18th centuries.
Field trips may be required.

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

ACRYLIC PAINTING: Introductory 1.5-3 Units
Studio: 3-6 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.

ACRYLIC PAINTING: Advanced 1.5-3 Units
Studio: 3-6 hours
An extension of Art 121a emphasizing technique.
May be repeated for a maximum of three units.

Special Problems 1.5-3 Units
Studio: 3-6 hours
Continuation of Art 123a introducing opaque watercolor and various experimental techniques.
May be repeated for a maximum of three units.

WATERCOLOR: Advanced 1.5-3 Units
Studio: 3-6 hours
Continuation of Art 123a introducing opaque watercolors and various experimental techniques.
May be repeated for a maximum of three units.

WATERCOLOR: Special Problems 1.5-3 Units
Studio: 3-6 hours
Continuation of Art 123b with emphasis on further experimentation and development of personal expression.
May be repeated for a maximum of six units.

MIXED MEDIA PAINTING 1 Unit
Studio: 2 hours
Introduction to special techniques involving creative mixtures of traditional media; pen and ink over watercolor wash, oils and acrylics in combination.

MURAL PAINTING 3 Units
Studio: 3-6 hours
Group participation in planning, designing, and executing large scale wall paintings.

CERAMICS: Introductory 1.5-3 Units
Studio: 3-6 hours
Introduction to basic ceramic methods including hand building and wheel throws forms.
May be repeated for a maximum of three units.

CERAMICS: Advanced 1.5-3 Units
Studio: 3-6 hours
Continuation of Art 131a with emphasis on glaze formulation.
May be repeated for a maximum of three units.

CERAMICS: Special Problems 1.5-3 Units
Studio: 3-6 hours
An extension of Art 131b with emphasis on personal expression and experimentation.
May be repeated for a maximum of six units.

PRIMITIVE AND ENVIRONMENTAL CERAMICS 3 Units
Laboratory: 6 hours
Discovery and refinement of local clay deposits; construction and use of primitive kilns and ceramics tools; survey of the styles, techniques, and materials common to primitive potters; study of primitive firing and glazing.
Field trips are required.

INTRODUCTION TO RAKU 1.5 Units
Prerequisite: Art 131a recommended.
Studio: 3 hours
Introduction to raku process, its origins and contemporary uses. Practical experience in clay bodies, glazes, and raku firing techniques.

PHOTOGRAPHY: Beginning 3 Units
Lecture: 2 hours
Field trips may be required.

PHOTOGRAPHY: Intermediate 3 Units
Prerequisite: Art 141a or consent of instructor.
Laboratory: 3 hours
Field trips may be required.

PHOTOGRAPHY: Advanced 3 Units
Prerequisite: Art 141b. Art 102a recommended.
Field trips may be required.

COLOR PHOTOGRAPHY: Slide Making and Positive Printing 3 Units
Prerequisite: Art 141a or consent of instructor.
Lecture: 2 hours
Laboratory: 3 hours
Field trips may be required.

COLOR PHOTOGRAPHY: The Color Negative 3 Units
Prerequisite: Art 142a
Lecture: 2 hours
Laboratory: 3 hours
Field trips may be required.

ADVANCED PHOTOGRAPHY LABORATORY 1 Unit
Prerequisite: Art 141b or 142b or equivalent.
Laboratory: 3 hours
Continued exercise of darkroom skills in the production of negatives, slides and prints.
May be repeated one time.

FIELD PHOTOGRAPHY 1-2 Units
Lecture: .5-1 hour
Laboratory: 1.5-3 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.

SPECIAL TOPICS IN PHOTOGRAPHY 1-3 Units
Prerequisite: Will vary according to topic scheduled.
Lecture: 1-3 hours
Laboratory: 1-3 hours
Various field and studio-oriented courses limited to particular photographic topics such as slide-tape presentations, landscape, architecture, portraiture, nude, product and still-life photography, photography/journalism, alternative processes, and guest lecture forums.
Field trips may be required.
Course may be repeated for credit with different topics only.

PORTFOLIO AND EXHIBITION PREPARATION 2 Units
Prerequisite: Art 102a, Art 141c, Art 142b.
Field trips may be required.
Intended for photography majors, this course involves primarily the craft and technique involved in assembling and installing a photographic portfolio for exhibitions.

COMMERCIAL FREEHAND LETTERING: Beginning 2 Units
Lecture: 1 hour
Field trips: 2 hours
Introduction to freehand lettering and calligraphy: practice in the three major calligraphic styles of sign writing and commercial lettering; Roman, Gothic, and script technique emphasis.

COMMERCIAL FREEHAND LETTERING: Intermediate 2 Units
Prerequisite: Art 150a
Field trips: 2 hours
Continuation of Art 150b with emphasis on various sign writing media such as banner writing, real estate signs, truck lettering, show cards, billboards, illuminated signs, wood routed signs, and concrete signs.
169d SILVERSMITHING: Special Problems
1.5 Units
Prerequisite: Art 169a or consent of instructor.
Lecture: 2 hours
Laboratory: 3 hours
Continuation of Art 169c, with emphasis on problem-solving and development of personal expression.

169b SILVERSMITHING: Advanced
1.5 Units
Prerequisite: Art 169a or consent of instructor.
Lecture: 1 hour
Laboratory: 3 hours
A continuation of Art 169b, emphasizing advanced problems and techniques of silversmithing.

169c SILVERSMITHING: Design
1.5 Units
Prerequisite: Art 169b or consent of instructor.
Lecture: 1 hour
Laboratory: 3 hours
Study of basic principles of design as they may relate to the art of silversmithing.

170 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 the oscilloscope and infrared analyzer.

130 MANUAL TRANSMISSION REBUILDING
2 Units
Prerequisite: Auto. Tech. 120a
Lecture: 1 hour
Laboratory: 3 hours
Principles and operation of automotive power trains including diagnosis and overhaul of clutch systems, 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 (G.M)
2 Units
Prerequisite: Auto. Tech. 140a
Lecture: 1 hour
Laboratory: 3 hours
Principles of operation of automatic transmissions and their advantages and disadvantages.

138 AUTOMATIC TRANSMISSION (Ford)
2 Units
Prerequisite: Auto. Tech. 140a
Lecture: 1 hour
Laboratory: 3 hours
Principles of operation of automatic drum brakes, including diagnosis and overhaul techniques.

140 BRAKES: Drum
2 Units
Prerequisite: Auto. Tech. 140a
Lecture: 1 hour
Laboratory: 3 hours
Principles of operation of automotive drum brakes, including diagnosis and overhaul techniques.

140c BRAKES: Disc
2 Units
Prerequisite: Auto. Tech. 140a
Lecture: 1 hour
Laboratory: 1 hour
Service procedures, including overhaul techniques of disc brakes.

ART/AUTOMOTIVE TECHNOLOGY

151 RELIEF PRINTMAKING
1.5-3 Units
Studio: 3-6 hours
Introduction to basic relief printmaking procedures emphasizing linoleum and woodcut.

152 INTAGLIO PRINTMAKING
1.5-3 Units
Studio: 3-6 hours
Introduction to basic intaglio printmaking procedures including etching, engraving and collograph.

153 SILKSCREEN PRINTING
1.5-3 Units
Studio: 3-6 hours
Introduction to basic silkscreen printing procedures.

165 APPLIED LEATHERWORK
1.5-3 Units
Studio: 3-6 hours
Design and creation of art work in leather and mixed media including leather; survey of related styles, techniques and processes. Emphasis will be placed on design in western clothing and other leather working processes.

167a TEXTILE DESIGN: Introductory
2 Units
Prerequisite: Art 165a
Studio: 4 hours
Introduction to basic textile design. Problems and techniques of the fiber arts.

167b TEXTILE DESIGN: Advanced
2 Units
Prerequisite: Art 167a or consent of instructor.
Studio: 4 hours
Continuation of Art 167a with emphasis on original concepts in textile design.

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

169a SILVERSMITHING: Introductory
1.5 Units
Studio: 3 hours
Manufacture of jewelry and related items made of silver. Selecting and polishing stones to be mounted.

169b SILVERSMITHING: Advanced
1.5 Units
Prerequisite: Art 169a or consent of instructor.
Studio: 3 hours
Continuation of Art 169b, emphasizing advanced problems and techniques of silversmithing.

169c SILVERSMITHING: Design
1.5 Units
Prerequisite: Art 169b or consent of instructor.
Studio: 3 hours
Study of basic principles of design as they may relate to the art of silversmithing.

170b 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 the oscilloscope and infrared analyzer.

130 MANUAL TRANSMISSION REBUILDING
2 Units
Prerequisite: Auto. Tech. 120a
Lecture: 1 hour
Laboratory: 3 hours
Principles and operation of automotive power trains including diagnosis and overhaul of clutch systems, 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 (G.M)
2 Units
Prerequisite: Auto. Tech. 140a
Lecture: 1 hour
Laboratory: 3 hours
Principles of operation of automatic transmissions and their advantages and disadvantages.

138 AUTOMATIC TRANSMISSION (Ford)
2 Units
Prerequisite: Auto. Tech. 140a
Lecture: 1 hour
Laboratory: 3 hours
Practical experience in disassembly and assembly, failure and analysis, trouble shooting, pressure testing, and automatic transmission rebuilding.

140c BRAKES: Disc
2 Units
Prerequisite: Auto. Tech. 140a
Lecture: 1 hour
Laboratory: 1 hour
Service procedures, including overhaul techniques of disc brakes.

140b BRAKES: Drum
2 Units
Prerequisite: Auto. Tech. 140a
Lecture: 1 hour
Laboratory: 3 hours
Principles of operation of automotive drum brakes, including diagnosis and overhaul techniques.

140a BRAKES: Drum
2 Units
Prerequisite: Auto. Tech. 140a
Lecture: 1 hour
Laboratory: 3 hours
Principles of operation of automotive drum brakes, including diagnosis and overhaul techniques.

140 BRAKES: Disc
2 Units
Prerequisite: Auto. Tech. 140a
Lecture: 1 hour
Laboratory: 1 hour
Service procedures, including overhaul techniques of disc brakes.

144 FRONT-END AND SUSPENSION
2 Units
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.

144b FRONT-END AND SUSPENSION
2 Units
Prerequisite: Auto. Tech. 144a
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
Lecture: 1 hour
Laboratory: 3 hours
Fundamentals of electricity that apply to all electrical systems.

150b VEHICLE ELECTRICITY: Charging Systems
2 Units
Prerequisite: Auto. Tech. 150a
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, magnets and battery ignition systems.

150d VEHICLE ELECTRICITY: Lighting and Chassis Electrics
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.

162 AIR CONDITIONING
2 Units
Lecture: 1 hour
Laboratory: 5 hours
Understanding the principles and operation of air conditioning, as well as the techniques of recharging diagnosis and service.

170a PRACTICAL LABORATORY
2 Units
Prerequisite: 8 units of shop classes with not more than 2 of the 8 units taken concurrently with Auto. Tech. 170a or consent of instructor.
Laboratory: 6 hours
Special repair projects are assigned to advanced students with emphasis on speed, accuracy, and work habits.

170b PRACTICAL LABORATORY
2 Units
Prerequisite: Auto. Tech. 170a
Laboratory: 6 hours
Continuation of Auto. Technology 170a.
17a PRACTICAL LABORATORY 2 Units
Prerequisite: Auto. Tech. 170
Laboratory: 4 hours
Continuation of Auto. Technology 170a.

17b PRACTICAL LABORATORY 2 Units
Prerequisite: Auto. Tech. 170b
Laboratory: 4 hours
Continuation of Auto. Technology 170b.

AVIATION

105 PRIVATE PILOT GROUND SCHOOL 3 Units
Lecture: 3 hours
Preparation for Federal Aviation Administration written examination for private pilot certificate. Instruction includes: aircraft operations, air traffic, pilot privileges and limitations, flight planning, map reading, radio communications, weather and safety.

110a COMMERCIAL PILOT GROUND SCHOOL 3 Units
Prerequisite: Aviation 105.
Lecture: 3 hours
Flight information, civil air regulations, radio and navigational aids.

110b COMMERCIAL PILOT GROUND SCHOOL 3 Units
Prerequisite: Aviation 110a
Lecture: 3 hours
Preparation for Federal Aviation Administration written examination for Commercial Pilot certificate.

115a INSTRUMENT RATING GROUND SCHOOL 3 Units
Prerequisite: Aviation 105
Lecture: 3 hours
Preparation for Federal Aviation Administration written examination for Instrument Rating certificate.

115b INSTRUMENT RATING GROUND SCHOOL 3 Units
Prerequisite: Aviation 115a
Lecture: 3 hours
Continuation of Aviation 115a.

120a AIRPORT AND OPERATIONS 3 Units
Lecture: 3 hours
An overview of the major functions of an airport from a management point of view.

120b AIRPORT AND OPERATIONS 3 Units
Prerequisite: Aviation 120a
Lecture: 3 hours
Continuation of Aviation 120a.

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

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

150 LIGHT AIRCRAFT ENGINES 3 Units
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 2 Units
Lecture: 2 hours
An introduction to the science of growing fruits, vegetables and turf. Demonstrations of plant propagation, tree planting, and grafting.

53 ORGANIC LIVING 1 Unit
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 2 Units
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 LODE 2 Units
Lecture: 1 hour
Laboratory: 3 hours
A survey of the birds of the Mother Lode area of California through field observations. Stresses recognition by plumage, song, and behavior patterns. Discusses ecological relationships, nesting habits, and economic importance.

59 WILDFLOWERS OF THE MOTHER LODE 1-3 Units
Lecture: 1-3 hours
Wildflowers of the Mother Lode area of California 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 3 Units
Lecture: 2 hours
Laboratory: 3 hours
Natural history of California flora and fauna with emphasis on ecological principles and relationships.

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

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 BIOLOGY AND CONTEMPORARY SOCIETY 4 Units
Lecture: 4 hours
A study of the biological concepts of ecology, genetics, and behavior as they relate to modern society. An introduction to human ecology which studies the present and future of our society or a component of the biosphere.

110 FUNDAMENTALS OF BIOLOGY 4 Units
Lecture: 3 hours
Laboratory: 3 hours
Modern concepts, inquiry methods, and historical background of biological unity and processes.

111 PRINCIPLES OF BIOLOGY 5 Units
Prerequisite: One year of high school chemistry with a B average or Chemistry 100.
Lecture: 3 hours
Laboratory: 6 hours
A general biology course with emphasis on genetic principles; inheritance, population variation and evolution in plants and animals. Social implications of genetics and evolution.

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

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

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

125 PLANT TAXONOMY OF THE SIERRA NEVADA 4 Units
Lecture: 1 hour
Laboratory: 3 hours
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.

130 FUNDAMENTALS OF ANIMAL BIOLOGY 3 Units
Lecture: 2 hours
Laboratory: 3 hours
Structure, functions, and diversity of the animal organism.

131 PRINCIPLES OF ANIMAL BIOLOGY 5 Units
Prerequisite: Biology 111
Lecture: 3 hours
Laboratory: 6 hours
A general zoology course with emphasis on animal diversity, taxonomy, anatomy, and physiology.

139 FIELD BIOLOGY 1-2 Units
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 study. May be repeated for a maximum of four units.

140 INTRODUCTORY HUMAN ANATOMY 4 Units
Prerequisite: Biology 110 or consent of instructor.
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 form, function, and interrelationships with other systems. The cat is used for laboratory dissection.

151 THE TERRESTRIAL ENVIRONMENT 3 Units
Prerequisite: Any one of the following: Biology 110, Biology 111, Biology 121, Biology 125 or consent of instructor.
Lecture: 2 hours
Laboratory: 3 hours
Regular Quarters: Field studies of terrestrial ecosystems with emphasis on techniques for gathering and analysis of physical biological data. Field trips are required.
113 FINANCING BUSINESS ENTERPRISE
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 payments, and monetary theory and policies.

130 ANALYZING FINANCIAL STATEMENTS
4 Units
Prerequisite: Bus. Ad. 65a or Bus. Ad. 65 or Bus. Ad. 112a 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 and accounting, financial statements and business funds flow and analysis of operations, long-term financial strength, and asset utilization.

Business Administration

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: 3 hours
Double entry bookkeeping; general journal and general ledger, business forms, financial statements, and completion of the bookkeeping cycle for service and trade businesses; notes in credit transactions.

60b BOOKKEEPING
5 Units
Prerequisite: Business Administration 60a
Lecture: 3 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, profits, depreciation, taxes, and bank reconciliation.

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 employee.

112 INDUSTRIAL RELATIONS
3 Units
Lecture: 3 hours
Introductory course in labor relations, covering 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: 3 hours
Law of sales, negotiable instruments, personal property, real property, partnerships, corporations, insurance, surcharge.

120 PRINCIPLES OF MARKETING
5 Units
Lecture: 3 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
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 cost 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: 5 hours
The functions of management, techniques of decision making and problem solving, and methods used 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
3 Units
Lecture: 2 hours
Small business operation with proper balance between business functions of purchasing, production, sales and finance, and the management functions of planning, organizing, executing, 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 Page 50-51 for Certificate Requirements.

50 PERSONAL TYPING 3 Units
Lecture: 2 hours
Laboratory: 3 hours
Instruction for personal use, including learning keyboard by the touch system, practical application of typing skills to simple letter writing, manuscripts, and tabulation.

53 REVIEW TYPING 3 Units
Lecture: 2 hours
Laboratory: 3 hours
Development of speed and accuracy; review of correspondence, tabulation, manuscripts, outlines, and business forms.

56 TYPING SPEED AND ACCURACY BUILDING 1-2 Units
Prerequisite: Beginning typing skill Laboratory: 3 to 6 hours
Speed building and accuracy on straight copy, rough draft, script, and statistical writing. Intensified drills, timed writings and remedial work. May be repeated for a maximum of 4 units of credit.

58 PROPORTIONAL SPACE TYPING 1 Unit
Prerequisite: Office Occupations 103 or equivalent course Laboratory: 3 hours
Introduction and practice on the proportional space typewriter, special keys, centering, statistical typing, line justification, manuscript and business letter typing.

60 REVIEW SHORTHAND 4 Units
Prerequisite: Typing rate 30 words per minute. Lecture: 3 hours Laboratory: 3 hours
Review of Gregg dictation theory; transcription skills.

65 BUSINESS ENGLISH 3 Units
Lecture: 3 hours
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.

68 BUSINESS CORRESPONDENCE 3 Units
Lecture: 3 hours
Effective business practices in the construction of sentences, paragraphs, and letters; the writing of effective business letters such as applications, orders, requests, adjustments, refusals, credit, and collection.

70 REPORT WRITING 3 Units
Lecture: 3 hours
Study and practice of the skills necessary to write well organized reports.

101 BEGINNING TYPING 4 Units
Lecture: 3 hours
Laboratory: 3 hours
Development of speed and accuracy, typing skills for vocational or personal use.

103 INTERMEDIATE TYPING 4 Units
Prerequisite: Office Occupations 101 or typing rate of 40 words per minute. Lecture: 3 hours Laboratory: 3 hours
Development of speed and accuracy for advanced correspondence, tabulation, manuscripts, outlines, and business forms.

104 ADVANCED TYPING 4 Units
Prerequisite: Office Occupations 103 or typing rate of 45 words per minute. 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.

107 WORD PROCESSING: THE MEMORY TYPEWRITER 1 Unit
Prerequisite: Office Occupations 103, Office Occupations 132, Laboratory: 3 hours
Introduction and practice on the automated or memory typewriter. Development of skills in performing secretarial operations on the automated or memory typewriter.

108 WORD PROCESSING: ELECTRONIC TYPEWRITER 4 Units
Prerequisite: Typing rate 30 words per minute. Lecture: 3 hours Laboratory: 3 hours
Introduction on the electronic typewriter including document and phrase storage, revisions, storage procedures, tabulation, and repetitive documents.

109 WORD PROCESSING: DISPLAY SYSTEM 3 Units
Prerequisite: Office Occupations 103, Office Occupations 132 or current employment applying advanced typing techniques. Laboratory: 3 hours
Use of the display word processing system which includes document production and storage, editing, retrieval, formatting, local and global search, entry and execution of variable data. Word processing concepts relating to information processing are introduced.

110 BEGINNING SHORTHAND 4 Units
Prerequisite: Typing rate of 30 words per minute. Lecture: 3 hours Laboratory: 3 hours
Complete theory of Gregg shorthand; foundation for dictation and transcription.

110B BEGINNING SHORTHAND 4 Units
Prerequisite: Office Occupations 110a. Lecture: 3 hours Laboratory: 3 hours
Continuation of Office Occupations 110a.

111 MACHINE SHORTHAND: I 4 Units
Prerequisite: Office Occupations 110a or typing rate of 30 words per minute. Lecture: 3 hours Laboratory: 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.

111B MACHINE SHORTHAND: II 4 Units
Prerequisite: Office Occupations 111a or typing rate of 45 words per minute. Lecture: 3 hours Laboratory: 3 hours
Continuation of the machine system of shorthand including theory mastery, keyboard development, and the ability to take dictation at 60 to 90 words per minute.

111C MACHINE SHORTHAND: III 4 Units
Prerequisite: Office Occupations 111b and Office Occupations 110a (or equivalent typing skill). Lecture: 3 hours Laboratory: 3 hours
Development of machine shorthand speed and dictation skill. Speed building and accuracy on straight copy taking dictation at speeds up to 120 words per minute.

112 INTERMEDIATE SHORTHAND 4 Units
Prerequisite: Dictation rate 60 words per minute for 3 minutes and typing rate of 45 words per minute. Lecture: 3 hours Laboratory: 3 hours
Sustained dictation speed on new material; accuracy on transcription; spelling, punctuation, and office-style dictation.

112B INTERMEDIATE SHORTHAND 4 Units
Prerequisite: Office Occupations 112a. Lecture: 3 hours Laboratory: 3 hours
Continuation of Office Occupations 112a.

113 ADVANCED SHORTHAND 4 Units
Prerequisite: Dictation rate of 80 words per minute for 3 minutes and typing rate of 45 words per minute. Lecture: 3 hours Laboratory: 3 hours
Development of speed and accuracy; correlation of grammar, spelling, punctuation, and typing.

113B ADVANCED SHORTHAND 4 Units
Prerequisite: Office Occupations 113a. Lecture: 3 hours Laboratory: 3 hours
Continuation of Office Occupations 113a.

130 FILING SYSTEMS AND RECORDS MANAGEMENT 3 Units
Lecture: 3 hours
Study of alphabetic, numeric, geographic, and subject filing systems; survey of records management procedures.

132 MACHINE TRANSCRIPTION 3 Units
Prerequisite: Office Occupations 103 or equivalent experience. Lecture: 2 hours Laboratory: 3 hours
Study and use of various transcribing machines.

135 TEN KEY ADDING MACHINES 1 Unit
Laboratory: 3 hours
Practical course instruction in the operation of the 10-key adding machine.

136 ELECTRONIC PRINTING CALCULATORS 1 Unit
Laboratory: 3 hours
Practical instruction in the operation of the electronic printing calculator, emphasizing business applications.

138 OFFICE PROCEDURES 4 Units
Prerequisite: Bus. Ad. 60a, Off. Oc. 105, or consent of instructor. Lecture: 3 hours Laboratory: 3 hours
Study of the office duties of receptionist, clerical worker, stenographer, and secretary. Practical application of business skills including telephone techniques, mailing, banking, communications and copying processes. Personality development with emphasis on efficient work habits and proper office attitudes.
140a MEDICAL TERMINOLOGY 3 Units
Lecture: 3 hours
An introduction to basic medical word structure, including word roots, prefixes and suffixes used in medical vocabulary by allied health field members.

140b MEDICAL TERMINOLOGY 3 Units
Prerequisite: Office Oc. 140a.
A continuation of the study of medical terminology including the specialized vocabulary for the various anatomical systems used by allied health field members.

142a MEDICAL TRANSCRIPTION 3 Units
Prerequisite: Office Oc. 142a.
Lecture: 3 hours
Laboratory: 6 hours
Development of advanced skill for medical transcription in physician's offices, clinics, hospitals and related allied health field positions. Students will type discharge summaries and surgical reports, using medical terminology and transcription skills.

154 LEGAL TRANSCRIPTION/ TERMINOLOGY 3 Units
Prerequisite: Office Oc. 132, Office Oc. 140a or consent of instructor.
Lecture: 1 hour
Laboratory: 6 hours
Transcription of legal terminology from casette tapes. Typing of legal documents and correspondence.

157 LEGAL OFFICE PROCEDURES 3 Units
Prerequisite: Office Oc. 105, Office Oc. 132, Office Oc. 154.
Lecture: 3 hours
Laboratory: 3 hours
A course 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.

160 OFFICE OCCUPATIONS 1-5 Units
Prerequisite: Consent of instructor.
Laboratory: 3-15 hours
Supervised office work experience.

Real Estate
See Page 11 for Certificate Requirements.

101 PRINCIPLES OF REAL ESTATE 3 Units
Lecture: 3 hours
Real and personal acquisition, ownership, estates, joint tenancies, partnerships, sales, contracts, deeds, taxes, and financing real estate.

105 REAL ESTATE PRACTICE 4 Units
Prerequisite: Real Estate 101 or Real Estate License.
Lecture: 4 hours
General real estate operations and the industry.

110 REAL ESTATE FINANCE 4 Units
Prerequisite: Real Estate 101.
Lecture: 4 hours
California real estate law; titles, encumbrances, recording, real property, acquisition and transfer; Penal Code.

120 REAL ESTATE APPRAISAL 4 Units
Prerequisite: Real Estate 105 and 110.
Lecture: 3 hours
Survey of atoms, nuclear chemistry, molecules, ions, chemical bonding, gases, liquids and solids.

125 REAL ESTATE ECONOMICS 4 Units
Prerequisite: Real Estate 101.
Lecture: 4 hours
Economic factors influencing real estate; real estate market and business cycles; commercial, industrial, residential properties; urban development and renewal; regulation of land uses.

1100 FUNDAMENTALS OF CHEMISTRY 4 Units
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, nomenclature, metals, and nuclear chemistry.

10a GENERAL CHEMISTRY 5 Units
Prerequisite: One year of high school chemistry with a "C" average, and Math. 103 or equivalent; or Chemistry 100 and Math. 103, or consent of instructor.
Lecture: 3 hours
Laboratory: 6 hours
Survey of organic compounds, coordination compounds and qualitative analysis.

108 CHEMISTRY OF CARBON COMPOUNDS 4 Units
Prerequisite: Chemistry 101a with a grade of "C+" or better or consent of instructor.
Lecture: 3 hours
Laboratory: 3 hours
Survey of the atmosphere, nonmetals, metals, organic compounds, coordination compounds and qualitative analysis.

10b CHEMISTRY OF CARBON COMPOUNDS 4 Units
Prerequisite: Chemistry 100a or consent of instructor.
Laboratory: 3 hours
A study of the nomenclature, structure, synthesis and characteristic reactions of organic compounds with emphasis on chemicals of interest to students in the biological sciences.

10c CHEMISTRY OF CARBON COMPOUNDS 4 Units
Prerequisite: Chemistry 101b or equivalent.
Lecture: 3 hours
Laboratory: 6 hours
Survey of the atmosphere, nonmetals, metals, organic compounds, coordination compounds and qualitative analysis.

105 COMPUTERS AND SOCIETY 4 Units
Lecture: 3 hours
Computers and their relation to modern society. Includes history of computing, use of computers in various occupational fields, effects of computers upon the society in which we live.

110 COMPUTER LOGIC 4 Units
Lecture: 4 hours
A detailed survey of the use of truth functional logic in digital computers. The emphasis of the course will be on the logical functions of the connectives, "and," "or," "if...then," "if and only if" and their combinations in determining "truth" and "falsehood" in statements and their effect on computer logic, control and data manipulation. The course also includes an introduction to the mechanics of a computer.

120a COMPUTER PROGRAMMING: Introductory 3 Units
Prerequisite: Two years high school algebra or consent of instructor.
Lecture: 2 hours
Laboratory: 3 hours
Introduction to computer programming using the BASIC language. Includes systems commands, input/output statements, conditional and unconditional branching, loops, variables and operators, and singly subscripted arrays.

120b COMPUTER PROGRAMMING: Intermediate 3 Units
Prerequisite: Computer Science 120a.
Lecture: 3 hours
Continuation of Computer Science 120a. Includes doubly subscripted variables, logical operators, subroutines, computed branching and structured programming.

120c COMPUTER PROGRAMMING: Advanced 3 Units
Prerequisite: Computer Science 120b.
Laboratory: 3 hours
Advanced techniques of programming in BASIC language, including disk operation and file management, optimization of core usage, algorithm efficiency, and advanced I.O. commands.

125 COMPUTER PROGRAMMING: PASCAL 3 Units
Prerequisite: Computer Science 120b.
Laboratory: 3 hours
Structured programming in the Pascal language. Emphasis on writing, executing, and modifying programs that conform to industry standards. Topics will include structured software development and maintenance utilizing Pascal language techniques for logical operations, branching, and file management.

140 MACHINE LANGUAGE PROGRAMMING 3 Units
Prerequisite: Computer Science 120c.
Laboratory: 3 hours
Techniques of writing machine language instructions utilizing the system monitor and the BASIC system.
### COMPUTER PROGRAMMING: APPLICATIONS

**3 Units**  
Prerequisite: Two years of high school algebra or equivalent, or consent of instructor.  
Lecture: 2 hours  
Laboratory: 3 hours  

Various topics in computer programming including string variables and instructions, array manipulation, files and record I/O, lists (sequential, linked, circular), computer graphics. Course individualized to meet specific individual needs.

### COMPUTERS AND CONTROL LABORATORY: 3 hours  
Lecture: 2 hours  
Laboratory: 3 hours  

Introduction to the use of computers to control and monitor scientific equipment and the outside environment. Includes techniques for the use of temperature sensing, optical sensing, sound sensing, and motion sensing probes, analog/digital data acquisition and control techniques, the proper use of electronic test equipment, and bit programming of computers I/O ports and handshake conventions.

*Program pending state approval.*

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### CONSTRUCTION

**Construction Technology**

#### HOME MAINTENANCE AND REPAIRS

**3 Units**  
Lecture: 3 hours  

Provides essential technical information in cooling, heating, plumbing, electricity, carpentry, concrete, and painting to establish preventative maintenance guidelines and to make necessary repairs.

#### INTRODUCTION TO CARPENTRY

**3 Units**  
Lecture: 3 hours  

Theory and framing non-commercial buildings for private use. Construction of small non-structural projects. Local code ordinances governing such construction.

#### INTRODUCTION TO RESIDENTIAL WIRING

**3 Units**  
Lecture: 3 hours  

Electrical theory, blueprint reading, service, circuits, conduit, and flexible wiring in residential construction. Remodeling and large appliance installation procedures. Applicable local code ordinances.

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### ARCHITECTURAL DRAFTING

**Architectural Drafting 110a**  
Lecture: 4 hours  
Activity: 2 hours  

Criticism of architectural plans, creative architectural drafting and design.

**Architectural Drafting 110b**  
Laboratory: 3 hours  

Orthographic projection, auxiliary views, dimensioning, tolerancing, threads, fasteners and springs.

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### DRAMA

**ORAL EXPRESSION & INTERPRETATION**  

**5 Units**  
Lecture: 4 hours  
Activity: 2 hours  

Techniques in reading literature aloud; understanding and interpreting prose, poetry, and drama in selection; oral presentation, and expression of thought.

**READERS' THEATRE**  

**4 Units**  
Lecture: 3 hours  
Activity: 3 hours  

Theory and practice of Readers' Theatre as an art form. Directed experiences in selecting, cutting, arranging and performing the Readers' Theatre script.

**DRAMATIC LITERATURE: Greek to Renaissance**  

**4 Units**  
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.

**DRAMATIC LITERATURE: Shakespeare to 19th Century**  

**4 Units**  
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.

**DRAMATIC LITERATURE: Contemporary**  

**4 Units**  
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.

**PLAYWRITING**  

**5 Units**  
Lecture: 5 hours  

Theory and practice of writing for the theatre; analysis of relevant literature and productions; in-
152 (continued)
tronics; designed to prepare student technicians
for practical application.

155 SURVEY OF TECHNICAL THEATRE 3 Units
Lecture: 3 hours
An overview of the basic techniques, materials and
methods of design and construction related to
physical theatre production. Survey of costume,
make-up, stagecraft, properties, lighting and
sound.

156 TECHNICAL THEATRE LABORATORY 1-3 Units
Prerequisite: Drama 135 or consent of instructor.
Laboratory: 3-9 hours
Applied laboratory experience in all phases of
technical theatre related to mounting a produc-
tion; practical projects in design and construction
including costumes, stage settings, stage proper-
ties, lighting, sound, and make-up for a specific
theatre production.

157 THEATRE TOURING COMPANY 5 Units
Prerequisite: Audition.
Laboratory: 2 hours
A production company offering a variety of
theatrical expressions ranging from a full leng-
thesis to improvisations, mime and puppetry for
touring performances to schools and community
organizations in the Mother Lode area.
May be repeated with different credits.

160 CHILDREN'S THEATRE-CREATIVE DRAMATICS 5 Units
Lecture: 5 hours
Directed activities in acting and technical theatre
with participation in public performances and
related production activities.
May be repeated without limit.

161 APPLIED DRAMA WORKSHOP 1 Unit
Lecture: 3 hours
A practical workshop in theatre arts appropriate
to the elementary school; varying emphases on tech-
niques in puppetry, mime, improvisation, theatre
physical theatre production. Survey of costume,
make-up, stagecraft, properties, lighting and
sound.

162 APPLIED DRAMA LABORATORY 1 Unit
Prerequisite: Drama 160 or Drama 165 or consent of 
Lecture: 3 hours
instructor.
Laboratory: 3 hours
Surveyed drama activities and projects con-
ducted in the elementary school.
May be repeated twice.

163a PUPPETRY 4 Units
Lecture: 3 hours
The design and construction of puppets and pup-
net Marionettes; techniques in manipulation and pup-
pet theatre; survey and adaptation of appro-
ropriate apparatus for the puppet stage; pure-
ness and performance experience for creative
puppetry.
Laboratory: 3 hours
Puppet theatre production; the survey and adap-
Laboratory: 3 hours
Laboratory: 3 hours
May be repeated with different credits.

163b PUPPETRY 4 Units
Prerequisite: Drama 163a or consent of instructor.
Laboratory: 3 hours
Rehearsal and performance of puppet theatre pro-
ductions; advanced techniques in design, con-
struction, manipulations, direction and performance of
puppet theatre; survey and adaptation of literature
appropriate to the puppet stage.

EARTH SCIENCE
59 GEOLOGY OF THE MOTHER LODGE 3 Units
Prerequisite: High School Earth Science course or equivalent
Laboratory: 3 hours
or consent of instructor.
A synoptic view of the geologic history of the Sierra
Nevada.
Field trips may be required.

63 MOTHER LODE SKIES 5 Units
Laboratory: 3 hours
Viewing and understanding the night sky in the
latitude of the Mother Lode identifying constella-
tions, determining sunrise and sunset; using star
charts; observing celestial objects with telescopes.
May be repeated three times.

101 SURVEY OF GEOLOGY 2 Units
Lecture: 3.5 hours
Laboratory: 1.5 hours
A brief survey of the principles and processes of
geology, including an introduction to volcanoes,
earthquakes, glaciers, the motion of continental
plates, and the methods of identifying rocks.

110 INTRODUCTION TO PHYSICAL GEOLOGY 1 Unit
Lecture: 1 hour
The role of energy and matter in the geologic pro-
cess, rocks and minerals, the contents of the
universe, the earth as an astronomical body, and
the chemical principles needed for the study of
rocks and minerals.

111 ROCKS AND MINERALS 2 Units
Prerequisite: Previous or concurrent enrollment in
Laboratory: 1 hour
E.S. 110 recommended.
Lecture: 1 hour
Laboratory: 3 hours
Composition, structure, formation, and identifi-
cation of crystals and minerals as well as igneous,
sedimentary and metamorphic rocks.

112 EROSION—WATER, WIND AND ICE 1 Unit
Lecture: 1 hour
The shaping of land by water, wind and ice— ero-
sional and depositional features.

113 MOUNTAINS AND EARTHQUAKES 1 Unit
Lecture: 1 hour
The earth's interior, types of mountains, earth-
quakes, introduction to global tectonics.

125 GEOLOGY OF THE NATIONAL PARKS 4 Units
Lecture: 4 hours
Interpretation of the geologic features of our na-
tional parks and monuments with an introduction
Laboratory: 3 hours
Field trips may be required.

133 GLOBAL TECTONIC GEOLOGY 4 Units
Lecture: 4 hours
An introduction to the new global geology and how
Laboratory: 3 hours
it has revolutionized man's understanding of the
way the earth works. For all who wish to learn
about the earth's wandering continents and
spreading sea floors; what causes rising mountain
ranges, volcanoes, and earthquakes.

139 FIELD GEOLOGY 1-3 Units
Prerequisite: A successful course in Earth Science is desirable.
Laboratory: 1.5 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.

141 SURVEY OF ASTRONOMY 2 Units
Lecture: 1.5 hours
Laboratory: 1.5 hours
A brief survey of the principles of astronomy with
Laboratory: 3 hours
emphasis on selected astronomical methods.

142 DESCRIPTIVE ASTRONOMY 3 Units
Lecture: 3 hours
A non-rigorous survey course in astronomy
Laboratory: 3 hours
for non-science majors. Topics include history of
astronomy; telescopes; solar system and its relation
ship to the galaxies, properties and evolution of stars.
Field trips may be required.

149 OBSERVATIONAL ASTRONOMY 2 Units
Prerequisite: Previous or concurrent enrollment in
Laboratory: 3 hours
Earth Science 144 or consent of instructor.
Lecture: 2 hours
Development of observational skills such as setting
up and using telescopes; learning astrophoto-
graphic procedures; determining, sunset and
sideral time; and learning constellations.
Field trips may be required.

150 SPACE SCIENCE 4 Units
Lecture: 4 hours
History and development of space technology.
Laboratory: 3 hours
Basic understanding of the problems of man in
space.

155 INTELLIGENT EXTRATERRESTRIAL LIFE 4 Units
Lecture: 4 hours
A scientific and factual analysis of the possibility
of intelligent life in outer space and the possibility
of finding such life in time and space.

161 SURVEY OF METEOROLOGY 2 Units
Lecture: 1.5 hours
Laboratory: 1.5 hours
A brief survey of the principles of meteorology and
their effect on modern society.

171 SURVEY OF OCEANOGRAPHY 2 Units
Lecture: 1.5 hours
Laboratory: 1.5 hours
A brief survey of the principles of oceanography
and their effect on modern society.

Note: Completion of any two of the courses Earth Science 111, 112, 113 and 115 fulfills General Education Breadth
Requirements of a laboratory science.

ECONOMICS
55 UNDERSTANDING THE AMERICAN ECONOMY 3 Units
Lecture: 3 hours
Introduction to macro-economic principles with
101 INTRODUCTION TO FIRE TECHNOLOGY 3 Units
Lecture: 3 hours
An introduction to fire protection; career opportunities in fire protection and related fields; history of fire protection; fire loss 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 SAFETY AND EMERGENCY ACTION 2 Units
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 3 Units
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 3 Units
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 4 Units
Lecture: 4 hours
Organization and function of fire prevention, inspections, surveying and mapping procedures, recognition of fire and life hazards, engineering a solution of a fire hazard, enforcing the solution of a fire hazard, public education aspects of fire prevention.

106 FIRE FIGHTING STRATEGY AND TACTICS 3 Units
Prerequisite: Fire Technology 101.
Lecture: 3 hours
Fire chemistry; equipment and manpower; fire fighting tactics and strategy; pre-planning fire problems.

110 RURAL FIRE COMPANY OPERATIONS 2 Units
Lecture: 2 hours
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.

114 FIRE APPARATUS AND EQUIPMENT 3 Units
Prerequisite: Fire Technology 101.
Lecture: 2 hours
Laboratory: 3 hours
Driving laws and techniques. Construction and operation of pumping engines, tank trucks, and trailers.

115 PUBLIC FIRE EDUCATION 4 Units
Lecture: 3 hours
Laboratory: 3 hours
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.

117 WILDLAND FIRE CONTROL 3 Units
Lecture: 3 hours
Factors affecting wildland fire prevention, fire behavior, and control techniques.

120 HEAVY EQUIPMENT IN FIRE CONTROL 3 Units
Lecture: 3 hours
Theory of heavy equipment used by a coordinated fire control team in fighting range fires.

123 FIRE HYDRAULICS 3 Units
Prerequisite: Mathematics 55 or consent of instructor.
Lecture: 3 hours
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.

125 FIRE EQUIPMENT REPAIR AND MAINTENANCE 3 Units
Prerequisite: Fire Technology 61 through 67 or equivalent.
Lecture: 2 hour
Laboratory: 3 hours
Repair of commonly used fire service equipment, including hand tools, small and auxiliary gas or electric powered tools, hydraulic mechanisms and personnel safety devices. Includes preventative maintenance, inspection procedures and measuring tolerances of calibrated equipment and devices.

127 FIRE INVESTIGATION 3 Units
Lecture: 3 hours
Determining causes and types of fires; possible evidence at the scene; interviewing witnesses and suspects; arrest, detention, and court procedures; and giving court testimony. (Student may not receive credit for both Fire Science 127 and Law Enforcement 140h.)

129 HAZARDOUS MATERIALS INCIDENT CONTROL 3 Units
Prerequisite: Fire Technology 104 and Fire Technology 130 or equivalent.
Lecture: 3 hours
Hazardous materials storage, handling laws, standards and emergency practices with emphasis on firefighting and incident control at the company officer level.

130 FIRE PROTECTION EQUIPMENT AND SYSTEMS 3 Units
Prerequisite: Fire Technology 101.
Lecture: 3 hours
Portable fire extinguishing equipment, sprinkler systems, protection systems for special hazards, fire alarm and detection systems.

145 FIRE VEHICLE MAINTENANCE 3 Units
Prerequisite: Fire Technology 101 or consent of instructor.
Lecture: 3 hours
Fundamentals of all vehicle structure. Basic construction of the vehicles, including the main power systems (fire pumps excluded) and techniques of maintenance.

FOREIGN LANGUAGE

French
50 CONVERSATIONAL FRENCH 1 Unit
Laboratory: 3 hours
Practice in vocabulary, idioms and grammatic usage.
May be repeated for a maximum of 6 units.

Italian
50 CONVERSATIONAL ITALIAN 1 Unit
Laboratory: 3 hours
Practice in vocabulary, idioms and grammatic usage.
May be repeated for a maximum of 6 units.

Spanish
100a CONVERSATIONAL SPANISH: Beginning 3 Units
Lecture: 3 hours
Laboratory: 3 hours
Practice in vocabulary, idioms, and grammatic usage with emphasis in conversational use of the language as spoken in Mexico.
May be repeated one time.

100b CONVERSATIONAL SPANISH: Intermediate 3 Units
Prerequisite: Spanish 100a or consent of instructor.
Lecture: 3 hours
Laboratory: 3 hours or Lecture: 3 hours
Continuation of Spanish 100a.
May be repeated one time.

106 CONVERSATIONAL SPANISH: Advanced 3 Units
Prerequisite: Spanish 100b or consent of instructor.
Lecture: 3 hours
Laboratory: 3 hours or Lecture: 3 hours
Continuation of Spanish 100c.
May be repeated one time.

FORESTRY

INTRODUCTION TO FORESTRY 4 Units
Lecture: 3 hours
Laboratory: 3 hours
History of the forest industry, survey of forest resources, forestry management and utilization techniques, career opportunities, legislation, and forest practices. Field trips may be required.

FORESTRY TECHNOLOGY

See Page 28 for Certificate Requirements.
51 INTRODUCTION TO FOREST SURVEYING INSTRUMENTS 2 Units
Lecture: 1 hour
Laboratory: 3 hours
Use of various forest surveying instruments; storage, transportation, and basic maintenance. Recording and interpretation.

53 FOREST SURVEYING TECHNIQUES 3 Units
Prerequisite: Forestry Technology 51.
Lecture: 3 hours
Laboratory: 1 hour
Basic forest surveying instruments. Application of hand and staff compass, topographic and engineer's chain, abney and dumpy level, pocket altimeter, and engineer's transit. Field trips may be required.

56 TREE AND PLANT IDENTIFICATION 3 Units
Lecture: 3 hours
Laboratory: 3 hours
Classification and identification of major western United States timber species with emphasis on local and California plant cover. Description of physical, economic and silvicultural characteristics of these trees as related to forest management and utilization. Field trips may be required.

59 FOREST INVENTORY 5 Units
Prerequisite: Forestry Technology 53.
Lecture: 3 hours
Laboratory: 2 hours
Forest inventory techniques; applied timber cruising, scaling and marketing. Field tabulation and computation techniques. Field trips may be required.

62 APPLIED FOREST MANAGEMENT 5 Units
Prerequisite: Forestry Technology 56. Forestry Technology 59 and Natural Resources Technology 60 recommended.
Lecture: 3 hours
Laboratory: 9 hours
Location 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.

102 INTRODUCTION TO CULTURAL GEOGRAPHY 5 Units
Lecture: 5 hours
The study of humankind's relationship with the earth's environment. An inter-disciplinary approach will be emphasized. The techniques and resources of the cultural and political geography, anthropology, environmental science, history, and sociology will be included.

105 PHYSICAL GEOGRAPHY 5 Units
Lecture: 5 hours
An introduction to the distribution over the earth of selected aspects of climate, plant and animal life, soils and landforms, and the processes and conditions giving rise to these distributions. Attention to map construction, interpretation and use in comparative analysis. Field trips may be required.

101 CAREER EXPLORATION 3 Units
Lecture: 3 hours
Designed to clarify thinking regarding the selection of and preparation for a career. Personal assessment of interests, aptitudes and values (may include use of selected interest and aptitude inventories); relationship between education and occupations; occupational trends; and development of skills in resume writing and interviewing. Offered for CR/NC only.

105a HOME HEALTH AIDE 4 Units
Prerequisite: Advanced First Aid Certificate within the last two years or consent of instructor.
Lecture: 5 hours
Laboratory: 2 hours
Field trips may be required.

105c HOME HEALTH AIDE II 4 Units
Prerequisite: Health Occupations 113a.
Lecture: 5 hours
Laboratory: 2 hours
Prerequisite: Health Occupations 113a.
Laboratory: 2 hours
Port hospital patient care using prescribed exercises, assisting with self administered medications, and performing household services essential to patients' care in the home. Field trips may be required.

105b HOME HEALTH AIDE I 4 Units
Prerequisite: Health Occupations 10a.
Lecture: 5 hours
Laboratory: 3 hours
Port hospital patient care using prescribed exercises, assisting with self administered medications, and performing household services essential to patients' care in the home. Field trips may be required.

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

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.

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 in relation to growth, maintenance, and reproduction; factors influencing normal metabolism; construction of the adequate diet. Emphasis is placed upon the chemical aspects of nutrition.

120a FIRST AID EDUCATION AND EMERGENCY CARE 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.

130b ANATOMY AND PHYSIOLOGY FOR VOCATIONAL NURSES 5 Units
Prerequisite: Current enrollment in Vocational Nursing Program.
Lecture: 5 hours
An introduction to the Licensed Vocational Nurses' role in the allied health field including law, professional ethics, hospital routine, calculation of dosages and maternity nursing.

130a ANATOMY AND PHYSIOLOGY FOR VOCATIONAL NURSES 5 Units
Prerequisite: Health Occupations 113a.
Lecture: 5 hours
A study of the human body with emphasis on the individual systems and their functions.

130b ANATOMY AND PHYSIOLOGY FOR VOCATIONAL NURSES 5 Units
Prerequisite: Health Occupations 113a.
Lecture: 5 hours
A continuation of Health Occupations 113a including study of food metabolism and energy requirements.

135 MATERNITY NURSING 3 Units
Prerequisite: Health Occupations 110 or consent of instructor.
Lecture: 3 hours
Knowledge of the signs, symptoms and care of the obstetrical patient.
VOCATIONAL NURSING/HEAVY EQUIPMENT AND TRUCK REPAIR

118 PHARMACOLOGY FOR VOCATIONAL NURSES  2 Units
Prerequisite: Health Occupations 110 or consent of instructor. Lecture: 2 hours
Drug sources, standards, and dosages. Basic procedures for administering drugs.

120 EFFECTS OF MEDICATION ON BODY SYSTEMS  2 Units
Prerequisite: Satisfactory completion of Health Occupations 120a 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.

120 EFFECTS OF MEDICATION ON BODY SYSTEMS  2 Units
Prerequisite: Satisfactory completion of Health Occupations 120a 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.

123 PEDIATRICS  5 Units
Prerequisite: Health Occupations 123a with or consent of instructor. Lecture: 5 hours

125 MEDICAL-SURGICAL NURSING  5 Units
Prerequisite: Health Occupations 125a or consent of instructor. Lecture: 5 hours
A study of abnormalities and diseases and an introduction to the care of the surgical patient.

125 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.

128 COMMUNITY HEALTH  3 Units
Prerequisite: Health Occupations 128a 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.

140 CLINIC  8 Units
Prerequisite: Current enrollment in Vocational Nursing Program. Laboratory: 8 hours
Clinical experience in a hospital; to include hospital routine, departments, and patient care.

HEAVY EQUIPMENT AND TRUCK REPAIR

50 BUS DRIVER TRAINING  2 Units
Prerequisite: Possession of a valid California drivers license. Lecture: 2 hours
Lecture: 1 hour Laboratory: 1 hour
The driver's responsibility for pupils, care and operation of a school bus, and laws relating to pupil transportation.

52 RECREATIONAL VEHICLE ENGINE REPAIR  2 Units
Lecture: 1 hour Laboratory: 1 hour
Maintenance and repair of all terrain vehicles, trail bikes, vans, snowmobiles, motorcycles and boat engines.

70 LOGGING EQUIPMENT  3 Units
Lecture: 2 hours Laboratory: 3 hours
Use of heavy equipment in the lumbering industry and land clearing. Safety training and accident prevention; fire laws and equipment.

101 INTRODUCTION TO HEAVY EQUIPMENT  3 Units
Lecture: 3 hours
The use of on-road and off-road equipment in transportation and construction. Safety and accident prevention, fundamentals of math, fasteners. Use of hoisting and lifting equipment and devices and shop safety. Students may be requested to arrange a basic skills class including math and reading with the Learning Skills Center.

102 PREVENTIVE MAINTENANCE (TRACTORS)  2 Units
Lecture: 1 hour Laboratory: 3 hours
Principles of basic preventive maintenance. Lubricants, filters, and air systems, as well as basic lubrication processes are stressed.

103 HEAVY EQUIPMENT APPRENTICESHIP  1 Unit
Prerequisite: Previous or concurrent enrollment in Heavy Equipment 103a. Lecture: 1 hour
Historical and legal background, administration of apprenticeship systems, the operating engineer apprenticeship, federal and state laws that provide worker security.

104 PREVENTIVE MAINTENANCE (TRUCKS)  2 Units
Lecture: 1 hour Laboratory: 3 hours
Care and maintenance of trucks. Preventive maintenance schedules, tire repair, lubrication and cooling systems of the engine, air systems maintenance, chassis lubrication, safety inspection and maintenance. Axles and brakes are covered.

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.

115a DIESEL ENGINE REBUILDING: Caterpillar  3 Units
Prerequisite: Heavy Equipment 114. Lecture: 1.5 hours Laboratory: 4.5 hours
Understanding of the principles, construction, and operation of diesel engines. Practical experience in the dismantling, assembly, operation and maintenance of Caterpillar diesel engines.

115b DIESEL ENGINE REBUILDING: Detroit  3 Units
Prerequisite: Heavy Equipment 114. Lecture: 1.5 hours Laboratory: 4.5 hours
Understanding of the principles, construction, and operation of diesel engines. Practical experience in the dismantling, assembly, operation and maintenance of Detroit diesel engines.

115c DIESEL ENGINE REBUILDING: Cummins  3 Units
Prerequisite: Heavy Equipment 114. Lecture: 1.5 hours Laboratory: 4.5 hours
Understanding of the principles, construction, and operation of diesel engines. Practical experience in the dismantling, assembly, operation and maintenance of Cummins diesel engines.

116a DIESEL ENGINE TUNE-UP: Caterpillar  1 Unit
Prerequisite: Heavy Equipment 114. Lecture: 5 hours Laboratory: 1.5 hours
Techniques and procedures for tuning a Caterpillar diesel engine.

116b DIESEL ENGINE TUNE-UP: Detroit  1 Unit
Prerequisite: Heavy Equipment 114. Lecture: 5 hours Laboratory: 1.5 hours
Techniques and procedures for tuning a Detroit diesel engine.

116c DIESEL ENGINE TUNE-UP: Cummins  1 Unit
Prerequisite: Heavy Equipment 114. Lecture: 5 hours Laboratory: 1.5 hours
Techniques and procedures for tuning a Cummins diesel engine.
HOSPITALITY MANAGEMENT

113 CHINA
Lecture: 4 hours
Survey of the development of China from its earliest civilization to its major place in the contemporary world.

117A UNITED STATES
Lecture: 5 hours

117B UNITED STATES
Lecture: 5 hours
Survey of United States history from Reconstruction to the present. Analysis and interpretation of Industrialism, Progressivism, Internationalism, New Deal, and Contemporary America.

121a CALIFORNIA
Lecture: 3 hours
Survey of California history from the pre-Columbian period through the transcontinental railroad. Emphasis will be on the native Californians, Spanish-Mexican institutions, Immigration, Conquest, and Gold Rush.

121b CALIFORNIA
Lecture: 3 hours
Survey of California history from the Gold Rush to the present. Emphasis will be on the miner wealth, agriculture, transportation, water systems, and Contemporary California.

133 ORAL HISTORY
Lecture: 1 hour
Laboratory: 3 hours
Fundamentals of the tape-recorded interview. Demonstrations and discussions of the interview as a method in historical research and writing.

149 THE MOTHER LODE
Lecture: 3 hours
History and lore of the Gold Rush country, with emphasis on the Central Sierra communities. Field trips may be required.

155 THE AMERICAN FRONTIER
Lecture: 4 hours
Study of successive frontier zones and hostile environments in reshaping imported customs and habits into uniquely “American” characteristics. Emphasis will be on the 19th Century.

101 INTRODUCTION TO THE HOSPITALITY INDUSTRY
Lecture: 4 hours
Survey of the hotel-motel, food services, travel-tourism, club and recreation business. Analysis of the organizational structure of the hospitality industry, including historical development and examination of industry trends. Major emphasis will be placed on career planning and management in the hospitality industry. Field trips may be required.

103 MARKETING OF HOSPITALITY SERVICES
Lecture: 4 hours
A study of people, product, package, price, and promotion, and how they interrelate and constitute the ingredients in a marketing program. Field trips may be required.

112 FRONT OFFICE MANAGEMENT / LAWS OF INNKEEPING
Lecture: 4 hours
Prerequisite: Hosp. Management 101 or consent of instructor.

120 HOTEL CATERING
Lecture: 1.5 hours
Laboratory: 4.5 hours
Planning and preparation for private parties, dinners, meetings, and other special events that a hotel or restaurant may cater.

130 FOOD SERVICE MANAGEMENT
Lecture: 3 hours
Introduction to culinary nomenclature, cost controls, kitchen equipment, planning, management reports, menu planning, food purchasing, nutrition and sanitation. Field trips may be required.

131 DINING ROOM SERVICE
Prerequisite: Hospitality Management 101 or consent of instructor.

135 COMMERCIAL BAKING
Prerequisite: Hosp. Management 130 or consent of instructor.

136 ADVANCED BAKING
Prerequisite: Hosp. Management 130 or consent of instructor.

137 BUFFET CATERING
Prerequisite: Hosp. Management 130 or consent of instructor.

138 FAMILY RESTAURANT SERVICE
Prerequisite: Previous or concurrent enrollment in Hospitality Management 130 or consent of instructor.

140a CLASICAL CUISINE: Beginning

Food Services

140b CLASICAL CUISINE: Intermediate
Prerequisite: Hosp. Management 130 or consent of instructor.

COMMERCIAL BAKING
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.

COMMERCIAL BAKING
Prerequisite: Hosp. Management 130 or consent of instructor.

COMMERICAL BAKING
Prerequisite: 8 units of shop classes with not more than 2 of the units taken concurrently with Heavy Equipment 170a or consent of instructor.

COMMERCIAL BAKING
Prerequisite: Heavy Equipment 170a.

COMMERCIAL BAKING
Prerequisite: Heavy Equipment 170b.

COMMERCIAL BAKING
Prerequisite: Heavy Equipment 170c.

COMMERCIAL BAKING
Prerequisite: Heavy Equipment 170a.

COMMERCIAL BAKING
Prerequisite: Heavy Equipment 170b.

COMMERCIAL BAKING
Prerequisite: Heavy Equipment 170c.

COMMERCIAL BAKING
Prerequisite: 8 units of shop classes with not more than 2 of the units taken concurrently with Heavy Equipment 170a or consent of instructor.
140b CLASSICAL CUISINE: Intermediate 3 Units
Prerequisite: Hospitality Management 140a
Lecture: 2 hours
Laboratory: 3 hours
Field trips may be required.

A continuation of Hospitality Management 140a with emphasis on preparation of vegetables, sauces, rice and farinaceous products. Basic techniques of braising, roasting, sautéing, and deep fat frying.

140c CLASSICAL CUISINE: Advanced 3 Units
Prerequisite: Hospitality Management 140b
Lecture: 2 hours
Laboratory: 4 hours
Preparation of gourmet and more complicated foods using representative selections from the eight course groups.
Field trips may be required.

144 MEAT ANALYSIS 3 Units
Prerequisite: Hospitality Management 140b
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 140a or consent of instructor.
Lecture: 1 hour
Laboratory: 6 hours
Field trips may be required.

Study of all aspects of beverage management including domestic and international travel, laws, services, communications systems, and interaction with other sectors of the hospitality industry. Field trips may be required.

163 TOURS 3 Units
Prerequisite: Hospitality Management 140c or consent of instructor.
Lecture: 1.5 hours
Laboratory: 4.5 hours
The principles and procedures of group tour management and planning.

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, reflected in modern cults like Eckankar, 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 Units
Lecture: 3 hours
Historical forces in American Religion traced from their European origins and colonial development up to modern American religious trends and their impact upon society.

130 WORLD RELIGIOUS CONSCIOUSNESS 3 Units
Lecture: 3 hours
Development of religious consciousness from primitive beliefs in ancient times to the major religions of the world: Hinduism, Buddhism, Taoism, Judaism, Christianity, and Islam.

130b BEVERAGE MANAGEMENT 3 Units
Prerequisite: Hospitality Management 140b
Lecture: 3 hours
Laboratory: 6 hours
Evolution of tourism as an industry. Survey of domestic and international travel, services, communications systems, and interaction with other sectors of the hospitality industry. Field trips may be required.

130c CLASSICAL CUISINE: Advanced 3 Units
Prerequisite: Hospitality Management 140c
Lecture: 3 hours
Laboratory: 6 hours
A continuation of Hospitality Management 140c to provide the student with additional supervised experience and subject area knowledge.

134 WORLD RELIGIOUS CONSCIOUSNESS 3 Units
Lecture: 3 hours
A cross-disciplinary introduction to contemporary styles, important works, major figures, trends, and techniques common to art, drama, and music.

135 INTRODUCTION TO MOTHER LODE STUDIES 3 Units
(Golf Week Short Course)
Lecture: 3 hours
An introduction to the Mother Lode. Topics covered may include any of a wide variety such as history and folklore, wildflowers, art, geology, the environment, and writers of the Mother Lode. Field trips may be required.

136 ADVANCED WOODWORKING 1 Unit
Prerequisite: Industrial Arts 55
Lecture: 3 hours
Woodworking skills and processes and the safe use of hand and woodworking tools.

140a CLASSICAL CUISINE: Intermediate 3 Units
Prerequisite: Hospitality Management 140a
Lecture: 2 hours
Laboratory: 3 hours
Field trips may be required.

HUMANITIES/INDUSTRIAL ARTS/INTERDISCIPLINARY STUDIES/JOURNALISM/LAW ENFORCEMENT

101a INTRODUCTION TO JOURNALISM 3 Units
Prerequisite: Typing speed of 30 words per minute recommended.
Laboratory: 3 hours
Introduction to basic newsgathering, writing techniques, production methods, photography, commercial art, advertising, libel and slander laws, journalism careers.

101b INTRODUCTION TO JOURNALISM 3 Units
Prerequisite: Journalism JOJa
Laboratory: 3 hours
Continuation of Journalism 101a. May be repeated to a maximum of 9 units of credit.

101c INTRODUCTION TO JOURNALISM 3 Units
Prerequisite: Journalism JOJb
Laboratory: 3 hours
Continuation of Journalism 101c. May be repeated to a maximum of 9 units of credit.

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 newsgathering, writing skills and production methods. Field trips may be required. May be repeated to a maximum of 9 units of credit.

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, and rehabilitation; ethics, education, and training of professionalism in the system.

102 PRINCIPLES AND PROCEDURES OF THE JUSTICE SYSTEM 4 Units
Lecture: 4 hours
An in-depth study of the role and responsibilities in parks and recreation, with exposure to park management, design, maintenance and construction. Recreational aspects, job opportunities and duties.
102 CONCEPTS OF CRIMINAL LAW 4 Units
Lecture: 4 hours
Historical development, philosophy of law and constitutional provisions; definitions, classification of crime, and their application to the system of administration of justice; legal research, study of case law, methodology, and concepts of law as a social course.

106 LEGAL ASPECTS OF EVIDENCE 4 Units
Lecture: 4 hours
Origin, development, philosophy, and constitutional basis of evidence; constitutional and procedural considerations affecting arrest; search and seizure; kinds and degrees of evidence and rules governing admissibility; judicial decisions interpreting individual rights and case studies.

110 POLICE, COMMUNITY RELATIONS 4 Units
Lecture: 4 hours
An in-depth exploration of the roles of the Administration of Justice practitioners and their agencies. Principal emphasis will be placed upon the professional image of the system of Justice Administration and the development of positive relationships between members of the system and the public.

110 INTERMEDIATE ALGEBRA 5 Units
Prerequisite: Math 55 or one year high school algebra. Lecture: 5 hours or Laboratory: 3 hours
Prerequisite: Mathematics 55 or one year high school algebra.

115 MATRIX MATHEMATICS FOR COMPUTERS 2 Units
Prerequisite: Mathematics 55 or one year high school algebra.

110 SUBSTANTIVE LAW 4 Units
Prerequisite: Law Enforcement 100.
Lecture: 4 hours
Law relating to criminal offenders and inmates of California institutions; administration of California Penal Code.

112 JUVENILE PROCEDURES 4 Units
Prerequisite: Law Enforcement 100.
Lecture: 4 hours
The organization, functions, and jurisdiction of juvenile agencies; the processing and detention of juveniles; juvenile case disposition; juvenile statutes and court procedures.

114 ADVANCED OFFICERS’ TRAINING 2-4 Units
Prerequisite: Law Enforcement 100. 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.

130 CALIFORNIA PENAL CODE 4 Units
Prerequisite: Law Enforcement 100.
Lecture: 4 hours
Law relating to criminal offenders and inmates of California institutions; administration of California Penal Code.

131 INTRODUCTION TO LIBRARY RESOURCES 2 Units
Lecture: 1 hour Laboratory: 3 hours
Instruction and practice in locating and utilizing library resources. Emphasis on basic library techniques with respect to preparing bibliographies.

132 SELF DEFENSE 2 Units
Prerequisite: Law Enforcement 100.
Lecture: 1 hour Laboratory: 3 hours
Protection against persons armed with dangerous and deadly weapons; demonstration and drill in a limited number of holds and come-alongs; restraint of prisoners and the mentally ill; use of the baton.

133 ADVANCED ALGEBRA 5 Units
Lecture: 5 hours
Prerequisite: Mathematics 55 or one year high school algebra.

134 FIREARMS 1 Unit
Prerequisite: Law Enforcement 100.
Laboratory: 2 hours
The moral aspects, legal provisions, safety precautions and restrictions covering the use of firearms; firing of the sidearm and shotgun; gas weapons.

135 BEGINNING ALGEBRA 5 Units
Lecture: 5 hours Laboratory: 3 hours
A basic course in arithmetic.

136 ARSON INVESTIGATION: BEGINNING 4 Units
Prerequisite: Law Enforcement 100.
Lecture: 4 hours
Designed to prepare fire suppression officers and police patrol officers to carry out the responsibilities of arson detection and establish the foundations for an indepth arson investigation.

137 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.

138 BEGINNING TRIGONOMETRY 2 Units
Prerequisite: Mathematics 101 or equivalent high school course.

139 LIBRARY RESOURCES 2 Units
Lecture: 1 hour Laboratory: 3 hours
Instruction and practice in locating and utilizing library resources. Emphasis on basic library techniques with respect to preparing bibliographies.

140 ARSON INVESTIGATION: BEGINNING 4 Units
Prerequisite: Law Enforcement 100.
Lecture: 4 hours
Designed to prepare fire suppression officers and police patrol officers to carry out the responsibilities of arson detection and establish the foundations for an indepth arson investigation.

140 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.

140 LABORATORY SECTIONS 2 Units
Prerequisite: Mathematics 101 or equivalent high school course.

144 ADVANCED TRIGONOMETRY 2 Units
Prerequisite: Mathematics 101 or equivalent high school course.

145 BEGINNING TRIGONOMETRY 2 Units
Prerequisite: Mathematics 101 or equivalent high school course.

146 GEOMETRY 5 Units
Prerequisite: Math 55 or one year high school algebra recommended.
Lecture: 5 hours Laboratory: 3 hours
Plane geometry, solid geometry, and coordinate geometry.

147 PROBABILITY AND STATISTICS 2 Units
Prerequisite: Mathematics 101 or equivalent high school course.

148 LIBRARY RESOURCES 2 Units
Lecture: 1 hour Laboratory: 3 hours
Instruction and practice in locating and utilizing library resources. Emphasis on basic library techniques with respect to preparing bibliographies.

149 ADVANCED OFFICERS’ TRAINING 2-4 Units
Prerequisite: Law Enforcement 100. 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.

150 SUPERVISED FIELD WORK 4 Units
Prerequisite: Law Enforcement 100.
Lecture: 2 hours Laboratory: 4 hours
Supervised field work with experiences in several of the surrounding facilities involved in crime prevention.
120a CALCULUS WITH ANALYTIC GEOMETRY 5 Units
Prerequisite: Two years of high school algebra, one year of plane geometry, and one-half year of trigonometry or Math 102. Math 103 recommended.
Lecture: 5 hours
Lecture: 4 hours
Laboratory: 3 hours

Inequalities, relations, functions, graphs, limits, the derivative, continuity, lines, circles, and conics with geometric and physical interpretations of the derivative.

120b CALCULUS WITH ANALYTIC GEOMETRY 5 Units
Prerequisite: Math 120a.
Lecture: 4 hours
Laboratory: 3 hours

Elements of analytic geometry, introduction to integral calculus with applications and continuation of differential calculus; trigonometric, logarithmic, exponential, and hyperbolic functions.

120c CALCULUS WITH ANALYTIC GEOMETRY 5 Units
Prerequisite: Math 120b.
Lecture: 5 hours
Lecture: 4 hours
Laboratory: 3 hours

Polar coordinates, vectors in the plane, techniques in integration, and applications of the integral.

100 STANDARD NOTATION 3 Units
Lecture: 4 hours

Introduction to traditional musical notation, key signatures, scales, intervals and chords, sight singing and ear training.

102 INTRODUCTION TO MUSIC 4 Units
Lecture: 4 hours

Study and analysis of music, including instrumentation, form, basic elements, and general background of styles and composers.

109 PERFORMANCE PRACTICUM 5 Units
Activity: 1 hour

A series of concerts and recital demonstrations involving students, staff and visiting artists for the development of performance methodology and critical listening skills.

110a SURVEY OF MUSIC HISTORY AND LITERATURE 5 Units
Lecture: 5 hours

Ancient, Medieval, Renaissance, and Baroque periods. Study of composers, masterpieces, and elements of style from the 16th through 17th Centuries.

110b SURVEY OF MUSIC HISTORY AND LITERATURE 5 Units
Lecture: 5 hours

Classic and Romantic periods. Study of composers, masterpieces, and elements of style during the 18th and 19th Centuries.

110c SURVEY OF MUSIC HISTORY AND LITERATURE 5 Units
Lecture: 5 hours

Late Romantic Impressionistic, and Contemporary periods. Study of composers, masterpieces, and elements of style from 1890 to the present.

Field trips may be required.

112 SURVEY OF JAZZ AND POPULAR MUSIC 4 Units
Lecture: 4 hours

Nature, processes and history of jazz and popular music from its origins to the present.

Field trips may be required.

115 SURVEY OF EASTERN MUSIC 4 Units
Lecture: 4 hours

Introduction to the music cultures of the Near East, Asia, the Orient, and the Pacific Islands.

120 MUSIC THEORY 5 Units
Lecture: 4 hours
Activity: 2 hours

Analysis of the essentials for understanding and writing music. Included are rhythm, scales, intervals, chords, notation, melody writing, elementary harmony, ear training, and keyboard applications.

120c MUSIC THEORY 5 Units
Lecture: 4 hours
Activity: 2 hours

Study of diatonic 4-part harmony with analysis of Bach chorales, figured bass, chord progressions, harmonic motion, orchestration, harmonic ear training, and keyboard harmony.

120d MUSIC THEORY 5 Units
Lecture: 4 hours
Activity: 2 hours

Continuing study in harmony and composition with secondary key centers, modulation, altered chords, non-harmonic notes, form and analysis of contemporary music.

122 ADVANCED MUSIC THEORY 5 Units
Prerequisite: Music 120c or equivalent.
Lecture: 4 hours
Activity: 2 hours

Further study in dominant harmony, extended diatonic chords, unusual chord progression, borrowed chords, irregular resolutions, beginning counterpoint, and advanced harmonic analysis. Continuing study in sightseeing, ear training, and keyboard applications.

122b ADVANCED MUSIC THEORY 5 Units
Prerequisite: Music 120a.
Lecture: 4 hours
Activity: 3 hours

Study of advanced tonal harmony with modulation to distant keys, non-dominant resolutions, the Neapolitan chord, the augmented sixth chords, contrapuntal and chromatic harmony, and further study in melody, counterpoint, sight singing, ear training, and keyboard applications.

122c ADVANCED MUSIC THEORY 5 Units
Prerequisite: Music 120b.
Lecture: 4 hours
Activity: 3 hours

Study of music beyond the common practice period, modern analytical systems, scalar and non-tonal harmony, pandiatonicism, modal harmony, tonality supporting and weakening elements, atonality, atonal harmony, chromatic sight singing, ear training. May be repeated one time.

126 COMPOSITION 3 Units
Prerequisite: Music 120b.
Lecture: 4 hours
Laboratory: 3 hours

Composing in various musical styles as well as synthesis of student's own style. Study and analysis of different methods of composition of music in relation to project chosen by student. May be repeated one time.

130 BEGINNING GUITAR 3 Units
Prerequisite: Concurrent enrollment in Music 109 recommended.
Lecture: 2 hours
Activity: 2 hours

Beginning group instruction in methods and techniques of playing the guitar. May be repeated one time.

131 BEGINNING KEYBOARD 3 Units
Prerequisite: Concurrent enrollment in Music 109 recommended.
Lecture: 2 hours
Activity: 2 hours

Group instruction in performance methods and techniques on keyboard instruments. May be repeated one time.

134 BEGINNING STRINGS 3 Units
Prerequisite: Concurrent enrollment in Music 109 recommended.
Lecture: 2 hours
Activity: 2 hours

Beginning performance methods and techniques on string instruments. May be repeated one time.

136 BEGINNING VOICE 3 Units
Prerequisite: Concurrent enrollment in Music 109 recommended.
Lecture: 2 hours
Activity: 2 hours

Group instruction in the techniques of singing.

Practice in correct tone production, diction, stage presence, and reading of musical notation. May be repeated one time.

138 BEGINNING JAZZ IMPROVISATION 3 Units
Lecture: 2 hours
Activity: 2 hours

Beginning study in jazz improvisation with emphasis on style, rhythm, and pentatonic and diatonic scales.

140 INTERMEDIATE GUITAR 3 Units
Prerequisite: Music 130, or consent of instructor. Concurrent enrollment in Music 109 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.

141 INTERMEDIATE KEYBOARD 3 Units
Prerequisite: Music 131, or consent of instructor. Concurrent enrollment in Music 109 recommended.
Lecture: 2 hours
Activity: 2 hours

Group instruction in performance methods and techniques on keyboard instruments with emphasis on repertoire and elements of style. May be repeated one time.

144 INTERMEDIATE STRINGS 3 Units
Prerequisite: Music 134, or consent of instructor. Concurrent enrollment in Music 109 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.

146 INTERMEDIATE VOICE 3 Units
Prerequisite: Music 136, or consent of instructor. Concurrent enrollment in Music 109 recommended.
Lecture: 2 hours
Activity: 2 hours

Group instruction in singing for those with demonstrated interest in developing solo capability. Practice in correct tone production, diction, stage presence, and reading of musical notation. May be repeated one time.

148 INTERMEDIATE JAZZ IMPROVISATION 3 Units
Prerequisite: Music 138 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 SERIES — APPLIED MUSIC
Prerequisite: Audition. Concurrent enrollment in Music 109 recommended. Lecture: 1 hour
Study of performance techniques, interpretation, and repertoire related to private music instruction. Designated for music majors and minors. May be repeated for a maximum of six units.
150 APPLIED MUSIC, Guitar 1 Unit
151 APPLIED MUSIC, Keyboard 1 Unit
152 APPLIED MUSIC, Woodwinds 1 Unit
153 APPLIED MUSIC, Brass 1 Unit
154 APPLIED MUSIC, Strings 1 Unit
155 APPLIED MUSIC, Percussion 1 Unit
156 APPLIED MUSIC, Voice 1 Unit
157 APPLIED MUSIC, Synthesizer 1 Unit

160 CHOIR
Prerequisite: Concurrent enrollment in Music 109 recommended. Activity: 2-4 hours
Study and performance of mixed choral works of various periods and styles. May be repeated without limit.
164 CHOIR
Prerequisite: Audition. Activity: 2-4 hours
Study and performance of vocal jazz and improvisation in an ensemble of limited size.

165 THEATRE PRODUCTION: MUSIC EMPHASIS
Prerequisite: Audition. Activity: 2-4 hours
Directed activities in theatre production for public performance with a concentration in vocal or instrumental music. May be repeated without limit.

166 COMMUNITY CHOIR
Prerequisite: Concurrent enrollment in Music 109 recommended. Activity: 2-4 hours
Study and performance of mixed choral works of various periods and styles. May be repeated without limit.
169 ENSEMBLE: VOCAL EMPHASIS
Prerequisite: Audition. 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
Prerequisite: Audition; concurrent enrollment in Music 109 recommended. Activity: 2-4 hours
Study and performance of advanced wind ensemble literature. Attendance at all scheduled perfor-

170 (continued)
mances is required. May be repeated without limit.

172 JAZZ ENSEMBLE
Prerequisite: Audition; concurrent enrollment in Music 109 recommended. Activity: 2-4 hours
Study and performance of instrumental jazz and improvisation; techniques of improvisation will be explored. May be repeated without limit.

176 ORCHESTRA
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
Prerequisite: Audition; concurrent enrollment in Music 109 recommended. Activity: 2 hours
Study and performance of music for small ensembles, duets, and chamber groups. May be repeated without limit.

NATURAL RESOURCES
See Preparatory for Certificate Requirements.

100 CONSERVATION OF NATURAL RESOURCES
Lecture: 4 hours
Natural resources conservation; history of land use, field practices, and current problems of physical and biological natural resources conservation. Field trips may be required.

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

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

105 ALTERNATIVE ENERGY SOURCES: SOLAR AND WIND
Lecture: 2 hours Laboratory: 3 hours
Cause and effect relationships of the energy crisis. Field trips may be required.

106 ALTERNATIVE ENERGY SOURCES: WATER, WIND, METHANE, AND GEOTHERMAL
Lecture: 3 hours
Practical applications of waterwheels, turbines, and hydraulic rams as examples of water power. Design, use and limitations of methane digesters. Discussions on geothermal, tidal, pedal power, animal power, biofuels, nuclear, and fossil fuel energy. Field trips may be required.

107 LAND USE PLANNING
Lecture: 2 hours Laboratory: 3 hours
Introduction to resources inventory, planning processes and environmental impact report preparation.

109 PARKS AND FORESTS
LAW ENFORCEMENT
Lecture: 4 hours
A general understanding of the rights and responsibilities of both the visitor and the employee in a wildland recreation setting. Field trips may be required.

122 FIRE ECOLOGY
Lecture: 1 hour
The use of fire and its relationship to Sierra plant and animal communities.

130 WILD EDIBLE PLANTS
Lecture: 2 hours Laboratory: 3 hours
Survey of wild edible plants with particular emphasis on Tuolumne County. Methods of collection, preserving and preparation. Survey of maple sugaring and mushrooms. Exposure to plants used in the areas of basketry, dyeing, fluff, clapper and pipe making; and herbal preparations. Field trips may be required.

133 WILD EDIBLE AND USEFUL PLANTS
Prerequisite: Natural Resources 110. Lecture: 2 hours Laboratory: 3 hours
Survey of wild edible and useful plants, emphasizing nutrient content of plants and forms of plant preservation and preparation. Survey of maple sugaring and mushrooms. Exposure to plants used in the areas of basketry, dyeing, fluff, clapper and pipe making; and herbal preparations. 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
Major viewpoints in philosophy studied by reading and discussing the original writings of the philosophers.

105 ALTERNATE VIEWS IN PHILOSOPHY 4 Units
Lecture: 1 hour
Prerequisite: Philosophy 101 or 102, or consent of instructor.
A study of individual and social values in political philosophy and esthetics.

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.
(Credit for this course will be awarded for either Philosophy 108 or Physics 108 but not both. May not be repeated.)

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 human kind, nature, society, history, science, technology, human values, and the meaning of life.

PHYSICAL EDUCATION

101 INTRODUCTION TO PHYSICAL EDUCATION 2 Units
Lecture: 2 hours
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 physical principles and background for professional education. Field trips may be required.

103 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. May be repeated two times.

105 PERSONAL FITNESS CONCEPTS AND EVALUATION 3 Units
Lecture: 1 hour
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 analyses. An ensuing exercise prescription is individually designed to ameliorate determined weaknesses.

106 THEORY AND PRACTICE OF ADAPTIVE PHYSICAL EDUCATION 3 Units
Lecture: 2 hours
Laboratory: 1 hour
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.

107 CORRECTIVE REHABILITATIVE PHYSICAL EDUCATION—ASSISTING 1-3 Units
Lecture: 1 hour
Prerequisite: Physical Education 106.
Laboratory: 3-9 hours
Designed to allow P.E. 106 students who have gone through the training program to assist in P.E. 144 at the level of teaching assistants. Students will be able to effectively use the knowledge and skills learned in P.E. 106 and learn advanced techniques.

108 WEIGHT TRAINING PRINCIPLES AND PROGRAMMING 1 Unit
Lecture: 1 hour
A study of major theoretical concepts of weight training. Students are led in a clear, meaningful fashion from the physiological mechanisms underlying training techniques to actual practices of them.

110 INTRAMURAL LEADERSHIP 2 Units
Lecture: 1 hour
Instruction and practical experience in the organization and administration of the intramural sports program. Students will be required to coordinate and supervise an activity within the college program.

111 LEADERSHIP LABORATORY 1 Unit
Prerequisite: Previous or concurrent enrollment in P.E. 110.
Laboratory: 3 hours
Practical experience in the organization and administration of the intramural sports program. Students will be required to coordinate and supervise an activity within the college program.

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. May be repeated without limit.

117 CHOREOGRAPHY AND COMPOSITION 4 Units
Prerequisite: Previous or concurrent enrollment in Modern Dance I 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 communicative 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: 6 hours
Dance performance company offering a variety of dances in styles ranging from modern, jazz and ballet to character and comedy, which will tour the Mother Lode Area performing for schools and community organizations. Dance workshops will be offered at selected sites. May be repeated without limit.

Activity Courses

120 Series: Courses meeting 2 hours per week for 1 unit of credit.

BADMINTON

The techniques involved in basic strokes. Emphasis on rules, use and care of equipment, and singles and doubles class competition. May be repeated three times.

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.

BOWLING

Instruction and practice in the basic fundamentals of bowling emphasizing the four step approach. Lines (games) are bowled and scored for record. May be repeated three times.

DANCE, AEROBIC

The development of aerobic dance routines for the non-dance student emphasizing cardiovascular fitness, coordination, flexibility, and balance. 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.
PHYSICAL EDUCATION

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.

VOLLEYBALL I
Basic techniques with emphasis on offensive and defensive tactics of team play. Rules and intra-class competition included.

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

Ballet 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.

Ballet 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, Jazz I
Introduction to the fundamentals of jazz dance with emphasis on basic technique, rhythmical analysis, and various cultural and historical styles.

Dance, Jazz II
Advanced work in jazz dance with emphasis on developing stylistic elements and performance techniques. Specific attention given to learning extended movement combinations and compositional forms indigenous to American jazz.
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 current fad dances.
May be repeated three times.

Football, Touch
Rules, techniques, and strategy of touch and flag football with emphasis on strength fundamentals. Class participation in team play to enhance improvement.
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.

Gymnastics
Class participation in all fundamental routines. Individualized instruction in basic stunts and use of gymnastic apparatus.
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.

Karate
Instruction and practice in the martial art of Karate. Emphasis on individual development in mental concentration and physical skills.
May be repeated three times.

Movement Improvisation
Introduction to movement improvisation with emphasis on aesthetic awareness through generation of new movement material and forms. Directed opportunity to explore physical exercise through creativity in dance movement motivated by various sources such as music, voice, shape, sports, etc.
May be repeated three times.

Paddle Tennis
Instruction and practice of the fundamental skills employed; an indoor activity adapted for court tennis.
May be repeated three times.

Self-defense
A practical course in self-defense. Practice of various basic techniques and principles of balance, leverage, and momentum. Discussion of how to avoid threatening situations in the home or on the street.
May be repeated three times.

Skiing Conditioning
Instruction, practice, and conditioning for inter-collegiate competition in the Alpine and Nordic events of snow skiing.
May be repeated three times.

Tennis I
Instruction and practice in fundamentals of Eastern grip tennis. Emphasis on development of sound ground strokes, serve and volley. Includes rules, scoring, and game play.

Tennis II
Prerequisite: Tennis I or consent of instructor. Instruction and practice in the advanced aspects of Eastern grip tennis. Emphasis on learning the different methods of serving, spins, pace, placement and their tactical application to the singles and doubles game.
May be repeated three times.

Volleyball II
Prerequisite: Volleyball I or consent of instructor. An intermediate level of skills and strategies for the experienced player; and introduction to power volleyball play.
May be repeated three times.

Weight Training
Instruction in use of weights and body building equipment with emphasis upon individual program development.
May be repeated three times.

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

Weightlifting
Instruction in use of weights, rules and concentration emphasis on weightlifting techniques and corrective measures.
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
Prerequisite: 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 first aid. Discussion 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)
Introduction to rope management, knots, and technical climbing equipment. Experience and practice in belaying, rappelling and the basic climbing skills.

Mountaineering I
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 placements, 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.

Winter Expeditions
Prerequisite: Winter 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
### PHYSICAL EDUCATION

#### WINTER EXPEDITIONS (continued)

- **PHYSICAL EDUCATION**
- **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 three times.
- **150 Series:** Courses meeting 5 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.
  - **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 10 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)

#### INTERCOLLEGIATE ATHLETICS

**ADULT FITNESS PROGRAM**

- **170a CARDCIAC THERAPY:**
  - **PHASE IV**
    - Prerequisite: Primary Physician Referral.
    - Lecture: 1 hour
    - Laboratory: 1 hour
    - A secondary prevention program designed for patients with angina pectoris, healed myocardial infarctions, or post-cardiac surgical referrals whose functional capacity is relatively uncompromised. (Primary physician referral is mandatory.)
    - May be repeated without limit.
- **170b CARDCIAC THERAPY:**
  - **PHASE IV**
    - Prerequisite: Physical Education 170a.
    - Lecture: 1 hour
    - Laboratory: 3 hours
    - Continuation of Physical Education 170a.
    - May be repeated without limit.
- **171 INTRODUCTION TO ADULT FITNESS**
  - Lecture: 3 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: Physician Release Form.
  - Lecture: 2 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 cardiovascular response and functional capacity employing the treadmill and bicycle ergometer.

#### INTERCOLLEGIATE ATHLETICS

**110 MODERN PHYSICS**

**108 HUMANISTIC AND SCIENTIFIC THOUGHT**

**106 APPLIED PHYSICS**

**110a APPLIED PHYSICS**

**110b APPLIED PHYSICS**

**120a GENERAL PHYSICS**

**120b GENERAL PHYSICS**

**120c GENERAL PHYSICS**

**101 CONSTITUTIONAL GOVERNMENT**

**110 AMERICAN POLITICAL THOUGHT**

**112 INTERNSHIP IN GOVERNMENT**

**125 COMPARATIVE POLITICAL SYSTEMS**

**101a GENERAL PSYCHOLOGY**

**101b GENERAL PSYCHOLOGY**

**101c GENERAL PSYCHOLOGY**

**102 CONSTITUTIONAL GOVERNMENT**

**103 SOCIAL PSYCHOLOGY**

### PHYSICS/PSYCHOLOGY

- **PHYSICS**
- **PSYCHOLOGY**

- **PHYSICS**
  - **100 MODERN PHYSICS**
    - Prerequisite: Mathematics 101.
    - Lecture: 3 hours
    - 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: 1 hour
    - 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 110a
    - Lecture: 3 hours
    - Laboratory: 3 hours
    - Continuation of Physics 110a.
  - **110c APPLIED PHYSICS**
    - Prerequisite: Physics 110b
    - Lecture: 3 hours
    - Laboratory: 3 hours
    - Continuation of Physics 110b.
  - **120a GENERAL PHYSICS**
    - Prerequisite: Mathematics 120a or Mathematics 120c and concurrent enrollment in Mathematics 220a.
    - Lecture: 4 hours
    - Laboratory: 6 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: 4 hours
    - Laboratory: 6 hours
    - Continuation of Physics 120a.
  - **120c GENERAL PHYSICS**
    - Prerequisite: Physics 120b.
    - Lecture: 4 hours
    - Laboratory: 6 hours
    - Continuation of Physics 120b.
  - **101 CONSTITUTIONAL GOVERNMENT**
    - Lecture: 3 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**
    - 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**
    - Lecture: 4 hours
    - Dynamics of interstate power relations; diplomacy and international law; international, regional and supranational organizations; war and peace; foreign policy.
  - **125 COMPARATIVE POLITICAL SYSTEMS**
    - Lecture: 4 hours
    - Comparative analysis of major political cultures and systems in the Western and non-Western world.

- **PSYCHOLOGY**
  - **101a GENERAL PSYCHOLOGY**
    - 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**
    - Lecture: 5 hours
    - More advanced areas in psychology, including abnormal, personality, psychopharmacology and mental health; psychosomatic medicine; hypnosis and imagery; the nervous system; perception and optical illusions; memory; IQ testing. Also current issues in the field.
  - **103 SOCIAL PSYCHOLOGY**
    - Lecture: 5 hours
    - Interrelationship between the individual and social environment. Social influence upon motivation,
103 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 101a.
Lecture: 3 hours
Study of the biological basis of behavior; body behavior relationships, neural, mechanial, 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 affording 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.

24 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.

250 BIOFEEDBACK AND SELF-CONTROL 3 Units
Lecture: 3 hours
Laboratory: 3 hours
An introduction to and a practical application of the self-regulatory technique of biofeedback training. (This course will be offered on a Credit-Non 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 one time.

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-Non 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 103a.
Lecture: 4 hours
Creative process of small groups; understanding the creative potential in interpersonal relations.

145A DEVELOPMENTAL PSYCHOLOGY 4 Units
Prerequisite: Psychology 101a.
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 101a.
Lecture: 4 hours
Research and theories in developmental psychology from later childhood through adult hood, 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.

160 PERSONALITY THEORY 5 Units
Prerequisite: Psychology 103a.
Lecture: 5 hours
A survey course of the various theories of personality development.

105 MOUNTAIN MEDICINE 1 Unit
Prerequisite: Health Education 115 or Health Occupations 103 recommended.
Lecture: 1 hour
Review of common injuries and illnesses encountered in the outdoors. Emphasis on improvised 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 search areas unique to search management. The student will be taken through selected chalkboard search missions and assume the role of a search management person. Special considerations will be given to base camp and communications management as well as proper utilization of personnel, statistical justifications, and termination factors.

112 MANAGING THE SEARCH FUNCTION 3 Units
Lecture: 3 hours
A five-day intensive training seminar in search management. This course is a comprehensive review of Search and Rescue 10 and expands into multi-agency considerations. Designed for the interested professional or volunteer. National Association of Search and Rescue certification available to the student upon successful completion of course.

114 INTRODUCTION TO TRACKING AND SIGN CUTTING 1 Unit
Lecture: 1 hour
An overview of current tracking theories and techniques as developed by the U.S. Border Patrol. Field trips may be required.

116 THE USE OF DOGS IN SEARCH AND RESCUE OPERATIONS 1 Unit
Lecture: 1 hour
Designed to familiarize search and rescue personnel with the uses and limitations of SAR dogs; availability of dog units; call-out procedures, OES transportation availability, weather, terrain factors, avalanche dogs and night searching. Field trips may be required.

118 BASIC SURVIVAL SKILLS 2 Units
Lecture: 2 hours
A seminar in short-term survival in various wilderness environments.

120 COLD WEATHER SURVIVAL SKILLS 1.5 Units
Lecture: 1 hour
A seminar in short-term survival in cold and wet wilderness environments. Topics to include psychological skills, equipment, preparedness, emergency prevention, adaptation of basic skills to the factors of snow, rain, and high winds.

122 WILDERNESS NAVIGATION 2 Units
Lecture: 1 hour
Laboratory: 1.5 hours
Review of useful maps, compass and navigation techniques for outdoor activities; wilderness route finding and orientation using terrain clues, map and compass, reduction of error via multi-person techniques and concise communication of location.

126 INTRODUCTION TO NON-WINTER GRID TECHNIQUES 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 field safe search and rescue person; rescue carries, 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 rescuer and ambulatory 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.
134 (continued)

Helicopter safety rules, interagency helicopter request information and procedures, selecting a landing zone, evaluations, inserts, crash procedures, and communications.

136 INTRODUCTION TO LITTER MANAGEMENT 2 Units
Lecture: 2 hours
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.

138 TECHNICAL LITTER EVACUATION 2 Units
Prerequisite: Search and Rescue 130, Search and Rescue 132, or consent of instructor.
Lecture: 1 hour
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.

142 VEHICLE EXTRICATIONS 2 Units
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.

144 INTRODUCTION TO DIVE RESCUE 3 Units
Prerequisite: Basic scuba dive certificate.
Lecture: 2 hours
Laboratory: 1 hour
A course designed to train persons as basic rescue scuba divers. Students must supply their own dive gear.

145 DIVE RESCUE 2 Units
Prerequisite: Search and Rescue 144 or consent of instructor.
Lecture: 3 hours
Laboratory: 4.5 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.

146 ADVANCED SWIFTWATER RESCUE 2 Units
Prerequisite: Search and Rescue 130 or consent of instructor.
Lecture: 1.5 hours
Laboratory: 1.5 hours
Organization of swiftwater rescue. The practical and theoretical aspects of water rescue. Special consideration given to the applicable aspects of technical alpine rescue.

152 RESPONSE TO RADIATION EMERGENCIES 1 Unit
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.

154 INTRODUCTION TO AVALANCHE RESCUE 2 Units
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.

158 HEAVY DUTY RESCUE 3 Units
Prerequisite: Search and Rescue 150 or consent of instructor.
Lecture: 3.5 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.

160 EMERGENCY AND DISASTER PLANNING 3 Units
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.

50 BASIC READING 2 Units
Lecture: 1 hour
Laboratory: 3 hours
Improvement of reading and study skills necessary for college level work.

55 G.E.D. PREPARATION 2 Units
Lecture: 1 hour
Laboratory: 3 hours
Designed to teach the general skills needed to pass the General Educational Development Test.

60 MATHEMATICS SKILLS 1-3 Units
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.

61 BASIC ARITHMETIC 1-3 Units
Laboratory: 3-9 hours
Basic course in arithmetic, starting with percentages. May be repeated for a maximum of 3 units of credit.

62 REVIEW ALGEBRA 1 Unit
Prerequisite: High School Algebra Laboratory: 3 hours
Individualized instruction in review of high school algebra.

63 READING SKILLS 1 Unit
Laboratory: 3-6 hours
Individualized instruction and self-instructional material in specific writing skills units. May be repeated for a maximum of 3 units of credit.

64 SPEED READING 1 Unit
Laboratory: 3-6 hours
A course to help students improve their reading skills. May be repeated for a maximum of 3 units of credit.

65 DOCUMENTARY RESEARCH 1 Unit
Laboratory: 3-6 hours
A course to help students improve their research skills. May be repeated for a maximum of 3 units of credit.

70 WRITING SKILLS 1 Unit
Laboratory: 3-6 hours
A course to help students improve their writing skills. May be repeated for a maximum of 3 units of credit.

75 COLLEGE SPelling 1-2 Units
Laboratory: 3-6 hours
A course to help students improve their spelling skills. May be repeated for a maximum of 3 units of credit.

80 READING DEVELOPMENT 1-3 Units
Laboratory: 3-9 hours
Individualized instruction and self-instructional materials in specific reading skills units. May be repeated for a maximum of 3 units of credit.

85 VOCABULARY DEVELOPMENT 1 Unit
Laboratory: 3-6 hours
A course to help students improve their vocabulary skills. May be repeated for a maximum of 3 units of credit.

88 SPEED READING 1-2 Units
Laboratory: 3-6 hours
A course to help students improve their reading speed. May be repeated for a maximum of 2 units of credit.

90 STUDY SKILLS 1-3 Units
Laboratory: 3-6 hours
Improvement of the basic study skills. May be repeated for a maximum of 3 units of credit.

92 LIBRARY SKILLS 1 Unit
Laboratory: 3-6 hours
A course to help students develop skill in using the library.
110 DEVIANCE AND CONFLICT
Lecture: 1 hour
The analysis of deviant behavior and social disorganization theories and trends in selected topics such as sexual deviance, family disorganization, aging, death, suicide, mental illness, drugs, medical care, population problems, poverty, crime, war.
Field trips may be required.

111 CRIME AND DELINQUENCY
4 Units
Lecture: 4 hours
Sociological analysis of criminal behavior related to social structure and the criminalization process. Juvenile delinquency related to the family, peer groups, community, and institutional structures. Roles of law enforcing and other community agencies in crime and delinquency control.

112 FAMILY, MARRIAGE AND THE INDIVIDUAL
4 Units
Lecture: 4 hours
The family as a social unit of interacting personalities; historical and structural development of the family life in different cultures; functions, duties, and problems of family life, factors underlying family disorganization.

119 WOMEN IN SOCIETY
Lecture: 4 hours
Study of women's role in the modern world. Emphasis on the changing role of women in America: sex roles, alternative family structures, problems in the areas of employment, child care, legal rights, educational opportunities and political representation.
Field trips may be required.

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
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
Lecture: 2 hours
Survey of education
3 Units
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.

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.

149 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.

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

150B WELDING TECHNOLOGY
3 Units
Prerequisite: Sociology 101 or Psychology 101a or consent of instructor.
Laboratory: 6 hours
Basic arc and oxygen-acetylene welding as it applies to shop and field techniques.

150B ADVANCED ARC WELDING TECHNIQUES
3 Units
Prerequisite: Welding Technology 101.
Laboratory: 6 hours
Advanced welding in all positions (flat, horizontal and overhead). Special emphasis on control of heat and distortion.

150C INTRODUCTION TO WELDING
3 Units
Prerequisite: Welding Technology 103.
Laboratory: 4 hours
Welding non-ferrous metals with the electric arc, oxygen-acetylene, and MIG and TIG processes.

150C METAL FABRICATION
3 Units
Prerequisite: Welding Technology 101 and Welding Technology 110.
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.

160 PRACTICAL LABORATORY
2 Units
Prerequisite: Welding Technology 163.
Laboratory: 4 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.

WORK EXPERIENCE

95 OCCUPATIONAL WORK EXPERIENCE
(ALTERNATE TERM PLAN) 1-8 Units
Prerequisite: Employment approved by Work Experience Coordinator. Must have successfully completed 1 units at Columbia College. Must be enrolled in at least seven units including Work Experience. During Summer Session, must be enrolled in at least one other course.
Provides students with vocational learning opportunities through quarters of full-time employment alternated with quarters of instruction. The student employment must be related to educational or occupational goals.
May be repeated for a maximum of 24 units of credit.

97 GENERAL WORK EXPERIENCE 1-4 Units
Prerequisite: Employment must be approved by Work Experience Coordinator and concurrent enrollment in General 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.

98 OCCUPATIONAL WORK EXPERIENCE 1-4 Units
Prerequisite: Employment must be approved by Work Experience Coordinator and concurrent enrollment in Occupational 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 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.
COLUMBIA COLLEGE
CAMPUS MAP

KEY
1 Learning Resource Center, Rms. 100-102
2 Creative Arts Center, Rms. 200
3 Physical Science Center, Rms. 300-302
4 Biologic Science Center, Rms. 310-312
5 Forestry and Natural Resources Center, Rms. 310-312
6 Interdisciplinary Center, Rms. 400-403
7 Health Occupations Center, Rms. 600-602
8 College Hose
9 Seminar Building, Rms. 410-412
10 General Education, Rms. 520-522
11 Business Education Center, Rms. 700-702
12 Heavy Equipment Center, Rm. 800
13 Physical Education Center, Rms. 900
14 Fire Service Center, Rms. 1000-1002
15 Tennis Courts
16 Judge Ross Carkeet Community Park
17 Nature Trail
18 Warehouse, Shipping, Receiving, and Maintenence
19 Mi-Wok Cultural Center
20 Astronomy Dome
21 Career Center - job placement
(Building 11 lower floor)
22 Staff Parking
23 Handicapped Parking
* Restrooms in building
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