BULLETIN

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Pueblo, Colorado
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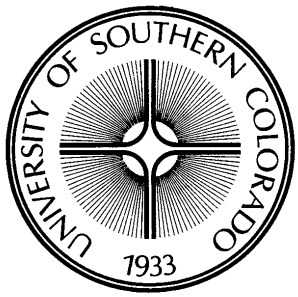
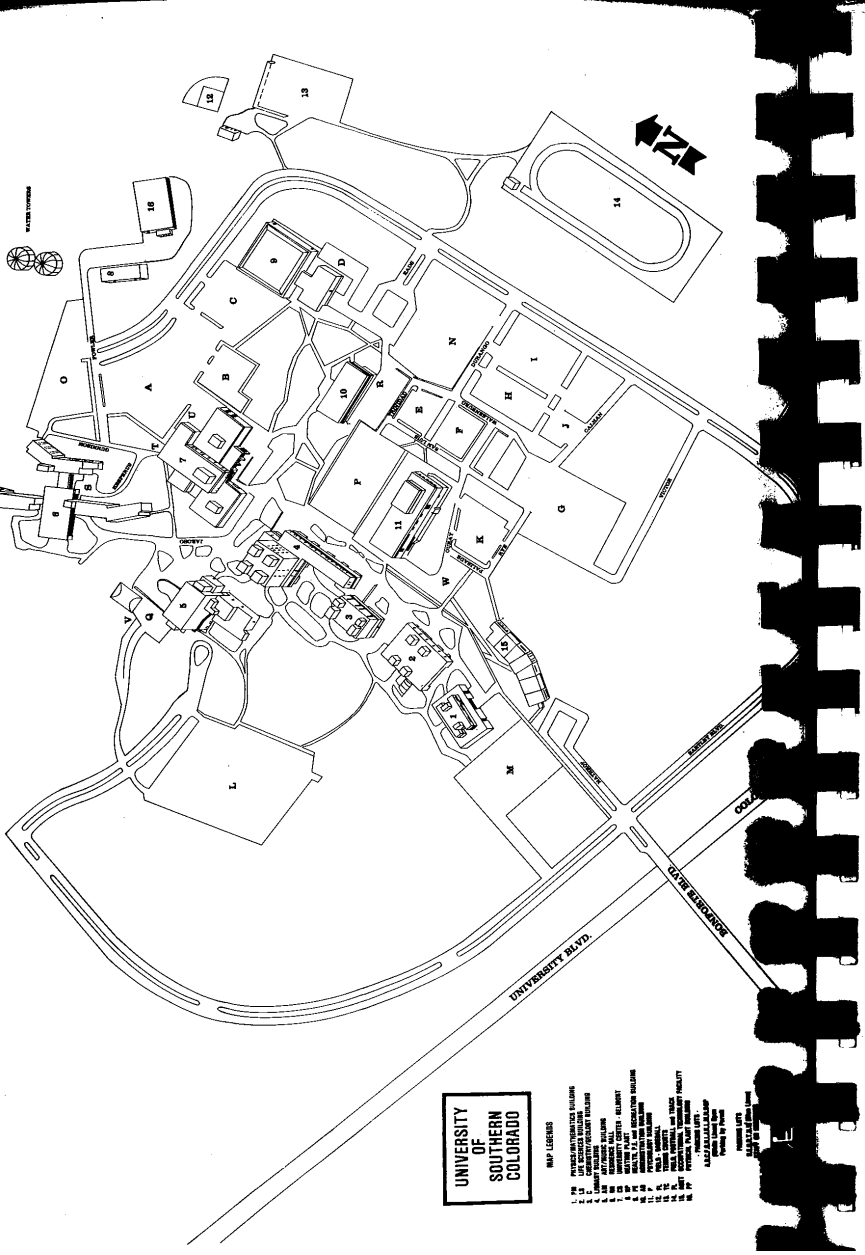
An Invitation

You are cordially invited to visit the University of Southern Colorado campus, meet members of the faculty and administration and inspect the facilities of the university. Escorted tours of the campus will be provided on request. The administrative offices are open from 8 to 5 o'clock Monday through Friday. Please call or write the Admissions office in advance of your visit.





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The bulletin

is authorized by the State Board of Agriculture and is published four times a year; once each in December, April, May and July. Second class postage paid at Pueblo, Colorado 81003 (Second Class Permit No. 857-100).

GOVERNANCE AND SUPPORT

The university, a state-supported institution, is governed by the State Board of Agriculture which also is responsible for the governance of Colorado State University and Fort Lewis College.

ACCREDITATION

The University of Southern Colorado is accredited at the bachelor's and master's levels by the Commission on Institutions of Higher Education of the North Central Association of Colleges and Schools.

Respective individual programs are approved by the following accrediting bodies:

Chemistry	American Chemical Society
Engineering	Accreditation Board for Engineering and Technology
Technology	
Education	National Council for Accreditation in Teacher Education; Colorado State Board of Education
Nursing	National League for Nursing
Music	National Association of Schools of Music
Social Work	Council on Social Work Education

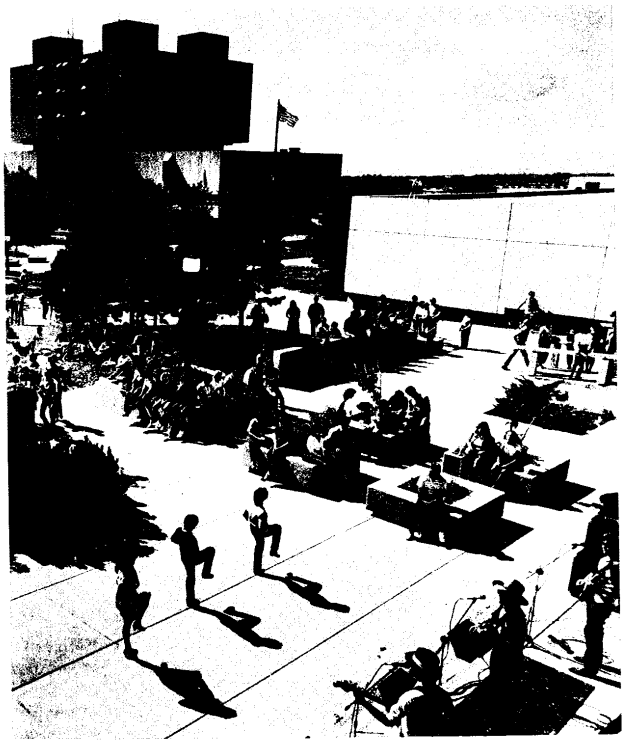
NONDISCRIMINATION POLICY

The University of Southern Colorado, as an equal opportunity/affirmative action institution, is committed to full compliance with all federal laws, executive orders and state regulations pertaining thereto. The university does not discriminate on the basis of handicap, race, color, religion, national origin, age or sex in its employment or admission practices.

The university maintains a full-time Affirmative Action office on campus. Students, faculty, staff and community persons are encouraged to contact this office if they have questions or problems regarding affirmative action/equal opportunity matters. The affirmative action office monitors USC's responsibilities under applicable federal and state legislation and regulations, and administers an internal grievance procedure available for use by the university's constituents. The office is in Room 317A of the Administration building.

TERMS OF THIS CATALOG ISSUE

Students graduate under the requirements of the catalog noted on page 61 of this issue. The 1985-86 issue becomes effective fall semester, 1985. Information contained within the catalog is current as of April 1, 1985, but subject to change without notice and therefore is not to be regarded as an irrevocable contractual commitment. It may be changed at any time during the student's term of residence in the interest of lawful missions, processes and functions of the institution.



ACADEMIC CALENDAR 1985-86

Summer Session 1985

June 10 . . . . . Registration.
June 11 . . . . . 5 and 8-week sessions begin.
July 4 . . . . . Independence Day holiday.
July 16 . . . . . 5-week session ends.
August 2 . . . . . 8-week session ends.

Fall Semester 1985

August 20, 21 . . . . . New student orientation.
August 22, 23 . . . . . Registration.
August 26 . . . . . First day of classes.
September 11 . . . . . End of drop/add period. After this date students are legally liable for tuition and fees if they are registered.
November 27, 28, 29 . . . . Thanksgiving vacation.
December 2 . . . . . Classes resume.
December 9, 10, 11, 12 . . Final examinations.
December 12 . . . . . Last day of the fall semester.

Spring Semester 1986

January 9, 10 . . . . . New student orientation.
January 13, 14 . . . . . Registration.
January 15 . . . . . First day of classes.
January 30 . . . . . End of drop/add period. After this date students are legally liable for tuition and fees if they are registered.
March 24-28 . . . . . Spring vacation.
May 5, 6, 7, 8 . . . . . Final examinations.
May 8 . . . . . Last day of spring semester.
May 10 . . . . . Commencement.

(This calendar is planned in advance and is subject to change)

THE UNIVERSITY

SCOPE AND HISTORY

The University of Southern Colorado, in accordance with its polytechnic role outlined by the Colorado Commission on Higher Education in 1978, provides a unique contribution to higher education in the state.

USC is an accredited institution with a dual purpose: 1) To emphasize career-oriented, technological and applied programs, while maintaining strong programs in the liberal arts; and 2) To function as the major educational resource for cultural, industrial and economic growth throughout the southeastern Colorado region.

As principal intellectual and cultural resource in southeastern Colorado, the University of Southern Colorado fosters cultural pluralism and provides equal access to all persons.

In addition to its thrust toward development of selected master's degree programs, USC continues to focus on high-quality undergraduate instruction through the Colleges of Engineering and Science, Professional Studies, Liberal and Fine Arts and the Division of Extended Educational Programs.

The university presently is increasing involvement in basic and applied research and community services appropriate to the region, the state and the nation.

Admission is open to applicants who possess a high school diploma or the equivalent.

USC pledges to all ethnic groups, particularly the large Hispanic population within its service area, to provide access to higher education, to maintain and enhance the traditions of culture and language, to encourage the development of educational and employment opportunities and to provide appropriate academic support service.

In 1933, the school was incorporated as The Southern Colorado Junior College. Classes took place on the top floor of the Pueblo County Courthouse. The "Class of '35" graduated 17 students. In 1936, the first building began to take shape on an Orman campus site donated by the Colorado Fuel and Iron Corporation. One year later, local citizens decided to support the institution with county taxes, so they organized the Pueblo County Junior College District and the school was renamed Pueblo Junior College. In 1951, PJC became the first accredited junior college in Colorado.

A decade later, Colorado's General Assembly enacted legislation, effective in 1963, changing PJC to a four-year institution — Southern Colorado State College to be governed by the Board of Trustees of State Colleges. SCSC received accreditation in 1966.

By then, four new buildings had been erected on the new campus north of Pueblo's Belmont residential district. On July 1, 1975, the state legislature granted the institution university status. Three years later, the State Board of Agriculture assumed governance for the University of Southern Colorado.

Last year, USC celebrated its golden anniversary for 50 years of educational development. The campus now includes the University Library, Art/Music hall, Massari Gymnasium, University Center, Residence Hall, and buildings for Chemistry/Geology, Life Sciences, Physics/Mathematics, Psychology, Applied Science and Engineering Technology, Administration and the new Physical Plant.

All 13 buildings on campus, as well as fountains and pathways, follow the grand and unusual architecture of the University Library complex, which received a national award for design in 1966 from the American Institute of Architects and the U.S. Office of Education.

USC's majestic campus, spanning more than 800 acres, crowns the north end of Pueblo, Colorado, a friendly city of 100,000 people. Approximately 320 sunny days a year attract outdoor enthusiasts to a full slate of summer and winter recreational activities, encompassing water sports at Lake Pueblo, biking along Pueblo's unique river trails, hang gliding over the prairie to the east and skiing in the mountains to the west.

Enrollment approximates 5,000 students from throughout southeastern Colorado, the state, the nation and several foreign countries, representing a rich cultural mix of age groups and backgrounds, both rural and urban.

The institution's academic support services and active development of undergraduate and graduate employment opportunities exemplify USC's sincere commitment to its cosmopolitan student body.

Chief administrative officers of the institution have included Mr. E. T. Kelly, 1933-36; Mr. Leo R. Wren, 1936-39; Dr. Charles Haines, 1939-42; Dr. William A. Black, 1942-45; Mr. Marvin C. Knudson, 1945-64; Dr. J. Victor Hopper, 1964-71; Dr. Harry P. Bowes, 1971-77; Dr. Richard Pesqueira, 1977-79. Dr. Lyle C. Wilcox, 1980-84, and Dr. Robert C. Shirley, currently interim president.

DEGREES OFFERED

The university is approved to grant the following degrees: associate in arts (AA), associate in applied science (AAS), associate in science (AS), associate in science in nursing (ASN); bachelor of science (BS), bachelor of arts (BA), bachelor of science in business administration (BSBA), bachelor of science in electronics engineering technology (BSEET), bachelor of science in industrial engineering (BSIEN), bachelor of science in civil engineering technology (BSCET), bachelor of science in mechanical engineering technology (BSMET), bachelor of science in metallurgical engineering technology (BSMLET), bachelor of science in nursing (BSN); bachelor of social work (BSW); master of arts (MA) in industrial education; master of business administration (MBA).

ADMISSION AND REGISTRATION

Admissions office. The Office of Admissions is the visitors' center for the university. Prospective students may obtain information about all USC programs, as well as university admissions procedures, from the Admissions office. Campus tours are available from 9 a.m. to 4 p.m. Monday through Friday. Advance notice is helpful but not mandatory.

All applications for admission, transcript evaluations, petitions for Colorado residency for tuition purposes and changes from unclassified to classified status are made through the Admissions office. For more information, students may consult the Admissions section of this catalog, or visit the Office of Admissions, Room 202 of the Administration building.

All correspondence about undergraduate admissions and campus visits should be addressed to the Office of Admissions, USC, Pueblo, CO 81001.

Application deadlines. Application for admission as a degree-seeking student and all other required documents must be received before the deadline of the semester in which the student plans to enter. Deadlines for 1984-85 are:

Fall Semester 1985 . . . . . July 19, 1985
Spring Semester 1986 . . . . . November 29, 1985
Summer Session 1986 . . . . . May 2, 1986
Fall Semester 1986 . . . . . July 18, 1986

ENTERING FRESHMEN

Admission requirements. Colorado residents who are high school graduates or the equivalent, and non-Colorado residents who are high school graduates and rank in the upper two-thirds of their graduating class, may be considered for admission to USC.

Students may apply at any time after the junior year in high school. One official transcript of high school work should be sent with each application, and a final transcript must be submitted after the applicant graduates from high school. Students who apply on the basis of the General Education Development (GED) tests in place of high school graduation must have the state agency issuing the GED forward the test scores (not the certificate) to the Office of Admissions.

Applicants for admission must submit:

1) a completed USC application;
2) a $10 application fee (nonrefundable and not applicable to tuition);
3) an official transcript of high school records;
*4) ACT or SAT scores; and
5) the Student Health Statement.

*NOTE: It is the applicant's responsibility to arrange for the scores to reach the Admissions office directly from ACT or the College Board (SAT). **Scores on transcripts or student copies are not acceptable.** Applicants are not admitted to degree-seeking status unless their official ACT or SAT scores are on file. Acceptance by the university does not necessarily mean acceptance into a particular department or program. Some departments have admission requirements beyond those of the university.

Advanced placement. The university recognizes superior high school achievements by granting advanced placement to students who have taken especially enriched or accelerated courses before entering college. The university participates in the Advanced Placement program of the College Entrance Examination Board. For advanced placement scores of 3, 4, or 5, the student will be awarded 6.5 semester credits. Questions about advanced placement credit should be addressed to the Office of Admissions.

TRANSFER STUDENTS

Students who have attended other colleges or universities and are seeking admission for the first time must file with the Office of Admissions an application for admission and $10 application fee. They also must make certain that each institution attended sends an official transcript of record to the director of Admissions at USC. Students who have completed 20 or more semester hours at another institution are not required to submit ACT or SAT scores.

Transferring students must be in good standing at the institution they last attended. If not, their records will be reviewed and a decision on their admission will be made by the director of Admissions.

Students who are enrolled at another institution at the time they apply for admission to USC should arrange to have one transcript from that institution sent with the application. A final transcript should be sent when they complete the current term.

Transferred credit will be evaluated as soon as possible after official transcripts of all work have been received and the student's admission file is complete.

Each student must indicate all previous college experience on his or her application. Applicants may not ignore previous college attendance. Students who fail to inform the Office of Admissions fully of previous college work may be subject to disciplinary action, including dismissal.

Students seeking graduate admission should contact the Office of Research and Graduate Studies.

Transfer of credit. Credit is accepted by USC from accredited institutions recommended by the American Association of Collegiate Registrars and Admission Officers. USC accepts a maximum of 64 semester hours from junior colleges and/or a maximum of 96 semester hours from senior colleges for credit toward degree requirements. A maximum of 96 semester hours will be accepted in transfer toward degree completion at USC. Grades of D and F are not accepted.

Credit from a nonaccredited institution may be accepted for transfer after the student has completed at least 24 semester hours at USC with a C (2.0) average or better. A petition is required.

The university accepts up to eight semester nours of cooperative education courses in transfer. Cooperative education coursework, to be acceptable, must include a clearly defined academic element, such as a study plan or reading assignments.

Acceptance of credit does not necessarily mean that a specific department will accept the same credit toward its major requirements. Each department evaluates transfer credits to determine whether or not they apply to major requirements.

Transfer students should be aware of the 12-year time limit on credit earned toward a bachelor's degree, which applies to both transfer and resident credit. (Further information appears in the Academic Policies section of this catalog.)

College Level Examination Program. All credit earned by the student on one of the CLEP general examinations and recorded on the student's transcript from another institution is accepted in transfer, if the credit is not duplicated from other sources. If CLEP credit is transferred directly, only credit in the areas of humanities and social science is accepted. If a student has taken humanities or social science classes before taking CLEP tests, those credits are deducted from the CLEP credits.

A maximum of 30 hours of correspondence and/or extension work is counted toward a bachelor's degree.

Military service credit evaluation is processed when official copies of certificates are received at USC. Courses are evaluated according to the American Council on Education Guide. A maximum of 20 semester hours of credit is accepted. Credit is not given for military service work experience.

Minimum expectations for transfer students. The following table indicates the minimum grade point averages which students must have to be accepted as transfer students. Students who do not meet these standards may not be accepted.

Hours attempted	Cumulative grade point average
1-15	1.50
16-30	1.60
31-45	1.75
46-60	1.90
61 and above	2.00

INTERNATIONAL STUDENTS

Before a student who is a resident of another country can be admitted to USC, he or she must submit the following items:

1) The official application for university admission, accompanied by a $10 fee;

2) Two official transcripts of all work completed either in high school or in college (or the equivalent). One transcript must be in the native language, one in English. Both must show courses taken, grades earned, length of classes and length of school terms. All transcripts must bear the official seal of the issuing institution and must be sent by that institution directly to the Office of Admissions. An explanation of all transcript terminology must be included;

3) Results of an English language proficiency test. A score of 500 on the Test of English as a Foreign Language (TOEFL) or a minimum score of 80 on the Michigan Test of English Proficiency is required. English language proficiency tests are not required of students from countries where English is the native language. In addition, transfer students must have an overall cumulative grade-point average of 2.00 or above;

4) A financial statement regarding the resources available to the student during his or her stay in the United States. An international student cannot be accepted without this statement, since there are no institutional funds available to support international students; and

5) The Student Health Statement. This statement must be completed and returned to USC before the university issues an I-20 form.

The Office of Admissions reserves the right to consider policy changes.

No international student applications for admission can be considered until all required materials are complete. All materials must be received by the Office of Admissions by the application deadlines listed on page 9.

For English language training, see the American Language Academy, page 43.

READMITTED STUDENTS

Students who have been enrolled in residence, but whose attendance was interrupted for one or more regular semesters, are required to file an application for readmission by the Admissions deadline of the semester the student wishes to enroll. A student who withdraws, or is withdrawn, from the university and is subsequently readmitted after an absence of two or more semesters, is governed after readmission by the catalog current at the time of readmission. Degree-seeking students who, while absent from USC, have attended other collegiate institutions or have taken college-level correspondence or extension courses must provide complete official transcripts of such studies.

The application fee is not required of undergraduates who have formerly attended the university as degree-seeking students.

UNCLASSIFIED STUDENTS

Unclassified status is reserved for applicants who wish to enroll in courses without degree-seeking status. Applicants who wish to register as unclassified are required to file an application with the Office of Admissions.

Unclassified status is intended for students who have already received a college degree and desire a course or two:

1) to satisfy a special interest or curiosity;

2) to update career knowledge base; or

3) to become familiar with college-level work before committing to course work for credit.

Some students may register as unclassified at the beginning of their USC program because of an incomplete admission file. Such students are urged to complete their files and become classified as soon as possible.

A full load (12 semester hours or more) may be carried by an unclassified student during the first semester at the university. Students attempting to register for a full load for a second consecutive semester may be required to justify their unclassified status to the Office of Admissions. It should be noted that unclassified students are ineligible to receive financial assistance from the university. This includes all federal and state financial assistance programs. Only degree-seeking students (classified) are eligible to receive financial assistance from these programs.

VETERANS

Veterans who served on active duty for more than 180 continuous days, any part of which occurred after January 31, 1955 and before January 1, 1977, and who a) were released under conditions other than dishonorable, b) were discharged for a service-connected disability or c) continue on active duty, are eligible for educational benefits under the Veterans Readjustment Benefits Act of 1966, as amended.

Veterans must follow the admission requirements and procedures outlined in this catalog. For certification of eligibility for education benefits under one of the public laws, students can apply for Veterans Administration benefits through the Office of Veterans Affairs, Room 310 in the Administration building.

HIGH SCHOOL UNIVERSITY PROGRAM

High school seniors may register for classes at the university and receive college credit applicable toward a degree. This credit is not intended to be applicable toward high school graduation requirements.

Students interested in participating in the High School University program should obtain an application for admission as a special student from the Admissions office. The application must be approved by the student's counselor, high school principal and parents for each term the student wishes to enroll.

In some cases, the student's high school district may pay the university tuition but not other expenses. High school counselors have information about the availability of this program.

ADMISSION TO SPECIFIC PROGRAMS

Because the university receives more applications than it can honor in certain programs, an admissions evaluation is used.

The USC admissions evaluation is designed to promote diversity within the student population in those disciplines where restrictions are necessary and to assure equal opportunities to all applicants. The final admission decision is

based on each student's potential for attaining a degree in the discipline in question and takes into account the student's past academic performance, aptitude test scores, leadership qualities, citizenship, principal/counselor recommendations, geographic residence, economic status, ethnic origin and racial background.

The guidelines provide for affirmative action to locate and identify a pool of applicants drawn from the entire population of Colorado.

REGISTRATION

Advisement. All students are required to consult an academic adviser before registering for classes. Academic advisers are assigned by the major area. Degree-seeking students who have not selected a major and unclassified students should contact the Office of Career Counseling and Placement, Room 309 of the Administration building.

Registration procedures. Details on registration procedures are published in the semester bulletin distributed to students well in advance of each registration period.

Payment of tuition and fees. Tuition and fees are assessed after the semester has started at the end of the drop/add period. Instructions for payment and payment deadlines are publicized before the beginning of each semester. Specific information about tuition and fees is given in the Student Expenses section of this catalog.

Changes of address. Students should keep university authorities informed of their current addresses. Change in address should be reported immediately to the Office of Registration and Records.

Completion of student courses. The university holds students responsible for completing all courses for which they have enrolled unless they obtain approval for a change in registration or file an official withdrawal. Students not following proper course or university withdrawal procedures receive failing grades.

STUDENT EXPENSES

Tuition rates are set by the State Board of Agriculture following budget action of the Colorado General Assembly. Tuition rates for any succeeding fiscal year are not known until the period of March to June of each year, when appropriations are made. The State Board of Agriculture therefore reserves the right to change the tuition and fees schedule at any time.

All students under age 65 who are registered are eligible to participate in a student insurance program. The insurance plan is not a part of the student's tuition or fees. Pamphlets explaining the insurance coverage and the enrollment forms are available in the Student Health Services office located in Room 004 of the University Center.

Colorado in-state classification for tuition purposes. A person moving to Colorado must be domiciled in the state for 12 continuous months before he/she is eligible for a change in residence classification. To qualify for in-state classification for tuition purposes as a resident of Colorado, a person must do more than just reside in Colorado for the preceding 12 continuous months. "Residency" in this context means legal "domicile," which requires intent to remain in Colorado indefinitely in the sense of making one's permanent home in the state. The distinction is that one may have any number of residences at one time, but never more than one domicile.

A particularly relevent point is that one retains his/her former domicile until a Colorado domicile is established by the 12-month residency.

Intent is determined by:

1) the student's written declaration of his/her intent to remain in Colorado indefinitely, i.e., he/she has no present intent to leave the state now or in the future, and

2) documented evidence of the student's overt actions that link him/her to Colorado.

Examples which establish intent are: payment of Colorado State Income Tax; a Colorado driver's license; payment of personal property or real estate taxes (especially on a personal residence) in the state; the compliance with any law imposing a mandatory duty upon a domiciliary of the state, and voter registration. Obviously, the specific actions that establish intent vary according to the individual and the circumstances, but each individual must, with his/her circumstances, act consistently with the stated intent. An informational brochure pertaining to the establishment of residency for tuition purposes may be obtained by writing to the Office of Admissions.

A student's classification as a Colorado resident for tuition purposes is made by the university at the time of admission, according to Colorado statutes. Any student classified as a non-resident who believes that he/she can qualify as a resident may obtain a petition and a copy of the statutes governing tuition classification from the Office of Admissions. The petition is processed only if the student has an application for admission on file or is currently enrolled. The petition is due no later than the established deadline for payment of tuition and fees for the semester for which the change is requested. Deadlines are published in each semester class bulletin.

Students 21 years of age or under who are independent from their parents must prove emancipation and demonstrate residency on their own qualifications. Students must notify the Office of Admissions if their status changes from resident to nonresident. Any student who willfully gives wrong information to avoid paying nonresident tuition is subject to legal and disciplinary action.

TUITION AND FEES

The following schedule of tuition, fees and other charges is for information only. All fees and charges listed below are subject to change because of action by the governing board prior to the beginning of semester. Tuition and fees per semester for 1984-85 were as follows:

Resident

No. of hours	Tuition	Fees	Total
1	$ 49.00	$ 8.50	$ 57.50
2	98.00	17.00	115.00
3	147.00	25.50	172.50
4	196.00	34.00	230.00
5	245.00	42.50	287.50
6	294.00	51.00	345.00
7	343.00	59.50	402.50
8	392.00	100.00	460.00
9	441.00	100.00	517.50
10-18	475.00	100.00	575.00
Tuition surcharge for each hour over 18			$ 32.00

Non-resident

No. of hours	Tuition	Fees	Total
1	$ 158.00	$ 8.50	$ 166.50
2	316.00	17.00	333.00
3	474.00	25.50	499.50
4	632.00	34.00	666.00
5	790.00	42.50	832.50
6	948.00	51.00	999.00
7	1106.00	59.50	1165.50
8	1264.00	100.00	1364.00
9	1422.00	100.00	1522.00
10-18	1872.00	100.00	1972.00
Tuition surcharge for each hour over 18			$ 125.00

OTHER SPECIAL FEES

Original student identification card	$ 1.50
Student identification card replacement	5.00
Fee to activate placement file — per packet	1.00
General Education Development tests — battery	20.00
Parking permit (per year)	12.00
Parking permit replacement	2.00
Returned check charge — $100 or less	5.00
Returned check charge — over $100	10.00
Physical education fee — designated classes per semester	3.00

ROOM AND BOARD RATES

(Subject to change by governing board action)
Occupancy and damage deposit . . . . . $100.
This deposit is required with each application for space in the residence hall. The deposit is held for the duration of occupancy.
Room (per semester)
Single . . . . . $825.
Double . . . . . $550.
Board (per semester) . . . . . 19-meal plan . . . . . $722.
. . . . . 14-meal plan . . . . . $696.
. . . . . 10-meal plan . . . . . $670.
Room and Board (8 week summer session)
Double Room . . . . . $276.
15-meal plan . . . . . $300.

PAYMENT OF STUDENT ACCOUNTS

Tuition and fees are calculated according to the number of hours for which a student is officially registered at the end of the drop/add period of each semester. Students are billed by mail at their local addresses. **It is imperative that the address on file with the Office of Registration and Records be correct,** since the billing is mailed to that address. Students may make payment by mail or in person. Payment should be made by the date specified on the bill. If payment is not received by the date due, a late payment fee is charged, as follows:

Amount owed	Late payment fee
$ 25.-$ 99.99	$10
$100.-$299.99	$15
$300.-$499.99	$20
$500.-$699.99	$30
$700.-$899.99	$40
$900. and over	$50

NOTE: A student is subject to withdrawal and to denial of credit if financial obligations are not satisfied in accordance with university policies.

ADDITIONAL PAYMENT PROCEDURES

Additional payment procedures are publicized before the beginning of each semester. The procedures described include the distribution of financial aid, payment due date, administrative withdrawal for non-payment and refund policies. This information is contained in the class schedule or financial information supplement. For specific payment procedures consult the class schedule.

ADMINISTRATIVE WITHDRAWAL POLICY

The university sends a notice of pending withdrawal to student who has not made timely payment. The notice is mailed to the student's local address on file with the Office of Registration and Records with a copy to the student's permanent mailing address. If full payment of the entire account balance, including the late payment charge, is not received by the central cashier's office within two weeks of the date of the notice, the student is withdrawn officially and is not permitted to take final examinations or to receive grades. The student who has been withdrawn is still obligated to pay the university for the balance of the account.

A student withdrawn under this policy is not eligible to re-enroll until the beginning of the next term, except in the case of extreme and unexpected hardship beyond the reasonable control of the student. In such case, the student may petition an appeal committee for cancellation of the withdrawal.

In order to receive consideration, the petition must be filed with the accounting office as soon as possible after receipt of notification of withdrawal and no later than the last day of classes of the 12th week of the semester.

If a student withdrawn under this policy is able to make full payment before the end of the semester, reinstatement may be possible. Such reinstatement requires the approval of the university controller and vice president for Academic Affairs or the vice president for Student Affairs.

STUDENT FINANCIAL AID

Financial aid is a means through which students, or students and their families, who apply and qualify for aid, can receive assistance through grant, loan, work-study or scholarship funds to help defray the costs of higher education. All financial aid awards are contingent upon availability of funds. Students may obtain applications and other necessary forms from the Office of Student Financial Aid, Room 319 of the Administration building.

The primary responsibility of paying for education rests with students and their families; the aid offered by the university is intended only as supplemental. Because the requests for funds always exceed the money available, and because federal monies always are related to documented financial need, USC requires students to follow the instructions for applying for aid outlined in the Student Financial Aid Handbook available in the Office of Student Financial Aid.

Philosophy of aid. Financial aid at USC is based on documented financial need and academic success, either predicted or achieved. Students may establish financial need by completing all forms required by the Office of Student Financial Aid.

Academic success is measured in the following ways:

Entering freshmen — A combination of high school rank, grade-point average and admissions test scores (ACT or SAT) is considered.

Continuing and/or transfer students — The cumulative grade-point average computed by the Office of Registration and Records or the Office of Admissions is considered, as well as the number of credit hours completed per semester.

When to apply — priority dates. All applicants for financial aid for the 1985 summer session and for the 1985-86 academic school year should have applied by March 15, 1985. Applicants for aid for the 1986 spring semester only, should apply by November 1, 1985.

Students whose applications are not complete (including the Financial Aid Form Need Analysis Report from the College Scholarship Service or the Comprehensive Financial Analysis Report from the American College Testing Program, Form 1040's and additional documentation) by the established priority dates are considered on a funds-available basis when their applications are complete. Funds are awarded with consideration for high need first, then moderate to low need.

Requirements for processing an application. In order to have an application processed and to be considered for financial assistance, the student must:

1) Be admitted to USC as a degree-seeking (*classified*) student;

2) Have a completed application; and

3) Be in good standing and be a degree-seeking (*classified*) student making satisfactory progress toward graduation.

A student *may not* receive financial aid if he or she:

1) Is not registered for the required number of credit hours as stated on the application. (12 hours minimum, preferably 16);

2) Is not in good standing making satisfactory progress toward an undergraduate degree;

3) Is on financial aid or academic suspension;

4) Is in default on loans or owes repayments on grants previously received to attend USC or other institutions;

5) Is not a citizen or permanent resident of the United States.

Good standing. Students are considered to be in good standing for financial aid purposes if they are eligible to be enrolled in accordance with the guidelines established by the university and the Office of Student Financial Aid.

Satisfactory academic progress. To receive financial aid, students must be classified and must make continued academic progress toward a degree. Compliance with federal, state and University of Southern Colorado scholastic regulations is required.

Because of funding limitations, full-time students receive priority for financial aid. Full-time students must complete at least 12 credit hours with passing grades each fall and spring semester, and at least 6 credit hours each summer session, that financial aid is received. (F is not considered passing.)

Satisfactory progress is determined with consideration to both the grade-point average and the number of credit hours completed. Both full-time and nonfull-time students must have a minimum cumulative grade-point average as follows:

Total attempted credit hours	Cumulative grade-point average
1-12	1.50
13-24	1.60
25-36	1.70
37-48	1.80
49-59	1.90
60 or more	2.00

The table above applies retroactively to the nonfull-time student who is requesting financial aid, whether or not the student was receiving aid when the grades were earned.

Length of funding. Financial aid may be available for up to a maximum of 10 semesters for students who pursue bachelor's degrees, and up to a maximum of five semesters for students who pursue associate degrees. Bachelor degree candidates who require more time or associate candidates who decided to pursue bachelor's degrees may appeal for continuation of funding through the Office of Student Financial Aid.

The above policies and procedures are in accordance with USC's open-door admissions policy and efforts to recruit more non-traditional, minority and multi-cultural students. Students on academic suspension cannot be considered for financial aid.

Financial aid probation/suspension. Recipients who do not meet the above-stated requirements are subject to financial aid probation and/or suspension, which may be appealed through the Office of Student Financial Aid. Each recipient does have a responsibility to obtain a copy of the Financial Aid Handbook.

The above statements are applicable to financial aid recipients only. Students suspended from financial assistance may, depending upon individual circumstances, enroll at the university at their expense if they are not on academic suspension.

*The director of Student Financial Aid, at his/her discretion, can approve financial aid for a student on a "continued probation status" for one additional semester provided the student has improved his/her grade-point average (GPA) and completed at least 12 hours during the semester in question. The student must contact the director and/or the Student Development Center for a counseling session.

Monitoring is conducted on a semester basis, using information from the Office of Registration and Records.

Continued eligibility. Financial aid is not renewed automatically from one academic year to the next. Students must reapply annually before the established priority dates to ensure continued consideration. Students receiving aid must re-establish eligibility annually by submitting new financial aid applications and meeting the criteria for good standing and satisfactory academic progress. New awards are based on documented financial need and availability of funds.

For more detailed information on financial aid policies, refer to the Financial Aid Handbook or contact the Office of Student Financial Aid.

FINANCIAL ASSISTANCE PROGRAMS

GRANTS

Pell Grant (formerly BEOG). The Pell Grant is a federal program which entitles the student to receive a grant up to a maximum of $1900, but not more than 50 percent of the actual cost of attendance for a full academic year. The amount of the grant, however, depends on the level of funding authorized by the federal government.

To be eligible for a Pell Grant, a student must be accepted for enrollment or must be a continuing student in good standing. Graduate students and students already holding a bachelor's degree are not eligible. To receive consideration for a full Pell Grant, students must be enrolled for at least 12 credits per semester. The awards of students enrolled for fewer than 12 credits but at least six credit hours are pro-rated according to the current academic load. Students must apply each year. Normally the period of eligibility is extended to the period required for completion of the first baccalaureate course of study. Applications may be obtained from high school counselors or from the Office of Student Financial Aid, and should be completed according to instructions.

All students who are applying for financial assistance and are eligible to apply for a Pell Grant must do so and submit a copy of the Student Aid Report (SAR) to the Financial Aid office whether qualified or not.

Colorado Student Grant (CSG). The CSG is awarded to undergraduate residents on the basis of financial need. Stipends attached to the award are usually not greater than $1500 an academic year and generally will not exceed one-half the documented financial need.

Supplemental Educational Opportunity Grant (SEOG). The SEOG is a form of non-repayable financial aid and is designed to assist undergraduate students with need. Awards may not exceed $2000 per year.

State Student Incentive Grant (SSIG). The SSIG is awarded to undergraduate resident students on the basis of financial need. To be eligible, an individual must document a minimum of $900 need for the academic year. Awards vary from $200 to $2000 per year, depending on the amount of need.

College Work-Study Program (CWSP). The CWSP is designed primarily to provide jobs to students who, without the earnings from the employment, could not attend the university. The program is funded by both the federal government and the state of Colorado. The university annually employs some 300 to 500 students in the work-study program. When possible, employment is arranged in the student's major area of interest. The average work-study award for freshmen and sophomores is $1000, for juniors and seniors, $1500. The average wage rate for work-study students is approximately $3.70 per hour. Earnings are paid by check on the 15th of each month. Students in the Work-Study Program assume responsibilities appropriate to an employee/employer relationship; failure to do so may result in the appropriate loss of the work-study award.

WORK-STUDY

Full-time work-study. Full-time work-study is a summer program designed to provide students with employment during the summer. It is expected that some of the earnings from the employment will be used to offset the next academic year's educational costs.

To be eligible, students must:

1) Enroll at the university for the next academic year as a degree-seeking (classified) student:
2) Document financial need for the next academic year;
3) Complete separate applications for the summer full-time work-study and for the next academic year by the specified priority dates;
4) Save a major portion of their earnings to assist with next year's educational expenses and
5) Forego enrollment in summer classes, if awarded full-time work-study.

No-need work study. The no-need work-study program is funded by the state of Colorado. To be eligible, students must be undergraduate Colorado residents. The no-need program is a limited program for students who have specified work opportunities on campus which will provide valuable academic and/or professional experience. Students must possess a skill or talent which is of use in a specific university position, or demonstrate financial need which cannot be documented in the normal fashion.

Students are selected for this program on the basis of their qualifications and the amount of funds available. The average no-need work-study award for the academic year is $1200. Students must apply for need-based financial aid and must be found not eligible in order to qualify for the no-need program. They must complete either the College Scholarship Service Financial Aid Form or the American College Testing Program Family Financial Statement. Students should not assume that they will be found ineligible for need-based financial aid. Those who are declared ineligible, however, may qualify for a no-need financial aid opportunity.

LOANS

National Direct Student Loan (NDSL). A NDSL is a low interest (5 percent) loan to help students pay for their post-education.

A student may be eligible to borrow up to a total of:

— $3,000 if he/she is enrolled in the first two years of a degree program, or has completed less than two years of a program leading to a bachelor's degree;

— $6,000 if he/she is an undergraduate student who already has completed two years of study toward a bachelor's degree and has achieved third-year status (total includes any amount borrowed under NDSL for the first two years of study);

— $12,000 for graduate or professional study (total includes any amount borrowed under NDSL for undergraduate study).

Repayment of the loan begins six months after the student graduates or leaves school. A student may be allowed up to 10 years to repay the loan. The amount of payment depends upon the size of the debt, but usually is in payments of at least $50 per month. The school may agree to a lesser amount because of extraordinary circumstances such as prolonged unemployment.

In case of default on an NDSL which the school is unable to collect, the federal government may take action to recover the loan.

A former student may defer payment for up to three years while serving in:

1) The armed forces;

2) The commissioned Corps of the Public Health Service, or

3) The Peace Corps, VISTA, or a comparable organization.

Payments may be deferred for up to three years if a doctor certifies that the former student or his/her spouse is unemployed due to a temporary total disability.

A student may defer payments for up to two years while serving an internship required before professional practice.

A student may defer payments for a single period of up to one year while actively looking for a full-time job.

Payments may be deferred for periods of at least half-time study at an eligible school, for study in an approved graduate program and for study in an approved rehabilitation program for the disabled.

Repayment may be deferred for six months after the end of any of the above periods.

Loan cancellation provisions are available for borrowers who teach handicapped children or who teach in designated schools. If the borrower dies or becomes totally and permanently disabled the loan obligation will be cancelled.

Questions about the terms of loan, repayment obligations, deferment or cancellation should be referred to the Office of Student Financial Aid or to the Accounting office.

Guaranteed Student Loan (GSL). A Guaranteed Student Loan (GSL) is a low interest loan made by a lender such as a bank, credit union or savings and loan association to help pay for post-secondary educational expenses. The loans are insured by either the federal government or state guarantee agency. The interest rate for borrowers is currently eight percent, and all subsequent loans to those borrowers will be at eight percent plus a five percent origination fee.

An undergraduate can borrow up to $2,500 a year. A graduate student can borrow up to $5,000 a year (In some states these amounts may be less.)

The total GSL debt allowed to be outstanding for an undergraduate is $12,500; the total for graduate or professional study is $25,000 (including any outstanding undergraduate level GSL loans).

A GSL application may be obtained from a private lender, The Office of Student Financial Aid or from a guarantee agency. After the application is filled out, USC must complete the section which certifies enrollment, the cost of the education, academic standing and any other financial aid received. If a borrower is placed on financial aid suspension, the bank will be notified.

PLUS loans. PLUS loans are meant to provide additional funds for post-secondary educational expenses. The interest rate for PLUS loans is 12 percent. Like GSL's they are made by a lender such as a bank, credit union, or savings and loan association.

Parents of dependent undergraduate students may borrow up to $3,000 per year.

Graduate students may borrow up to $3,000 per year.

Independent undergraduates may borrow up to $2,500 per year. However, the PLUS loan, combined with any GSL the undergraduate also may have, cannot exceed the yearly and total GSL undergraduate limits.

A borrower must begin repaying a PLUS loan within 60 days. The same deferment conditions available to GSL borrowers also are available to PLUS borrowers. Thus, borrowers who are full-time students or on active duty in the military, for example, are entitled to a deferment of principal payments. Parent borrowers are not granted deferments based on the status of the student for whom the parent borrowed. All borrowers must begin paying the interest within 60 days, unless the lender has agreed to allow the interest to accrue until the deferment ends.

For additional information students should contact: Colorado Guaranteed Student Loan office, 7000 North Broadway, Suite 100, Denver, Colorado 80221, or telephone (303) 450-9911.

Short-term loan. Short-term loans are intended only for those financial emergencies that present extreme hardship cases which could not reasonably be foreseen and which seriously threaten the continuation of a student's education at the University of Southern Colorado. The maximum loan a student may have at one time is $100. Students must be currently enrolled for at least 12 semester credits, must not be on disciplinary probation or financial aid suspension and must not have an unpaid university account. Short-term loans will not be made at any time when school is not in session.

Loans are to be repaid within a short period of time (normally within 60 days). The student and financial aid counselor determine a definite due date acceptable to both. If the loan has not been repaid or arrangements made for its repayment by the due date, the delinquent loan will be treated as an overdue student account and handled in accordance with university policy. Applications for short-term loans are available in the Office of Student Financial Aid. Foreign students are eligible to apply. There is a $3 fee assessed for processing the paper work.

SCHOLARSHIPS

USC President's Scholarship. The President's Scholarship is designed to provide recognition for outstanding academic performance and talent (art, music, drama, speech, special skills) and is awarded to undergraduate Colorado residents who are graduates of Colorado high schools, junior college transfer students or continuing students at USC. The stipend is $600 per academic year.

Freshmen recipients are selected on the basis of high school grade-point average, class rank, and Scholastic Aptitude Test or American College Test scores. All others are selected on the basis of the cumulative GPA. These parameters may vary from year to year and are dependent on the availability of funds. Recipients of the scholarships are selected by a special committee. Currently enrolled USC students must complete 24 semester credits per year (Courses graded S/U are not included). Renewal of the scholarship is based on the student's cumulative grade-point average at the end of each semester. The award cannot be used for more than eight academic terms or beyond the time that the bachelor's degree is awarded.

Private scholarship program. The University of Southern Colorado Foundation administers many scholarships awarded by corporations, busi-

nesses, foundations, individuals and other private sources. A few examples are the Steinhardt Pre-Med, Sundstrand, Colorado Masons and Boettcher scholarships. Various scholarships also are given by local groups, service clubs, cultural societies and similar organizations. Additional awards are made by university departments out of funds deposited with USC Foundation. Still other awards, for designated scholarships such as the Crouch and Seelig, are made by the USC scholarship committee. Information about most scholarships is available at the USC Foundation office, 301 Administration building, phone 549-2380, and high school counselors.

The following procedure has been established for scholarship disbursements out of the USC Foundation each semester:

1) Foundation checks payable to each recipient AND the university are placed with the USC cashiers, Administration building.

2) After the drop/add period ends, bills for tuition, fees and other charges are prepared and mailed to all students.

3) When scholarship recipients receive their bills, they should report to the cashiers to endorse checks and have their accounts credited.

4) When all charges are cleared, any surplus remaining from the check will be paid to the recipient if so allowed by the donor.

Questions about private scholarships may be directed to the USC Foundation.

ADDITIONAL ASSISTANCE PROGRAMS

Student employment services. The Office of Student Financial Aid provides a job locater and development (JLD) program. The program is designed to encourage the development and expansion of off-campus part-time employment opportunities for all students, regardless of financial need. The purpose of the JLD program is to provide every student who desires employment a reasonable opportunity to find it. Registration cards for the JLD program can be obtained in the Office of Student Financial Aid.

Veterans' benefits. All students who expect to receive veterans' or dependents' education assistance from the Veterans Administration are required to register with the veterans' adviser on campus at the start of each

academic year and, if enrolled, before summer session. The university participates in the advance pay system. Education loans of up to $2500 per year are available through the Veterans Administration. Certain Colorado resident veterans with active duty between August 5, 1964 and August 5, 1973, are eligible for a partial tuition waiver. Veterans must supply the original copy of the DD214 form to the Office of Veterans' Affairs, Room 310 of the Administration building, for determination of eligibility.

Bureau of Indian Affairs. Students who are at least one-fourth American Indian, Eskimo or Aleut, as recognized by a tribal group served by the Bureau of Indian Affairs, may apply for a BIA grant. The amount awarded is based on financial need and availability of funds from the area agency. Students must first submit an application for financial aid and supportive documents by the priority deadline, then make an appointment with a financial aid counselor to complete the BIA application.

Social Security. Students who were eligible for Social Security educational benefits in August 1982 may, in general, continue to receive checks until they reach age 22 or through April 1, 1985, whichever comes first, provided they were in full-time attendance before May 1982 at a college or other approved post-secondary school. However, the law now provides:

1) Students do not receive checks for May, June, July or August, even if they attend school in those months.

2) Students are not eligible for future general benefit increases.

3) The amount of future payments gradually is being reduced: 25 percent less starting with the September 1982 check, paid October 1; 50 percent less starting September 1983; 75 percent less starting September 1984; and no payments after April 1985. (NOTE: If more than one child in a family is receiving social security benefits, the reduction in total benefits for the family may be less because of the way maximum family benefits are calculated.)

Students should contact the Social Security Administration for further information.

Disabled/handicapped students. The Student Development center provides information and limited services for disabled and handicapped students. The center is in Room 236 of the Psychology classroom building. The telephone number is 549-2762.

REFUNDS AND REPAYMENTS

If a financial aid recipient becomes eligible for a refund of tuition, fees or housing payment as a result of withdrawal, reclassification of tuition status or other reason, refund monies are used to reduce the student's financial aid awards before any payment is made to the student. This policy applies whenever refunds are payable. Students who withdraw prior to halfway through the semester may be required to repay a portion of the loans and grants.

STUDENT SERVICES

The university includes a number of offices, facilities, programs and organizations which exist primarily to enhance and support the students' academic life at the university. Correspondence to any of the units should be directed to the particular office or facility.

REGISTRATION AND RECORDS OFFICE

The Office of Registration and Records houses all information on past and present students. Office personnel are responsible for conducting registration for classes each term, certifying students for social security benefits and "good student" insurance discounts; handling problems with school records; assisting students in dropping and adding classes; processing student withdrawals; evaluating applications for graduation; furnishing transcripts upon request and providing information on students (addresses and telephone numbers). The office is in Room 201 of the Administration building.

HOUSING

The Residence Hall houses on-campus students. It is a modern, multi-storied building consisting of three wings which are joined by a large commons area. A main lounge serves as a gathering area and a movie theatre. The Housing office is located adjacent to the lounge, as is the mailroom. The

lower level of the commons area consists of a recreation area (including a court for basketball, racquetball and volleyball and a weight room), a study lounge, and a large-screen television room. The Residence Hall also has computer terminals for use by residents only.

The Residence Hall can accommodate 500 students, with approximately 48 students residing on each floor. All rooms are designed for two people and contain beds, desks, bookshelves, study lamps, closets, dressers, chairs and a wastebasket. Linen service is available for a nominal charge.

Because consideration for others' rights to study and relax are high priorities in any academic community, each floor (except the 20-hour quiet floor) is responsible for setting a block of time aside for quiet hours. Recognizing that studying takes a good study environment and more concentration for some, 20-hour quiet floors also are available to students. All residents enjoy equal access to services and programs within the Residence Hall regardless of their choice of lifestyle floor.

The director of Residence Life is a full-time, professionally trained staff member responsible for the overall well-being of residents. The director is trained in counseling, administration, leadership training, human growth and development, and other similar areas of concern to college students. Upperclass live-in students assist the director and help students directly with programs, questions, problems and referrals to appropriate university services. Student personnel include an assistant to the director, resident assistants and an emergency medical technician.

Programming. The Residence Hall Council, staff members, and residents work together to provide educational social, cross-cultural and recreational programming to enhance the living/learning environment of the Residence Hall. Activities can be planned either as floor, wing or hall events.

The Residence Hall Council is an avenue for students who desire to be positively involved and to gain leadership skills.

Housing policies. Students in good standing are eligible to live in the Residence Hall. To be housed in the Residence Hall a student must submit an application, a roommate preference form, and an EMT form, pay a $100 occupancy and damage deposit, and sign a room and board contract. The contract is binding for the entire academic year. Students who officially withdraw from USC during the first 10 weeks of each semester are refunded a prorated amount of room and board charges provided there are no outstanding debts to the university. The director of Residence Life must clear deviation from stated policies.

A $100 occupancy and damage deposit must accompany each application for space in the hall. This deposit is NOT applied to room and board payment and is held in escrow for the duration of the student's occupancy. Occupancy and damage deposit payments may not be deferred.

Housing for married students. At present there is no housing available on campus for married students. Married students should contact the University Center for referral to housing in the community.

Contract board policies. Residence Hall students are required to contract for meals at the university. Meal plans are purchased each semester and allow the student full dining privileges for that term. Meal passes are not transferable. Special diets prescribed by a physician are given consideration.

Off-campus housing. The University Center information desk maintains a file of off-campus, privately owned rooming houses and apartments. Since listings change rapidly, prepared housing lists are not furnished. Students living off campus should notify the Office of Registration and Records of change in address.

FOOD SERVICE

All campus food services are located in the University Center. The main cafeteria is on the ground floor. Serving hours are:

Monday through Friday	
Breakfast	7:00 a.m.- 8:15 a.m.
Continental breakfast	8:15 a.m.- 9:15 a.m.
Lunch	11:15 a.m.- 1:15 p.m.
Dinner (except Friday)	5:00 p.m.- 6:30 p.m.
Friday dinner	5:00 p.m.- 5:45 p.m.
Saturday and Sunday	
Brunch	10:30 a.m.-12:30 p.m.
Dinner	5:00 p.m.- 5:45 p.m.

The snack bar and beer pub, La Cantina, is on the first floor of the University Center and is open weekdays from 7:30 a.m. to 8 p.m.

A small restaurant, the Aspen Leaf, is on the top floor of the center. Serving hours are from 11:30 a.m. to 1:30 p.m. weekdays when classes are in session.

Student meal plan I.D.'s are usable only in the dining hall and may be purchased by commuters as well as resident students. Discounted cash cards are available in small denominations of $25 at Auxiliary Services, University Center, Room 114.

ORIENTATION

At the beginning of each semester, a program of orientation for new students is offered. During orientation, students are introduced to key academic and administrative personnel, learn about university policy, receive academic advising and register for classes. The **university calendar** in this catalog and the semester bulletin list orientation dates and times. All new students are urged to attend.

The Office of Admissions provides information and dates for other opportunities for campus visits and orientation.

CAREER PLANNING AND PLACEMENT OFFICE

The Office of Career Planning and Placement in Room 309 of the Administration building houses information to assist students in making career choices and provides professional vocational counseling. The Colorado Career Information System (COCIS), a computerized career program, is available for student and community use.

The Placement office in the same location supplies tools and techniques (including placement packets, job vacancy bulletins, resume and interview skills and general job hunting strategies) to help graduates and alumni find career-related employment.

COOPERATIVE EDUCATION

Cooperative education provides an educational plan in which periods of study and periods of career-related work are combined in one program, individualized for each student. Students earn a salary and acquire academic credit in their majors while experiencing, on a temporary basis, their chosen career. The experience gives cooperative education students an opportunity to become well-acquainted with the employer which, in many cases, leads to permanent placement upon graduation.

TESTING SERVICES

Test facilities for student and community use are in Room 309 of the Administration building. The office is a state and/or national test center for standardized tests including GED, ACT, ACT-PEP, SAT, GRE, MAT, ETS Insurance and Real Estate and various individual student interest tests such as vocational interest, personality, ability and I.Q.

STUDENT ACADEMIC ADVISEMENT

The Office of Career Planning and Placement in Room 309 of the Administration building is responsible for coordinating academic advisement for undecided and unclassified students each semester. Degree-seeking students are advised by faculty members in their major field.

STUDENT ORGANIZATIONS AND ACTIVITIES

USC students have opportunities to take part in the activities of a number of clubs, fraternities, sororities and honor organizations. Membership often is based on special qualifications. Students interested in starting a new official campus group first must find a faculty member willing to sponsor the group. Then two copies of the proposed constitution should be submitted to the coordinator of Student Activities.

The Office of Student Activities in Room 036 of the University Center houses the University Activities Board, funded by student fees. The board is responsible for planning, coordinating and implementing student-oriented activities on and off the USC campus. The board is composed of several committees: Concert Crew, Films, Informal Events, Video, Cultural Events and Coffee Haus.

ATHLETICS

USC views participation in intercollegiate athletics as a beneficial experience and a worthwhile part of the entire educational process. All students are invited to participate.

The university is a member of the National Association of Intercollegiate Athletics, the Rocky Mountain Intercollegiate Golf Association and the Rocky Mountain Intercollegiate Athletic Conference. USC sponsors the following intercollegiate sports:

Men: football, basketball, cross country, track and field, baseball, golf, tennis and wrestling

Women: volleyball, basketball, gymnastics, cross country, track and field and tennis

INTRAMURALS

Intramurals is a special program involving students and staff in organized recreation and sports activities. Coeducational and men's and women's activities are offered in a variety of sports. All students are encouraged to participate, either as individuals or with teams.

STUDENT GOVERNMENT

All registered USC students who have paid fees are automatically members of the Associated Students' Government (ASG). ASG's main purpose is promoting student life and maintaining the general welfare of the student body.

ASG functions through three branches of government: legislative, executive and judicial. The legislative branch, the senate, is composed of senators elected from the student body and is presided over by the ASG vice president. The executive branch consists of the president, the vice president and a cabinet appointed by the president. The judicial branch is composed of a supreme court and lower courts deemed necessary by the senate. The senate and cabinet meet weekly.

ASG is funded through the Student Fees Allocation Committee, composed of administrative officers and students who hold memberships on this committee and its subcommittees. Student fees finance ASG-sponsored social activities, salaries and other student projects on campus.

STUDENT HEALTH SERVICE

The student health service offers free medical care to all students, whether or not they carry student insurance. The service is operated by a registered nurse and a secretary from 8 a.m. to 4 p.m. weekdays; a physician is on duty a part of each weekday during the afternoon.

Students are encouraged to visit the health facility, Room 004 in the University Center, whenever necessary with or without an appointment.

Referrals to other physicians may be made when appropriate or if requested by the student. All records are confidential. No specific information is discussed or released except for use in consultation among physicians or in reporting a contagious disease as required by public health authorities.

STUDENT DEVELOPMENT CENTER

The center, located in Room 236 of the Psychology building, provides professional services for students and the community. The services include personal-social counseling, student discussion groups, seminars and workshops and an intake-referral system for other student/community activities.

HANDICAPPED SERVICES

Handicapped services are located in the student development center complex and offer a support system for disabled students. The USC campus is virtually barrier-free, and the Residence Hall provides adequate living facilities for handicapped students.

FEDERALLY SPONSORED PROGRAMS

Minority Biomedical Research Support program. The University of Southern Colorado is designed to provide research experience for students interested in pursuing a career in the biomedical disciplines. Participating students often contribute to the publication or presentation of research findings. The Minority Biomedical Research Support program sponsored by the National Institutes of Health, has been active on this campus since August of 1981 and is renewable.

For information, contact Dr. J. L. Connelly, Chemistry building, Room 113, or call 549-2571.

Special Services. The special services program was developed to increase educational opportunities for students who demonstrate personal motivation and a high potential for academic success and serves qualified students who meet the criteria established by the U.S. Commissioner of Education.

The program provides tutoring, personal and financial aid counseling and admissions assistance. The central office is in Room 320 of the Library Wing, phone 549-2750.

High School Equivalency program. The High School Equivalency Program (HEP), is designed to assist students from migrant/seasonal farmworking backgrounds to pass the General Educational Development (GED) examinations and obtain the equivalent of a high school diploma. HEP students attend classes Monday through Friday from 8:30 a.m. to 3 p.m. Classes include reading, writing, math, social studies, and science. Students often are placed in jobs, higher education, or vocational training after program completion.

Students accepted for participation in the program are provided with instructional services and materials, personal and vocational counseling, biweekly stipends, transportation, and cultural and recreational activities. Those from out of town receive room and board.

The program is funded by the U.S. Department of Education and serves the states of Colorado, Arizona, New Mexico, Kansas and Utah.

For additional information contact the director of HEP, (303) 549-2284.

Upward Bound program. Upward Bound is a pre-college program for high school students from low-income and first generation families. It is designed to help students develop the motivation, interest and skill necessary for acceptance into and success in college. Counseling, motivation and tutoring are major emphases.

Students are recruited from the southern Colorado area. The office is in Room 320 of the Library Wing, phone 549-2750.

VETERANS' AFFAIRS

The Veterans' Affairs Program provides information on programs and benefits available to veterans, including veterans' advisory services, educational benefits and programs, tutorial services and general information. For further details, write to the coordinator of Veterans' Affairs or visit the office, Room 310 of the Administration building.

Field experience courses. Certain courses listed in this catalog involve university-supervised, on-the-job experiences. In such courses, which may be required, the student is not permitted to receive remuneration for services performed with the host business or agency. In certain cases, remuneration may be received in courses classified as electives within the student's program. The Veterans Administration has requested that the differentiation be made.

Benefits. The courses offered by the university, with certain exceptions, are approved for the training of veterans under Chapter 34, Title 38, U.S. Code (PL 815) as well as for dependents of veterans under Chapter 35, Title 38, U.S. Code. Veterans and dependents who plan to utilize benefits administered by the Veterans Administration while attending USC must report to the Office of Veterans Affairs as soon as the decision is made to attend the university.

INTERNATIONAL STUDENT SERVICES

The Office of International Student Services works to help students from other countries during their stay at the university. The office includes among its concerns, immigration matters, academic problems, student organizations and housing and subsistence emergencies. It is located in Room 309H of the Administration building.

American Language Academy. The American Language Academy is leasing facilities on the USC campus to provide an intensive English language program for the foreign student.

Although USC credit is not provided for ALA courses, USC students may enroll in the academy's classes to improve English proficiency.

The international student enrolled with the American Language Academy who is in the highest levels (4 or 5), may be permitted to enroll in USC classes for up to a maximum of nine semester hours of USC credit per semester. Approval by the university and the director of ALA is required. Students seeking admission to USC as potential degree-seeking students must meet the university's international admissions requirements. (See page 00.)

American Language Academy offices are located in the University Center, Room 121. Contact American Language Academy, by telephone Monday - Friday, 8:30 a.m. to 4:30 p.m. at (303) 549-2222 or write to the American Language Academy in care of the University.

UNIVERSITY CENTER

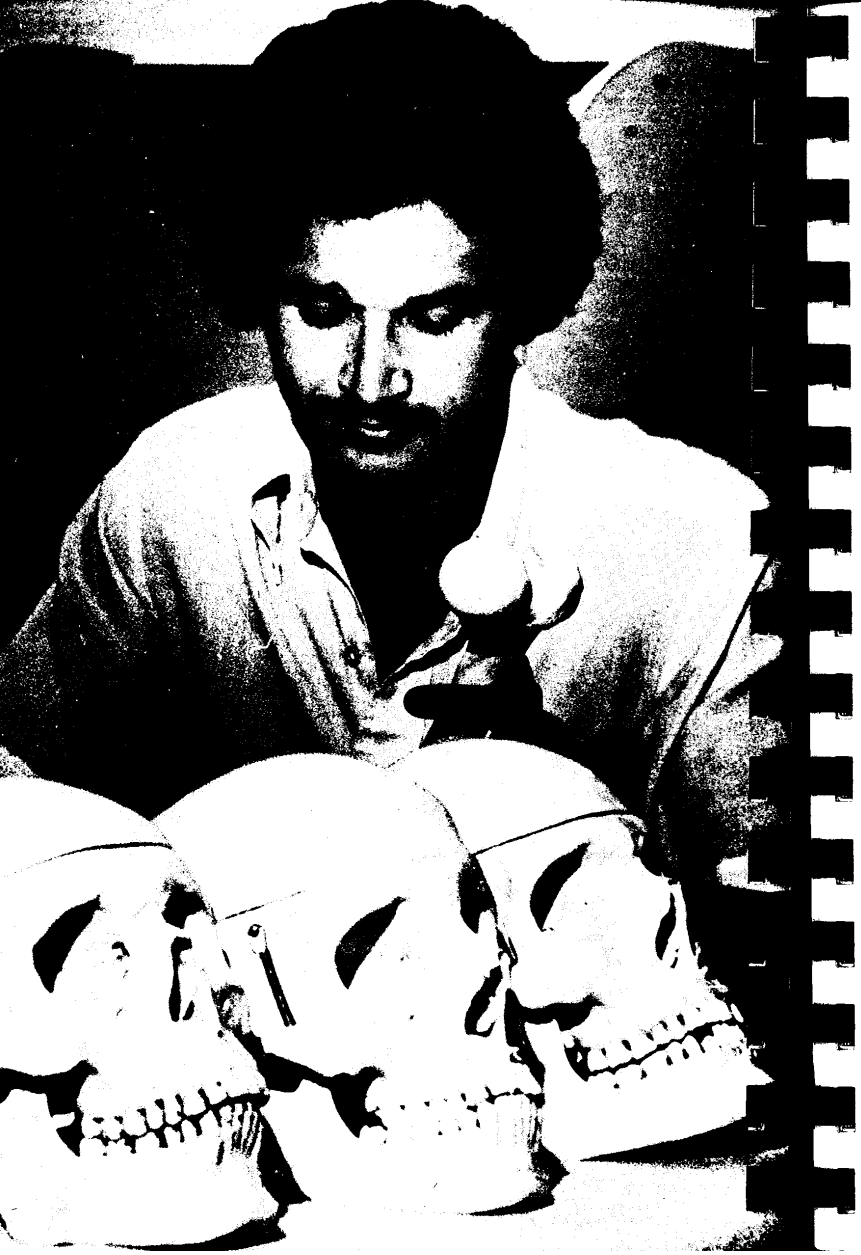
The University Center provides USC students and their guests with a warm and attractive place for relaxation and entertainment. Billiards, ping pong, foosball and the latest in electronic games provide a little diversion between and after classes. Next to this gamesroom area is La Cantina, a snack bar and pub area where students can socialize over their favorite food and beverage. The student activities office, campus ministries and Health Services are located on the first floor of the University Center. Student government offices are on the third floor. Dining hall services, the bookstore and KTSC-FM student radio station are on the main level of the University Center.

Students are also encouraged to use the Hearthwell Lounge and Quiet Room (third floor) for relaxation and study. The third floor meeting rooms and the Ballroom are available for scheduled meetings and special events. The Aspen Leaf Dining Room offers lunch-only restaurant service to cash or discount card patrons.

During the academic year, the University Center is open regularly from 6:30 a.m. to 8 p.m. on weekdays and as scheduled events require. Saturday and Sunday the center is open during meal hours and as scheduled for events. Limited hours are established during summer and when classes are not in session. As events and meetings are scheduled, the University Center hours are expanded to accommodate preplanned functions.

USC BOOKSTORE

The USC bookstore is a modern, 20,000-square foot store in the University Center, serving USC faculty, staff and students. Texts for classes, general interest books, current magazines, classroom supplies, notions, calculators, greeting cards and sport and t-shirts are among the many items sold in the bookstore. Hours of operation are printed in the semester bulletin and on the bookstore entryway.



STUDENT RIGHTS AND RESPONSIBILITIES

EDUCATIONAL RECORDS

Annual notification of rights. The university informs students annually of their rights accorded by the Family Educational Rights and Privacy Act of 1974 (P.L. 93-380).

Right to inspect and review education records. Eligible students may inspect and review their education records except those prohibited by section 438 of the act. A reasonable fee will be charged for requested copies.

"Education records" means those records which: 1) are directly related to a student, and 2) are maintained by an educational agency or institution or by a party acting for the agency or institution.

Limitation on destruction of education records. The university is not precluded by section 438 of the act from destroying education records, subject to the exceptions delineated under 20 U.S.C. 1232g (a) (2).

Request to amend education records. An eligible student who believes that information contained in the education records of the student is inaccurate or misleading or violates the privacy or other rights of the student may request that the university amend the records.

Right to a hearing. The university shall, on request, provide an opportunity for a hearing in order to challenge the content of a student's education records to ensure that information in the education records of the student is not inaccurate, misleading or otherwise in violation of the privacy or other rights of students.

Conduct of the hearing. The hearing required to be held shall be conducted according to procedures which shall include the due process elements as they appear under 20 U.S.C. 1232g (a) (2).

Prior consent for disclosure required. The university will obtain the written consent of an eligible student before disclosing personally identifiable information from the **education records** of a student. This process is not required if the information is considered **directory.** Both terms are defined below.

Education records requiring student release are defined at USC as grade reports, transcripts, disciplinary files and class schedules.

Directory information which does not require prior release, is defined as student name, address, telephone number, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, the most recent previous educational agency or institution attended by the student and other similar information.

Although the university does not abridge either Public Law 93-380 (The Privacy Act) or PL 93-579 (amendment thereto), there are some education records that may be released without prior student approval under the law. Examples are 1) records that may be released to appropriate parties in a health or safety emergency, 2) records used to help determine the eligibility of the student for financial aid and 3) personally identifiable information to other school officials within the educational institution or local educational agency who have been determined by the agency or institution to have legitimate educational interests.

Record of requests and disclosures required to be maintained. The university shall record all requests for each disclosure of personally identifiable information on each student. The disclosure record is kept with the students' academic records.

Disclosure to certain federal and state officials for federal program purposes. Nothing in section 438 of the Act shall preclude authorized representatives of officials from having access to student and other records which may be necessary in connection with the audit and evaluation of federally supported education programs, or in connection with the enforcement of or compliance with the federal legal requirements which relate to these programs.

Student/staff directory. A directory is published annually listing the names of students attending USC, their local address, telephone listing, class and major. This information is available to the public and is released unless an annual written request to withhold such information is filed with the Registrar's office by the end of the second week of classes.

Parents of the student or the eligible student have the right to refuse to permit the designation of any or all of the categories of personally identifiable information with respect to that student as directory information. Such a request must be made through the Office of Registration and Records by the end of the second week of classes.

VEHICLE REGISTRATION

Students operating vehicles on campus must register their vehicles with the University Police department before the first day of classes. A student parking permit costs $12 per year, $6 for a single semester. To register a vehicle, each student must present a valid driver's license, a vehicle registration card or proof of ownership and valid university identification. The permit does not guarantee a parking space.

IDENTIFICATION CARDS

All students enrolled should obtain an ID card, provided by the University Center office (Room 113) during regular working hours Monday through Friday from 8 a.m. to 5 p.m. In order to obtain an ID, a student must show a picture identification and the computer printout of his or her class schedule for the semester. Continuing students must have their ID's validated each semester, and must present confirmation of registration.

Faculty and staff are provided a non-validated ID at $1.50 for a new card and $5 for a replacement. Employees should be prepared to show a picture identification and provide the name of the department and supervisor with whom they are employed. Validation each semester allows the faculty or staff

member to attend many events at reduced cost. To validate an ID, the faculty/staff member pays $8.50 to the USC cashier and presents the receipt at the University Center office (Room 113) for validation. Spouse stickers may be obtained at the athletic department.

VIOLATIONS OF THE LAW ON CAMPUS

In order to protect its educational mission, the university takes a firm and fair stand concerning violations of the law on campus. The University Police department is charged with the responsibility for maintaining law and order at the University of Southern Colorado and for enforcing all national and state laws, local ordinances and regulations of the university, except when such enforcement is, by such law, made the responsibility of another department, official or agency.

Deliberate illegal activity which comes to the attention of USC officials is not tolerated; officials do not interfere with lawful investigations or prosecutions of the law on campus. No one should assume that USC is a sanctuary for persons breaking the law. At USC, each individual is responsible for his or her own behavior.

An offense necessitating police action may also be treated internally as a university disciplinary matter.

STANDARDS OF CONDUCT

Members of the university community are expected to observe the laws of Pueblo, the state of Colorado and the federal government and to respect other members of the community. Students, faculty and staff members of USC neither gain nor lose any of the rights of citizenship. Activities which render students liable to disciplinary action are:

1) Violation of federal, state and city laws and ordinances or any other conduct that adversely affects the functions of the university in the pursuit of its objectives.

2) Theft or damage to university property or harm to a member or guest of the university community.

3) Unauthorized entry into or use of university or university-controlled facilities or property.

4) Failure to comply with directions of university officials acting in the performance of their duties.

5) Violation of the university's and/or residence hall's regulations concerning the use, possession or consumption of alcoholic beverages.

6) Use, sale, distribution or possession of drugs, controlled substances, barbiturates, not authorized by a physician or those which are illegal.

7) Violation of published university, campus or residence hall policies, rules or regulations.

8) Hazing in any and all forms.

9) Disorderly conduct or loud, indecent or obscene conduct on university or university-controlled property or at university-sponsored functions.

10) Physical or verbal abuse or intimidation of anyone on university or university-controlled premises or at university-sponsored functions or any conduct that endangers or threatens the health, safety or well-being of any person.

11) Dishonesty, such as cheating, plagiarism, misrepresenting one's self or facts or knowingly furnishing false information to any person or agency within the university community.

12) Any form of academic dishonesty, including the acquisition of tests or other academic material belonging to a member of the university community without proper authorization, whether the acquisition is for personal gain or for the benefit of someone else.

13) Forgery, alterations or use of USC documents, records, instruments or identification with intent to defraud or mislead.

14) Violation of university traffic or parking regulations.

15) Intentional obstruction or disruptions or inciting others to obstruct or disrupt teaching, research, administration, disciplinary proceedings or other university or university-authorized activities.

16) Appropriating public or private property without the consent of the owner or person responsible.

17) Possessing or using illegal or unauthorized firearms, explosives, dangerous chemicals, or other weapons on university-owned or controlled property.

18) Possessing or consuming alcoholic beverages on or in university property, except in those areas authorized by the university, and then only those types of beverages authorized by the university.

19) Failing to show proper identification to university police officers or other university staff (acting in official capacity) when requested to do so.

20) Failing to meet university financial obligations.

21) Tampering with fire equipment in any manner.

DISCIPLINARY PROCEDURE

The primary responsibility for administering student discipline rests with the Office of the Vice President for Student Affairs. The vice president delegates the responsibility for administering the disciplinary process to a designated hearing officer. The hearing officer is responsible for discipline involving unacceptable student conduct and infractions of USC rules and regulations (other than academic rules and regulations).

The decisions of the hearing officer may be appealed to the campus appeals board, the highest hearing and appeal board for non-academic matters at the university. Decisions involving academic infractions, appeals, etc. must follow the procedures established by the academic division of the university.

If the hearing officer or campus appeals board determines that a student has violated a university regulation, a sanction may be imposed. Sanctions range from warnings to expulsion from the university. The office of the vice president for Student Affairs provides, upon request, the institution's **Standards of Conduct Handbook,** which contains a detailed explanation and description of institutional disciplinary philosophy, rules and regulations.

ACADEMIC PROGRAMS

DEGREES OFFERED

The university is approved to grant the following degrees: associate in arts (AA), associate in applied science (AAS), associate in science (AS), associate in science in nursing (ASN); bachelor of science (BS), bachelor of arts (BA), bachelor of science in business administration (BSBA), bachelor of science in electronics engineering technology (BSEET), bachelor of science in industrial engineering (BSIEN), bachelor of science in civil engineering technology (BSCET), bachelor of science in mechanical engineering technology (BSMET), bachelor of science in metallurgical engineering technology (BSMLET), bachelor of science in nursing (BSN); bachelor of social work (BSW); master of arts (MA) in industrial education; master of business administration (MBA).

COLLEGES OF THE UNIVERSITY

The following is an outline of the current organization of colleges and programs. The degree designations are those approved by the Colorado Commission on Higher Education.

COLLEGE OF ENGINEERING AND SCIENCE

Agriculture: AS
Automotive Parts and Service Management: BS
Biology: BA, BS
Chemistry: BS
Civil Engineering Technology: AAS, BSCET
Computer Science Technology: AAS, BS
Electronics Engineering Technology: AAS, BSEET
Geology: BS
Industrial Engineering: BSIEN
Mathematics: BA, BS
Mechanical Engineering Technology: AAS, BSMET
Medical Technology: BS
Metallurgical Engineering Technology: AAS, BSMLET
Physics: BS

COLLEGE OF PROFESSIONAL STUDIES

Accounting: BSBA
Business Administration: BSBA, MBA
Early Childhood Education: AA
Economics: BSBA
Elementary Education: BS
Industrial Education: BS, MA
Nursing: ASN, BSN
Physical Education: BS
Recreation: BS
Social Work: BSW

COLLEGE OF LIBERAL AND FINE ARTS

Anthropology: BA
Art: BA, BS

Behavioral Sciences: BA, BS
English: BA
Foreign Language: BA
Geography: BS
History: BA
Humanities, Broad Area: BA
Mass Communications: BA, BS
Mental Health: AA
Music: BA
Philosophy: BA
Political Science: BA, BS
Psychology: BA, BS
Sociology: BA, BS
Social Science, Broad Area: BA, BS
Speech Communication/Theatre: BA, BS

THE UNIVERSITY LIBRARY

The University Library provides information service for students, faculty and staff.

Library services provide books, periodicals, pamphlets and documents. Library services personnel assist students and faculty in learning how to find and use such materials. Instruction in library use is available for individuals and small groups as well as for formal classes. Staff members also prepare subject bibliographies for classes, arrange interlibrary loans and provide computer-based reference searches.

Approximately 200,000 volumes are now available as well as more than 1300 titles in the periodicals collection.

The University Library is a designated selective depository of federal documents and U.S. Geological Survey maps. Special collections include Colorado documents, Slavic Heritage, State Senator Vincent Massari papers, Alva Adams family papers, Tobie Hopkins Black Literature, the Ralph Taylor Colorado collection and the Edward O'Brien Western collection.

Instructional media services supply non-print media aids which support the curricular programs. The audiovisual collections are housed in Room 310 of the University Library, and contains student carrels for the playback of video tapes, sound filmstrips, sound slide sets and audio cassettes. Students may check out audio cassettes, cassette players and headphones. Such software, as well as 16 mm films, are available to faculty members for their curricular programs.

The audio learning laboratory in Room 226 of the Library Wing, offers a special setting in which students may practice languages, both foreign and English, to enhance their classroom experiences.

Instructional media services also provide an opportunity for students to listen to audio cassettes of class lectures and other taped learning resources assigned by faculty.

ACADEMIC EXTENSION AND CONTINUING EDUCATION

The university makes available a broad array of credit courses and non-credit seminars and workshops through the Division of Extended Educational Programs. Some programs are offered on campus and others at off-campus sites more convenient to persons living outside of Pueblo.

Off-campus instruction sites include Peterson Air Force Base and the Air Force Academy and Fort Carson in Colorado Springs, the Fremont Education Center and the Colorado State Penitentiary in Canon City, and community college campuses throughout central and southeastern Colorado.

Both degree and non-degree seeking students are encouraged to participate in the Extended Educational Programs. Persons desiring classification as degree-seeking students must apply for admission to the university.

Courses taken through the University of Southern Colorado Extended Educational Programs have the same credit value as those conducted on campus and may be used in meeting the institutional residency requirement.

A primary aim of the Division of Extended Educational Programs is to provide courses to part-time adult students. A variety of educational methods—classroom instruction, televised courses, conferences, workshops and seminars—are utilized in an attempt to meet the needs of such students at convenient times and settings. Students may earn academic credit toward a degree, study for career advancement, or pursue cultural and avocational interests.

To assure academic integrity, academic extension courses are taught primarily by university faculty members. When this is not feasible, equally qualified instructors are recruited from the neighboring communities.

Courses are normally scheduled in eight-week sessions; special programs are of varied lengths. Intensive classes usually are held in the evening or on weekends for the convenience of working students.

Although the majority of course offerings are initiated by the university, courses may originate through requests by individuals and interested groups.

The university is increasing outreach services, particularly through television, workshops and seminars geared toward Colorado public agencies, businesses and industries.

EVENING COLLEGE

The USC Evening College seeks to serve the educational needs of the people of Southern Colorado. A sizeable number of courses within the USC curriculum are offered between the hours of 5-10 p.m., Monday through Thursday, once or twice weekly (for one to three hours). Accelerated half-semester sessions run for 5 weeks, making it possible for students to carry an average of six hours every half semester term, consequently, averaging 12 semester hours per full semester terms.

The Evening College offers degrees in the area of computer science technology, business administration, broad area of social science, and masters in business administration. Education graduate courses are also a part of the regular curriculum.

Typically, a student may earn a bachelor's degree in four to five years of regular study.

The program provides access to higher education for the individual who works full time, has family obligations, and is prevented from starting or completing a program of study in a "traditional daytime" schedule.

If you wish to enroll in the Evening College, contact the Evening College Division at (303) 549-2213 or write: USC Evening College Division, 2200 Bonforte Blvd., Pueblo, Colorado 81001-4901.

SUMMER SEMESTER

The summer semester consists of an eight-week term and four two-week terms operating simultaneously. A five-week term is available to graduate students only. A wide range of undergraduate, graduate and teacher education courses, special workshops and programs not necessarily offered during the academic year are available in the summer.

A full-time load in summer semesters consists of fewer credit hours than a full-time load during the regular academic year. Summer tuition and fees are calculated according to the number of credit hours the student takes. The summer bulletin, containing information on courses and expenses, is issued in the spring each year. Bulletins are available in the Office of Registration and Records and the Office of Admissions.

INTERIM SESSION

The University of Southern Colorado has established an academic calendar for an interim session between fall and spring semester.

The interim session consists of three weeks of concentrated study. Courses are selected carefully to accommodate students who prefer accelerated time frames. Each semester credit requires 15 classroom contact hours and meets daily at the university campus.

For information concerning the schedule of courses for December and January, write the Office of Extended Educational Programs, University of Southern Colorado, 2200 Bonforte Blvd., Pueblo, Colorado 81001-4901 or call (303) 549-2213. Inquiries for course offering schedules should be made during November.

TELECOMMUNICATIONS

The Telecommunication Division which includes the university's public television station (call-letters KTSC-TV operating on Channel 8) is responsible for producing and broadcasting both instructional and varied public television programs.

The instructional television service produces and obtains instructional television material and supports the mass communications program by furnishing personnel and facilities to train students for broadcasting careers.

KTSC-TV, Channel 8, as a non-commercial public television station licensed by the Federal Communications Commission to the university, operates as a public service under the Division of Planning and Development. The station broadcasts seven days a week at full power covering south/southeastern Colorado, including Pueblo, Colorado Springs, Canon City, Walsenburg and the Arkansas Valley. The daytime schedule includes instructional programs for public schools; the nightly schedule consists of cultural, public affairs and educational programming for viewers of all ages.

KTSC-TV is affiliated with the Public Broadcasting Service and the Pacific Mountain Network. Advanced students in mass communications and electronics receive academic credit for working in the daily operation of the station.

MILITARY SCIENCE (ARMY ROTC)

In cooperation with the federal government, the university offers courses in military science on a voluntary basis to all qualified male and female students.

The military science department recognizes that preparation for national defense is one of the important obligations of citizenship, and the qualities of patriotism, loyalty, discipline, leadership and respect for authority, instilled by proper military training, are valuable characteristics.

The Army four-year program complements the traditional four years of college and includes one summer encampment. Students completing Army ROTC may be commissioned as second lieutenants in the Army Reserve, Army National Guard or the regular Army.

A student may earn a commission after completing only two years of ROTC training during the junior and senior years. The two-year program is designed for transfer students or students who were unable to take ROTC during their freshman and sophomore years.

The programs are designed to enable students to earn, simultaneously, commissions and baccalaureate degrees in their chosen academic fields.

ROTC also offers qualified students two-, three- and four-year scholarships which pay for tuition, laboratory fees and books and provide $100 per month for subsistence.

TEACHER CERTIFICATION PROGRAMS

Elementary: The elementary teacher certification major provides a broad course of study designed to prepare teachers to teach grades K-6. The program is approved by the Colorado State Department of Education and accredited by the National Council for Accreditation of Teacher Education (NCATE). Successful completion qualifies the student for recommendation for a Colorado Type A Certificate.

Secondary: The secondary teacher certification program combines a teaching major in an academic area approved by the State Department of

Education with a professional sequence of courses which leads to a Colorado Type A Certificate. Secondary programs are also accredited by the National Council for Accreditation of Teacher Education (NCATE).

Early childhood education: The early childhood education program is a two-year degree program designed to qualify the student to be employed as a teacher, care giver for young children in preschool, day care, Head Start and child care centers. The student successfully completing this program meets the requirements for certification from the Colorado Department of Social Services.

COMMENCEMENT

Commencement exercises take place once a year at the end of spring semester. Students eligible to participate include those who completed their requirements and received degrees in the preceding summer or fall semester as well as those who completed requirements in the spring semester.

ACADEMIC POLICIES

Students are advised to become familiar with the academic policies of the university, since it is each student's own responsibility to see that he or she complies with those policies and with the policies of the colleges and programs from which he or she takes classes. The Office of Registration and Records exercises all possible care in checking students' records for graduation; however, it is the sole responsibility of the student to fulfill all requirements for his or her degree.

CATALOG REQUIREMENTS

Students may graduate under the catalog requirements listed for the year in which they were first enrolled, provided they complete graduation requirements within a continuous period of no more than 10 years. If students interrupt attendance or transfer to another college or university and then return to the university, they must graduate under the catalog requirements in effect at the time of their readmission or transfer. Students should be sure to obtain and keep a copy of the catalog under which they enter or are readmitted.

DEAN'S LIST AND GRADUATION WITH DISTINCTION

To qualify for placement on the dean's list, published fall and spring semesters, students must achieve a grade-point average which places them in the upper 10 percent of all eligible students. To be eligible, students must be degree-seeking and must earn at least 12 credit hours in which grade points were awarded.

Students maintaining high scholastic averages are awarded undergraduate degrees **with distinction** or **with special distinction.** A minimum of 60 hours must be earned at USC for a student to be considered for graduation with distinction. To graduate with distinction, a student must have a minimum cumulative grade-point average of 3.50; for special distinction, a minimum grade-point average of 3.75 is required.

The university also offers an honors program for gifted students; the program is described in the **curriculum** section of this catalog.

DEMONSTRATION OF BASIC COMPETENCIES

Because basic competency in writing, speech communication, reading and mathematics is a necessary prerequisite for progress in all program offerings, the university requires all students enrolled in baccalaureate degree programs either to demonstrate initially an acceptable level of knowledge in these areas, or to develop the necessary fundamental skills. With regard to communication skills, all students are required to:

1) Enroll in the appropriate basic competencies[1] course in the first semester of enrollment and to continue enrolling in such courses until all basic competencies requirements have been met.
2) Satisfy the university's speech communication requirement[2] as soon as possible, preferably in their first year.

All students must satisfy the university mathematics requirement. This requirement can be met in one of the following ways:

a) Achieving a score of 23 on the mathematics component of the ACT Exam.

b) Passing the USC Mathematics Competency Exam.*

c) Completing MATH 120 (Intermediate Algebra) or an approved higher level mathematics course with a grade of C or better. The following courses may not be used to satisfy this requirement: MATH 240, 241, 360, 361, 377, 463.

Transfer students who wish to meet condition c) by using a mathematics course taken at another institution must obtain approval from the USC mathematics department.

For most programs in the sciences, business or technologies, the required mathematics component starts at the level of college algebra or calculus. Students demonstrating achievement of the mathematics basic competency level are ready to enter such programs.

*Given during orientation each semester. Except in extreme circumstances, this exam may be taken only once.

[1]Students who have achieved an ACT score of 16 or above on the American College Testing Program's English test, or a Scholastic Aptitude Test verbal score of 322, are allowed to enroll in English 110 or 115. Achievement of an ACT score of 16 or above on the social studies test, or at the 21.0 percentile or above on the College English Test, qualifies a student to participate in RDG 120. Students scoring 15 or below on the ACT English scale, or 321 or below on the SAT verbal section, are required to take ENG 109 during their first semester at USC. Students scoring 15 or below on the ACT social studies scale, or at the 20.9 percentile or below on the College English Test, are required to take RDG 119 during their first semester.

[2]Speech Communication 101: Basic Speech Communication, satisfies this requirement.

LEVEL OF INSTRUCTION AND PREREQUISITES

Courses are numbered to indicate the level of instruction as follows: freshman, 100-199; sophomore, 200-299; junior, 300-399; senior, 400-499 and graduate, 500-599. Prerequisites for courses are given with the course descriptions in this catalog. Students are **required** to have satisfied the prerequisites before registering for a course. Students are dropped by the instructor from courses for which they do not have the prerequisites, unless special permission is granted by the head of the program offering the course.

CLASS HOURS AND CREDIT HOURS

A class hour consists of 50 minutes. One class hour a week of lecture or discussion, throughout a semester, earns a maximum of one credit hour. The number of credits awarded for a given course is determined by the number of lecture or discussion hours spent each week in class. Laboratory courses give one hour of credit for each two or three hours spent in the laboratory.

FULL-TIME PROGRAM

A full-time program normally consists of 15 to 18 credit hours per semester during the regular academic year. (During summer session, a full-time load is smaller.) Under a normal full-time program, most students can complete a bachelor's degree in four years. Students should plan to work at least 48 hours a week on such a program — in class, in the laboratory and in preparation and study. To receive financial aid, insurance discounts or full veterans' benefits, students must earn at least 12 hours per semester.

LIMITS ON CREDIT-HOUR LOADS

Course loads of more than 18 semester credit hours are defined as overloads. Both on-and off-campus courses are counted in the credit hour total.

Freshmen who have achieved fewer than 15 semester credit hours may not take an overload. Students with 15 or more semester hours may take an academic overload according to the limits set below:

GPA	Credit hour overload permitted
less than 2.50	0
2.50-3.40	3
3.41-3.80	6
3.81-4.00	7

Under no circumstances may a student take more than 25 semester hours, whether on or off campus, in a single semester.

Up to five semester hours may be taken in a given semester by test-out or challenge procedures. To challenge a course, a student must first enroll in the course and pay tuition for it, and then consult the appropriate faculty member, head of the program and college dean. A successfully challenged course counts in the overload limits.

Overload requests are approved by the student's faculty adviser, head of the program and college dean. All three signatures may be required. Appeals may be made to the vice president for Academic Affairs.

CLASSIFICATION OF STUDENTS

Classification of undergraduate students is based on semester credit hours earned as follows:

Freshman: A student who has earned fewer than 30 semester hours of credit.

Sophomore: A student who has earned 30-59 semester credit hours.

Junior: A student who has earned 60-89 semester credit hours.

Senior: A student who has earned 90 or more semester credit hours.

Graduate Student: See page 363 for graduate classification.

Non-degree: A student who has made no commitment to earning a degree. Work taken as a non-degree-seeking student may be classified retroactively for degree credit when and if a favorable evaluation is established. Students under suspension, or those denied regular admission, are not eligible to enroll as non-degree students.

Auditor: A student who has been permitted to enroll in a course for which he or she will receive no credit. Auditors determine their own attendance, take no examinations, receive no grades, do not participate in classroom discussion except as permitted by the instructor and earn no credit. They pay the same tuition as persons enrolled for credit. An auditor may not be reclassified to receive credit in the course after the final date for adding courses. In place of a grade, students receive the symbol NC (no credit) on their transcripts. Students wishing to register for a course as auditors must declare their intention at registration or at the first class session. A request for no-credit forms are available in the Registrar's office. Courses are taken for credit unless the Office of Registration and Records is notified prior to the deadline for schedule changes.

Part-time student: A student carrying fewer than 12 semester hours in any semester.

GRADING

Course grades are reported by letter only. The scale of grades and grade points follows:

Grade		Grade points per credit
A	(Excellent)	4
B	(Good)	3
C	(Average)	2
D	(Poor, but passing)	1
E	(Credit by examination)	0
F	(Failure)	0
IN	(Incomplete)	*
W	(Withdrawal)	*
WF	(Withdrawal failing)	0
WN	(Administrative withdrawal)	0
S	(Satisfactory)	**
U	(Unsatisfactory)	0
NC	(No credit)	*
IP	(In progress)	*

*Credit is not used to compute grade-point average and is not counted toward graduation.
**Credit is not used to compute grade-point average but is counted toward graduation.

It should be noted that grades of S and U may be used only in certain courses approved by the faculty senate and that, although a D is passing, it does not constitute a satisfactory grade. Students must have a 2.00 cumulative grade-point average (C) to graduate and to avoid being placed on probation. Many departments and programs do not permit D grades to count toward fulfillment of their requirements, even though the hours can be counted toward graduation requirements. D grades from other institutions are not accepted in transfer. Some programs require averages higher than 2.00. Students should check the information provided in the descriptions of the specific majors, minors or other programs in which they are interested. A course grade of F does not constitute a passing grade nor does it satisfy meeting a major or university requirement.

In progress. A grade of IP (in progress) may be given at the close of the term in certain courses approved by the faculty senate. Students receiving an IP must re-register in the same course the next term, pay tuition and must complete the work during that term. When the work is completed, students are given a regular grade.

Incompletes. A grade of IN (incomplete) is a temporary grade indicating that the student has a satisfactory record in work completed, but for reasons beyond his or her control has missed the final examination or other course requirements. Any instructor giving an IN grade must fill out an incomplete grade form in four copies. One copy is sent to the student, one to the Office of Registration and Records, and one to the program office, and one is kept by the instructor. A grade of IN may be changed by the instructor. If incompletes are not completed by the end of the second semester (excluding summer) after they are received, a letter grade of A, B, C, D or F is assigned. The permanent grade is given by the instructor to the registrar at the time the incomplete is assigned. It is the student's responsibility to complete the course and initiate the change of an IN to a permanent grade. Re-registration is not necessary.

Grade-point average computation. A grade-point average (GPA), is calculated by totaling the number of grade points earned, based on the scale above, and the number of credit hours undertaken. The total grade points earned divided by the total credit hours undertaken provides the grade-point average. If, for example, the number of credit hours undertaken is 16 and the grade-point total is 44, the GPA is 2.75. W's, IP's, IN's, and NC's are not computed in the grade point average.

FINAL EXAMINATIONS AND GRADE CHANGES

Final examinations are not to be scheduled at times other than those listed in the class schedule bulletin. In some courses a final examination may not be appropriate to the material; however, classes continue to meet through the period scheduled for the final examination.

Final grades entered in the Office of Registration and Records are unalterable unless a grade change form is completed and signed by the instructor, head of the program and the dean. A grade change request should be extremely rare, resulting from an instructor's error in calculating the original grade or a similar occurrence. It is not appropriate to change a grade because the student submitted additional work. Grades of A, B, C, D or F may be changed by instructors to A, B, C, D or F before the end of the following term (summer excluded) only with the approval of the college dean. Grades of S, U, W and NC may not be changed. It is the student's responsibility to request a grade change if one is justified except in the cases of grades of IN or IP.

FACULTY RECORDS

All faculty members keep appropriate records (such as grade books or sheets) of each student's progress in every course offered for university credit. The records are in addition to the final grade reports which are submitted to the Office of Registration and Records at the end of each term. Records are retained by the faculty member's program for one year. They are treated in confidence by the faculty member and head of the program.

REPEATED COURSES

Undergraduate students may repeat courses. When a course is repeated, only the higher grade and credit earned are computed into the student's grade-point average, provided the student has requested a recomputation of grade-point average by the Office of Registration and Records. The previously attempted courses and grades remain in the academic record, but are not computed in the overall average.

Transcripts contain an appropriate entry indicating that the grade-point average has been recomputed and stating the basis for recomputation. If a student fails a course twice, only one failure is computed into the grade-point average.

CLASS SCHEDULE CHANGES

Changes of major. All changes of major must be made through the Office of Registration and Records with the approval of appropriate program and college dean.

Adding courses. Courses may be added to a student's schedule through the initial schedule change period, as specified in the class schedules, with the permission of the instructor. Course additions must be processed through the Office of Registration and Records.

The student is responsible for processing his or her drop/add during the drop/add period. **Under no circumstances** does the instructor assume this responsibility on behalf of the student.

Dropping courses. Courses may be dropped from a student's schedule through the initial schedule change period as specified in the class schedule without a record of the dropped course appearing on the student's permanent record. Courses must be officially dropped through the Office of Registration and Records. Short or mini-courses may be dropped in the same way before 15 percent of the course duration has passed.

Following the end of the drop/add period, students may drop classes according to the policies below:

When a student drops a course before 40 percent of the course duration has transpired, the instructor gives a grade of W if the student currently is passing the course, or WF to a student not doing passing work. After 40 percent of the course duration has transpired, all drops result in grades of WF.

NOTE: 40 percent of a 15-week course occurs at the end of the sixth week.
40 percent of a 10-week course occurs at the end of the fourth week.
40 percent of a 5-week course occurs at the end of the second week.
40 percent of an 8-week course occurs at the end of the third week.

Exceptions to the above policy must be approved by the instructor and the dean of the appropriate college. A grade of W does not affect the student's grade-point average, but a WF is calculated as an F grade. Grades of W, WF and NC may not be recorded during the final week of the semester.

Withdrawal. To withdraw officially from the university, the student must file a withdrawal form with the Office of Registration and Records. **TIMING IS CRITICAL.** Students who withdraw after the end of the drop/add period, are not refunded full tuition and fees. Students who withdraw after the sixth week of the semester also may suffer academic loss; a grade of F may be assigned by instructors if they are not notified officially of the student's withdrawal. Students residing in the residence hall must also check out with the housing office.

Military withdrawal. If military obligations interrupt the academic work of a member of the armed forces registered for courses, the student may ask instructors for an early termination of his or her courses. Early terminations may include, but are not limited to: 1) a grade of W; 2) an incomplete (IN) grade, if there is any chance the student will be able to complete the course requirements; 3) an early final examination and course grade; 4) partial course credit or 5) opportunity to complete the class by independent study. It is the student's responsibility to make such a request in writing to the instructor. After the student and instructor have agreed on the terms of early termination, the agreement must be approved in writing by the head of the program and college dean.

Addition of independent study and extension courses. A resident student may enroll in independent study and extension courses only if the addition of such courses will not cause his or her program to exceed the maximim course load allowable and only after permission has been given by the dean of the appropriate college.

AUDITED COURSES

A student may register for a course as an auditor, without credit, provided the instructor concerned gives permission. The Office of Registration and Records must be notified of audit arrangements. The tuition for audited courses is the same as the tuition for credit courses.

Persons 65 years of age or older, or 62 and retired, may audit courses without paying tuition so long as space is available. Permission of the instructor is required.

EXPERIENTIAL CREDIT COURSES

Through cooperative education, internships, field experiences and laboratory research, students in many degree programs have the opportunity to expand their knowledge and apply theory in "real-life" situations. All experiential credit courses occur under the direction of an academic instructor and are a part of the regular university curriculum. In some cases such

courses are required for majors. All such courses require registration, carry credit, require payment of tuition, are listed in the catalog and include a planned program of activities outlined in the course syllabus. The grading system is the same as the system used for regular courses. Supervised work experience courses are approved for inclusion in veterans' class schedules under Veterans Administration Regulation 14265.

Credit for life experience. Some students may seek to receive academic credit for previous, out-of-school work experiences in which the job responsibilities were similar to experiences offered in university-sponsored internships and other programs. Credit for such experiences may be given if the following conditions are met:

1) The experience must be directly similar to the content of internships, field courses and/or laboratory courses in the regular curriculum.

2) The student must describe in writing the nature of the experience and what he or she learned through it.

3) The experience and learning must also be documented by the student's supervisor. Documentation must include a detailed account of the nature, frequency and duration of the student's duties.

4) A paper integrating the experiences with subsequent or concurrent classroom instruction must be submitted and approved.

The maximum number of semester credit hours allowed for life experiences is six. Any amount over six must be approved and justified by the appropriate dean and the vice president for academic affairs. Credit for life experiences is granted only for experience gained within 12 years of the date the degree is expected to be awarded.

Credit for life experiences is subject to the approval of the program and the dean of the college in which credit is requested.

ACADEMIC STANDING

The academic standing of all students is reviewed at the end of each semester. At such times, all students with deficient grade-point averages are notified by a statement on the bottom of their grade reports or by mail. After a student has attempted 12 semester credit hours, he or she must have a grade-point average of 2.00 or higher to remain in good academic standing.

Probation. Students are placed on academic probation at the end of any semester in which the grade-point average falls below 2.00. Should a student attain good academic standing (2.00), his or her probationary status is removed. Students on probation are required to contact the Student Development Center as a condition of the probation.

Suspension. Students on probation are subject to suspension if at the end of spring semester the grade-point average falls below the minimum level stated in the following table:

Hours attempted	Cumulative grade point average
12	0.000
24	1.600
36	1.700
48	1.800
60	1.900
72	1.940
84	1.960
96	1.980
108	1.990
120	2.000

Each transfer student must meet the academic standing requirements shown in the admission section of this catalog. For the purposes of measuring hours attempted, the number of hours used shall be the total of transfer credit hours accepted by USC and the number of hours attempted at USC.

Students who have been suspended are not eligible to re-enter for a period of two semesters after the date of suspension. Students suspended for poor scholarship are considered on probationary status upon return to the university. Such students remain under the catalog in effect at the time they entered the university. If they exceed the term of the suspension before returning to student status, they re-enter the university under the catalog in effect at the time of readmission.

Appeals. Any student wishing to appeal their suspension must submit a letter of appeal to the Student Academic Standings Committee. All letters must be post-marked no later than July 20. Students submitting appeal letters after July 20 and before October 15, will be considered for spring semester admission. Appeal letters should be addressed to the Student Academic Standings Committee and sent to the Office of Admissions. It is the student's responsibility to initiate the appeals process.

ATTENDANCE

Students are expected to attend all meetings of the classes for which they are enrolled unless excused by the instructor. No extensions of vacation periods are given to students, regardless of the location of their homes. Non-attendance at classes caused by late registration is considered the same as absence.

The university does not have a policy permitting a specific number of cuts or absences from class. It is left to the discretion of each instructor to set an attendance policy for his or her classes and to inform students of the policy.

It must be kept in mind that even though it is the student's responsibility to drop a class, faculty members have the right to drop a student for non-attendance.

ACADEMIC INTEGRITY

Any method of unauthorized assistance in preparing materials which a student submits as original work is considered cheating and constitutes grounds for dismissal. Instructors should use all practical means of preventing and detecting cheating. Any student judged to have engaged in cheating may receive a reduced grade for the work in question, a failing grade in the course or any other lesser penalty which the instructor finds appropriate.

CLASSROOM BEHAVIOR

The classroom instructor is responsible for all classroom conduct, behavior and discipline. Only enrolled students, administrative personnel and persons authorized by the instructor are permitted in classrooms and other instructional areas during scheduled periods. University policy and Colorado state law also prohibit all forms of disruptive or obstructive behavior in academic areas during scheduled periods of use or any actions which would disrupt scheduled academic activity. Use of classrooms and other areas of academic buildings during non-scheduled periods is permitted only in accordance with university practices. Anyone in unauthorized attendance or causing a disturbance during scheduled academic activity is asked to leave. If a person refuses such a request, he or she may be removed by the University Police and is liable to legal prosecution.

ACADEMIC APPEALS

Students have the right to appeal any academic decision, including the assignment of grades. Such appeals should be made first to the classroom instructor, next to the head of the program, then to the dean of the college involved. If a satisfactory resolution cannot be reached, a final appeal may be made to the vice president for Academic Affairs.

TIME LIMITATION ON CREDIT

Any college credit earned more than 12 years before the date of admission or re-admission is not applicable toward the degree desired unless it is approved by the head of the program offering the course(s) [or equivalent(s)], and by the appropriate dean.

TRANSCRIPTS OF CREDIT

Official transcripts are issued by the Office of Registration and Records at the request of the student. The first transcript is free; for additional copies, a fee may be assessed.

Three days should ordinarily be allowed for production of transcripts. At the end of the semester grading period, a three-week delay should be expected.

Students who are not in good financial standing with the university are not issued transcripts until they have arranged to clear their financial obligations.

DEGREE REQUIREMENTS

BACCALAUREATE DEGREES

Candidates for bachelor's degrees, whether BA, BS or a specialized BS, such as BSBA, must satisfy the institutional requirements and general education requirements described below. Most students should plan to complete the university requirements in basic communications, speech communication and physical education in the freshman year and should plan to complete the general education requirements in the freshman and sophomore years. Students also must file an approved graduation planning sheet with the Office of Registration and Records before midterm of the semester prior to the one in which they plan to graduate.

INSTITUTIONAL REQUIREMENTS

1) Students must earn a minimum of 128 semester hours with at least a C grade point (2.00) average. The 128 semester hours must include at least six hours of English 110, 211 **or** 115, 216, two hours of Reading 120, two hours of Speech Communication 101 and two hours of Physical Education 100. The 128 hours must include a minimum of 40 hours in upper-division courses (numbered 300-499). Of the last 32 semester credits earned immediately preceding graduation, no more than 16 may be completed at other colleges or universities. A minimum of 30 semester hours of resident instruction as approved by the program of the major must be earned in residence at USC.

2) Students must fulfill the requirements for demonstration of basic competencies described under academic policies of this catalog.

3) Students must complete the requirements for an approved degree program (major) and a minor or area of concentration outside the major. Candidates for a bachelor of science degree must earn a minimum of 48 hours in the college of their major. Candidates for a bachelor of arts degree must satisfy the foreign language requirement.

4) All financial obligations must be satisfied.

GENERAL EDUCATION REQUIREMENTS

The general education requirement for graduation is 30 semester hours. A minimum of 10 hours of credit must be earned in each of Groups I, II and III. The credit must be earned through at least two subgroups within each group.

Credits earned in the student's declared major do not count toward fulfilling either the 10-hour requirement within Group I, II or III, or the requirement for taking courses in at least two subgroups. For example, psychology majors may not count PSYCH 101, 102, 211 or 212 toward general education requirements, and must take 10 hours of courses other than psychology in at least two subgroups in Group II.

Group I

Subgroup	
A ART	100, 101, 102, 103
B FL	100, 101, 102, 111, 112, 121, 122, 125, 126, 146, 147, 156, 157, 161, 162, 181, 182, 191, 192, 281, 282
C ENG	130, 131, 132, 210, 212, 221, 222, 231, 232, 254, 260
D MACOM	101, 102, 215
E MUSIC	101, 118, 119, 120, 121, 122, 126
F PHIL	100, 101, 103, 105, 108, 109, 110, 121, 122, 123, 205, 220, 221
G SPCOM	100, 105, 211, 212, 214, 221, 222, 231, 241, 242, 243, 249
H DN	101
SPCOM	111, 131, 135, 216, 217
I HUM	100
IED	130, 135
J CS	220
K HUM	150, 151
IDH	201

Group II

Subgroup	
A BEHSC	101, 102
MH	115, 151, 210, 231
PSYCH	101, 101L, 102, 102L, 110, 211, 212, 221
B ANTHR	100, 102, 103, 104, 105, 106, 202, 203
MACOM	280
NSG	117
SOCSC	151, 208, 209, 231
SOC	101, 102, 103, 104, 105, 130, 150, 221, 240
C GEOG	113, 201, 210
HIST	101, 102, 150, 180, 185, 190, 201, 202, 203, 210, 211
MILSC	210
POLSC	100, 101, 102, 104, 150, 185, 201, 202, 250
SW	100, 101
D ACCTG	210
BUSAD	100
ECON	101, 201, 202, 205
E BBE	293
CS	101, 102, 201, 202, 210, 230
F IDH	101, 102

Group III

Subgroup	
A AG	101, 101L, 115, 115L
ANTHR	101
BIOL	101, 112, 121, 132, 141, 162, 191, 191L, 201, 201L, 202, 202L, 221, 221L, 223, 223L, 224, 224L, 262, 262L
PSYCH	120
B CHEM	101, 111, 111L, 121, 121L, 122, 122L
C CST	100, 103
EET	108, 109
MET	111
D EN	103, 105, 106
GEOL	101, 105, 122, 123
GEOG	102, 103, 281
E MATH	109, 120, 121, 122, 124, 126, 131, 132, 156, 221, 233, 240, 241, 244, 245
F PHYS	100, 110, 121, 121L, 130, 131, 132, 201, 201L, 202, 202L, 221, 221L, 222, 222L
G IDH	202

MAJOR REQUIREMENTS

Every degree-seeking student must elect a major and successfully complete all the requirements of that major prior to receiving a bachelor's degree. The minimum number of semester hours required varies by major but must include a departmentally approved program of **at least 30 semester hours of coursework in the program.**

Emphasis areas. Programs may specify emphasis areas within majors at the bachelor's degree level and should record the titles with the Office of Registration and Records. Students may decide to select emphasis areas within a major (for example, news-editorial within mass communications) and may have the emphasis areas recorded on their transcripts with departmental approval.

Minors. In addition to a major, every four-year, degree-seeking student must complete either a minor or a concentration of interrelated courses totaling at least 20 semester hours. Minors consist of a sequence of courses in a specific academic discipline which are established by the department or program containing the academic major. Students taking double majors satisfy the minor requirement.

Area of concentration. An area of concentration is a selection of interrelated course offerings which is established in support of a specific academic major by the department of the student's major. Concentrations of courses must be taken outside the student's specific academic major.

Double majors. Students may seek a bachelor's degree with a double major program. Students with a double major must satisfy the requirements of both (but no more than two) majors as stated by both departments involved. Double majors are not offered at the associate or master's degree level.

The student's final transcript will identify the completion of all majors, emphasis areas within majors and all minors.

After a degree has been awarded, the Office of Registration and Records does not change the academic record to add emphasis areas (minors or areas of concentration) or double majors.

Students planning to complete requirements for more than one major should seek a double major under one degree rather than plan to ask for a change of record after graduation.

BACHELOR OF ARTS: FOREIGN LANGUAGE REQUIREMENT

Students seeking the degree of bachelor of arts must complete successfully a minimum of six semester hours of approved foreign language or linguistics.

Courses satisfying this requirement are two semesters (six semester hours) of "introduction to" a foreign language (six semester hours) or two semesters of beginning French, German or Spanish (ten semester hours). There are separate "introduction to" courses in French, German, Italian, Russian and Spanish. Other languages such as Arabic, Chinese, Farsi, Japanese and Portuguese are taught when enrollment permits.

A student with an adequate background in a language may earn credit by successfully completing an achievement test during the first week of classes.

Those not desiring to study a foreign language have the alternative to complete one semester of FL 100: Introduction to Comparative Linguistics (three semester hours), plus ANTHR 108: Language, Thought and Culture (three semester hours). International students may substitute six semester hours of basic communications courses above BCOM 109.

SECOND BACHELOR'S DEGREE

Students possessing a baccalaureate degree from an institutionally accredited college or university who desire a second baccalaureate degree or an associate's degree in a specialized field may work toward the second degree provided they have the approval of the department from which the second degree is to be earned. Students must earn a minimum of 30 semester hours at the university in addition to the credit hours already earned for the first bachelor's degree before they can receive a second. A cumulative grade point average of at least 2.00 is required for all work completed at USC toward the second degree. The general education and institutional requirements are considered complete for students in this classification.

Candidates for second degrees are eligible for the Dean's List and for graduation with distinction.

ASSOCIATE IN ARTS

Institutional requirements for the associate in arts (AA) degree include a minimum of 60 semester hours of work, including eight hours of basic com-

munications, two hours of speech communication and two hours of Physical Education 100. Other requirements include: 1) a cumulative grade point average of 2.00 or higher, 2) satisfaction of the basic arithmetic computation requirement and 3) at least 14 semester hours earned in residence at this university. Students with bachelor's degrees who are seeking an associate degree are not required to complete general education and institutional requirements a second time.

General education requirements are the same as for the bachelor's degree (30 semester hours).

ASSOCIATE IN SCIENCE

Institutional requirements include a minimum of 63 semester hours of work, including five hours of basic communications and two hours of Physical Education 100; six hours of Group I; six hours of Group II and 21-27 hours of related science Group III. Other requirements include: 1) a cumulative grade-point average of 2.00 or higher, 2) satisfaction of the basic arithmetic computation requirement and 3) at least 14 semester hours earned in residence at this university.

ASSOCIATE IN APPLIED SCIENCE

Institutional requirements include: 1) a minimum of 60 semester hours of work, including eight hours of basic communications and two hours of Physical Education 100, 2) a grade point average of 2.00 or higher, 3) satisfaction of the basic arithmetic computation requirement, 4) a major with at least 50 hours of electives and required courses in a technical curriculum and 5) at least 14 semester hours earned in residence at this university.

General education requirements are a minimum of five semester hours with courses selected from Group I and/or Group II.

CURRICULUM

The University of Southern Colorado does not offer all the classes listed within this catalog either each semester or each year.

The following pages provide brief descriptions of departmental offerings, and the career, professional or graduate opportunities open to students who complete degrees in each department's field.

A sample four-year program is outlined for a major in each department, followed by a list of course descriptions. Students should be aware that the program outlines are only examples and that many variations and specially planned programs are available. **Each student should contact a program adviser in the chosen major field as soon as possible and should locate a new adviser promptly in case of a change of major.**

Clock hour distribution and credits. In the course descriptions, the distribution of credit between lecture and laboratory, lecture-demonstration, or lecture-studio class hours per semester is indicated as follows: in the example below, the figure outside the parentheses in 4(2-4) indicates the number of total credits assigned to the course. Inside the parentheses, the first number indicates the clock hours spent in lectures per week and the second number indicates the clock hours spent in the laboratory, demonstration, or studio experiences per week. Two examples:

CET 311 Advanced Surveying I 4(2-4)
Civil Engineering Technology 311 carries four hours of credit and meets two hours per week in a lecture situation and four hours in required laboratory.

HIST 101 World Civilization to 1500 5(5-0)
History 101 carries five hours of credit, for which the class meets five hours per week in a lecture situation. No time is devoted to laboratory work.

One hour of lecture per week usually equals one credit hour per semester, while it takes two or three hours of laboratory per week to equal one semester credit hour.

Variable credit courses. (1-3 VAR) indicates variable credit; the minimum and maximum credit limitations per semester are shown. An example:

BEHSC 487 Seminar in Behavioral Science (1-3 VAR)
Prerequisite BEHSC 101, 102 and senior status.
Behavioral Science 487 carries a minimum credit of one and maximum credit of three semester hours. Students must have taken Behavioral Science 101 and 102 and have attained senior status to take this course.

Prerequisites. A requirement which must be fulfilled before a student can enroll in a particular course. Permission of the instructor for a student to attend a class is implied when the student has met the prerequisites specified by the department.

Corequisites. A requirement which must be taken concurrently with another course of instruction.

Course numbering. Course numbering is based on the content level of material presented in the course, as follows:

100-299 Courses primarily for freshman and sophomore students
300-499 Courses primarily for junior and senior students
500-599 Courses primarily for students enrolled in master's degree programs or the equivalent. Senior students may enroll if they have submitted approved graduate planning sheets.

Course Prefixes Courses offered by schools or departments are indicated by the following prefixes:

ACCTG	—Accounting
AG	—Agriculture
ANTHR	—Anthropology
APSM	—Auto Parts Service Management
ART	—Art
BUSAD	—Business Administration

BBE	—Bilingual Bicultural Education
BEHSC	—Behavioral Science
BIOL	—Biology
CET	—Civil Engineering Technology
CST	—Computer Science Technology
CHEM	—Chemistry
CS	—Chicano Studies
DN	—Dance
ECE	—Early Childhood Education
ECON	—Economics
ED	—Education
EET	—Electronic Engineering Technology
EN	—Engineering
ENG	—English
FIN	—Finance
FL	—Foreign Language
GEOG	—Geography
GEOL	—Geology
HIST	—History
HUM	—Humanities
IED	—Industrial Education
IDH	—Interdisciplinary Honors
MACOM	—Mass Communications
MATH	—Mathematics
MEDT	—Medical Technology
MET	—Mechanical Engineering Technology
MGMT	—Management
MH	—Mental Health
MILSC	—Military Science
MKTG	—Marketing
MLET	—Metallurgical Engineering Technology
MUS	—Music
NSG	—Nursing
PE	—Physical Education
PHIL	—Philosophy
PHYS	—Physics
POLSC	—Political Science
PSYCH	—Psychology
RDG	—Reading
REC	—Recreation
SOC	—Sociology
SOCSC	—Social Science
SPCOM	—Speech Communication and Theatre
SW	—Social Work

ACCOUNTING

Faculty: Carlson, Hammond, E. Kamnikar, Peterlin

The program of accounting offers a four-year program leading to the bachelor of science in business administration (BSBA) degree with a major in accounting. The primary objective is to provide an academic program that covers the conceptual basis of accounting as well as the application of accounting doctrine in current accounting practice. The programs of study are functional in that they provide the broad base of knowledge required by the accounting profession and allow the students to concentrate in their area of interest by selecting either the public accounting emphasis area or the industrial/governmental emphasis area.

The public accounting emphasis is designed for students seeking careers in public accounting and intending to sit for the national Certified Public Accountants (CPA) examination. The program is accredited by the Colorado State Board of Accountancy. Students completing it qualify under the education requirements of Colorado law for the examination, which they should plan to take during the last semester of their senior year.

The industrial/governmental emphasis is designed for students seeking accounting careers in industry and/or government. It provides basic competencies in financial and cost accounting, auditing, taxation, information systems, and management planning and decision techniques. Students completing this program are encouraged to sit for the Certified Management Accountants (CMA) examination or the Certified Internal Auditor (CIA) examination.

In addition to the academic program, various opportunities are available for students to gain some insight into the practical aspects of the accounting profession. Accounting majors are expected to participate in the National Association of Accountants student chapter's activities and the technical sessions scheduled throughout the school year. Student night programs are sponsored by the Colorado Society of Certified Public Accountants, the National Association of Accountants, and the American Society of Women Accountants. Student memberships are available in the National Association of Accountants, the American Accounting Association, and the American Society of Women Accountants. Tax students should participate in VITA (Volunteers in Tax Payers Assistance). For selected students an internship program is available.

Each year outstanding senior accounting students are recognized for their academic achievements through an awards program. Awards are presented by the Colorado Society of Certified Public Accountants—Gold Key Award, American Society of Women Accountants—Outstanding Woman Graduate, the National Association of Accountants and the Association of Governmental Accountants. Scholarships for accounting majors are available from these professional organizations. Other scholarships are available through the University.

Division of Business policies. The standard semester course load for full-time students is 16 credit hours. Students must have permission to take courses in which they do not meet the required prerequisites, or they risk being withdrawn and/or losing credit for those courses.

In order to fulfill graduation requirements, students must obtain a minimum grade average of C (2.0 GPA) in the courses taken within the Division of Business, earn C grades or higher in all courses within their major and in MATH 121. **A required course in the major area may only be repeated once.**

Students requesting credit for course work taken at another institution are advised that the program has a transfer policy and that students are responsible for having their credits approved according to the policy.

The Division of Business **requires** for a baccalaureate degree in accounting that 20 of the last 32 hours just prior to graduation must be taken in residency. The program in accounting requires that a minimum of 18 semester hours of junior and senior accounting courses be taken in residency.

All courses applied toward the major must be approved by the student's adviser and the head of the accounting program.

All students planning to major in any Division of Business area are classified as PRE-BUSINESS upon enrollment in the university. During the first two years of their academic program, students will satisfy all institutional requirements, a major portion of the general education requirements and the PRE-BUSINESS core. The PRE-BUSINESS core consists of computer and information systems, financial and managerial accounting, macro and micro economics, business statistics, business communications, business law and the institutional requirements. Upon completion of the PRE-BUSINESS core, the student makes a formal application to the accounting program for admission to upper-division courses in the Division of Business. Application forms are available in the program office. Students are responsible for adhering to PRE-BUSINESS requirements.

MAJORS

The required schedule within the program:

Freshman Year			Credits
BUSAD	160	Intro to Computers and Information Systems	3
ENG	110, 211	Composition I and II	6
MATH	121	College Algebra	4
PE	100	PE Orientation	2
RDG	120	College Reading	2
SPCOM	101	Expository Speaking	2
		General Education	13
			32

Sophomore Year			Credits
ACCTG	201	Principles of Financial Accounting	4
ACCTG	202	Principles of Managerial Accounting	4
BUSAD	220	Principles of Business Law	3
BUSAD	260, 261	Business Statistics I and II	6
BUSAD	270	Business Communications	3
ECON	201	Principles of Macroeconomics	3
ECON	202	Principles of Microeconomics	3
		General Education	6
			32

PUBLIC ACCOUNTING

Junior Year			Credits
ACCTG	301	Int Acctg I	4
ACCTG	302	Int Acctg II	4
ACCTG	311	Fed Income Tax	4
ACCTG	320	Cost Acctg	4
ECON	310	Money and Banking	3
FIN	330	Corp Fin Mgmt	3
MGMT	310	Prin of Mgmt	3
MKTG	340	Prin of Mktg	3
		General Education	4
			32

INDUSTRIAL/GOVERNMENTAL ACCOUNTING

Junior Year			Credits
ACCTG	301	Int Acctg I	4
ACCTG	311	Fed Income Tax	4
ACCTG	320	Cost Acctg	4
CST	220	COBOL	4
ECON	310	Money and Banking	3
FIN	330	Corp Fin Mgmt	3
MGMT	310	Prin of Mgmt	4
MGMT	365	Mgmt Info Systems	3
MKTG	340	Prin of Mktg	3
		General Education	1
			33

Senior Year			Credits
ACCTG	401	Adv Fin Acctg	4
ACCTG	403	Acctg Theory	4
ACCTG	404	CPA Law Review	3
ACCTG	410	Auditing	4
ACCTG	440	Fund Acctg	4
MGMT	485	Mgmt Strat/Policy	3
		General Education	6
		Electives	4
			32

			Credits
ACCTG	411	Oper Auditing	2
ACCTG	430	Actg Info Sys	4
ACCTG	440	Fund Acctg	4
MGMT	366	Org Data Sys	3
MGMT	465	Oper Research	3
MGMT	485	Mgmt Strat/Policy	3
		General Education	10
		Electives	3
			32

Accounting majors may not retake a course offered by the accounting department more than once to improve their academic GPA or satisfy course prerequisites.

MINOR

A baccalaureate degree student may minor in accounting by completing 24 hours of approved accounting courses. ACCTG 201-202-301-and 302 are required. The remaining 8 hours of accounting courses must be approved by the head of the program.

Accounting majors and minors note:

Prerequisite requirements are not fulfilled unless minimum grade of C is met in all accounting courses.

ACCTG COURSES

UNDERGRADUATE

ACCTG 201 Principles of Financial Accounting 4(4-0) Prerequisite Sophomore standing.
The accounting model, measurement and valuation processes involved, classification systems, and terminology of financial reporting along with selected tax implications essential to interpretation and use of financial statements.

ACCTG 202 Principles of Managerial Accounting 4(4-0) Prerequisite ACCTG 201.
Managerial uses of accounting information, including cost based decision making, differential accounting and responsibility accounting.

ACCTG 210 Taxes for Individuals 2(2-0)
Internal Revenue Code with analysis of political, economic and social ramifications of the law with problem material in tax return preparation solutions. For non business majors. No graduation credit for accounting majors. GEN. ED. IID.

ACCTG 301 Intermediate Accounting I 4(4-0) Prerequisite ACCTG 202.
Working capital items, non-current assets, equities and compound interest concepts.

ACCTG 302 Intermediate Accounting II 4(4-0) Prerequisite ACCTG 301.
Pensions, leases, bonds, price changes, presentation and interpretation of financial statements, accounting changes, consignments sales, segment reporting, interim reporting and EPS.

ACCTG 311 Federal Income Tax 4(4-0) Prerequisite ACCTG 202.
Rules and regulations of the tax law as applied to income recognition, exclusions from income, deductions from income and credits pertaining to individuals, partnerships and corporations.

ACCTG 320 Cost Accounting 4(4-0) Prerequisite ACCTG 202.
Accounting procedures applicable to industries with emphasis on job order, process costs, standard cost and profit planning including differential costs, internal profit and price policies and capital budgeting.

ACCTG 401 Advanced Financial Accounting 4(4-0) Prerequisite ACCTG 302.
Application of fundamental theory to partnerships, joint ventures, foreign operations, consolidated statements and business combinations.

ACCTG 403 Accounting Theory and Ethics 4(4-0) Prerequisite ACCTG 302, 320, 401.
Accounting theory—current concepts and developments as indicated by APB, FASB—and the Code of Professional Ethics applied to the practice of public accounting.

ACCTG 404 CPA Law Review 3(3-0) Prerequisite Senior standing.
Business law as found in the Business Law section of the Uniform CPA examination.

ACCTG 410 Auditing 4(4-0) Prerequisite ACCTG 302.
Auditing standards, procedures, programs, working papers and internal control are covered conceptually and with practical case studies.

ACCTG 411 Operational Auditing 2(2-0) Prerequisite ACCTG 202.
Emphasis on the tools employed by the internal auditor to ensure the effective functioning of the organization.

ACCTG 430 Accounting Information Systems 4(4-0) Prerequisite ACCTG 301, CST 220.
Examination of accounting systems as a component of the total business information process. Particular attention given to the accountant's role in simplification, internal control and computerized systems.

ACCTG 440 Fund Accounting 4(4-0) Prerequisite ACCTG 202.
A study of the fund accounting methods employed in not-for-profit institutions, government and governmental agencies.

ACCTG 491 Special Topics (1-3 VAR)
Selected accounting topics which respond to specific and timely needs of students.

ACCTG 495 Independent Study (1-3 VAR) Prerequisite Senior accounting student with permission of department head.

ACCTG 498 Internship (1-6 VAR) Prerequisite Junior status, accounting major, with permission of department head.
Supervised field accounting work in selected business, social and governmental organizations that will enhance the student's training in accounting; supplemented by written research and reports.

GRADUATE

ACCTG 510 Managerial Accounting 3(3-0)
Accounting concepts and methods utilized in managerial planning, budgeting, controlling, and evaluating to optimize decision-making.

ACCTG 592 Research (1-6 VAR)
The student will work under the close supervision of a graduate faculty member in basic or applied research resulting in a thesis or report of high academic quality.

ANTHROPOLOGY

Faculty: Buckles, Forsyth

The anthropology program is a part of the center for social and cultural studies. It offers courses leading to the bachelor of arts (BA) degree. It also offers a minor and various general courses that are open to all students.

Anthropology is the study of human life in all its complexity. The program offers courses in the five major subdivisions of the discipline. These are cultural anthropology, archaeology, physical anthropology, applied anthropology and linguistics. By studying the diversity of human life found in different places and times anthropology provides the student with a fundamental understanding of the distinctive features of certain ways of life as well as an appreciation for what is common to the human way of life.

Traditionally, most anthropologists have worked in universities, colleges and museums. At present, however, they are also finding employment in hospitals, international organizations and federal and state agencies. Although a graduate degree is a customary prerequisite for such employment, a baccalaureate degree in anthropology can lead to a career in law, in education, in the helping professions or in the civil service. In addition, course work in the discipline leads to a deeper understanding of oneself and one's own culture, as well as providing insight into other persons and other cultures. In doing this, anthropology courses serve as excellent complements to classes in other fields.

MAJOR

Anthropology majors must successfully complete ANTHR 101, 102, 103, 108, 319, and 401. They must receive a C grade or better in an anthropology course if it is to fulfill degree requirements.

Requirements for an anthropology major include a minimum of 30 semester hours in anthropology. For specific requirements a faculty adviser should be consulted.

A typical anthropology schedule is:

Freshman Year			**Credits**
ANTHR	101	Physical Anthropology	3
ANTHR	102	Introduction to Socio - Cultural Anthropology	3
ANTHR	103	Introduction to Archaeology	3
ENG	110	Composition I	3
PE	100	PE Orientation	2
RDG	120	College Reading	2
		General Education	14
			30

Sophomore Year			**Credits**
ANTHR	108	Language, Thought and Culture	3
BCOM	211	Composition II	3
SPCOM	101	Speech Communication	2
		General electives (200 level)	9
		General Education	16
			33

Junior Year			**Credits**
ANTHR	319	Doing Anthropology	3
		Anthropology Electives (300 level)	6
		General Electives (300/400 level)	24
			33

Senior Year			**Credits**
ANTHR	401	Seminars in Anthropology	3
		Anthropology Electives (400 level)	6
		General Electives (300/400 level)	24
			33

MINOR

Twenty-one (21) hours of anthropology are required including ANTHR 101, 102, 103, and 319 or 401. The remaining courses are chosen by the student with the approval of the adviser.

ANTHR COURSES

ANTHR 100 The Human Way: Introducing Anthropology 3(3-0)
Principles, concepts, methods and results of studying other humans and cultures in various times and places. GEN. ED. IIB

ANTHR 101 Physical Anthropology 3(3-0)
Biological nature of humans; emphasis on how forces of evolution have shaped this nature in the past and present. GEN. ED. IIIA

ANTHR 102 Introduction to Socio-Cultural Anthropology 3(3-0)
Analysis of human cultures, their evolution, development, structures and processes and an explanation of similarities and differences. GEN. ED. IIB

ANTHR 103 Introduction to Archaeology 3(3-0)
Evolution of culture as explained through archaeological methods and theories; emphasis on the preservation and protection of the cultural environment. GEN. ED. IIB

ANTHR 104 Language, Thought and Culture 3(3-0)
Cross-cultural introduction to language processes in human society. GEN. ED. IIB

ANTHR 105 Cultural Diversity 3(3-0)
Survey of multiethnic and multicultural societies with emphasis on social and cultural change and the diversity in patterns of adaptation. GEN. ED. IIB

ANTHR 106 Culture, Technology and Environment 3(3-0)
Comparative study of human cultures and ecological principles relating to both subsistence level and complex societies. GEN. ED. IIB.

ANTHR 201 Life Crises in Culture 3(3-0)
Examination of the ways various cultures treat life crises such as birth, transition to adulthood, marriage, aging and death.

ANTHR 202 World Archaeology 3(3-0)
Awareness and appreciation of cultural evolution and heritages through descriptions and interpretations of archaeological remains throughout the world. GEN. ED. IIB

ANTHR 203 Culture and Personality 3(3-0)
Relationship between group processes and personality factors in a cross-cultural perspective. GEN. ED. IIB

ANTHR 291 Special Topics (1-3 VAR)
Topics identified by subtitles taught. Students may enroll as often as new topics are introduced. Topics include the following: Aging and Dying; American Culture; Human Evolution; Native Americans; New World Archaeology; Protection of the Cultural Environment; Transcultural Psychiatry. Other topics may be taught.

ANTHR 296 Cooperative Education Placement (1-4 VAR) Prerequisite Permission of instructor and cooperative education office.
Arrangements between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study.

ANTHR 301 Southwestern Archaeology 3(3-0)
Investigations of the prehistories of diverse peoples and cultures of the Southwest.

ANTHR 302 Peoples and Cultures of the Southwest 3(3-0)
Examination of the region's multiethnic and pluralistic society; emphasis on diverse adaptations to distinctive natural and cultural environments.

ANTHR 303 Clinical Anthropology 3(3-0)
An examination of the patient-healer relationship from a cross-cultural perspective.

ANTHR 305 Medical Anthropology 3(3-0)
Analysis of the relationship between culture, psychological disorders and/or disease, and patterns of human adaptation.

ANTHR 309 The Divine in Culture 3(3-0)
Concepts of the supernatural viewed cross-culturally and in particular culture contexts.

ANTHR 312 Forensic Anthropology 3(3-0)
Techniques of excavation and identification of skeletal remains in connection with forensic medicine and criminal investigations.

ANTHR 402 Methods of Anthropology 3(3-0) Prerequisite Previous work in anthropology recommended and permission of instructor.
Methods of contemporary anthropology with emphasis upon actual involvements, designing and conducting research, ethics in research, and related topics and activities.

ANTHR 403 Theories of Anthropology 3(3-0)
Investigation of theories of anthropology with emphasis on approaches which have been central to the development of American cultural anthropology.

ANTHR 450 Field and Laboratory Techniques (1-10 VAR) Prerequisite Previous work in anthropology recommended and permission of instructor.
Training in field and/or laboratory techniques by participation in projects of anthropological concern.

ANTHR 491 Special Topics (1-3 VAR)
Topic identified by subtitles taught. Students may enroll as often as new topics are introduced. Topics include the following: Aging and Dying; American Culture; Human Evolution; Native Americans; New World Archaeology; Protection of the Cultural Environment; Transcultural Psychiatry. Other topics may be taught.

ANTHR 493 Seminar (1-3 VAR) Prerequisite Previous work in anthropology and permission of instructor.
Diverse subjects may be offered as subtitles as they are sought by students or are developed by faculty. The course may be taken as often as new subtitles are developed.

ANTHR 495 Independent Study (1-10 VAR) Prerequisite Previous work in anthropology and permission of instructor.
Directed study for students interested in specific areas of anthropological concern.

ANTHR 496 Cooperative Education Placement (1-4 VAR) Prerequisite Permission of instructor and cooperative education office.
Arrangements between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study.

ART

Faculty: Brassill, Hench, Jensen, Marino, Monteverde, Sajbel, Tilley, Wands
Artist in Residence: Latka

The program in art offers courses leading to the degrees of bachelor of arts (BA) and bachelor of science (BS). An art education program is available for future teachers. The program also offers minors for students majoring in other disciplines and participates in the degree programs in education and humanities. Many art courses are open to all students and some are specifically designed for non-art majors. Facilities include well-equipped studios, darkrooms and a small gallery.

Graduates of art programs may pursue careers as studio or commercial artists, work in museums or galleries or combine several of these activities. They may also teach in schools and colleges or use their talent and training in further study of art or art history.

MAJORS

All art majors must complete the following foundation courses: Art 101, 102, 115, 116, 141, 142, 210 and 410 for a total of 18 semester hours.

Foundation courses are prerequisite to all other courses offered by the program for the BS and BA art majors, with the exception of ART 410 (which is taken in the senior year). Other exceptions may be approved by the art staff with consent of the instructor.

Art majors are assigned art program advisers with whom they must consult each semester before registration.

The BA program is designed for students in either studio art or art history and requires a minimum of 40 hours of art courses, 18 of which must be in the foundation courses and at least 6 of which must be in art history. Students in art education must take 48 hours in art to fulfill state certification requirements.

The BS program is designed for students seeking a higher level of professional training in the emphasis areas of art. All emphasis areas require a minimum of 48 hours in art courses, including the foundation courses. The program is designed for each student in consultation with the head of the program or an adviser for the chosen emphasis area.

The program offers four-year emphasis areas in ceramics, drawing, enameling, graphic design, art history/museum studies, jewelry, painting, sculpture, K-12 elementary and secondary art specialist and 7-12 secondary art specialist.

A typical art schedule is:

Freshman Year			**Credits**
ART	101, 102	Art Survey I and II	6
ART	115, 116	Design I and II	6
ART	141, 142	Drawing I and Life Drawing	4
ART	210	Career Art Orientation	1
ENG	110, 211	Composition I and II	6
PE	100	PE Orientation	2
RDG	120	College Reading	2
SPCOM	101	Expository Speaking	2
		General Education	3
			32

Sophomore Year			**Credits**
ART	276	Photography	3
ART	281	Introduction to Graphic Design	3
ART	282	Calligraphy	3
ART	371	Intaglio	3
		Electives or Minor	9
		General Education	12
			33

Junior Year			**Credits**
ART	397	Studio (Graphic Design recommended)	4
ART	381	Graphic Design II	3
ART	382	Illustration	2
ART	475	Film Making	3
ART	481	Communication Graphics	3
		Electives or Minor	10
		General Education	9
			34

Senior Year			Credits
ART	410	Art Career Orientation	1
ART	495 or 494	Independent Study or Field Experience	3
		Electives (Upper Division)	22
		General Education	6
			32

The above sample schedule reflects a program leading to a BS degree with a graphic design emphasis. Changes would be required for other sequence areas. Majors should consult the art office for specific course requirements for each of the emphasis areas.

MINOR

A minor in art may be obtained by completing the required foundation courses, ART 141, ART 115 or 116 and an art survey course. In addition 16 hours of art must be selected in consultation with an art adviser. A total of 24 hours is required for an art minor.

ART COURSES

UNDERGRADUATE

ART 100 Introduction to Art 3(3-0)
Art forms, meaning and function across cultures and through time. GEN. ED. IA.

ART 101 Art History Survey I 3(3-0)
Development of style, iconography and function of art from Prehistoric times to Gothic. GEN. ED. IA.

ART 102 Art History Survey II 3(3-0)
Development of style, iconography and function of art from Gothic to present time. GEN. ED. IA.

ART 103 Art History Survey III 3(3-0)
Development of style, iconography and function of art in non-western cultures. GEN. ED. IA.

ART 115 Design I 3(1-5)
Basic course attempting to establish the foundations of visual order.

ART 116 Design II 3(1-5)
Continuation of above.

ART 118 Art Non-Major 3(0-6)
Studio course for students interested in practicing specific areas of the arts, i.e. ceramics, drawing, film, jewelry, painting, photography, printmaking, sculpture and watercolor.

ART 141 Drawing I 2(0-4)
Introductory course developing an individual's perception and technical skills in rendering on a two-dimensional surface.

ART 142 Life Drawing I 2(0-4)
Studio class in study of the human figure.

ART 145 Free Hand Descriptive Drawing 2(0-4)
One and two point perspective drawing. Free hand hard line drawings using various projections and illustrative techniques.

ART 201 Studio Materials 1(0-2)
As above, sections in clay, fiber, metal, wood and museum practices.

ART 202 Art Processes 1(0-2)
Similarities and differences within visual arts. Sections in sculpture, painting, printmaking, photography and criticism and theory.

ART 210 Art Career Orientation 1(1-0)
Guided development of personal plans toward job objectives

ART 233 Sculpture I 3(0-6)
Basic problems in sculpture relating specific concerns of visual form to materials and processes.

ART 234 Painting I 3(0-6) Prerequisite Foundation.
Application of materials and techniques to a visual idea through the use of color theories, surface awareness and compositional emphasis.

ART 235 Painting II 3(0-6) Prerequisite Foundation.
Continuation of above at higher level of technical and visual pursuit.

ART 236 Watercolor Painting 3(0-6) Prerequisite Foundation.
Water media as a specialized approach to painting.

ART 237 Collage 1(0-2) Prerequisite Foundation, or permission of instructor.
Paper collage and mixed media as an approach to painting.

ART 241 Drawing II 3(0-6) Prerequisite ART 141, 142.
Advanced course in pursuit of finished drawings.

ART 242 Advanced Life Drawing 3(0-6) Prerequisite ART 142.
Continuation of ART 142 with expanded interpretational and compositional awareness.

ART 245 Ceramics I 3(0-6) Prerequisite Foundation.
Essential skills in ceramic processes. Emphasis on form and function as related to students' needs and creative intent.

ART 251 Fundamentals for Wood I 3(0-6) Prerequisite Foundation.
Techniques of hand and power tools for producing sculpture and useful forms in wood and related materials.

ART 255 Jewelry Techniques I 3(0-6) Prerequisite Foundation.
Fabrication and methods of jewelry construction. Use of a variety of techniques and of related materials leading to independent studio work.

ART 260 Weaving 3(0-6) Prerequisite Permission of instructor.
Techniques of loom and non-loom weaving.

ART 270 Relief Printmaking (1-3 VAR)
Basic processes of printing from raised surfaces.

ART 274 Computer Imaging (1-3 VAR)
Use of micro computers to develop visual images.

ART 276 Photography (1-3)
Photography as an art form in itself as well as an adjunct to other art media.

ART 281 Introduction to Graphic Design 3(1-4) Prerequisite Foundation.
Tools, design elements and processes that concern advertising and communication designers.

ART 282 Calligraphy (1-3 VAR)
Styles of hand lettering and layout of calligraphic forms.

ART 291 Special Topics (1-5 VAR)
Study and/or activity not covered by regular offerings.

ART 301 Art History: Southwest Native America 3(3-0) Prerequisite Permission of instructor.
Development of style, iconography and function of Indian art from Prehistoric to present time.

ART 302 Art History of Pre-Columbian America 3(3-0) Prerequisite Permission of instructor.
Development of style, iconography and function of art from Prehistoric times to arrival of Spanish in Middle and South America.

ART 303 Art History of Latin America 3(3-0) Prerequisite Permission of instructor.
Development of style, iconography and function of art from time of Spanish conquest of Latin America to present.

ART 332 Modeled Cast Sculpture 3(0-6) Prerequisite Foundation.
Techniques of producing three-dimensional form though modeling, mold-making and casting in a variety of materials.

ART 333 Sculpture II 3(0-6) Prerequisite ART 233.
Processes for producing sculpture via the subtractive methods.

ART 341 Portrait Painting 1(0-2) Prerequisite ART 235.
Representational painting using portrait models.

ART 342 Figure Painting 1(0-2) Prerequisite ART 235.
Composition and environmental additions to the figure.

ART 343 Landscape Painting 1(0-2) Prerequisite ART 235.
Perception and interpretation of nature on location from sketches.

ART 345 Ceramics II 3(0-6) Prerequisite ART 245.
In-depth development of specific techniques concerning the nature of ceramics. Perfection of skills and personalization of style.

ART 346 Production Pottery 3(0-6) Prerequisite Permission of instructor.
Intensive experience in practical problems of production; emphasis on functional ware. Material, equipment, sales and procedure to establish a studio.

ART 351 Form in Wood II 3(0-6) Prerequisite ART 251.
Sophisticated methods of working wood and related materials into sculpture and useful forms.

ART 355 Jewelry Techniques II 3(0-6) Prerequisite ART 255.
Various methods of constructing cast jewelry. In-depth course leading to independent studio work.

ART 356 Enameling Techniques I 3(0-6) Prerequisite ART 255.
Problems in limoges, champleve, cloisonne, as well as innovative approaches leading to independent studio work.

ART 357 Enameling Techniques II 2(0-4) Prerequisite Permission of instructor.
Applied jewelry design with emphasis on creativity and innovation. Brief coverage of the history of designing in jewelry and personal adornment.

ART 370 Advanced Relief Printmaking (1-3 VAR)
Basic processes of printing from raised surfaces.

ART 371 Intaglio (1-3 VAR) Prerequisite Foundation.
Basic processes of printing from raised and lowered surfaces.

ART 372 Lithography (1-3 VAR) Prerequisite Foundation.
Processes of planographic printing from drawings made on stone.

ART 373 Serigraphy (1-3 VAR) Prerequisite Foundation.
Processes of screen printing including preparation of photographic stencils.

ART 374 Computer Imaging (1-3 VAR)
Use of computers to develop visual images.

ART 375 History of Art Film 3(3-0)
Significant art films illustrating the development of style, subject matter and techniques of film making from late 19th century to the present.

ART 376 Photography (1-3 VAR)
Photography as an art form in itself as well as adjunct to other art media.

ART 377 Principles of Elementary Art Education 2(2-0)
Lecture course dealing with the development of visual concepts within the child.

ART 378 Materials and Techniques in Art for the Elementary Schools 2(1-2)
Laboratory experience in use of art materials in the elementary classroom. To be taken simultaneously with Art 377.

ART 379 Principles of Secondary Art Education 2(2-0)
Lecture course dealing with theories and methods of art education beyond the elementary school.

ART 381 Graphic Design II 3(1-4) Prerequisite ART 281.
Layout and the preparation of camera-ready mechanicals.

ART 382 Illustration 2(0-4) Prerequisite ART 381.
Specialized course in the use of images rendered in varying techniques to express ideas.

ART 383 Exhibition Design 2(0-4) Prerequisite Permission of instructor.
Communication and design principles applied to the display of objects. Special attention to museum problems.

ART 384 Papermaking (1-3 VAR)
Techniques of making paperpulp, sheets of paper, various types of molds for paper casting.

ART 397 Studio Series 3(0-6) Prerequisite When appropriate.
Advanced studio offerings for students who have completed all other course offerings in that specific discipline. Scheduled concurrently with lower division studios. Repeatable once.

ART 401 Art History: Greek, Roman, Byzantine 3(3-0) Prerequisite Permission of instructor.
Development of style, iconography and function of art in Aegean and Mediterranean civilizations.

ART 405 Art History: Modern 3(3-0) Prerequisite Permission of instructor.
Development of style and iconography of 19th and early 20th century art in Europe and United States.

ART 406 Art History: Contemporary 3(3-0) Prerequisite Permission of instructor.
Development of style and iconography of contemporary art.

ART 407 Art History: Museum Training 3(3-0) Prerequisite Permission of instructor.
Curating, conservation or presentation and interpretation of art from various periods and cultures.

ART 410 Art Career Orientation 1(1-0) Prerequisite Senior standing.
Senior level evaluation of personal plans toward job objectives.

ART 420 Multi-Media 3(3-0)
Studio course in the creation of images and ideas through combined materials, and its special appropriateness as a technique in art.

ART 445 Glaze Calculation 1(0-2) Prerequisite Permission of instructor.
The simple necessities for forming glazes from earth oxides. Studio vesting, firing and practical application. Chemistry not a prerequisite.

ART 446 Kiln Construction 1(0-2) Prerequisite Permission of instructor.
Building and designing all types of kilns. Fuel and material sources. Practical experience by constructing a kiln.

ART 447 History of Ceramics 1(1-0) Prerequisite Permission of instructor.
World view of ceramics as related to the potters' tradition. Technical developments, style trends and related historical events.

ART 475 Film Making 3(1-4) Prerequisite Permission of instructor.
Film as a means of personal expression.

ART 478 Art Education Methods Application Lab 2(0-4) Prerequisite ART 377 or ART 379.
Laboratory situation in the application of theories and methods of art education.

ART 481 Communication Graphics 3(1-4) Prerequisite Permission of instructor.
Pursuit of the design of words and images into the world of motion in TV and film.

ART 491 Special Topics (1-5 VAR)
Study and/or activity not covered by regular offerings. Repeatable.

ART 494 Field Experience (1-5 VAR) (When appropriate.) Prerequisite senior standing and permission of instructor.
Off-campus individual experience providing transition from classroom instruction to on-the-job experience. Supervised by instructor and job supervisor.

ART 495 Individual Projects (1-5 VAR) Prerequisite junior or senior standing and permission.
On-campus individual experience in which the student works under tutorial arrangement with instructor and has regular conferences.

ART 496 Cooperative Education Placements (1-4 VAR) Prerequisite Permission of instructor.

ART 497 Studio Series 3(0-6) Prerequisite ART 397.
Further advanced sections of studio offerings. See Studio Series. Repeatable once.

GRADUATE

ART 500 Workshop (1-5 VAR) Prerequisite Permission of instructor and graduate standing.
Advanced course in new materials and techniques using multi-media sources. Concepts and ideas explored as an integral part of the workshop.

ART 591 Special Topics (1-3 VAR)
Study and/or special activity not covered by regular offerings. May include any offerings from the major emphasis areas in ceramics, drawing, enameling, graphic design, art history/museum studies, jewelry, painting and sculpture.

AUTOMOTIVE PARTS AND SERVICE MANAGEMENT

Faculty: Martinet, Mason, Wade

The automotive parts and service management program is a bachelor of science (BS) degree program designed to provide the student with an in-depth technical knowledge of the automobile and a broad range of management skills as applied in the modern automotive business. The program emphasizes personnel supervision, financial analysis, customer relations, warranty administration, sales promotions, techniques of technical problem-solving, service dissemination, marketing, merchandising and distribution methods used by the automotive aftermarket, automotive manufacturer and import industries. There are many opportunities for men and women in this field. The graduating candidate must have a grade of C or above in each course in the major area of study.

MAJOR

A typical APSM schedule is:

Freshman Year			**Credits**
APSM	105	Introduction to the Parts and Service Industry	2
APSM	115	Automotive Engine Design and Operation	4
APSM	125/125L	Automotive Suspension and Brake System/Lab	4
APSM	155	Automotive Jobber and Dealer Parts Operation	5
PE	100	PE Orientation	2
RDG	120	College Reading	2
SPCOM	101	Expository Speaking	3
		General Education	6
			28

Sophomore Year			**Credits**
APSM	135/135L	Automotive Fuel Systems and Exhaust Emissions and Lab	4
APSM	165	Industrial Equipment and Heavy Equipment Parts	2
APSM	205	Automotive Jobber Distribution and Merchandising	5
APSM	245/245L	Automotive Electrical Systems/Lab	4
CHEM	111/111L	Principles of Chemistry	4
CST	100	Introduction to Interactive Computers	3
ECON	201	Principles of Economics	3
ENG	110 or 115	Composition I or Tech and Scientific Comm I	3
ENG	211 or 216	Composition II or Tech and Scientific Comm II	3
MLET	225	Applied Physical Metallurgy	3
Group	I	Humanities	1
Group	II	Social Sciences	3
			38

Junior Year			**Credits**
ACCTG	201	Principles of Financial Accounting	4
ACCTG	202	Principles of Managerial Accounting	4
APSM	215/215L	Automotive Power Trains and Drive Lines	4
APSM	235	Machine Shop Equipment and Operation	3
APSM	305	Auto Parts and Service Management	3
APSM	315	Automotive Dealership Dist. and Merchandising	3
APSM	345	Advanced Automotive Systems	5
BUSAD	200	Principles of Business Law	3
PHYS	100	Physical Science	3
Group	I	Humanities	6
Group	II	Social Sciences	1
			39

Senior Year			Credits
APSM	325	Fuels and Lubricant Production, Marketing and Conservation	3
APSM	335	Automotive Shop Practices	5
APSM	405	Automotive Sales Principles and Practices	5
APSM	415	Automotive Expense Control and Analysis	5
BUSAD	318	Personnel Management	3
MGMT	310	Principles of Management	3
MGMT	410	Industrial Relations	3
MGMT	414	Small Business Management	3
MKTG	340	Principles of Marketing	3
			33

APSM COURSES

APSM 105 Introduction to the Parts and Service Industry 2(2-0)
Introduction to the industry from the viewpoint of history, social impact, organization structure, manpower needs and future growth.

APSM 115 Automotive Engine Design and Operation 4(2-4)
Design and operation of internal combustion engines, two and four cycle, rotary, diesel, gas, turbine, steam fuel cell and other future automotive power concepts.

APSM 125 Automotive Suspension and Brake Systems 3(3-0)
Design and theory of front and rear automotive suspensions, steering and brake systems.

APSM 125L Automotive Suspension and Brake Systems Lab 1(0-2) Corequisite APSM 125.
Laboratory to accompany APSM 125.

APSM 135 Automotive Fuel Systems and Exhaust Emissions 3(3-0)
Design and theory of automotive fuel systems, carburetion, fuel injection, turbo charging and supercharging. Also functions and design of automotive emission systems.

APSM 135L Automotive Fuel Systems and Exhaust Systems Lab 1(0-2)Corequisite APSM 135.
Laboratory to accompany APSM 135.

APSM 155 Automotive Jobbers and Dealer Parts Operation 5(5-0)
Automotive replacement parts books, inventory control systems, stock control levels and planographing — to improve stock flow.

APSM 165 Industrial Equipment and Heavy Equipment Parts 2(2-0)
How to select the correct piece of industrial equipment to do the job for the customer; also the use of parts catalogs and microfilm in heavy equipment.

APSM 205 Automotive Jobber Distribution and Merchandising 5(5-0)
Channels of distribution and merchandising for the automotive jobber from the manufacturer to the ultimate user.

APSM 215 Automotive Power Trains and Drive Lines 3(3-0)
Design and theory of standard and automatic transmissions, clutches, drivelines, differentials and transaxles.

APSM 215L Automotive Power Trains and Drive Lines Lab 1(0-2) Corequisite APSM 215.
Laboratory to accompany APSM 215.

APSM 225 Power Mechanics 3(3-0)
Power sources including steam, atomic, internal combustion, turbines, engines, plus transmission of power. (Not required for APSM majors.)

APSM 235 Machine Shop Equipment and Operation 3(2-2)
Functions of automotive machine shop equipment and basic automotive machine shop management.

APSM 245 Automotive Electrical Systems I 3(3-0)
Design and theory of operation of automotive electrical circuits; ignition, starting, charging and accessory circuits, with study of diagnostic equipment used to diagnose system malfunctions.

APSM 245L Automotive Electrical Systems I Lab 1(0-2) Corequisite APSM 245.
Laboratory to accompany APSM 245.

APSM 255 Automotive Electrical Systems II 2(2-0) Corequisite APSM 255L 2(2-0)
Design and operational theory of solid state ignitions systems and computer controlled systems including engine, braking, transmission, emission and comfort systems.

APSM 255L Automotive Electrical Systems Lab II 1(0-2) Corequisite APSM 255.
Laboratory to accompany APSM 255.

APSM 296 Cooperative Education Placement (1-5 VAR)
For APSM freshmen and sophomores. Industrial cooperative education work experience under direction of field supervisor and APSM faculty member.

APSM 305 Auto Parts and Service Management 3(3-0)
The industry from a management standpoint; business operations, personnel management, inventory and expense controls.

APSM 315 Automotive Dealership Distribution and Merchandising 3(3-0)
Analysis of computer printout system being used in dealership parts departments. Decision-making on inventory levels, distribution and merchandising.

APSM 325 Fuels and Lubricant Production, Marketing and Conservation 3(3-0) Prerequisite senior standing or consent of adviser.
Petroleum industry; basic production processes, marketing techniques, alternate fuel sources and conservation techniques.

APSM 335 Automotive Shop Practices 5(2-6) Prerequisite APSM 115, 125, 135, 245, 345.
Diagnosis of electrical, fuel, engine, brake and transmission systems, plus study of service management and service writer duties.

APSM 345 Advanced Automotive Systems 5(3-4) Prerequisite Junior standing or permission of instructor.
Theory and lab experience on new concepts in automotive electrical, fuel and suspension systems.

APSM 405 Automotive Sales Principles and Practices 5(5-0) Prerequisite APSM 315.
Application of techniques and principles unique to wholesale selling of replacement parts and accessories. Offered alternate years with APSM 415.

APSM 415 Automotive Expense Control and Analysis 5(5-0) Prerequisite ACCTG 201, 202.
Introduction to specialized automotive accounting and inventory control methods. Emphasis on analyzing expenses and cutting costs in the retail automotive business. Offered alternate years with APSM 405.

APSM 491 Special Topics (1-5 VAR) Permission of instructor and supervision provided.
For advanced students. Each student selects, outlines and pursues a project.

APSM 496 Cooperative Education Placement (1-5 VAR)
For APSM juniors and seniors. Industrial cooperative education work experience under direction of field supervisor and APSM faculty member.

BEHAVIORAL SCIENCE

Faculty: Clay

The program in behavioral science, a part of the center for social and cultural studies, offers courses leading to the degrees of bachelor of arts (BA) and bachelor of science (BS). Many of its courses are open to all students. The program is concerned with enhancing the quality of human life. Its curriculum is interdisciplinary and integrative in character, providing knowledge and convictions about the basic concerns and issues that affect human and societal well-being, as well as a sound foundation of skill for practice in the human services.

The generalist program in behavioral science intentionally seeks to provide students with a holistic perspective on human functioning. It requires students to gain specific knowledge from a wide range of disciplines that influence human development and behavior. In addition, students are required to take departmental course work that focuses on problem-solving, and on relating and synthesizing information.

MAJOR

In addition to fulfilling institutional requirements, students majoring in behavioral science must take a minimum of 30 hours in behavioral science courses and a minimum of 36 semester hours distributed among at least three of the following disciplines: anthropology, biology, Chicano studies, economics, geography, history, philosophy, political science, psychology, sociology, social work and mental health (some of which may be used to fulfill general education requirements). Approval of adviser is required.

MINOR

A minor in behavioral science requires a minimum of 15 hours in behavioral science courses and at least 18 semester hours in directly related support courses. All minor programs must be determined through consultation with the program adviser.

A typical behavioral science schedule is:

Freshman Year			Credits
BEHSC	101, 102	Intro to Behavioral Science I and II	6
ENG	110, 211	Composition I and II	6
PSYCH	101	General Psychology I	3
PE	100	PE Orientation	2
RDG	120	College Reading	2
SOC	101	General Sociology I	3
SPCOM	101	Expository Speaking	2
Group	I	Humanities	6
Group	II	Social Sciences	3
			33

Sophomore Year			Credits
ANTHR	100	Study of Mankind	3
BEHSC		Electives	3
PSYCH	102	General Psychology II	3
SOC	102	General Sociology II	3
		General Education	17
		General Electives	3
			32

Junior Year		Credits
BEHSC	Electives	6
	Support Area Electives (300/400 level)	12
	General Electives	15
		33

Senior Year			Credits
BEHSC	493	Seminar	3
BEHSC	494	Field Experience	9
		Approved Behavioral Science Electives	3
		Support Area Electives (300/400 level)	9
		General Electives	6
			30

Behavioral Science Minor			
BEHSC	101 and 102	Intro to Behavioral Science I and II	6
		Approved Behavioral Science Electives	9
		Support Area Electives	18
			33

NOTE: The above sample schedule reflects a typical behavioral science option. Changes would be required for other option areas. Majors and minors should consult the department of behavioral science for specific course requirements for each option.

BEHSC COURSES

UNDERGRADUATE

BEHSC 101 Introduction to Behavioral Science I 3(3-0)
Introduction to the holistic study of human behavior; emphasizes self-development within context of human development. Utilizes information from many disciplines with broad perspectives on human behavior. Self-evaluation is encouraged in regard to value orientations, decision-making and social interaction. GEN. ED. IIA

BEHSC 102 Introduction to Behavioral Science II 3(3-0)
Introduction to holistic study of the individual. Multi-disciplinary approach to viewing the development of the person and to considering various determinants and consequences of human behavior; integrative methodologies, problem-solving and self-actualizing processes. GEN. ED. IIA

BEHSC 201 The Professions 3(3-0)
Critical analysis of a variety of professions, preparing students to project career or vocational choices, utilizing interest inventories, vocational interest tests, career profiles.

BEHSC 296 Cooperative Education Placement (1-4 VAR) Prerequisite Permission of instructor and cooperative education office.
Arrangements between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study.

BEHSC 301 Behavioral Science and the Search for Meaning 3(3-0) Prerequisite BEHSC 101, 102 and senior status.
Focus on the process of human emergence and becoming. Perspectives on human development. Search for man's nature and principles of human behavior.

BEHSC 320 Dynamics of Wellness 3(3-0)
Focuses on the dynamics of holistic health and wellness. Consideration will be given to the physical mental, emotional and spiritual components that affect personal well being and growth. Interdisciplinary content and methodology emphasized.

BEHSC 464 Systems of Counseling and Psychotherapy 3(3-0) Prerequisite BEHSC 101, 102, PSYCH 101, 102.
Traditional and contemporary methods of counseling and psychotherapy; laboratory experiences.

BEHSC 464L Systems of Counseling and Psychotherapy Lab 1(0-2) Corequisite BEHSC 464.
Laboratory course to accompany BEHSC 464, Systems of Counseling and Psychotherapy.

BEHSC 481 Challenges of Behavioral Science 3(3-0) Prerequisite BEHSC 101, 102 and senior status.
Holistic perspective on personal significance. Self-image explorations to discover the individual's relationship to personhood and humanity.

BEHSC 484 Pro-Seminar for Interns (1-3 VAR)
Focuses on professional development and should be scheduled in conjunction with BEHSC 495 (Field Experience). Discussion and synthesis of issues relevant to human service and graduate education.

BEHSC 487 Interdisciplinary Topics in Behavioral Science 3(3-0) Prerequisite Permission of instructor.
Selected topics on aspects of human behavior. Interdisciplinary content and integrative methodology.

BEHSC 493 Seminar (1-3 VAR) Prerequisite BEHSC 101, 102 and senior status.
Investigation of complex and advanced level topics focusing on emotional and relationship problems that affect functioning.

BEHSC 494 Field Experience (3-9 VAR) Prerequisite Department approval and placement.
Supervised internship for field practice in community agencies.

BEHSC 495 Independent Study (1-3 VAR) Prerequisite Senior status and department approval.
Individualized instruction in specialized subjects and related research.

BEHSC 496 Cooperative Education Placement (1-4 VAR) Prerequisite Permission of instructor.
Arrangement between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study. Two placements must occur in academic semesters and one in a summer session for the equivalent of at least 12 months employment. The student must re-enroll each placement term. 12 credits maximum allowed toward graduation.

GRADUATE

BEHSC 593 Seminar (1-3 VAR) Prerequisite Graduate standing.
Investigation of complex and advanced level topics focusing on emotional and relationship problems affecting social functioning; varies with student and faculty interests.

BUSINESS ADMINISTRATION

Faculty: Abebe, Angus, Chandler, Dhatt, Noreiko, Pook, Reinier

The program in business administration offers a four-year program leading to the bachelor of science in business administration (BSBA) degree with emphasis in finance, management and marketing, computers and information processing, personnel and industrial relations, agriculture and industrial management. The programs of study are designed to provide students with the theoretical and conceptual basis of management and marketing as well as application skills to assume leadership roles in industry, government and education. The Division of Business also offers a graduate program leading to a master's degree in business administration (MBA).

The undergraduate management major permits the student to select one of the emphasis areas listed above. Students may specialize in the industrial or governmental area of their interest in order to qualify for specific employment opportunities. The marketing major is designed to prepare the student for a marketing career in retailing, wholesaling, industrial or not-for-profit organizations. Both majors prepare students to assume managerial positions relatively soon after entering the world of employment.

Division of Business policies. The standard semester course load for fulltime students is 16 credit hours. Students must have permission to take courses in which they do not meet the required prerequisites, or they risk being withdrawn and/or losing credit for those courses.

In order to fulfill graduation requirements, students must obtain a minimum grade average of C (2.0 GPA) in the courses taken within the Division of Business, earn C grades or higher in all courses within their major and in MATH 121. **A required course in the major area may only be repeated once.**

Students requesting credit for course work taken at another institution are advised that the program has a transfer policy and that students are responsible for having their credits approved according to the policy.

The Division of Business **requires** for a baccalaureate degree in business administration that 18 of the last 32 hours just prior to graduation must be taken in residency.

All courses applied toward the major must be approved by the student's adviser and the head of the business administration program.

All students planning to major in any Division of Business area are classified as PRE-BUSINESS upon enrollment in the university. During the first two years of their academic program, students will satisfy a major portion of the general education requirements and the PRE-BUSINESS core. The PRE-BUSINESS core consists of computer and information systems, financial and managerial accounting, macro and micro economics, business statistics, business communications, business law and institutional requirements. Upon completion of the PRE-BUSINESS core, the student makes a formal application to the program for admission to upper-division courses in the Division of Business. Application forms are available in the program office. Students are responsible for adhering to PRE-BUSINESS requirements.

THE MBA PROGRAM

The goal of the University of Southern Colorado's MBA program is to prepare students for high-level general management careers in business and other organizations. To this end, students acquire knowledge of management operations, an appreciation of the interrelationships involved, an understanding of the economic, political and social environment in which business operates and behavioral skills that are essential in the manager's role in the implementation of business decisions. The MBA program endeavors to provide an atmosphere conducive to the development of each student's ability to think in a creative and effective manner. The program will make extensive use of lectures, seminars, field trips, group projects, case studies and independent research.

The program is open to applicants with a bachelor's degree, regardless of the undergraduate field of study. Students, however, will be expected to demonstrate, through academic or experiential preparation, an appropriate background in the key areas of accounting, economics, finance, quantitative methods, business law, the principles of management and the principles of marketing. Students without this background may be required to complete some undergraduate level requirements.

All MBA students are required to take the Graduate Management Admissions Test (GMAT). An admission formula of 200 times the undergraduate GPA (4.0 system) plus the GMAT score constitutes a scaled admission score for each applicant. Unconditional admission is given to those students who satisfy the university's general admission requirements for graduate study (see Graduate Studies), have a scaled admission score of at least 950; and have satisfactory preparation in the key areas. Conditional admission may be given to those students whose GPA is between 2.25 and 2.70, who have not yet taken the GMAT, or who need to complete some of the undergraduate level requirements.

The MBA degree will be conferred upon students who successfully complete a minimum of 36 hours of approved coursework as described below. Students must maintain a graduate grade point average of 3.0. The minimum passing grade for graduate courses is C and at most six (6) semester hours of coursework with a grade of C may be applied toward the degree requirements. The curriculum is composed of three categories of courses: 1) 24 semester hours of required core courses which are taken by all candidates; 2) 6 semester hours of electives; and 3) 6 semester hours of directed research. A maximum of six (6) semester hours of graduate credit will be accepted in transfer from another institution. The distribution of coursework is:

			Credits
ACCTG	510	Managerial Accounting	3
BUSAD	550	Quantitative Methods in Managerial Decision Making	3
ECON	510	Managerial Economics	3
FIN	530	Financial Management	3
MGMT	520	Management Theory and Practice	3
MGMT	560	Management Information Systems	3
MGMT	485	Management Policy and Strategy	3
MKTG	540	Marketing Management Strategies	3
		Total Core	24
		Electives	6
		Directed Research	6
		Total MBA	36

MAJOR

The required schedule within the program of business administration is:

Freshman Year			Credits
ENG	110, 211	Composition I and II	6
BUSAD	100	Introduction to Business	3
BUSAD	160	Intro to Computers and Info Systems	3
MATH	121	College Algebra	4
PE	100	PE Orientation	2
RDG	120	College Reading	2
SPCOM	101	Expository Speaking	2
		General Education	7-10
			32

Sophomore Year			Credits
ACCTG	201	Principles of Financial Accounting	4
ACCTG	202	Principles of Managerial Accounting	4
BUSAD	220	Principles of Business Law	3
BUSAD	260, 261	Business Statistics I and II	6
BUSAD	270	Business Communications	3
ECON	201	Principles of Macroeconomics	3
ECON	202	Principles of Microeconomics	3
		General Education	6
			32

Junior Year			Credits
ECON	310	Money and Banking	3
FIN	330	Corporate Financial Management	3
MGMT	310	Principles of Management	3
MKTG	340	Principles of Marketing	3
		Emphasis and General Education	20
			32

Senior Year			Credits
MGMT	485	Management Strategy and Policy	3
		General Education and Electives	29
			32

BUSINESS ADMINISTRATION EMPHASIS AREAS

Junior and Senior Years:

General Management

			Credits
BUSAD	302	Law, Govt. and Bus	3
ECON	410	Managerial Econ.	3
MGMT	311	Prod/Oper Mgmt.	3
MGMT	318	Personnel Mgmt	3
MGMT	320	Org'l Behavior	3
MGMT	410	Ind'l, Rel Legis, **or**	
MGMT	411	Collective Bargaining	3
MGMT	414	Small Bus Mgmt	3
School of Business 300 or 400 level Electives			12
			33

Computers and Information Systems

			Credits
CST	220	COBOL	4
MGMT	311	Prod/Oper Mgmt.	3
MGMT	362	Systems Analysis	3
MGMT	365	Mgmt Info Systems	3
MGMT	366	Org'l Data Systems	3
MGMT	415	Org'l and Mgmt Syst	3
MGMT	460	Computer Systems	2
MGMT	465	Oper Res/Mgmt Sci	3
MGMT	469	Decision Support Syst	3
MGMT	470	Mg'l Decision Making	3
Programming Elective			3
			33

Personnel and Industrial Relations

			Credits
BUSAD	302	Law, Govt. and Bus	3
ECON	402	Econ of Labor	3
MGMT	318	Personnel Mgmt	3
MGMT	410	Ind'l Rel Legis	3
MGMT	411	Collective Bargaining	3
SOC	430	Industrial Sociology	3
School of Business 300 or 400 level Electives			15
			33

BUSAD Agriculture*

			Credits
ACCTG	201	Prin of Fin Acctg	4
ACCTG	202	Prin of Mang Acctg	4
BUSAD	160	Intro Comp Info Sys	3
BUSAD	220	Business Law	3
BUSAD	260	Business Stat I	3
BUSAD	261	Business Stat II	3
ECON	201	Prin of Macro	3
ECON	202	Prin of Micro	3
FIN	330	Financial Corp Mgmt	3
MGMT	310	Prin of Management	3
MGMT	320	Organizational Beh	3
MGMT	414	Small Bus Mgmt	3
MKTG	340	Principles of Mark	3
MATH	221	Applied Calculus	5
			46

*Required courses for agriculture emphasis area see adviser in that area.

Industrial Management

			Credits
ECON	410	Managerial Econ. . .	3
EN	443	Qual Cont and Reliab	3
MGMT	311	Prod/Oper Mgmt. . .	3
MGMT	318	Personnel Mgmt . . .	3
MGMT	320	Org'l Behavior.	3
MGMT	362	Systems Analysis . .	3
MGMT	365	Mgmt Info Systems.	3
MGMT	411	Collective Bargain. .	3
MGMT	412	Meth and Time Analysis	3
MGMT	415	Org'l Mgmt Systems	3
MGMT	465	Oper Res/Mgmt Science	3
			33

Marketing

			Credits
ECON	410	Managerial Econ. . .	3
MKTG	341	Sales Mgmt.	3
MKTG	342	Advertising	3
MKTG	343	Retailing	3
MKTG	344	Marketing Channels	3
MKTG	346	Sales Communication.	3
MKTG	348	Consumer Behavior	3
MKTG	440	Marketing Research	3
MKTG	441	Marketing Strat	3
School of Business 300 or 400 level Electives			6
			33

FINANCE

			Credits
ACCTG	301	Intermediate Accounting I	4
ECON	301	Intermediate Macroeconomics	3
ECON	330	Public Finance	3
FIN	331	Managerial Finance Policy, Planning and Control	3
FIN	333	Investment Analysis	3
FIN	431	Financial Policy Analysis	3
At least two of the following courses:			
ACCTG	302	Intermediate Accounting II.	4
FIN	335	Real Estate	3
FIN	337	Insurance	3
FIN	430	Financial Institutions and Markets	3
School of Business 300 or 400 level Electives			7-8
			33

MINOR

A baccalaureate degree student may minor in business administration by completing 23 hours of approved business administration courses. ACCTG 201, 202; ECON 201, 202; FIN 330; MGMT 330; and MKTG 340.

BUSAD COURSES

UNDERGRADUATE

BUSAD 100 Introduction to Business 3(3-0)
Introduction to the concepts and practices of business in a free enterprise system, including social requirements of business firms. Open to all students, but especially recommended to non-School of Business majors and all freshman. GEN. ED. IID.

BUSAD 114 Small Business Environment 3(3-0)
For non-business majors only. Study of the financial, accounting, management, marketing and legal problems in small businesses with special emphasis on recognizing and evaluating business opportunities.

BUSAD 160 Introduction to Computers and Information Systems 3(3-0)
Concepts, technology and applications of computers and computer-based information systems in business and government.

BUSAD 220 Principles of Business Law 3(3-0)
Law as it relates to business. Coverage includes contracts, sales, bailments and personal property.

BUSAD 260 Business Statistics I 3(3-0) Prerequisite MATH 121.
Statistical methods in business with programming, including descriptive statistics, probability distributions, sampling, theory, hypothesis testing, parameter estimation and sampling applications.

BUSAD 261 Business Statistics II 3(3-0) Prerequisite BUSAD 260.
Statistical methods used in the solution of modern business and economic problems, including analysis of variance, regression, correlation, nonparametric methods and sample survey techniques. Computer applications are used.

BUSAD 270 Business Communications 3(3-0) Prerequisite BCOM 110, 211.
Means of extending management capabilities through effective internal and external communications, including data organization and presentation.

BUSAD 296 Cooperative Education Placement (1-3 VAR)
Opened to qualified lower division students with approval of department chairperson. Supervised field work in selected businesses, not for profit, and governmental organizations, supplemented by written reports. (S/U grades)

BUSAD 302 Law, Government and Business 3(3-0) Prerequisite Junior standing.
Government influence on business activities, including legislation affecting the competitive character of systems protecting the consumer and employee.

BUSAD 305 Planning for Employment 1(1-0) Prerequisite Junior standing.
Preparation of resumes, jobs interviewing techniques and researching potential employers. (S/U grades.)

BUSAD 491 Special Topics (1-3 VAR)
Selected topics which respond to specific needs and requests.

BUSAD 494 Small Business Studies 3(3-0) Prerequisite Senior status and permission of instructor.
Integrates prior studies toward solving problems of selected small business firms in the community and/or computer simulation of business cases.

BUSAD 495 Independent Study (1-3 VAR) Prerequisite Senior status and permission of department head.
Individual research, directed readings, and/or special assignments.

BUSAD 498 Internship (1-6 VAR)
Open to qualified upper-division students with approval of department head. Supervised field work in selected business, social and governmental organizations that will enhance the student's training in management; supplemented by written reports. (S/U grades.)

GRADUATE

BUSAD 550 Quantitative Methods in Managerial Decision Making 3(3-0)
The application of mathematical, statistical and computer techniques in managerial decision-making are studied. Problems encountered with decisions in uncertain environments and the methodology of decision analysis are investigated. Topics include: decision diagramming, expected utility criteria, basics of probability manipulation, subjective probability assessment and value of information calculation.

BUSAD 551 Business, the Law, and Management Ethics 3(3-0)
Specific legal problems encountered by entrepreneurs and the role of ethics in managerial decision making are studied. Multiple, changing and often conflicting ethical traditions are investigated.

BUSAD 554 Seminar in Management of Non-Profit Organizations 3(3-0)
The study of the management of non-profit organizations. Discussions are based upon selected readings and individual and group research papers. Individual work of an advanced and investigative nature is stressed.

BUSAD 592 Research (1-6 VAR)
The student will work under the close supervision of a graduate faculty member in basic or applied research resulting in a thesis or report of high academic quality.

MGMT COURSES

UNDERGRADUATE

MGMT 301 Introduction to Leadership and Management 3(3-0) Prerequisite Sophomore standing.
Technique and practice in applied leadership in small groups and basic management skills. Includes leadership laboratories.

MGMT 310 Principles of Management 3(3-0) Prerequisite BCOM 211.
Decision-making, communication and leadership principles in business and not-for-profit organizations.

MGMT 311 Production/Operations Management 3(3-0) Prerequisite BUSAD 261, MGMT 310.
Techniques and procedures for efficient production and problem-solving.

MGMT 318 Personnel Management 3(3-0) Prerequisite MGMT 310.
Recruiting, testing, interviewing, training and evaluating workers; planning for personnel needs; establishing personnel functions; employment laws; establishing pay plans.

MGMT 320 Organizational Behavior 3(3-0) Prerequisite MGMT 310.
Behavior of individuals in organizational settings. Behavioral determinants, managerial style, social system analysis, motivation, communication and control processes.

MGMT 362 Systems Analysis 3(3-0) Prerequisite MGMT 310.
Tools of organizational process analysis and synthesis: investigation, requirements, definition, alternatives design, feasibility, systems proposal, definition of system inputs and outputs, detailed design, establishment and management of systems life cycle, system changeover.

MGMT 365 Management Information Systems 3(3-0) Prerequisite MGMT 310, 362.
Analysis and design of computer based management information systems to satisfy needs of functional areas of organizations such as finance, marketing, accounting, engineering, production and operations management.

MGMT 366 Organizational Data Systems 3(3-0) Prerequisite BUSAD 160, CST 220.
Definitions and concepts of input/output file structures, study of file processing languages. Hands-on experience with the construction of computer based data structures and with commercial data base management systems.

MGMT 410 Industrial Relations Legislations 3(3-0) Prerequisite MGMT 318.
Federal and state legislation and execution and executive orders governing the employer-employee relationship; legal rights of organization and bargaining.

MGMT 411 Collective Bargaining 3(3-0) Prerequisite MGMT 318.
Strategies and methods involved in bargaining, administration of contracts, handling grievances, and arbitrating; content of contracts, employer-employee rights; costing of proposals.

MGMT 412 Methods and Time Analysis 3(3-0) Prerequisite MGMT 311.
Analysis of methods of performing operations and jobs to determine the most efficient manner and then establishing time standards.

MGMT 414 Small Business Management 3(3-0) Prerequisite ACCTG 202, MGMT 310, MKTG 340.
The environment, management, marketing, accounting and legal considerations facing the small business manager and owner.

MGMT 460 Computer Systems 3(3-0) Prerequisite MGMT 365.
Examination of computer systems as they are designed to meet organizational needs. Equipment specification, selection and configuration. Comparative study of local systems. Management of the computer resource.

MGMT 465 Operations Research/Management Science 3(3-0) Prerequisite MGMT 310.
Examination of deterministic tools in managerial problem solving: mathematical programming methods, linear, quadratic, and network problems. The decision implications of structure. Computer solutions of structured business problems.

MGMT 467 Computer Simulation 3(3-0) Prerequisite BUSAD 261.
Stochastic approach to the solution of business problems. Recognition of problems suited for simulation solution. Construction and solution of simulation problems using computers. Interpretation of simulation solutions.

MGMT 469 Decision Support Systems 3(3-0) Prerequisite MGMT 365, 366.
Conceptual and pragmatic summary of the evolving technology of business and technical decision support. Modular approach to decision models. Integration of data processing, MIS, OR/MSC and data base concepts. Introduction to decision support languages and to graphics.

MGMT 470 Managerial Decision Making 3(3-0) Corequisite MGMT 465.
Examination of modern managerial decision making processes in business and in related fields such as medicine, government, engineering, chemistry and sociology. The course stresses the complex nature of managerial decisions and the need for an integrated approach to problem solution using a varied array of tools and methods.

MGMT 475 Multinational Business 3(3-0) Prerequisite FIN 330, MGMT 310, MKTG 340.
Opportunities and problems of multinational firms, including environmental factors and formulation of strategies and policies for all functional areas of business.

MGMT 480 Small Business Studies 3(3-0) Prerequisite Senior status and permission of head of the program.
Integrating prior studies in business into a realistic approach to solve problems faced by selected firms in the community and/or computer simulation of business cases.

MGMT 485 Management Strategy and Policy 3(3-0) Prerequisite Senior status in the School of Business and completion of all core courses.
Integration of all prior course work into a realistic and scientific approach to the solution of organizational problems and evaluation of opportunities. Case method used extensively.

MGMT 491 Special Topics (1-3 VAR)
Selected management topics which respond to specific and timely informational needs of students.

MGMT 495 Independent Study in Management (1-3 VAR) Prerequisite Senior status in School of Business and permission of head of the program.
Individual research directed readings, and/or special assignments.

MGMT 498 Internship (1-6 VAR) Prerequisite Junior status in School of Business and permission of head of the program.
Supervised field work in selected business, social and governmental organizations that will enhance the student's training in management; supplemented by written reports. (S/U Grades.)

GRADUATE

MGMT 520 Management Theory and Practice 3(3-0)
The examination of approaches currently used by behavioral science practitioners to assist organizations in achieving planned change. Specific focus is on the processes of behavioral change at the individual, group and organizational levels. In addition to traditional teaching methods, the concepts and practices of organizational development are examined through the use of cases.

MGMT 521 Corporate Strategy and Industrial Structure 3(3-0)
The important relationships between the structural characteristics of an industry and the performance of firms competing in the industry are explored. The nature of the competitive interaction among firms and the rules of the strategic game determined by the industry's structural characteristics are also studied.

MGMT 523 Strategic Management in Public Sector Companies 3(3-0)
The major objective of this course is to provide the participants with insights into the strategic and policy difference between service sector companies and organizations whose product is a tangible result of a manufacturing process. Emphasis will be placed upon overall strategy as viewed by the general manager as well as the interrelationships and conflicts between marketing, human resources, finance, and operations.

MGMT 560 Management Information Systems 3(3-0)
The development of an overall framework for analyzing the use of information by organizations is presented along with examples of different types of information systems. The analysis and design of information systems is stressed through case study and projects. The role of computing in information systems and the design of computer-based systems and decision support systems will be emphasized.

MGMT 585 Management Policy and Strategy 3(3-0)
The study of the implementation of strategic decisions at differing managerial levels within a firm. Specific topics will include: operational planning and budgeting, resolving short and long-term tradeoffs, designing the organization (both structure and process), building a management team, bringing about strategic change and prioritizing actions among conflicting goals. The case method will be utilized.

MGMT 592 Research (1-6 VAR)
The student will work under the close supervision of a graduate faculty member in basic or applied research resulting in a thesis or report of high academic quality.

MKTG COURSES

MKTG 340 Principles of Marketing 3(3-0) Prerequisite ECON 201.
Roles of marketing in the fulfillment of the needs of consumers and industrial users, marketing functions and marketing institutions.

MKTG 341 Sales Management 3(3-0) Prerequisite MKTG 340.
Business planning, operating procedures and administration of sales force and its related activities.

MKTG 342 Advertising 3(3-0) Prerequisite MKTG 340.
Examines economic and social values of advertising as well as functions and use of advertising. Includes selection of media copy and layout.

MKTG 343 Retailing 3(3-0) Prerequisite MKTG 340.
Principles and practices of retail store operation, including buying, merchandising, advertising, sales promotion, service, supervision and control.

MKTG 344 Marketing Channels 3(3-0) Prerequisite MKTG 340.
Analysis of distribution channels used by firms engaged in marketing and manufacturing. Consideration of appropriate strategies for marketing channels management.

MKTG 346 Sales Communications 3(3-0) Prerequisite Junior standing.
Intensive investigation of the art of persuasive sales communication, with emphasis on selection, organization, and effective oral presentation of sales and promotional information.

MKTG 348 Consumer Behavior 3(3-0) Prerequisite MKTG 340.
Examines individual and group differences in consumer behavior and their effect on business strategies. Contemporary behavioral science concepts applied to specific business problems.

MKTG 440 Marketing Research 3(3-0) Prerequisite MKTG 340.
Modern research methods and techniques applied to problems of collection, interpretation, and presentation of data for marketing management decisions.

MKTG 441 Marketing Strategies 3(3-0) Prerequisite MKTG 340.
Marketing policy formulation and implementation. Emphasis on developing student's ability to analyze and solve marketing problems.

MKTG 480 Small Business Studies 3(3-0) Prerequisite Senior status and permission of head of the program.
Integrating prior studies in business into a realistic approach to solve problems faced by selected firms in the community and/or computer simulation of business cases.

MKTG 491 Special Topics (1-3 VAR)
Selected marketing topics which respond to specific and timely needs of students.

MKTG 495 Independent Study (1-3 VAR) Prerequisite Senior status and permission of head of the program.
Individual research, directed readings and/or special assignments.

MKTG 498 Internship (1-6 VAR) Prerequisite Junior status in School of Business and permission of head of the program.
Supervised field work in selected business, social and governmental organizations to enhance the student's training in marketing, supplemented by written reports.

GRADUATE

MKTG 540 Marketing Management Strategies 3(3-0)
The investigation of strategic decisions necessary to match organizational resources and objectives with market opportunities. The strategy areas of product development and diversification, pricing, communication through advertising and selling and distribution are examined separately and are also studied in their role in the overall marketing plan. The importance of understanding and forecasting market behavior is stressed as is the coordination of marketing with other managerial decisions. Emphasis is on the integration of theory and principles through the use of cases.

MKTG 592 Research (1-6 VAR)
The student will work under the close supervision of a graduate faculty member in basic or applied research resulting in a thesis or report of high academic quality.

FIN COURSES

UNDERGRADUATE

FIN 330 Corporate Financial Management 3(3-0) Prerequisite BCOM 211, 120, SPCOM 101, BUSAD 160, 261, ACCTG 202, ECON 202.
Principles of finance involved in problems confronting business organizations. Techniques of financial decision making for liquidity management, financial forecasting, long-term and short-term financing.

FIN 331 Managerial Finance: Policy, Planning and Control 3(3-0) Prerequisite FIN 330.
Continuation of Corporate Financial Management; planning, policy formulation and financial decision making. Cash and capital budgeting, credit policy and accounts receivable management, cost of capital, mergers, acquisitions and investment banking.

FIN 333 Investment Analysis 3(3-0) Prerequisite FIN 330.
Analysis and forecasting of security markets, industry and company studies, portfolio selection and management.

FIN 335 Real Estate 3(3-0) Prerequisite ECON 101 or ECON 201.
Principles of real estate with emphasis on residential markets, including economics, governmental and locational factors, appraising, financing, and real estate transactions.

FIN 337 Insurance 3(3-0) Prerequisite ECON 101 or ECON 201.
Life, property, and health insurance from purchaser's point of view, emphasis on the operation and contributions of the insurance industry.

FIN 430 Financial Institutions and Markets 3(3-0) Prerequisite ECON 310.
Structure, operations and portfolio compositions of financial intermediaries, including commercial banks, savings and loans, life insurance companies, pension fund management, mortgage banking and consumer and federal credit agencies.

FIN 431 Financial Policy Analysis 3(3-0) Prerequisite FIN 331 and 333.
Analysis of financial policies in various organizations. Emphasis on managerial problems in long range planning, decision making under uncertainty, risk measurement and applications of capital markets.

FIN 480 Small Business Studies 3(3-0) Prerequisite Senior status and permission of head of the program.
Integrates prior studies in business into a realistic approach to solve problems faced by selected firms in the community and/or computer simulation of business cases.

FIN 491 Special Topics (1-3 VAR) Prerequisite Permission of instructor.
Selected finance topics which respond to specific and timely informational needs of students.

FIN 495 Independent Study (1-3 VAR) Prerequisite Senior status in School of Business and permission of head of the program.
Individual research, directed readings, and/or special assignments.

FIN 498 Internship (1-6 VAR) Prerequisite Junior status in School of Business, and permission of head of the program.
Supervised field work in selected business, social and governmental organizations to enhance the student's training in finance; supplemented by written reports.

GRADUATE

FIN 530 Financial Management 3(3-0)
The foundations of business financial management and the valuation of the corporation. Topics include: financial analysis, fund-flow analysis, forecasting financial requirements, short-and intermediate-term financing, principles of valuation in perfect and imperfect markets, capital budgeting involving deterministic and risky investment projects and required rates of return for capital investments. Emphasis is on the integration of theory and methods through the use of cases.

FIN 540 International Financial Management 3(3-0)
Those aspects of international environment relevant for managers of internationally active businesses are explored. Topics include: foreign exchange transactions, exchange rate behavior, foreign exchange management (measuring and managing both financial and real variables), financing choices, risk-return concepts, valuation and capital budgeting in an international context and financial control. The application of theory to current problems such as commercial policy and international liquidity will also be emphasized.

FIN 541 Management of Financial Institutions 3(3-0)
General management and policies of financial institutions. Institutions included will be: commercial banks, investment banks, thrift institutions, insurance companies and other financial intermediaries.

FIN 592 Research (1-6 VAR)
The student will work under the close supervision of a graduate faculty member in basic or applied research resulting in a thesis or report of high academic quality.

CHEMISTRY

Faculty: Connelly, Hammer, Mahan, Saul, Smith, Wilkes

The program in chemistry offers a program that is fully accredited and has been approved by the American Chemical Society. In addition to curricula for students who wish to pursue chemistry as a profession, programs can be designed for students in pre-professional programs such as pre-medicine, pre-dentistry, pre-veterinary medicine and pre-law. Minors and second majors are available in a variety of disciplines to provide educational versatility and mobility. While there is a core curriculum for the major, there are many options open to the student to combine his or her interests with a major in chemistry including an option providing a student with a BS degree in chemistry that is certified by the American Chemical Society.

Every student has access to individual consultation to ensure that he or she is getting the program best suited to his or her professional goals. All major and minor programs must be approved by the department and it is through such consultation that personalized programs are developed.

Facilities. The classrooms, offices and laboratories of the program in chemistry are housed in the Chemistry-Geology building. This modern, spacious facility provides a pleasant workplace for both students and faculty. Modern laboratory facilities and instrumentation are available for teaching and research.

MAJORS

The following core of courses is required for all chemistry major options for the bachelor of science degree.

			Credits
CHEM	121/121L 122/122L	General Chemistry I, II and Labs	10
CHEM	301/301L 302/302L	Organic Chemistry I, II and Labs	10
CHEM	317/317L 318/318L	Quantitative Analysis I, II and Labs	8
CHEM	321, 322	Physical Chemistry I, II	6
			34

All options for the BS degree in chemistry are subject to university graduation requirements.

Bachelor of science degree chemistry major option. The minimum requirement for the BS degree, chemistry major option, is 44 semester hours including the 34 semester credit hour core, CHEM 323 and 419/419L, and enough semester credit hours in approved chemistry electives to total 44 semester credit hours.

Mathematics through two semesters of calculus, computer programming and two semesters of general physics complete the requirements. Transfer students are required to earn a minimum of 20 semester credit hours in approved chemistry courses from USC for graduation with a BS degree in chemistry.

The following represents a typical schedule for the student desiring to pursue the basic chemistry major outlined above. Modifications would be required for other options:

Freshman Year			**Credits**
CHEM	121/121L	General Chemistry I and Lab	5
CHEM	122/122L	General Chemistry II and Lab	5
ENG	110, 211	Composition I and II	6
MATH	124	Pre-Calculus Math	3
MATH	126	Calculus and Analytical Geometry I	5
PE	100	PE Orientation	2
RDG	120	College Reading	2
		General Education	4
			32

Sophomore Year			**Credits**
CHEM	301/301L	Organic Chemistry I and Lab	5
CHEM	302/302L	Organic Chemistry II and Lab	5
MATH	224	Calculus and Analytical Geometry II	5
MATH	240/241	Introduction to Computer Programming	3
PHYS	221/221L	General Physics I and Lab	5
SPCOM	101	Expository Speaking	2
		General Education	7
			32

Junior Year			Credits
CHEM	317/317L	Quantitative Analysis I and Lab	4
CHEM	318/318L	Quantitative Analysis II and Lab	4
CHEM	321/322	Physical Chemistry I and II	6
FL	121/122	Introduction to German I and II (Recommended)	6
PHYS	222/222L	General Physics II and Lab	5
		General Education	4
		Electives	3
			32

Senior Year			Credits
CHEM	323	Experimental Physical Chemistry	2
CHEM	419/419L	Instrumental Analysis and Lab	4
CHEM	495	Independent Study (Research)	2
		Electives	22
			30

Bachelor of science degree in chemistry, ACS certified option. Since the University of Southern Colorado is included on the List of Approved Colleges and Universities of the American Chemical Society, a student has the option of pursuing a slightly more rigorous curriculum that will result in a bachelor of science degree in chemistry certified by the American Chemical Society. In addition to the requirements for the chemistry major option cited above, the student will be required to complete CHEM 421 and two courses from a list of approved advanced electives. Also required is a minimum of one semester of independent study consisting of a laboratory based research project. The student will be required to complete a minimum of 65 clock hours in the laboratory, submit a paper and present a seminar on the findings of his or her research in order to fulfill this requirement.

Double major options. While a wide variety of second majors are available, a second major in biology has been the most popular, particularly among pre-medical, pre-dental and other pre-professional students. Requirements for the double major option include completion of the 34 semester credit hour core, a year of college physics, a semester of college calculus and completion of the requirements for the second major. Requirements for the second major are determined by the department of the second major.

Engineering/chemistry option. The engineering/chemistry option requires the 34 semester credit hour chemistry core plus 34 semester credit hours in approved engineering courses, two semesters of calculus, computer programming, and two semesters of general physics.

Pre-medicine/chemistry major option. While medical schools do not mandate any particular major for entering students, biology and chemistry have been the leading majors of students entering medical school. Biology is the leading major in terms of the absolute number of students and chemistry leads in the percentage of students admitted that applied. The requirements for a pre-medicine/chemistry major are the same as for the chemistry major option plus the student must complete specific courses required by the medical schools to which they are applying. It is recommended that pre-medical and other pre-professional students co-ordinate their programs with the appropriate pre-professional adviser as well as the chemistry adviser to make sure specific course requirements are completed.

Chemistry/teacher certification option. Students desiring to major in chemistry and be certified to teach science at the secondary level are required to complete the 34 semester credit hour chemistry core, at least one semester of calculus, a year of college physics and computer programming. Since the State Department of Education certification in secondary science requires broad training over all the science disciplines and mathematics, the student is required to complete additional course work in geology, biology and mathematics in addition to the mathematics and physics already required for the chemistry major. The student is also currently required to complete 42 semester hours in professional education courses. Students seeking secondary science certification are supervised by the Teacher Education Committee as well as their major adviser.

MINOR

The chemistry minor requires a minimum of 20 semester credit hours in chemistry, among which must be included General Chemistry I, II and laboratory, and at least 10 semester credit hours in chemistry courses numbered 300 and above. Chemistry 101, 111/111L, and 112/112L may not be credited toward a chemistry minor. Transfer students must earn a minimum of 10 credit hours of the 20 semester credit hour requirement at USC.

CHEM COURSES

UNDERGRADUATE

CHEM 101 Chemistry and You 3(3-0)
Chemistry related to the everyday world. Drugs, food, pollution, pesticides, consumer products, energy, and home health. Principally for nonscience majors but open to all. GEN. ED. IIIB

CHEM 111 Principles of Chemistry 3(3-0) Prerequisite none. Corequisite CHEM 111L.
Fundamental laws, theories and principles of chemical reactions. Designed for students majoring in liberal arts, nursing, home economics and agriculture. Not open to chemistry majors and minors. GEN. ED. IIIB

CHEM 111L Principles of Chemistry Lab 1(0-2) Corequisite CHEM 111.
Experiments using common chemical equipment and techniques to aid the student in learning what occurs in the chemical laboratory. GEN. ED. IIIB

CHEM 112 Introduction to Organic and Biochemistry 3(3-0) Prerequisite CHEM 111 or permission of instructor.
Organic chemistry. Molecular structure, functional groups, carbohydrates, lipids, proteins, biochemistry.

CHEM 112L Introduction to Organic and Biochemistry Lab 1(0-2) Prerequisite CHEM 111L. Corequisite CHEM 205.
Organic laboratory techniques. Synthesis, purification and uses of organic compounds. Identification of functional groups.

CHEM 121 General Chemistry I 4(4-0) Prerequisite One year in high school algebra or equivalent, and one year high school chemistry or equivalent. Corequisite CHEM 121L.
For science, engineering and preprofessional curricula. Atomic theory, chemical bonding, periodic properties, states of matter, oxidation-reduction, solutions, colligative properties. GEN. ED. IIIB.

CHEM 121L General Chemistry Lab I 1(0-2) Corequisite CHEM 121.
Introduction to laboratory techniques. Formula determinations, calorimetry, stoichiometry, molecular weight determinations, reaction rates, determination of ionization constants. GEN. ED. IIIB

CHEM 122 General Chemistry II 4(4-0) Prerequisite CHEM 121. Corequisite CHEM 122L.
Continuation of CHEM 121. Thermodynamics, kinetics, equilibria, nuclear chemistry. GEN. ED. IIIB

CHEM 122L General Chemistry and Qualitative Analysis Lab II 1(0-2) Corequisite CHEM 122.
Techniques and application of semimicro qualitative analysis. GEN. ED. IIB

CHEM 291 Special Topics (1-5 VAR) Prerequisite Permission of instructor.
Topics will be considered which serve the interests of 10 or more students.

CHEM 301 Organic Chemistry I 3(3-0) Prerequisite CHEM 122. Corequisite CHEM 301L.
For majors and preprofessional students requiring a strong background in organic chemistry. Organic reactions and mechanisms are related to molecular structure.

CHEM 301L Organic Chemistry Lab I 2(0-4) Corequisite CHEM 301.
A laboratory course to accompany CHEM 301.

CHEM 302 Organic Chemistry II 3(3-0) Prerequisite CHEM 301. Corequisite CHEM 302L.
Continuation of CHEM 301.

CHEM 302L Organic Chemistry Lab II 2(0-4) Prerequisite CHEM 301L. Corequisite CHEM 302.
Laboratory course to accompany CHEM 302.

CHEM 317 Quantitative Analysis I 2(2-0) Prerequisite CHEM 122. Corequisite CHEM 317L.
Volumetric and gravimetric analysis integrated with instrumental analysis, both optical and electrometric methods.

CHEM 317L Quantitative Analysis Lab I 2(0-4) Corequisite CHEM 317.
Laboratory component to CHEM 317.

CHEM 318 Quantitative Analysis II 2(2-0) Prerequisite CHEM 317 or permission of instructor. Corequisite CHEM 318L.
Continuation of CHEM 317.

CHEM 318L Quantitative Analysis Lab II 2(0-4) Corequisite CHEM 318.
Laboratory component to CHEM 318.

CHEM 321 Physical Chemistry I 3(3-0) Prerequisite CHEM 122. Prerequisite or Corequisite MATH 224 and PHY 201 or 221.
Chemical thermodynamics, chemical dynamics, quantum chemistry, chemical structure and spectroscopy.

CHEM 322 Physical Chemistry II 3(3-0) Prerequisite CHEM 321.
Continuation of CHEM 321.

CHEM 323 Experimental Physical Chemistry 2(0-4) Prerequisite CHEM 321 or permission of instructor.
Laboratory techniques in thermodynamics, equilibrium, phase phenomena, kinetics, spectroscopy.

CHEM 377 Methods and Techniques of High School Teaching 2(2-0)
Instruction and experience in preparing for and conducting discussion sessions and laboratory exercises in high school chemistry.

CHEM 401 Advanced Organic Chemistry 2(2-0) Prerequisite CHEM 302, or permission of instructor. Corequisite CHEM 401L.
Topics of advanced organic chemistry, including organic reactions, mechanisms, natural products and spectroscopy.

CHEM 401L Advanced Organic Chemistry Lab 1(0-2) Corequisite CHEM 401.
Laboratory course to accompany CHEM 401. Molecular structure determination by chemical and instrumental methods.

CHEM 411 Biochemistry I 3(3-0) Prerequisite CHEM 302 or permission of instructor.
Chemistry of constituents of living matter, including proteins, carbohydrates, nucleic acids and lipids. An introduction of enzymes and coenzymes.

CHEM 412 Biochemistry II 3(3-0) Prerequisite CHEM 311. Corequisite CHEM 412L.
Continuation of CHEM 411. Intermediary metabolism of carbohydrates, lipids, and amino acids. Bioenergetics.

CHEM 412L Biochemistry Lab II 1(0-2) Corequisite CHEM 412.
Laboratory course to accompany CHEM 412.

CHEM 419 Instrumental Analysis 2(2-0) Prerequisite CHEM 318, 322 or permission of instructor. Corequisite CHEM 419L.
Emission spectrography, atomic absorption, gas chromatography spectrophotometry, x-ray fluorescence, voltommetry, NMR, IR.

CHEM 419L Instrumental Analysis Lab 2(0-5) Prerequisite CHEM 318, 322, or permission of instructor. Corequisite CHEM 419.
Laboratory component to CHEM 419.

CHEM 421 Inorganic Chemistry 3(3-0) Prerequisite CHEM 321, or permission of instructor.
Structure and bonding, coordination theory, periodic relations, equilibrium, kinetics, thermodynamics, descriptive chemistry.

CHEM 425 Environmental Chemistry 3(3-0) Prerequisite CHEM 301 or 317 or 321.
Chemical process in air, water and soil. Air, water analysis, and treatment, pollution.

CHEM 430 X-Ray Crystallography 3(3-0) Prerequisite Permission of instructor.
Theory and practice of powder method, x-ray fluorescence, single crystal method, space group symmetry; application to geoscience and chemical problems.

CHEM 431 Radiochemistry 2(2-0) Prerequisite CHEM 322, or permission of instructor.
Nuclear properties, interaction and detection of radiation, application to chemistry.

CHEM 440 Geochemistry 3(3-0) Prerequisite CHEM 122 and GEOL 302.
Chemical applications to the study of geology.

CHEM 491 Special Topics (1-5 VAR) Prerequisite Permission of instructor.
Topics are considered which serve the interests of 10 or more students.

CHEM 493 Seminar 1(1-0) Prerequisite Permission of head of the program.
Seminar for majors and minors concerning current or unusual topics in chemistry. Speakers may include guests, faculty, or students. May be repeated for a maximum of two credits. (S/U grades).

CHEM 495 Independent Study (1-7 VAR) Prerequisite Permission of instructor.
To be arranged by the student with the instructor of the student's choice.

GRADUATE

CHEM 591 Special Topics (1-5 VAR) Prerequisite Permission of instructor.
Topics are considered which serve the interests of 10 or more students.

CHICANO STUDIES

Faculty: Sandoval

The Chicano studies program, a part of the center for social and cultural studies, offers a minor suitable to be combined with any major. The program is community-oriented, designed to provide the student with an in-depth knowledge of the Chicano community. History, culture, language, psychology and socio-economic influences in the community are examined.

A minor in Chicano studies complements careers in law, social work, multicultural education and government, among other possibilities. Courses of study in Chicano studies offer unique preparation for undergraduates who seek entrance to law school, graduate programs in humanities and the social sciences.

Careers in engineering and technological sciences are enhanced by courses emphasizing the relationship between community culture and technology, especially in the Southwest, an area targeted for future growth. The Chicano studies program offers practical experience coupled with theory through the acquisition of a language, courses in cultural inquiry and field study classes in local communities.

MINOR

A minimum of 21 semester hours is required. These are:

			Credits
CS	101	Introduction to Chicano Studies	3
CS	201	Aztlan: The Southwest and its People	3
CS	202	Contemporary Chicano Movement	3
CS	210	La Chicana	3
CS	220	Survey of Chicano Literature	3
CS	401	Seminar in Chicano Studies	3
		Chicano Studies electives	3
			21

CS COURSES

CS 101 Introduction to Chicano Studies 3(3-0)
Overview of the historical, political and socio-cultural experience in the Chicano. GEN. ED. IIE

CS 102 Chicano Genesis and Experience to 1519 3(3-0)
Survey of Meso-American history, culture and political experience with emphasis on significance to the Chicano. GEN. ED. IIE

CS 103 European Influence on Meso-America 1519-1821 3(3-0)
Analysis of European influence in Mexico. Emphasis on Spanish institutions that shaped the Mexican republic.

CS 201 Aztlán: The Southwest and its People 3(3-0)
Historical, political and socio-cultural experience of the Chicano after 1821. GEN. ED. IIE

CS 202 Contemporary Chicano Movement 3(3-0)
Examination and analysis of the political, socio-economic and cultural significance of the Chicano movement. GEN. ED. IIE

CS 210 La Chicana 3(3-0)
Social, cultural and historical overview of the Chicana experience and contributions. GEN. ED. IIE

CS 220 Survey of Chicano Literature 3(3-0)
Survey of outstanding contemporary Chicano works. Literature deals with Chicano themes including analysis of folklore and myth. GEN. ED. IJ.

CS 230 Chicano: Social and Psychological Study 3(3-0)
Social and psychological forces faced in the Chicano community. GEN. ED. IIE

CS 291 Special Topics (1-3 VAR)
Topics of interest in Chicano studies, identified by student/faculty interest. Prior work in Chicano studies desirable.

CS 296 Cooperative Education Placement (1-4 VAR) Prerequisite Permission of instructor and cooperative education office.
Arrangements between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study.

CS 303 Chicano Labor History in the United States 3(3-0)
Chicano experience in the American labor market beginning 1848 to the present.

CS 316 Minorities and the Law 3(3-0)
Broad survey of legal systems in relation to the Chicano.

CS 333 The Media and the Minority 3(3-0)
Chicano experience with media. Also discussion on methods and techniques of various media.

CS 335 Health in the Chicano Community 3(3-0)
Health care traditions and current health care systems in the barrio.

CS 493 Seminar (1-3 VAR) Prerequisite CS 101.
Various problems within the realm of Chicano studies. In-depth integrated approach.

CS 495 Independent Study (1-3 VAR) Prerequisite CS 101.
Special topics dealing with the Chicano and society.

CS 496 Cooperative Education Placement (1-4 VAR) Prerequisite Permission of instructor and cooperative education office.
Arrangements between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study.

CIVIL ENGINEERING TECHNOLOGY

Faculty: Hirth, Holderness, Rao, Stephens, Womack

The program in civil engineering technology offers a bachelor of science in Civil Engineering Technology (BSCET) degree. The program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. The program is designed to produce competent surveying technologists, soil and concrete technologists and designers who have managerial and supervisory capabilities. The curriculum places emphasis on surveying, construction design and estimating. The lower division course work consists of surveying and drafting as related to civil engineering technology and construction. The upper-division courses provide a broader and more in-depth understanding in areas such as land surveying, water systems, architectural drafting and civil design. Managerial and supervisory capabilities are developed in courses such as estimating, business law and construction contracting and supervision.

MAJORS

Students seeking a degree in this program should have a mathematics/science background including algebra, geometry and trigonometry. Students who have an associate in applied science (AAS) degree in a similar program from an accredited institution may transfer to this program and earn the baccalaureate degree with at least two additional years of study.

The program also offers an associate in applied science degree. This degree program is designed to prepare students for positions as technicians in surveying, construction and drafting. The general requirements are held to a minimum with a heavy concentration in technical courses emphasizing practical surveying techniques, construction procedures and drafting related to civil areas.

A student entering the AAS program should have a background in applied mathematics and science. Students who are deficient in algebra and geometry may take courses that the university offers to remedy the deficiency.

The BS degree candidate must complete a minimum of 135 semester hours, with a 2.00 cumulative grade point average in major area of study.

The AAS degree candidate must complete a minimum of 69 hours, with a 2.00 cumulative grade point average in the major area of study.

AAS candidates should see an adviser for two-year degree options.

A typical CET schedule is:

Freshman Year			**Credits**
CET	101	Introduction to Civil En Technology	2
CET	102, 103	Surveying I and II	8
CET	105	Construction Materials	3
CET	108	Concrete Lab	1
EN	105	FORTRAN	2
ENG	115, 216	Technical and Scientific Comm I and II	6
MATH	131, 132	Math for Engineering Technology I and II	8
MET	111	Technical Drafting I	3
PE	100	PE Orientation	2
			35

Sophomore Year			**Credits**
CET	104	Map Drafting	3
CET	201, 205	Soil Mechanics Technology and Lab	3
CET	202	Statics	3
CET	203	Strength of Materials	3
CET	311, 312	Advanced Surveying I and II	8
MATH	233	Math for Engineering Technology	5
PHYS	201/201L	Principles of Physics I and Lab	4
		General Education	6
			35

Junior Year			**Credits**
CET	302	Reinforced Concrete Design	3
CET	304	Construction Cost Estimating I	3
CET	404	Fundamental Structural Design	3
CET	411	Hydraulics	3
PHYS	202/202L	Principles of Physics II and Lab	4
RDG	120	College Reading	2
SPCOM	101	Expository Speaking	2
		General Education	9
		Approved business Elective	3
			32

Senior Year			Credits
CET	305	Construction Cost Estimating II	3
CET	401	Land Surveying	3
CET	402	Civil Design Projects	3
CHEM	111	Principles of Chemistry	4
or			
GEOL	101	Earth Science	4
		General Education	5
		Approved CET Electives	12
		Approved business Elective	3
			33

CET COURSES

CET 101 Introduction to Civil Engineering Technology 2(2-0)
Acquaints CET students with USC and the engineering profession. Mathematics laboratory for practical applications of algebra, geometry and trigonometry as used in civil engineering technology.

CET 102 Surveying I 4(2-4)
Beginning course in plane surveying. Covers proper chaining techniques, care and use of engineering levels and transits and traversing.

CET 103 Surveying II 4(2-4) Prerequisite CET 102 or permission of instructor. Corequisite CET 104.
Introduction to land, topographic and construction surveying.

CET 104 Map Drafting 3(0-6) Prerequisite CET 102, MET 111 or permission of instructor. Corequisite CET 103.
Introductory course in plotting traverses, plainmetric maps, topographic maps, profiles and highway design.

CET 105 Construction Materials 3(3-0) Corequisite CET 108.
Properties and use of soil, concrete, wood, masonry and steel, as they apply to building construction.

CET 108 Concrete Lab 1(0-2) Corequisite CET 105.
Testing concrete materials using the ASTM concrete specification as a guideline.

CET 201 Soil Mechanics Technology 2(2-0) Prerequisite MATH 132. Corequisite CET 205 or permission of instructor.
Basic principles of soil mechanics and foundation design as they apply to design and construction.

CET 202 Statics 3(3-0) Prerequisite MATH 132 or permission of instructor.
Theory and application of action and reaction forces, moments as applied to structures.

CET 203 Strength of Materials 3(3-0) Prerequisite CET 202.
Basic stress-strain relationships resulting from compression, tensile, shear, bending loads, center of gravity and moments of inertia.

CET 205 Soil Mechanics Technology Lab 1(0-2) Corequisite CET 201.
Basic engineering soil field lab tests using the ASTM manual as standard guide for conducting tests.

CET 211 Structural Detail Drafting 3(0-6) Prequisite MET 111.
Introduction to the detailing of steel, wood and concrete structural drawings for fabrication.

CET 212 Subdivision Design 3(0-6) Prerequisite CET 103, 104.
Basics of subdivision design, preliminary and final plat preparation and horizontal coordinate geometry.

CET 296 Cooperative Education Placement (1-5 VAR)
Industrial cooperative education work experience under the director of a field supervisor and faculty member.

CET 302 Structural Analysis 3(3-0) Prerequisite CET 203.
Analysis of statically determinate structures. Beams, trusses, arches and frames, stress resultants, deflections, influence lines. Introduction to computer methods in structural analysis.

CET 303 Construction Contracting and Supervision 3(3-0) Prerequisite Junior standing or permission of instructor.
Job specifications, organization, bonding, contracts, insurance, labor relations and planning and scheduling.

CET 304 Construction Cost Estimating I 3(3-0) Prerequisite CET 105 or permission of instructor.
Estimating related to building construction industry. Quantity take-off, labor and materials costs, records and assembling a general contractor's bid.

CET 305 Construction Cost Estimating II 3(3-0) Prerequisite Junior standing or permission of instructor.
Estimating relating to heavy and highway construction. Covers heavy equipment selection, use and production rates.

CET 311 Advanced Surveying I 4(2-4) Prerequisite CET 103.
Develops professional skill in surveying, triangulation, state plane coordinates and engineering astronomy.

CET 312 Advanced Surveying II 4(2-4) Prerequisite CET 103.
Highway and route surveys, horizontal and vertical curves, grades, slope staking and earthwork.

CET 313 Architectural Drafting I 3(0-6) Prerequisite MET 111.
Preparation of a complete set of working drawings for a modern residential building.

CET 314 Architectural Drafting II 3(0-6) Prerequisite CET 313.
Introduction to architectural design, design sketches and working drawings for a light commercial building.

CET 315 Advanced Architectural Drafting 3(0-6) Prerequisite CET 314.
Individual study course to develop skill in drafting and design of further selected topics.

CET 401 Land Surveying 3(3-0) Prerequisite CET 103 or permission of instructor.
Boundary control, property descriptions, deeds, subdivisions. Emphasizes the legal aspects of land lay and surveying.

CET 402 Civil Design Projects 3(0-6) Prerequisite Senior CET or permission of instructor.
Practical, realistic project relating to civil engineering technology is selected for development, design and reported. This is an independent study course.

CET 404 Fundamental Structural Design 3(3-0) Prerequisite CET 302.
Structural steel design of beams, columns, girders and trusses to AISC standards.

CET 405 Reinforced Concrete Design 3(3-0) Prerequisite CET 302.
Design of reinforced concrete beams, columns, girders and floor systems to conform to current ACI code.

CET 411 Hydraulics 3(3-0) Prerequisite CET 203.
Introductory course in the study of non-compressible fluids at rest and in motion. Includes the flow of water in pipes and open channels.

CET 412 Hydrology 3(3-0) Prerequisite CET 411.
Hydrologic cycle including precipitation, streamflow, groundwater runoff and the preparation of hydrographs and frequency analysis.

CET 413 Indeterminate Structures 3(3-0) Prerequisite CET 302.
Introductory course in analysis of statically indeterminate structures. The solution of continuous beams and rigid frames by moment distribution and other methods.

CET 421 Architectural Solar Heating 3(3-0) Prerequisite Junior standing.
Passive and active solar heating of building spaces and water.

CET 491 Special Topics (1-6 VAR) Prerequisite Permission of instructor.
Special interest topics or projects not covered in existing technology courses.

CET 496 Cooperative Education Placement (1-5 VAR) Prerequisite Junior or senior standing.
Industrial cooperative education work experience under the direction of a field supervisor and faculty member.

COMPUTER SCIENCE TECHNOLOGY

Faculty: Baldauf, Borton, Cook, Chandler, Knight, May, Padgett, Sathi, Schlegel, Smith, Tappen

The program in computer science technology offers courses leading to two degrees, the associate of applied science (AAS) and the bachelor of science (BS) in computer science technology. The AAS program is designed to meet the needs of students seeking to be generally employable in the computer field as computer operators, data processing technicians and entry-level programmers.

The BS program is designed to meet a variety of student needs, as well as the rapidly increasing demand for computer scientists. Students are prepared for careers as computer applications programmers, systems programmers and specialists in computer hardware architecture and software design.

The program also devises suitable minors for students who wish to combine knowledge about computers with majors in other fields. In addition, the program offers courses which are open to all students.

The objectives of the program are to provide quality education in state-of-the-art computer technology so that graduates are productive upon employment and to provide students with an education which will articulate with a variety of graduate programs. No grades below C in computer science technology are accepted toward either degree.

MAJORS

Students enter the four-year BS program as new freshmen, continuing AAS degree students or transfer students from other colleges, universities or community colleges. Each student follows a curriculum in one of three option areas and upon successful completion is awarded the bachelor of science degree. Each option includes specific core requirements related to the area of emphasis, as well as selected major (CST) coursework. Each option usually includes a minor and one or more required related courses plus a number of elective hours.

Each student selecting Option 1 must complete an adviser-approved minor of at least 20 hours. Option 2 requires an emphasis of 23 hours of specialized mathematics. Option 3 requires a minimum of 25 hours of specific electronics engineering technology course work.

Successful completion of the program qualifies the student to seek employment in such computer fields as business and scientific applications programming, programmer/analyst, systems programmer, or employment requiring a combination of digital electronics and logic, combined with computer programming in software design skills.

A typical schedule of coursework for Option 1 (Application Programming) is:

Freshman Year			**Credits**
CST	101, 102	Computer Science I and II	7
CST	115	Operating Systems I	3
ENG	110, 211	Compositon I and II (115, 216 substitute)	6
MATH	121	College Algebra	4
PE	100	PE Orientation	2
RDG	120	College Reading	2
		General Education	5
		Elective (Computer Language)	3
			32

Sophomore Year			**Credits**
ACCTG	201	Principles of Financial Accounting	4
ACCTG	202	Principles of Managerial Accounting	4
CST	210	Intro. to Assembler Lang	4
CST	220, 221	COBOL I and II	7
CST	240	Systems Analysis I	3
MATH	156	Intro. to Statistics	3
MATH	245	Intro. to Discrete Math	3
SPCOM	101	Expository Speaking	2
		General Education	7
			37

Junior Year			**Credits**
CST	341	Systems Analysis and Des. II	3
CST	350	Data Base Systems I	3
CST	360	Digital Computing Concepts	3
		Upper Division Elective	3
		Coursework in Approved Minor	12
		General Education	9
			33

Senior Year			**Credits**
CST	410	Data Communications Systems	3
		Elective in CST	3
		Coursework in Approved Minor	8
		General Education	9
		Free Electives (suggested: MATH 245)	6
			29

Computer Science (Option 2)

Computer (Hardware/Software) Systems (Option 3)

NOTE: Options 2 and 3 have very **different requirements.** Students should obtain these from an adviser.

Students entering the two-year AAS degree program pursue a program designed to provide employable graduates in the computer industry in areas of general computer technology as programmer/assistants, and entry-level programmers.

Entering students select an area of emphasis which becomes the specific area of computer usage. Upon completion of the degree requirements the student is awarded the associate in applied science degree. At this point the student may exercise the option of seeking employment or continue to pursue a BS degree in computer science technology.

NOTE: The typical AAS schedule varies slightly from the first two years of the above schedule. Students seeking this degree should also consult an adviser **as early as possible.**

MINOR

A minimum of 20 semester hours of computer science technology course work will be arranged when a student desires to minor in this area. Any student desiring a minor should consult with a CST faculty member so that a suitable minor program can be arranged on an individual basis. Arrangements for a minor should be made early in the student's education plan.

CST COURSES

CST 100 Introduction to Interactive Computing 3(3-0) (Non-majors only).
Introduction to computer languages, computer awareness and fundamental skills with use and expression of computer languages. Focus on interactive person-machine exchanges, a programming language (BASIC), and the operating system commands (JCL). GEN. ED. IIIC.

CST 101 Computer Science I 3(3-0) Corequisite (for majors) CST 105 or 110.
Fundamentals of data processing, peripheral equipment, survey of history, mainframe concepts, program organization, sociological issues, career paths. Topics: disks, tapes, comparison of programming languages, systems analysis, hardware and software models.

CST 102 Structured Programming with Pascal 4(4-0) Corequisite CST 101.
Concepts of algorithmic processes and problem solving. Language: PASCAL. Topics: pseudocode, computation, character manipulation, top-down structured programming, sequential files, subroutines, functions, sorting and searching.

CST 103 Computers and You 3(3-0) (Non-majors only)
Computers, information and technological change. The information revolution and its impact. Orientation to computer systems and their objectives organizations, influences on society, individuals, positive and negative impacts, uses in society and tomorrow's outlook. GEN. ED IIIC.

CST 105 FORTRAN 3(3-0) Corequisite MATH 120 or equivalent. (for majors)
Principles of FORTRAN-77 programming with problem-solving for science and business. Topics: language specifications, functions, arrays and subroutine subprograms.

CST 110 RPG-II Programming 3(3-0) Corequisite (majors only) CST 101 optional.
Computer programming using Report Program Generator II; interaction of the various specification statements with the standard RPG-II fixed logic. Programming topics include DASD file handling.

CST 115 Operating Systems I 3(3-0) Prerequisite CST 102 or equivalent.
Concepts of a disk operating system including supervisor functions, job control, editing, libraries and virtual storage. Systems service software such as utilities and sort/merge function.

CST 202 Computer Science II 3(3-0) Prerequisite CST 102, MATH 126.
Continuation of CST 102 for computer science majors. Programming discipline — style, expression, debugging, testing. Algorithmic development and analysis. Topics include searches, sorts, data structures, strings and recursion. Advanced features of Pascal.

CST 210 Introduction to Assembler Language 4(4-0) Prerequisite CST 105 or 110 or equivalent and CST 102.
Introductory concepts of assembler programming for instruction formats, I/O definition, arithmetic operations and output editing as well as integer data handling.

CST 220 COBOL Programming I 4(4-0) Prerequisite CST 102.
ANSI COBOL programming principles for basic business applications. Topics: general program development, coding, execution and debugging.

CST 221 COBOL Programming II 3(3-0) Prerequisite CST 220.
ANSI COBOL programming for business applications. Advanced topics: magnetic tape, sequential disk, direct access and indexed sequential access methods, language concepts of sort and report generator.

CST 240 Systems Analysis and Design I 3(3-0) Prerequisite CST 105, 210, 220, or EN 106.
Systems analysis and design process, actual systems design layout work and integrated business systems analysis.

CST 290 Special Projects (1-5 VAR) Prerequisite Sophomore standing, AAS degree-seeking. (Consent of faculty).
Selected projects in computer programming in cooperation and interaction with local business and industry. Maintaining industrial standards in programming and documentation mandatory.

CST 291 Special Topics 3(3-0) Prerequisite CST 102 and one programming language.
Selected topics in computer science technology, mini/micro computer systems, industrial standards of excellence. Selection based on demonstrated need and student interest.

CST 296 Cooperative Education Placement (1-5 VAR)
For freshmen and sophomores. Industrial cooperative education work experience under the direction of a field supervisor and faculty member.

CST 310 PL/1 Programming 3(3-0) Prerequisite CST 102.
Problem solving and structured programming techniques are presented using PL/I as a vehicle. Topics include structured pseudocode, text processing problems, and PL/I syntax including procedures.

CST 320 Data Structures I 3(3-0) Prerequisite CST 202 and MATH 121 or 131.
Advanced data structures including linked lists, doubly linked lists, queues, dequeues, stacks trees and sets. Programs are written in Pascal. Pointer, cursor and array implementations are used.

CST 321 Data Structures II 3(3-0) Prerequisite CST 210, 320.
A continuation of CST 320 including trees and graphs and their applications, algorithms for sorting and searching of advanced data structures.

CST 330 Programming Languages 3(3-0) Prerequisite CST 202.
Fundamental issues of programming language design. Topics: syntax, semantics, grammars, control structures, data types, procedures and parameters, nesting and scope, higher level control structures, functions and recursion, exception handling and parallel processing.

CST 341 Systems Design and Analysis II 3(3-0) Prerequisite CST 240.
Major projects applying principles of design and analysis as developed in CST 240. Emphasis on design and implementation of computer-based systems.

CST 350 Data Base Systems 3(3-0) Prerequisite CST 220 or equivalent.
Design, implementation and use of data base management systems; comparison of available software packages; concepts of Query Languages and security considerations.

CST 360 Digital Computer Concepts 3(3-0) Prerequisite Junior CST status.
Includes computer organization and components. Other topics are number systems and algorithms, codes, Boolean algebra, algorithms for arithmetic methods of component integration into computer systems. Computer logic principles and addressing schemes will be discussed.

CST 405 Computer Graphics I 3(3-0) Prerequisite CST 105, MATH 126 or permission of instructor.
Introduction to the theory and applications of computer graphics. Topics include mathematical principles, DISSPLA, hidden line problem and special projects. Graphics images will be produced in two and three dimensional representations.

CST 410 Data Communications Systems 3(3-0) Prerequisite CST 210.
Telecommunication, teleprocessing monitor systems and practical applications; software and hardware considerations, including real time and time-sharing systems. Terminal usage and access methods.

CST 416 Operating Systems II 3(3-0) Prerequisite CST 115, 210 and MATH 224 or 233.
Theory and design of supervisors, concepts of job tasks and data management, scheduling, queueing, multi-programming.

CST 418 Compiler Construction I 3(3-0) Prerequisite CST 321, 330.
A project oriented course in which students write the Lexical analyzer of a simplified PASCAL compiler.

CST 419 Compiler Construction II 3(3-0) Prerequisite CST 418.
A project oriented course in which students write the Syntax analyzer and code generator.

CST 422 Advanced Problem Solving with Algorithm Development 3(3-0) Prerequisite CST 320, MATH 121, 245.
A continuation of additional topics from CST 320 emphasizing algorithms which use advanced data structures including graphs and directed graphs.

CST 424 Software Engineering and ADA Programming I 3(3-0) Prerequisite CST 321 or permission of instructor.
A presentation of the major features of the ADA programming language and their relevance to software engineering.

CST 450 Advanced Database Structures 3(3-0) Prerequisite CST 341, 350.
Investigation and study of data modeling, system development and data technology. Topics include database engineering and design, hardware, student projects, administration and selection.

CST 460 Computer Systems Architecture I 3(3-0) Prerequisite CST 210, 360, Senior standing.
Architecture of modern computers. Arithmetic and logic units, microprogrammable control units, architecture of micro, mini, commercial and maxi computers, parallel and pipeline processing.

CST 464 Computer Systems Fundamentals I 3(3-0) Prerequisite CST 210 or equivalent.
Exploration and comparison of common CPU systems (microcomputers), particularly instruction sets, solutions to computer problems, elementary software, and methods of programming common interfaces.

CST 464L Computer Systems Fundamentals Lab I 1(0-2)
Laboratory supporting course CST 464. Laboratory exercises addressing operating systems, machine language and assembly language of currently manufactured microprocessor computers.

CST 470 File Processing 3(3-0) Prerequisite CST 202, 221 or knowledge of advanced FORTRAN concepts.
Provide foundation for applications of data structures and file processing techniques. Particular topics include sequential access, data structures, random access storage and file input and output.

CST 490 Special Projects (1-5 VAR) Prerequisite Permission of department head.
Allows students to earn credit independently under the guidance of a faculty member.

CST 491 Special Topics 3(3-0) Prerequisite Junior or senior standing.
Timely or important concepts in computer science. Topic normally announced in schedule of classes. May be repeated for credit.

CST 496 Cooperative Education Placement (1-5 VAR)
For juniors and seniors. Industrial cooperative education work experience under the direction of a field supervisor and faculty member.

DANCE

The dance program at the University of Southern Colorado attracts students from a variety of fields. Classes in ballet techniques and modern dance are carried out in an intensive daily dance schedule. From time to time, visiting artists enhance the program with workshops and lecture-demonstrations in mime, choreography, and other elements of dance as a formal study. Dance minors and others seeking advisement for dance classes should contact the program office, AM-175.

DN COURSES

DN 101 Dance Appreciation 3(3-0)
Lecture and demonstration course designed to provide the student with appreciation and understanding of dance as an art form. GEN. ED. IH.

DN 110 Ballet Technique I 2(0-4)
First-year work in the science and technique of classical ballet.

DN 120 Modern Dance 2(0-4)
Form and physical techniques of the modern dance expression.

DN 210 Ballet Technique II 2(0-4)
Second-year work in the science and technique of the classical ballet.

DN 220 Dance Composition 1(0-2)
Developing modern dance compositions from the choreographer's point of view.

DN 230 Jazz Dance 2(0-4)
Style, rhythms, coordinations and techniques of jazz dance.

DN 291 Special Topics (1-3 VAR)
Study of an event not contained within content of a regular course. Class activity, supervised by the department, with credit specified in accord with academic value.

DN 295 Independent Study (1-3 VAR)
Designed to permit flexibility in exploration of areas of dance not otherwise available. The student works individually, with advisement, on project of own design.

ECONOMICS

Faculty: Askwig, Sadler, Sarver

The program in economics offers four-year programs leading to the bachelor of science in business administration (BSBA) degree with a major in economics. The programs of study are designed to provide students with the theoretical and conceptual basis of economics and finance as well as the application skills to assume leadership roles in industry, government and education.

Economics provides an excellent preparation for graduate and professional training in economics, management, banking and law. The finance emphasis area prepares students for financial institutions, insurance, real estate, investments and financial management careers.

Division of Business policies. The standard semester course load for full-time students is 16 credit hours. Students must have permission to take courses in which they do not meet the required prerequisites, or they risk being withdrawn and/or losing credit for those courses.

In order to fulfill graduation requirements, students must obtain a minimum grade average of C (2.0 GPA) in the courses taken within the School of Business, earn C grades or higher in all courses within their major and in MATH 121. **A required course in the major area may only be repeated once.**

Students requesting credit for course work taken at another institution are advised that the program has a transfer policy and that students are responsible for having their credits approved according to the policy.

The Division of Business **requires** for a baccalaureate degree in economics that 18 of the last 32 hours just prior to graduation must be taken in residency.

All courses applied toward the major must be approved by the student's adviser and the head of the economics program.

All students planning to major in any Division of Business area are classified as PRE-BUSINESS upon enrollment in the university. During the first two years of their academic program, students will satisfy a major portion of the general education requirements and the PRE-BUSINESS core. The PRE-BUSINESS core consists of computer and information systems, financial and managerial accounting, macro and micro economics, business statistics,

business communications, business law and institutional requirements. Upon completion of the PRE-BUSINESS core, the student makes a formal application to the major program for admission to upper-division courses in the Division of Business. Application forms are available in the program office. Students are responsible for adhering to PRE-BUSINESS requirements.

MAJOR

The **required** schedule within the department:

Freshman Year			**Credits**
BUSAD	160	Intro to Computers and Info Systems	3
ENG	110, 211	Composition I and II	6
MATH	121	College Algebra	4
PE	100	PE Orientation	2
RDG	120	College Reading	2
SPCOM	101	Expository Speaking	2
		General Education	7-13
			32

Sophomore Year			**Credits**
ACCTG	201	Principles of Financial Accounting	4
ACCTG	202	Principles of Managerial Accounting	4
BUSAD	200	Principles of Business Law I	3
BUSAD	260, 261	Business Statistics I and II	6
BUSAD	270	Business Communications	3
ECON	201	Principles of Macroeconomics	3
ECON	202	Principles of Microeconomics	3
		General Education	9
			35

Junior Year			**Credits**
ECON	310	Money and Banking	3
FIN	330	Corporate Financial Management	3
MGMT	310	Principles of Management	3
MKTG	340	Principles of Marketing	3
		Departmental Major and General Education	20
			32

Senior Year			**Credits**
MGMT	485	Management Strategy and Policy	3
		General Education and Electives	29
			32

Economics Major

Junior and Senior Years:			**Credits**
ECON	301	Intermediate Macroeconomics	3
ECON	302	Intermediate Microeconomics	3
ECON	410	Managerial Economics	3
ECON		300 or 400 level Economics courses	9
ACCTG, FIN, MGMT, and/or MKTG		300 or 400 level courses and/or 300 or 400 level ECON courses	15
			33

MINOR

A baccalaureate degree student may minor in economics by completing 24 hours of approved economics courses. A minor in economics enhances degree programs in many areas such as accounting, management, marketing, history, political science, the social sciences and mathematics. ECON 201 and 202 are required. (With adviser approval, ECON 101 may be substituted for ECON 201.) The remaining 15 hours must include either ECON 301 or 302.

ECON COURSES

UNDERGRADUATE

ECON 101 Introduction to Economics 3(3-0)
Studies the broad aspects of today's economy and stresses problems of general interest. Not open to School of Business majors. GEN. ED. IID.

ECON 201 Principles of Macroeconomics 3(3-0)
Study of fundamental principles with emphasis on macroeconomics. GEN. ED. IID.

ECON 202 Principles of Microeconomics 3(3-0) Prerequisite ECON 201.
Study of fundamental principles with emphasis on microeconomics. GEN. ED. IID.

ECON 205 American Economic Development 3(3-0)
Economic development from colonial times; emphasis on economic impact on society, government, labor, business and technology. GEN. ED. IID.

ECON 291 Special Topics (1-3 VAR) Prerequisite Permission of instructor.
Selected topics dealing with current economic affairs are treated.

ECON 301 Intermediate Macroeconomics 3(3-0) Prerequisite ECON 202, BCOM 211, 120, SPCOM 101.
Economic theory and policy using the national income approach to explain income, employment and growth.

ECON 302 Intermediate Microeconomics 3(3-0) Prerequisite ECON 202, BCOM 211, 120, SPCOM 101, BUSAD 160, 261, ACCTG 202.
Study of price system and theory of the firm under varying market structures.

ECON 307 Current Economic Issues 3(3-0) Prerequisite ECON 101 or 202.
Analytical survey of significant problems of current economic policy and application of economic analysis to important social issues.

ECON 310 Money and Banking 3(3-0) Prerequisite ECON 202.
Relationships of banks to the Federal Reserve system and Treasury Department and to money.

ECON 330 Public Finance 3(3-0) Prerequisite ECON 202.
Principles and issues of government revenue and expenditure policies.

ECON 340 Comparative Economic Systems 3(3-0) Prerequisite ECON 202.
Contending ideologies which shape economic systems in determining what, how, for whom and the rate of economic growth.

ECON 360 Business Cycles Analysis and Forecasting 3(3-0) Prerequisite ECON 202.
Examines market economy in a systematic way to reveal the nature of economic instability.

ECON 402 Economics and Labor 3(3-0) Prerequisite ECON 202.
Study of labor and management relations, operations of labor markets, determination of wages and distribution of income.

ECON 408 Urban Economics 3(3-0) Prerequisite ECON 202.
Theories and methods of economic analysis of urban problems.

ECON 410 Managerial Economics 3(3-0) Prerequisite ECON 202 and senior status.
Practical application of well-known principles to economic problems of managers.

ECON 420 History of Economic Thought 3(3-0) Prerequisite ECON 202.
Economic thought of important contributors from the past to the present.

ECON 450 Econometrics 3(3-0) Prerequisite ECON 202 and MATH 121.
Treatment of theory, mathematics and statistics necessary for serious quantitative analysis of economic phenomena with a focus upon practical application in dealing with uncertainty in problem-solving.

ECON 480 Small Business Studies 3(3-0) Prerequisite Senior status and permission of head of the program.
Integrates prior studies toward solving problems faced by selected firms in the community and/or computer simulation of business cases.

ECON 491 Special Topics (1-3 VAR) Prerequisite Permission of instructor.
Selected topics of economic issues and economic analysis are treated.

ECON 495 Independent Study (1-3 VAR) Prerequisite Senior status in School of Business and permission of head of the program.
Individual research, directed readings, and/or special assignments.

ECON 498 Internship (1-6 VAR) Prerequisite Junior status in School of Business and permission of head of the program.
Supervised field work in selected business, social, and governmental organizations; supplemented by periodic seminars and written reports.

GRADUATE

ECON 510 Managerial Economics 3(3-0)
The application of analytical economic decision-making methods to managerial problems involving productivity, supply and demand, cost, price, profit and volume.

ECON 592 Research (1-6 VAR)
The student will work under the close supervision of a graduate faculty member in basic or applied research resulting in a thesis or report of high academic quality.

EDUCATION

Faculty: Gutierrez, Hostetler, Jorgenson, McCanne, Miller, Strader, Whitmer

The program in education offers courses leading to an associate of arts (AA) degree in early childhood education and a bachelor of science (BS)

degree in elementary education. Approved programs leading to certification in early childhood education (Colorado Department of Social Services), elementary or secondary education and school nursing (Colorado Department of Education) are offered. The program also offers specialized teaching minors in bilingual/bicultural education, reading and learning disabilities, and the education courses which lead to certification for secondary school teaching in many of the majors offered throughout the university. Students interested in the early childhood and elementary programs should consult an adviser in the teacher education program.

Students interested in the secondary school certification programs should consult advisers in both the fields of the major and the teacher education program.

The program cooperates with the industrial education program in offering the degree of master of arts (MA) in industrial education. A cooperative program leading to a (MA) in elementary education is offered on the USC campus jointly by USC and Adams State College. The program makes available to teachers in the field courses and workshops to meet their current needs. These usually carry graduate credit.

Students considering a career in teaching should be aware that admission to the university does not constitute admission to the teacher education programs. The special requirements for **admission to teacher education** are contained in a separate "Teacher Education Handbook" available in the USC Bookstore, and are explained in the course ED 102, Teaching as a Career.

The programs and policies of teacher education are developed and implemented by the education department in consultation with a teacher education committee consisting of representatives from all divisions and schools of the university, local public school teachers and practicing school administrators.

Undergraduate teacher education programs at the University of Southern Colorado are approved by the Colorado Department of Education and accredited by the National Council for Accreditation of Teacher Education (NCATE).

MAJORS

Master's programs. The university offers a master of arts degree program for secondary industrial arts teachers. Details of this program are described in the **graduate work** and the **industrial education program** section of this catalog. Six semester hours of graduate courses in professional education are required for the degree. The specific courses are selected with consideration of the student's background, needs and interests agreed upon in consultation between the student and the adviser.

Through a consortium agreement with Adams State College a master's degree program in elementary education is offered on the University of Southern Colorado campus. Details of this program are available in the Office of Research and Graduate Studies, AD 303; phone 549-2930.

Elementary education. The four-year BS program in elementary education requires the completion of an interdisciplinary major which includes coursework from many programs throughout the university. Specialized programs leading to certification as elementary teachers of art, music and physical education are also available. The specialized programs are described in this catalog under **art, music** and **physical education**.

The interdisciplinary major for elementary teachers is extensive. However, the list of required courses shown below includes all university requirements for the BS degree (BCOM, PE, Groups I, II and III) and all requirements for the Colorado Type A teaching certificate which are in effect as of the date of this publication.

Each course listed is **required** unless the appropriate dean waives it in writing or formally accepts a substitute course. The following is a typical schedule:

Freshman Year			**Credits**
ED	102	Teaching as a Career	1
ENG	110, 211	Composition I and II	6
FL	100	Intro to Comparative Linguistics	3
GEOG	100	World Geography	3
MATH 120 (Intermediate Algebra — take if needed for mathematics requirement)			(4)
PE	100	PE Orientation	2
PSYCH	101,102	General Psychology I and II	6
RDG	120	College Reading	2
SPCOM	100	Introduction to Speech Communication	1
SPCOM	101	Expository Speaking	2
			20

A student should select one course from each of the following groups in consultation with his or her adviser:

Group I: BIOL 101, 112, 121, 162

Group II: BUSAD 100, ECON 101, 225, IDH 101, 102, SOC 230

Sophomore Year			Credits
BBE	293	Hist Cul People Southwest	2
ED	202	Foundations of Education	3
ED	210	Human Growth and Development	3
MUS	251	Music in Elementary School I	2
PHYS	100	Physical Science	3
PE	232	First Aid	2
POLSC	101	American National Politics	3
RDG	201	Reading and Language Arts in the Elementary School	3
SPCOM	231	Oral Interpretation	3
			24

A student should select one course from each of the following groups in consultation with his or her adviser:

Group I: ART 100, ENG 130, 131, 132, HUM 150, 151, *IDH 201, MUS 118, PHIL 101, SPCOM 111

Group II: HIST 101, 102, 150, 201, 202

Group III: GEOL 101, *IDH 202, PHYS 110

*Only if admitted to Honors Program.

Junior Year			Credits
ART	377	Principles of Elementary Art Education	2
ART	378	Materials and Techniques in Art for the Elementary Schools	2
ENG	342	English Syntax and Usage	2
ENG	351	Children's Literature	2
IED	345	Career Education	2
MATH	360,361	Mathematics for Elementary Teachers I and II	6
PE	322	Elementary School Physical Education	2
PSYCH	351	Psychology of the Exceptional Individual	3
RDG	310	Current Approaches to Reading and Writing Instruction	3
RDG	360	Practicum	1
SPCOM	360	Lang Acquisition and Linguistics	3
or			
SPCOM	370	Creative Dramatics	2
			30

Total credits for third year: 27 or 28 required. A student should take enough additional credits to make 128 or more at graduation. A minor in an appropriate field (psychology, math, reading, English, social studies, science, or others) is highly recommended.

Senior Year			Credit
*BBE	401	Teaching the Limited English Proficient Student	2
*ED	412	Teaching the Special Child in the Regular Classroom	3
*ED	413	Teaching Social Studies	2
			7

Senior Year			Credit
*ED	414	Teaching Elementary Science and Health	2
*ED	417	Teaching Mathematics Elementary School	2
*RDG	450	Diagnosis and Remediation of Reading Problems	3
SPCOM	475	Speech Correction Classroom Teachers	2
			9

Final Semester (courses last 5 weeks, followed by 10 weeks of student teaching).

Senior Year			Credit
ED	435	Classroom Management	3
ED	460	Laboratory in Education	3
*ED	487	Student Teaching-Elementary	10
			16

Note that admission to the teacher education program is a prerequisite for all 400 level courses. Fourth year courses require field experience in designated elementary schools chosen in consultation with the director of elementary teacher education.

*Courses which require field experiences in the public schools. State regulations require that students assigned to field experience for the purpose of instructing children must have been tested in basic competencies prior to placement.

The bilingual/bicultural concentration for elementary teachers requires coursework in the Spanish language or proficiency in oral and written Spanish. Certain courses in the interdisciplinary major are substituted for equiva-

lent courses which have a bilingual/bicultural emphasis. Students should contact the department of teacher education for details.

Secondary teacher certification. Students seeking secondary teacher certification may elect to complete one of the following teaching majors authorized by the Colorado Department of Education: art, English, foreign language, industrial education, mathematics, music, physical education, science, social science and speech. These academic majors are described in other sections of this catalog. In addition to the major requirements, students must complete a required professional component in order to become eligible for teacher certification. The professional component follows in a recommended sequence. However, the unique demands of some of the teaching majors may require modification of the recommended sequence.

Freshman Year			**Credits**
*ED	102	Teaching as a Career	1
ENG	110, 211	Composition I and II	6
MATH 120 (Intermediate Algebra-take if needed for mathematics requirement)			(4)
PSYCH	101, 102	General Psychology I and II	6
RDG	120	College Reading	2
SPCOM	101	Expository Speaking	2
			21

Although not required, it is highly recommended that students take SPCOM 100: Introduction to Speech Communication, one credit, in conjunction with SPCOM 101.

Sophomore Year			**Credits**
BBE	293	History and Culture of the People of the Southwest	2
ED	202	Foundations of Education	3
ED	210	Human Growth and Development	3
			8

Junior Year			
IED	345	Career Education	2
PSYCH	351	Psychology of the Exceptional Individual	3
			5

Senior Year			
*ED	435	Classroom Management	3
*ED	460	Laboratory in Education	3
*ED	461	Working with Individual Differences	2
*ED	488	Student Teaching	10
RDG	425	Teaching Reading in the Content Areas	2
*Materials and Techniques (in major)		variable	
			20

*Courses which require field experience in the public schools. Students should plan their schedules to allow time during the normal school day for field work. State regulations require that students assigned to field experiences for the purpose of instructing children must have been tested in basic competencies prior to placement.

ED 435, 460 and 488 constitute the professional semester. ED 435 and 460 are five week courses to be completed immediately prior to ten weeks of student teaching. K-12 art and K-12 physical education majors should complete all coursework prior to student teaching as they must student teach for fifteen weeks.

Special requirements for teacher certification. Admission to the teacher education program is not automatic on the basis of admission to the university. Students who seek either elementary or secondary teacher certification should obtain information and application forms for acceptance into the teaching program from the education office, LW 331.

MINORS

Two teaching minors are offered by the program of teacher education: 1) bilingual/bicultural education, 2) reading. Detailed information is available in the program office.

ED COURSES

UNDERGRADUATE

ED 102 Teaching as a Career 1(1-1)
Orientation to teaching and teacher education. Class sessions and classroom observation required.

ED 110 Teacher Aid Field Experience 1(0-3) Prerequisite Permission of an education department instructor and initial testing in basic competencies.
Work in a public school as teacher aid under the supervision of a classroom teacher and an education department instructor.

ED 202 Foundations of Education 3(3-0) Prerequisite ED 102.
Historical, philosophical and sociological dimensions of education including legal and financial challenges associated with the institution of education.

ED 210 Human Growth and Development for Educators 3(3-0) Prerequisite PSYCH 101, 102 and ED 102.
Physical, mental, social and emotional growth of the individual; provides perspective on the elementary and secondary school student as needed by teachers.

ED 324 Introduction to Learning Disorders in the Classroom 3(3-0) Prerequisite or corequisite PSYCH 351.
Overview of learning disorders with reference to school learning and social development. Emphasis on mainstreaming and principles for individualizing for the atypical learner.

ED 325 Early Field Experience with the Atypical Learner (1-3 VAR) Prerequisite ED 324 and initial testing in basic competencies.
Development and implementation of principles introduced in ED 324 with a tutorial situation.

ED 349 Child Advocacy 3(2-2)
Study of international child advocacy programs, national movement, local adaptation. Requires the analysis of a model operating in agency or institution of student's choice.

ED 400 Workshop (1-3 VAR) Prerequisite Admission to teacher education program or permission of instructor.
Designed for special activity-oriented experiences to be conducted in short sessions. Each workshop has a subtitle and no subtitle may be repeated for credit.

ED 412 Teaching the Special Child 3(2-3) Prerequisite PSYCH 351 and initial testing in basic competencies. Admission to teacher education program or permission of instructor.
Establishing baseline skills, identifying behaviors, planning, adapting materials and measuring progress for the atypical learner in the mainstream.

ED 413 Teaching Social Studies 2(1.5-1.5) Prerequisite Initial testing in basic competencies. Admission to teacher education program or permission of instructor.
Methods of teaching social studies in elementary school. Part of elementary field experience block.

ED 414 Teaching Elementary Science and Health 2(1.5-1.5) Prerequisite Admission to teacher education program or permission of instructor and initial testing in basic competencies.
Methods of teaching health and science in the elementary school. Part of elementary field experience block.

ED 415 Kindergarten Education 2(1.5-1.5) Prerequisite Initial testing in basic competencies. Admission to teacher education program or permission of instructor.
Philosophy and methods of teaching kindergarten. Required for student teaching in kindergarten or first grade. Part of elementary field experience block.

ED 417 Teaching Mathematics in Elementary School 2(1.5-1.5) Prerequisite MATH 361, admission to teacher education program or permission of instructor.
The scope and sequence of elementary school mathematics are examined. Instructional methods are considered in terms of both the content and the cognitive developmental rates and other individual differences of children.

ED 420 Computer Based Education 2(1-2) Prerequisite Admission to teacher education program or permission of instructor.
Survey of computer use in education. Brief history, potential benefits and limitations, current microcomputer applications in the classroom and principles for evaluation of educational software.

ED 435 Classroom Management 3(2-3) Prerequisite Admission to teacher education program or permission of instructor.
Five-week course to be taken during student teaching semester except K-12 students, who take it one semester before student teaching. Includes general teaching methods and strategies; learning theories applied to teaching; discipline; curriculum; educational measurement and evaluation, school organization and school law applicable to classroom teachers. Field experience required.

ED 460 Laboratory in Education 3(2-3) Prerequisite Admission to teacher education program or permission of instructor.
Five-week course to be taken during student teaching semester except K-12 students, who take it one semester before student teaching. Preparation and use of audiovisual materials, equipment and use of computers in instruction. Field experience required.

ED 461 Atypical Students in the Secondary School 2(1.5-1.5) Prerequisite PSYCH 351 and initial testing in basic competencies. Admission to teacher education program or permission of instructor.
Individual differences as they affect the learning process and instructional alternatives for meeting individual needs. Emphasis on mainstreamed students. Field experience required.

ED 487 Student Teaching Elementary (1-10 VAR) Prerequisite Admission to teacher education program or permission of instructor.
Elementary level. Application must be submitted one full semester prior to the semester in which student teaching will commence. (S/U grades.)

ED 488 Student Teaching Secondary (1-10 VAR) Prerequisite Admission to teacher education program or permission of instructor.
Secondary level. Application must be submitted one full semester prior to the semester in which student teaching will commence. (S/U grades.)

ED 489 Student Teaching K-12 (1-15 VAR) Prerequisite Admission to teacher education program or permission of instructor.
K-12 level. Available for art, music and physical education majors. Application must be submitted one full semester prior to the semester in which student teaching will commence. (S/U grades.)

ED 491 Special Topics (1-3 VAR) Prerequisite Admission to teacher education program or permission of instructor.
Designed to meet expressed needs of students. Each topic course has a subtitle and no subtitle may be repeated for credit.

ED 494 Field Experience (1-10 VAR) Prerequisite Permission of instructor.
Field experience in an educational setting. Not applicable to teacher certification.

ED 495 Independent Study (1-3 VAR) Prerequisite Admission to teacher education program or permission of instructor.
Individual education projects and problem-solving experiences designed to meet a student's special needs.

GRADUATE

ED 500 Workshop (1-3 VAR) Prerequisite Graduate standing.
Design for activity-oriented experiences to be conducted in short summer sessions. Each workshop has a subtitle and no subtitle may be repeated for credit.

ED 501 Research 2(2-0) Prerequisite Graduate standing.
Skills and techniques for locating, analyzing and evaluating educational research.

ED 505 Education Across Cultures 2(2-0) Prerequisite Graduate standing.
Analysis of multiculturalism and how the educational process can be adapted to children of diverse cultural backgrounds.

ED 512 Teaching the Special Child 3(2.5-1.5) Prerequisite Graduate standing plus PSYCH 351 or ED 555.
Establishing baseline skills, identifying behaviors, planning, adapting materials and measuring progress for the atypical learner in the mainstream.

ED 520 Computer Based Education 2(1-2) Prerequisite Graduate standing.
Survey of computer use in education. Brief history, potential benefits and limitations, current microcomputer applications in the classroom and principles of evaluating educational software.

ED 522 Issues in Education 2(2-0) Prerequisite Graduate standing.
Contemporary problems in education, their historical development and philosophical implications.

ED 524 Advanced Techniques of Teaching Elementary Social Studies 2(2-0) Prerequisite Graduate standing.
Analysis of techniques for conceptual approaches to teaching; teaching socialization skills, critical thinking and inquiry skills; and helping children develop healthy attitudes and values.

ED 525 Advanced Techniques of Teaching Elementary Science and Health 2(2-0) Prerequisite Graduate standing.
Emphasis on the newest concepts, techniques and materials for teaching elementary school science and health.

ED 526 School Health Curriculum 2(2-0) Prerequisite Graduate standing.
Training (by grade level) in the use of "Growing Healthy" — the Primary Grades Health Curriculum Project and the School Health Curriculum Project. This is lateral spread training only, by agreement with the Rocky Mountain Regional Training Center.

ED 530 Instructional Programming I 2(2-0) Prerequisite Graduate standing.
Principles of curriculum design, educational goals, instructional objectives, developing long, middle and short-range plans. For elementary and secondary teachers.

ED 542 Contemporary Techniques of Classroom Management 2(2-0)
What research and professional practice say about organizing students, space, information, and resources; motivating, goal setting, communicating, and problem solving with student; handling disruptions and behavior problems.

ED 549 Child Advocacy 3(2-3) Prerequisite Graduate standing.
Research study of international child advocacy programs, national movement and local adaptations. Requires the analysis of a model operating in agency or institution of student's choice.

ED 555 Foundations of Learning Disorders 3(3-0) Prerequisite Graduate standing.
Exceptionalities; emphasis on high incidence handicaps. Includes recent legislation and identification, referral, staffing and placement procedures. Major intervention strategies examined.

ED 560 Teacher Effectiveness Training (2-3 VAR) Prerequisite Graduate standing.
Stresses skill-building in classroom interaction between teacher and students. Skills include active listening, "I" messages and problem solving.

ED 561 Atypical Students in the Secondary School 2(1.5-1.5) Prerequisite Graduate standing plus PSYCH 351 or ED 555.
Individual differences as they affect the learning processes. Instructional alternatives for meeting individual needs in regular classes are explored with emphasis on mainstreamed students. Basic principles of behavior modification and contingency contracting are included.

ED 591 Special Topics (1-3) Prerequisite Graduate standing.
Designed to meet the expressed needs of students. Each topic course has a subtitle and no subtitle may be repeated for credit.

ED 592 Research (1-3 VAR) Prerequisite Graduate standing and permission of graduate adviser.
Action research in a teacher's classroom supervised by a graduate faculty member. Proposals must be negotiated prior to class enrollment.

ED 595 Independent Study (1-2 VAR) Prerequisite Graduate standing and permission of graduate adviser.
Qualified graduate students may negotiate an independent study plan with a member of the graduate faculty for one or two credits.

BBE COURSES

UNDERGRADUATE

BBE 251 Music in Bilingual/Bicultural Elementary School 2(2-0)
Introduction to Mexican-American folk song. Provides awareness of the varieties of Mexican folk song typical to the Southwest, Mexico and Spain. Techniques adapted to the elementary school classroom.

BBE 283 Multicultural Education 2(2-0)
Review of significant historical events, sociocultural characteristics and value orientations of the people of the Southwest. GEN. ED. IIE.

BBE 400 Workshop (1-3 VAR)
Development of classroom materials/curriculum in bilingual education.

BBE 401 Teaching the Limited English Proficient Student 2(1.5-1.5) Prerequisite Admission to teacher education program.
Methods and techniques of teaching English to children of linguistically and culturally different backgrounds.

BBE 403 Teaching Elementary Subjects in Bilingual Education 3(2-3)
Practice in teaching principles of subject matter in bilingual education.

BBE 460 Survey of Language/Cultural Tests in Bilingual Education 2(2-0)
Introduction to current language/cultural instruments for the prospective bilingual education teacher of the elementary school.

BBE 487 Student Teaching Bilingual (5-10 VAR) Prerequisite Admission to the teacher education program.
For students in elementary bilingual program. Department approval required before enrollment. Application for student teaching must be submitted one full semester prior to enrollment. (S/U grades.)

BBE 495 Independent Study (1-2 VAR)
Special research for the student specializing in bilingual education.

GRADUATE

BBE 500 Workshop (1-3 VAR) Prerequisite Graduate standing.
In-depth practicums in the development of classroom materials/curriculum in bilingual education.

BBE 505 Education Across Cultures 2(2-0) Prerequisite Graduate standing.
Analysis of multiculturalism in education and how the educational process can be adapted to children of diverse cultural backgrounds.

BBE 541 Survey of Research in Bilingual Education 2(2-0) Prerequisite Graduate standing and BBE 412.
Review of research related to bilingual education.

BBE 595 Independent Study (1-2 VAR) Prerequisite Graduate standing.
Special research for the student specializing in bilingual education.

RDG COURSES IN EDUCATION

UNDERGRADUATE

RDG 201 Reading and Language Arts Instruction in the Elementary School 3(3-0) Prerequisite Initial testing in basic competencies.
Foundations of reading and language arts including psychology of reading, oral language development, reading readiness, word attack, comprehension strategies, vocabulary, handwriting, spelling, written and oral language skills.

RDG 310 Current Approaches to Reading and Writing Instruction 3(3-0) Prerequisite RDG 201.
Various approaches in teaching reading including research finding and classroom application, basal readers, phonics, centers, psycholinguistics, and technology.

RDG 360 Practicum (1-3 VAR) Prerequisite RDG 201 or 425.
Work under a reading teacher in the public school preparing materials, lessons and working with small groups and individual pupils. Applies to both elementary and secondary schools depending upon the instructor's assignment.

RDG 425 Teaching Reading in Content Areas 2(2-0)
Reading skills, strategies and activities to improve comprehension of textual material in mathematics, science, literature, social sciences, industrial arts and other subjects.

RDG 431 Developing Creative Centers 1(1-0) Prerequisite RDG 201.
Involves, planning, developing and implementing the use of creative learning centers in the classroom. In addition to presentations on uses of centers to individualize instruction; students will develop centers, record-keeping and scheduling systems.

RDG 436 New Directions in Reading Comprehension 2(2-0) Prerequisite Admission to teacher education program.
Exploration of and simulations of research based strategies to increase students comprehension of reading in elementary and secondary classes.

RDG 442 Reading Across Cultures 2(2-0) Prerequisite RDG 201.
Techniques of adapting reading instruction for the linguistically and culturally different child. Problems of many minority groups are analyzed.

RDG 450 Diagnosis and Remediation of Reading Problems 3(2-3) Prerequisite RDG 201.
Diagnostic and evaluation procedures used in reading techniques for remediation of problems and individualized instruction. Appropriate for elementary and secondary teachers.

RDG 491 Special Topics (1-2 VAR)
Special interest course for reading minors and teachers.

RDG 495 Independent Study (1-2 VAR) Prerequisite Advance permission of the instructor.
Individual projects and problem solving experiences designed to meet student's special needs. With instructor's permission, certain program requirements may be completed through independent study.

GRADUATE

RDG 510 Foundations of Reading Instruction 3(3-0) Prerequisite Teacher certification or permission of instructor.
Basic course for other graduate reading courses, including reading skills, sequence, materials, psychology of reading and relationship to other language arts.

RDG 525 Teaching Reading in the Content Area 2(2-0) Prerequisite Graduate standing.
Reading skills specifically used in mathematics, science, social studies and literature, including specific techniques for teaching.

RDG 531 Developing Creative Centers 1(1-0) Prerequisite Teacher certification or permission of instructor.
Students will investigate various types of learning centers and means of successful implementation in the classroom. Development of materials, lesson plans and record-keeping systems which will result in a complete reading center. Investigation into research on effectiveness of learning centers.

RDG 536 New Directions in Reading Comprehension 2(2-0) Prerequisite Teacher certification or permission of instructor.
Current research based theory and practical classroom strategies and procedures for increasing comprehension of reading in elementary and secondary content area. Emphasis on open-ended higher order thinking skills.

RDG 542 Reading Across Cultures 2(2-0) Prerequisite Teacher certification or permission of instructor.
Problems and solutions in reading instruction for the linguistically or culturally different child.

RDG 550 Diagnosis and Remediation of Reading Problems 3(2-3) Prerequisite A beginning reading course and teacher certification or initial testing in basic competencies.
Formal and informal diagnostic procedures for the classroom teacher including standardized testing, informal inventories, cloze, criterion-referenced testing and Reading Miscue Inventory. Prescriptions based on diagnosis; remediation strategies applied by students.

RDG 552 Psycholinguistic Views of Reading: Process to Practice 2(1-3) Prerequisite Beginning course in reading and teacher certification or initial testing in basic competencies.
Introduction to psycholinguistic perspectives through analysis of oral reading errors. Reading Miscue Manual as an instrument for investigating reader's strengths and weaknesses. Strategies for remediating poor quality miscues.

RDG 560 Practicum 2(0-6) Prerequisite RDG 201 or 425 and teacher certification or initial testing in basic competencies.
Work under a reading teacher in public schools preparing materials, lessons and working with small groups and individual pupils. Applies to both elementary and secondary schools depending on the instructor's assignment.

RDG 591 Special Topics (1-2 VAR) Prerequisite Graduate standing.
Innovations and current concerns in reading. Designed to meet expressed needs of students. Each topics course will have a subtitle and no subtitle may be repeated for credit.

RDG 595 Independent Study 1(0-2) Prerequisite Beginning course in reading.
Special projects in reading relative to needs of advanced students. Research special topics, curriculum development under close supervision.

MAJORS

Early childhood education. A two year AA degree program in the early childhood education is available to students seeking careers as teacher/caregiver of young children in preschool, day care, Head Start, parent/child programs, director of child care center, and infant toddler programs. The student successfully completing this program meets the course requirements for certification from the Colorado Department of Social Services.

The goal of the program is to provide the student with the skills and knowledge to provide a rich experience in a stimulating environment for young children 6 weeks to 6 years of age to grow and learn, recognizing that parents are the primary influence in a child's life.

The program is also designed to meet the needs of the CDA (Child Development Associate) candidate and the re-entry student seeking state certification.

Students should seek advisement from the director of the program before beginning the program.

			Credits
ECE	101	Introduction to Early Childhood Education	2
ECE	170	Observing and Recording the Behavior of Young Children	2
ECE	215	Materials and Techniques in Early Childhood Education	4
ECE	216	Curr Method in Early Childhood Education	4
ECE	218	Building a Creative Environment for Young Children	2
ECE	220	Nutrition of Young Children	2
ECE	252	Infants and Toddlers	3
ECE	280	Working with Parents of Young Children	2
ECE	287	Practicum in Day Care	3
ECE	288	Practicum in Preschool	2
ENG	110, 211	Composition I and II	6
PE	100	PE Orientation	2
PE	232	First Aid	2
PSYCH	251	Psych of Infancy and Childhood	3
RDG	120	College Reading	2
SPCOM	101	Expository Speaking	2
Group	I	Humanities	10
Group	II	Social Science*	11
Group	III	Natural Sciences	10
			74

*BBE 293, PSYCH 101,102 and SOC 230 required.

Students can pursue either the 24 semester hours required by the Colorado Department of Social Services or the two year degree program, minimum 74 semester hours. Due to the limited offerings of courses, students should carefully plan their program. A minimum of a 2.0 grade point average is required for graduation.

ECE COURSES

ECE 101 Introduction to Early Childhood Education 2(2-0)
The field of early childhood education, history of the movement, influencing theories and pertinent legislation. Field work is required.

ECE 115 Home Parenting 2(2-0)
Stages of child development, budgeting procedures, appropriate child nutrition and community resources needed for child care in a home setting.

ECE 170 Observing and Recording the Behavior of Young Children 2(1-3) Prerequisite ECE 101.
Field study of a child in a group setting including physical, social, emotional, mental, and language developmental levels. Seminars included.

ECE 215 Materials and Techniques in Early Childhood Education 4(4-0) Prerequisite ECE 101.
Learning theories and their application; affective, multilingual, and movement education curriculums; language development, literature and language arts for the young child.

ECE 216 Curriculum Methods in Early Childhood Education 4(4-0) Prerequisite ECE 101.
Skills in teaching mathematics (metrics), science (exploration and discovery), music and art (creative and aesthetic) experiences for young children.

ECE 218 Building a Creative Environment for Young Children 2(2-0) Prerequisite ECE 101.
Projects that enhance and promote the young child's potential through play, creative expression and problem solving.

ECE 220 Nutrition for Young Children 2(2-0)
Study of essential nutrients for the well-being of the child, menu preparation, ethnic foods, government food programs and nutrition curriculum for young children.

ECE 252 Infants and Toddlers 3(2-3) Prerequisite ECE 101.
Stages of physical, social, emotional, mental and language development in children from birth to three years. Field experience required.

ECE 280 Working with Parents of Young Children 2(2-0)
Levels of parent involvement, parenting problems, community resources available to parents and interpreting stages of child development to parents.

ECE 281 Administration of Child Care Centers 4(4-0) Prerequisite ECE 101, 215 or 216, 297 or 298.
Incorporation procedures, tax exemption, licensing, legislation, budgeting, proposal writing, menu preparation, hiring practices, staffing patterns, board procedures and program development.

ECE 287 Practicum in Day Care 3(0-9) Prerequisite ECE 101, 215, or 216. Students complete a minimum of 160 clock hours working with young children in a day care center supervised by a degreed, certified teacher. (S/U Grades.)

ECE 288 Practicum in Preschool 2(0-6) Prerequisite ECE 101, 215, or 216. Students complete a minimum of 120 clock hours working with young children in a preschool setting supervised by a degreed, certified teacher. (S/U grades.)

ECE 295 Independent Study 1(0-1) Prerequisite ECE 101. Student designs a special project concerning young children. Prior approval of project by early childhood education program director required.

ELECTRONICS ENGINEERING TECHNOLOGY

Faculty: Cottrell, Hill, Jenkins, Perkins, Reiff, Warfield

The program in electronics engineering technology offers courses leading to the degree of associate in applied science (AAS) and to the degree of bachelor of science in electronics engineering technology (BSEET). Both programs are accredited by the Technology Accrediting Commission of the Accreditation Board for Engineering and Technology (ABET).

The engineering technologist is prepared to function at the appropriate level of skill and theory as an integral member of a team of engineers, scientists, and technicians in areas of electronics/computer development, design, manufacturing, testing, research, installation and maintenance.

Job opportunities have been numerous over recent years, and the United States bureau of labor statistics continues to project that technologists will be sought after by industry, government and other prospective employers through the 1980's.

Students considering engineering technology majors should realize that the programs are rigorous, demanding and oriented toward problem solving. A suitable high school background includes at least a two-year sequence in

mathematics, including algebra, and at least one year in a physical science such as physics or chemistry. Students without this background should expect to take longer than normal to complete this program.

MAJORS

The four-year baccalaureate degree program prepares graduates for positions in the electronics industry. Basic design concepts, as well as construction, testing, analysis, and computer applications are included in the program. Specifically, theory and laboratory work cover: design, construction, testing, analysis and computer applications of conventional or state-of-the-art circuits and systems. Creative design relating to the more routine circuits and systems involving both discrete components and integrated circuits is included as part of the course work in the junior and senior years. This program also increases the student's academic background as necessary for many advanced positions in the electronics industry.

Students are normally admitted to the baccalaureate degree program after satisfying the requirements of the associate degree program or its equivalent with a cumulative grade point average of 2.0 in electronics.

Transfer students entering the program must have a minimum 2.5 grade point average overall and a minimum 2.0 grade point average in mathematics, physics and electronics.

The BSEET degree candidate must complete, with a minimum 2.0 cumulative grade point average in electronics, at least 134 semester credit hours of work as determined by the program requirements and approved by the adviser.

The two-year associate degree program prepares graduates for entry level positions in the electronics industry. The program covers basic theory and applications, as well as specific topics and skills such as: construction, testing, analysis, and modification of conventional or state-of-the-art circuits and systems. Techniques of maintenance, testing, troubleshooting and installation usually performed by the technician are included.

The student must complete a minimum of 70 semester credit hours with at least a 2.0 cumulative grade point average in electronics and other requirements as outlined below for only the first two years of the BSEET schedule to obtain an associate degree.

A typical BSEET schedule is:

Freshman Year			Credits
EET	121, 122	DC Circuits and AC Circuits	8
EET	143	Electronics I	5
EET	161, 162	Circuits Lab I and II	2
EET	163	Electronics Lab I	1
ENG	115, 216	Technical and Scientific Writing I and II	6
MATH	131, 132	Math for Engineering Technologists	8
PE	100	PE Orientation	2
		General Education	3
			35

Sophomore Year			Credits
EET	251	Electronics II	4
EET	252	Linear Integrated Circuits	4
EET	254	Introduction to Digital Systems	4
EET	255	Introduction to Microcomputers	4
EET	263	Manufacturing Techniques	2
EN	245	PASCAL Computer Programming	3
MATH	233	Math for Engineering Technologists	5
PHY	201/201L	Principles of Physics I and Lab	4
	202/202L	Principles of Physics II and Lab	4
		General Education	2
			36

Junior Year			Credits
EET	331	Electronic Circuits	3
EET	353	Software Development	4
EET	354	Computer Architecture and Design	3
EET	356	Advanced Integrated Circuits	3
EET	361	Electronics Circuits Lab	2
EN	341	Engineering Economy	3
RDG	120	College Reading	2
		General Education	6
		Approved EET Elective	3
		Approved Math Elective	3
			32

Senior Year			Credits
EET	411	Linear Systems Analysis	3
EET	412	Communication Systems	3
EET	452	Advanced Microcomputer Systems	3
EET	455	Introduction to Control Systems	4
SPCOM	101	Expository Speaking	2
		General Education	9
		Approved EET Elective	3
		Approved Technical Electives	5
			32

Computer design emphasis. In response to industries' critical need for engineering technologists with a computer design background, the electronics engineering technology department offers this option in the junior and senior years. It allows the student to complete a total of 29 semester hours of computer courses in fulfillment of the requirements for a bachelor of science degree in electronics engineering technology. Only one additional semester hour is required over the regular EET program total semester hour requirements. Students electing this option must consult an adviser before registering for the junior year.

EET COURSES

EET 108 Basic Electronic Principles I 2(0-4) Prerequisite MATH 105.
Fundamentals of electric circuits, batteries, magnetism, motors, generators, transformers and test equipment. GEN. ED. IIIC.

EET 109 Basic Electronic Principles II 2(0-4) Prerequisite EET 108.
Basic study of diodes, transistors, tubes, integrated circuits, basic amplifying circuits, power supplies and oscillators. GEN. ED. IIIC.

EET 121 DC Circuits 5(5-0) Corequisite MATH 131.
DC circuits, energy, power, resistance, capacitance, inductance, electromagnetism, loop and nodal network analysis, Thevenin's and Norton's theorems.

EET 122 AC Circuits 3(3-0) Prerequisite EET 121. Corequisite MATH 132.
AC circuit analysis, RMS values, impedance, admittance, phasors, network theorems, resonance, transformers, polyphase systems, power, and power factor.

EET 143 Electronics I 5(5-0) Corequisite EET 122 and MATH 132.
Semiconductor physics, diodes, power supplies, analysis and design of transistor circuits, biasing, equivalent circuits, multi-stage amplifiers, frequency effects, power stages, field effect transistors.

EET 161 Circuits Lab I 1(0-2) Corequisite EET 121.
Use of electronic instruments and practical experience relating to specific principles of DC circuits, capacitance, inductance and electro-magnetism.

EET 162 Circuits Lab II 1(0-2) Prerequisite EET 161. Corequisite EET 122.
Effects of AC on RLC circuits, impedances, inductance, resonance, transformers and use of the oscilloscope.

EET 163 Electronics Lab I 1(0-2) Corequisite EET 162 and EET 143.
Use of oscilloscope and transistor curve tracer. Design of diode rectifier and zener regulator circuits, analysis and test of elementary and cascaded transistor amplifier circuits.

EET 251 Electronics II 4(3-2) Prerequisite EET 122, 143, 162 and 163. Corequisite MATH 233.
Feedback effects, oscillators, frequency spectra, harmonics. Transistor and diode switches. Linear waveshaping; multivibrator, Schmitt trigger, and time base circuits. AM and FM communications.

EET 252 Linear Integrated Circuits 4(3-2) Prerequisite EET 251.
Applications of linear integrated circuits such as operational amplifiers, power supply regulators and active filters. Includes instrumentation amplifiers, comparators, timers and switching IC's.

EET 254 Introduction to Digital Systems 4(3-2) Prerequisite EET 143.
Digital techniques, including binary codes, Boolean Algebra, gates, flip-flops, counters, shift registers and arithmetic operations.

EET 255 Introduction to Microcomputers 4(3-2) Prerequisite EET 254.
Analysis of microcomputer systems including both hardware and software considerations, with emphasis on machine language programming. Includes microcomputer design project.

EET 263 Electronic Manufacturing Techniques 2(0-4)
Industrial practices, including schematic and printed circuit drafting, sheet metal fabrication, hand soldering, resistance welding, printed circuit board production, wave soldering.

EET 271 Power Distribution and Wiring 3(2-2) Prerequisite EET 108, 109 and MATH 132 or equivalent.
AC/DC power distribution systems and Wye, Delta methods of wiring. Includes 3 phase and 2 phase power systems.

EET 291 Special Topics (1-5 VAR) Prerequisite Permission of department head.
Topics in electronics not now included in other courses.

EET 296 Cooperative Education Placement (1-5 VAR)
For freshman and sophomores. Industrial cooperative education work experience under direction of field supervisor and faculty member.

EET 321 Solid State Theory 3(3-0) Prerequisite EET 252, MATH 233, PHYS 202/202L.
Physical electronics of solid state with applications to design and fabrication of current devices and integrated circuits. Crystal growth and structure, energy band theory, transport phenomena, surface effects, device structures and manufacturing techniques.

EET 331 Electronic Circuits 3(3-0) Prerequisite EET 251 and MATH 233.
Analysis and design of active circuits. Includes piecewise linear synthesis, transistor bias stability, large signal power amplifiers, applied design of feedback in integrated circuit applications.

EET 350 Electric Motors and Controls 3(2-2) Prerequisite EET 108 or 122.
Analysis and operation of AC and DC motors and generators, including both single phase and three phase AC machines.

EET 353 Software Development 4(3-2) Prerequisite EN 245 or equivalent.
Electronics technology applications programming using structured programming techniques with PASCAL.

EET 354 Computer Architecture and Design 3(2-2) Prerequisite EET 254, 255, 353.
Computer architecture, with emphasis on operation and design of both microprogrammed and randomly designed control units. Students must complete an extensive laboratory project which required the design, instruction and testing of an operational computer.

EET 356 Advanced integrated Circuits 3(2-2) Prerequisite EET 252.
Analysis of the inter-connection of integrated circuits into systems. Also covers design principles of systems.

EET 361 Electronic Circuits Lab 2(0-4) Corequisite EET 331.
Laboratory to verify and expand upon the design principles presented in Electronics Circuits theory course.

EET 411 Linear Systems Analysis 3(3-0) Prerequisite MATH 233, EET Junior or senior standing.
Analysis of analog and digital systems using Laplace and Z-transforms. Solution of differential equations as applied to electronic systems.

EET 412 Communication Systems 3(3-0) Prerequisite EET 411.
Conventional AM, FM analog systems and applications of the Fourier Series. Modern digital systems such as PAM, PCM, PDM, PPM and Delta Modulation are stressed.

EET 452 Advanced Microcomputer Systems 3(2-2) Prerequisite EET 354 or equivalent.
Advanced microcomputer systems, including the use and application of system development tools such as macro-assemblers and relocation utilities, and the comparative study of state-of-the-art 16/32 bit processors.

EET 455 Introduction to Control Systems 4(3-2) Prerequisite EET 411.
Block diagrams, transfer functions, practical systems, the Z transform, digital systems, frequency response techniques, Bode plots as applied to control systems. Includes robots.

EET 456 Design Projects 3(1-4) Prerequisite Junior or senior standing in EET.
Application of theory to practical design of electronic circuits and systems. The student designs, builds, tests and writes a technical report for his or her project.

EET 457 Computer Interface Design 3(2-2) Prerequisite EET 452.
Design and implementation of computer interfaces to input-output devices and other systems.

EET 458 Computer Communications 3(3-0) Prerequisite EET 353.
Computer communication techniques and computer networks including topics such as topology, protocols, routing and reliability analysis.

EET 459 Interactive Computer Systems 3(2-2) Prerequisite EET 353 or equivalent.
Pictorial communications with computers, graphics programs and specialized input/output devices.

EET 491 Special Topics (1-5 VAR) Prerequisite Permission of department head.
Topics in electronics not now included in other courses.

EET 493 Seminar (1-5 VAR) Prerequisite Qualified junior or senior students.
Participation by electronics students and presentation of recent developments in the electronics field.

EET 494 Field Experience (1-5 VAR) Prerequisite Permission of head of the program.
Off-campus practical work experience in electronics supervised by member of the department and on-the-job supervisor.

EET 495 Independent Study (1-5 VAR) Prerequisite Permission of head of the program.
Individual assignments under supervision of a staff member of the department.

EET 496 Cooperative Education Placement (1-5 VAR)
For juniors and seniors. Industrial cooperative education work experience under direction of field supervisor and faculty member.

ENGINEERING

Faculty: Freark, Cheng, Massey

The engineering program offers the degree of bachelor of science in industrial engineering (BSIEN) and provides courses for the completion of the first two years of the four-year BS degree requirements in civil, electrical and mechanical engineering for transfer students. It also provides upper-division courses for the engineering options in chemistry, geology and physics.

A student interested in an engineering career should begin preparation in high school by taking college preparatory courses in mathematics, chemistry and physics. Students without this background who are strongly motivated can enter the program but will have to complete some courses whose credits will not count toward the degree.

Industrial engineering. Industrial engineering is concerned with the design, improvement and installation of integrated systems of people, materials and equipment. It draws upon specialized knowledge and skill in the mathematical and physical sciences, together with the principles and methods of engineering analysis and design, to specify, predict and evaluate the results to be obtained from such integrated systems. Industrial engineering is a major branch of engineering concerned with physical systems and the people that design and operate them.

The activities of industrial engineers include work measurement, operations research, plant layout, applied statistics, ergonomics, materials handling, production planning and control, quality control, manufacturing operations and management consulting. The computer has significant applications among the techniques utilized by the industrial engineer.

Transfer requirements: Students transferring to industrial engineering must have earned a minimum 2.5 grade point average in all mathematics and science courses attempted, a minimum 2.5 grade point average in all engineering courses attempted and an overall 2.5 grade point average. Transfer students may be subject to examination at the discretion of the department.

Graduation Requirement. A minimum grade of C in all industrial engineering program courses is required for graduation in addition to those requirements specified for all USC degrees.

The courses required for the four-year industrial engineering program are:

Freshman Year			Credits
CHEM	121/121L	General Chemistry I and Lab	5
EN	106	Computer Programming	3
EN	107	Engineering Graphics	2
ENG	110, 211	Composition I and II	6
MATH	126, 224	Calculus and Analytic Geometry I and II	10
PE	100	PE Orientation	2
PHYS	221/221L	General Physics I and Lab	5
RDG	120	College Reading	2
			35

Sophomore Year			Credits
EN	211, 212	Engineering Mechanics I and II	6
EN	231/231L	Circuit Analysis I/Lab	5
EN	324/324L	Mechanics of Materials and Lab	4
MATH	337	Differential Equations I	3
MATH	350	Probability	3
PHYS	222/222L	General Physics II and Lab	5
SPCOM	101	Expository Speaking	2
*Group	I or II	General Education	6
			34

Junior Year			Credits
BIOL	233	Human Physiology and Anatomy I	3
EN	301	Fluid Mechanics	4
EN	312/312L	Materials Science and Lab	3
EN	315	Introduction to Organization and Operations	3
EN	321	Thermodynamics I	3
EN	340	Principles of Industrial Engineering	3
EN	342	Manufacturing Processes I	3
EN	456	Applied Statistics I	3
MATH	301	Problem Solving	1
*Group	I or II	General Education	5
		Approved Elective	3
			34

Senior Year			Credits
EN	343	Industrial Engineering Economy	3
EN	442	Manufacturing Processes II	3
EN	443	Quality Control and Reliability	3
EN	471	Engineering Operations Research	3
EN	473	Production and Computer-Aided Engineering	3
EN	475	Engineering Systems Analysis and Design	3
EN	477	Operations Planning and Control	3
EN	488	Industrial Engineering Design Project	3
*Group	I or II	General Education	9
			33

*See departmental list of acceptable Group I and II courses.

Engineering transfer program. Students planning to transfer to Colorado State University, Ft. Collins, should adhere to the program shown below. Students planning to transfer to the University of Colorado, Boulder, Denver or Colorado Springs; or Colorado School of Mines, Golden, should consult an engineering adviser for program variations.

Engineering transfer program requirements for Colorado State university are:

Freshman Year			Credits
CHEM	121/121L	General Chemistry I and Lab	5
EN	106	FORTRAN Computer Programming	3
EN	107	Engineering Graphics	2
ENG	110	Composition I	3
MATH	126, 224	Calculus and Analytic Geometry I and II	10
PE	100-188	Physical Education	2
PHYS	221/221L	General Physics I and Lab	5
*Group	I or II	General Education	3
			33

Sophomore Year

EN	211, 212	Engineering Mechanics I and II	6
EN	231, 231L	Circuit Analysis I and Lab	5
EN	232	Circuit Analysis II	4
EN	321	Thermodynamics	3
MATH	325	Intermediate Calculus	4
MATH	337	Differential Equations I	3
PHYS	222/222L	General Physics II and Lab	5
*Group	I or II	General Education	3
			33

*See departmental list of acceptable Group I and II courses.

1) Students should consult an engineering adviser for program variations in agricultural and chemical engineering.
2) Transfer students should have a grade point average of 2.5 or better with 60 S.H. credit or more and a grade point average of 3.0 or better with less than 60 S.H. credit.
3) Applications must be received by Feb. 1 to qualify for priority consideration.
4) Students who have grades of D in any of the pre-engineering courses will be considered on an individual basis.

Engineering Options. Engineering options in chemistry, geology or physics offer students in each of these majors an opportunity to achieve specific employment or graduate educational goals. These options have been cooperatively designed by chemistry, geology, physics and engineering faculty to include selected upper-division engineering courses and provide a broad background in science and engineering.

The program requirements for the individual engineering options are described in the chemistry, geology or physics sections of this catalog.

EN COURSES

EN 103 Introduction to Engineering 2(2-0)
Introduction to the solution of engineering problems. Application of algebraic, trigonometric and calculus techniques to engineering problems. GEN. ED. IIID.

EN 104 Introduction to BASIC Programming in Engineering 2(2-0)
Computer programming using BASIC, examples from various engineering disciplines.

EN 105 FORTRAN 2(2-0)
Introduction to Fortran computer programming with examples drawn from various engineering technology disciplines. GEN. ED. IIID.

EN 106 FORTRAN Computer Programming 3(3-0)
FORTRAN language computer programming using examples and numerical techniques chosen from mathematics, science and engineering. GEN. ED. IIID.

EN 107 Engineering Graphics 2(0-4)
Orthographic and pictorial drawing, auxiliary and oblique views, sections, descriptive geometry and graphical mathematics.

EN 211 Engineering Mechanics I 3(3-0) Prerequisite MATH 126, PHYS 221 or permission of instructor.
Newton's laws of motion, equivalent force systems, stresses in beams, trusses and frames.

EN 212 Engineering Mechanics II 3(3-0) Prerequisite EN 211.
Motion of a particle, dynamics of rigid bodies, and the work-energy principle.

EN 223 Engineering Surveying I 3(2-2) Prerequisite MATH 122.
Basic course in surveying including use of tape, compass, transit and level in plane and geodetic surveying and introduction to triangulation and trilateration.

EN 231 Circuit Analysis I 4(4-0) Prerequisite MATH 224. Corequisite EN 231L, PHYS 222.
Circuit concepts, conventions and network equations. Initial conditions and classical method of obtaining transient and steady-state solutions.

EN 231L Circuit Analysis Lab I 1(0-2) Corequisite EN 231.
Observation and analysis of electrical circuits and transients involving resistance, inductance and capacitance.

EN 232 Circuit Analysis II 4(4-0) Prerequisite EN 231. Corequisite EN 232L.
Continuation of EN 231 including waveform synthesis, network theorems. Fourier series, pole-zero diagrams and two-port network theory. Introduction to LaPlace Transform.

EN 232L Circuit Analysis Lab II 1(0-2) Prerequisite EN 231. Corequisite EN 232.
Continuation of EN 231L Lab.

EN 242 Computer Engineering 3(2-2) Prerequisite EN 106 or equivalent and MATH 121.
Computer architecture, logic design, microprocessors, microcomputers, assembly language programming, and applications.

EN 245 Pascal Computer Programming 2(2-2)
Computer programming using Pascal Language, applications in engineering and science areas, practical programming exercises.

EN 270 Material and Energy Balances 3(3-0) Prerequisite CHEM 121, PHYS 221 and MATH 126.
Material and energy balances with or without chemical reactions in chemical engineering applications.

EN 291 Special Topics (1-5 VAR)
For students who have a special interest in some area of engineering not covered by existing courses.

EN 296 Cooperative Education Placement (1-5 VAR)
For freshmen and sophomores. Work experience under direction of a field supervisor and faculty member.

EN 301 Fluid Mechanics 4(4-0) Prerequisite EN 212.
Introduction to properties of gases and liquids, equations relating forces on fluids to their motion and energy flows to changes in temperature and other fluid properties.

EN 312 Materials Science 2(2-0) Prerequisite PHYS 221. Corequisite EN 312L.
The nature of engineering materials, emphasizing the relationship between macroscopic and atomic and microscopic structures.

EN 312L Materials Science Lab 1(0-2) Corequisite EN 312.
Experimental studies of material properties, characteristics and microstructures. Effects of plastic deformation and heat treatment.

EN 315 Introduction to Organization and Operations 3(3-0)
Engineering viewpoints of the principles of organization for production and the operations applicable to accomplishing organizational responsibilities.

EN 321 Thermodynamics I 3(3-0) Prerequisite PHYS 202 or 221 or equivalent.
Introduction to energy equations and flows, entropy, kinetic theory and statistical mechanics.

EN 322 Thermodynamics II 4(4-0) Prerequisite EN 321.
Application of laws of thermodynamics to chemically reacting thermodynamic systems, vapor cycles, gas engine cycles, propulsion systems, refrigeration and air-water vapor mixtures.

EN 323 Engineering Surveying II 3(2-2) Prerequisite EN 223.
State-plane coordinates and celestial observation. Theory and practice in horizontal and vertical curves. Earthwork problems.

EN 324 Strength of Materials 3(3-0) Prerequisite EN 211. Corequisite EN 324L.
Stress-strain relationships, fundamentals of elasticity, torsional loading, flexural loading, combined stresses.

EN 324L Mechanics of Materials Lab 1(0-2) Prerequisite EN 211. Corequisite EN 324.
Measurements of stress-strain and other destructive or non destructive testing.

EN 331 Electronics I 3(3-0) Prerequisite EN 231. Corequisite EN 331L.
Analysis, design and applications of semiconductor diodes, transistors, amplifiers, feedback, and integrated circuits.

EN 331L Electronics Lab I 2(0-4) Corequisite EN 331.
Laboratory to verify experimentally the theories presented in Electronics I.

EN 340 Principles of Industrial Engineering 3(3-0) Prerequisite/Corequisite EN 315 and industrial engineering junior standing.
Principles and techniques of work measurement and production standards; human performance in man-machine systems.

EN 341 Engineering Economy 3(3-0) Prerequisite Junior standing.
Economic and financial aspects of investments in engineering projects.

EN 342 Manufacturing Processes I 3(3-0) Prerequisite EN 312,312L.
Materials and processes for manufacturing including machining, casting, and forming processes: design, modeling and control.

EN 343 Industrial Engineering Economy 3(3-0) Prerequisite EN 106, Math 224 and 350.
Modeling, analysis and decision making involving time value of money, depreciation and taxation effects. Optimization and replacement analysis.

EN 351 Heat Transfer 3(3-0) Prerequisite EN 321.
Steady and unsteady conduction of heat. Convection heat transfer in boundary layer and duct flows. Forced and free convection. Thermal radiation.

EN 421 Structural Analysis 3(3-0) Prerequisite EN 324.
Analysis of indeterminate beams, frames and trusses by methods of moment of distribution, slope deflection, real work, virtual work and least work.

EN 423 Engineering Highway Design 3(3-0) Prerequisite EN 323.
Highway planning, geometric design of modern highways, horizontal and vertical alignment, cross-sections, subgrade structure drainage systems of highways, interchanges and intersections.

EN 435 Microprocessor Control Systems 3(2-2) Prerequisite EN 331.
Components of a microprocessor control system, digital processing, survey of state-of-the-art microprocessor control systems.

EN 442 Manufacturing Processes II 3(3-0) Prerequisite EN 342.
Materials and processes for manufacturing including sheet metal forming, welding machining, and advanced manufacturing processes.

EN 443 Quality Control and Reliability 3(3-0) Prerequisite EN 456.
Control charts, acceptance sampling, rectifying inspection, standard sampling plan. Failure time distribution models, reliability estimation, hazard function, reliability of systems.

EN 451 Engineering Hydrology 3(3-0) Prerequisite EN 301 or permission of instructor.
Occurrence and distribution of water, precipitation, evaporation, transpiration, infiltration, streamflow, groundwater and well flows, runoff and drainage and hydrography analysis.

EN 456 Applied Statistics I 3(3-0) Prerequisite MATH 224, 350.
Probability space, discrete and continuous random variables; distributions; mathematical expectation; sampling; statistical inference; Bayesian rule; and linear regression.

EN 461 Engineering Hydraulics 3(3-0) Prerequisite EN 301 or permission of instructor.
Steady and unsteady flow in pipes, open-channel flow, hydraulic measurements, critical depth and hydraulic jump, and design of spillways.

EN 471 Engineering Operations Research 3(3-0) Prerequisite EN 340, 456.
Application of mathematical models to engineering problems. Linear and dynamic programming, optimization and queuing theory and probablistic models.

EN 473 Operations Planning and Control 3(3-0) Prerequisite EN 340, MATH 337. Prerequisite/Corequisite EN 342, 456.
Engineering design, modeling and applications in production: automated flow lines, numerical control and computer usage in manufacturing.

EN 475 Engineering Systems Analysis and Design 3(3-0) Prerequisite EN 340, 411, 442, 465.
Engineering systems design, planning and control: engineering analysis and design applications in resource utilization.

EN 477 Operations Planning and Control 3(3-0) Prerequisite EN 340, 411, 442, 465.
Engineering analysis and design in the planning and control of operations in production systems.

EN 488 Industrial Engineering Design Projects (1-5 VAR) Prerequisite EN 460. Prerequisite/Corequisite EN 420 and 442.
Application of industrial engineering principles to a design project.

EN 491 Special Topics (1-5 VAR) Prerequisite Junior standing.
Special interest topics not covered in existing engineering courses.

EN 495 Independent Study (1-5 VAR) Prerequisite Junior Standing.
Independent study for engineering courses.

EN 496 Cooperative Education Placement (1-5 VAR)
For juniors and seniors. Work experience under direction of field supervisor and faculty member.

ENGLISH

Faculty: Bassein, Croxton, Dille, Gloe, Griffin, Illick, Olin, J. Senatore, M. Senatore, Taylor, Vincent, Whitsitt.

The English program offers courses leading to the degree of bachelor of arts (BA). Offerings in literature, the English language and writing prepare professional and pre-professional majors for many careers. The program's offerings combine with those provided by the program in education for secondary teacher certification in English. (For required education courses see education: Secondary Teacher Certification.)

The English program offers instruction in written communication to meet the educational needs of students and to meet the institutional basic competency requirements of six credit hours in English composition. (Courses marked with an asterisk are designed to meet special student interests and needs; they cannot be used to fulfill the university basic competency requirements.)

An open laboratory with professional staffing supplements course work and is available to all students of USC.

MAJOR

An English major requires completion of 36 semester credit hours of courses in English, 14 of which must be those numbered 300 or above. The student must verify choice of courses with an adviser in English.

A typical English schedule:

Freshman Year			**Credits**
ENG	110, 211	Composition I and II	6
ENG	211, 212	American Literature I and II	6
PE	100	PE Orientation	2
RDG	120	College Reading	2
SPCOM	101	Expository Speaking	2
		General Education	14
			32

(*ENG 130 may be substituted for either ENG 211 or 212.)

Sophomore Year

ENG	221, 222	Western World Literature I and II	6
ENG	231, 232	Literature of England I and II	6
		General Education	16
		Foreign Language or Linguistics	6
			34

Junior Year

			Credits
ENG	443	Linguistics	3
		Upper Division Electives	9
		General Electives	21
			33

Senior year

			Credits
ENG	341	History of English Language	3
ENG	493	Seminar	3
ENG		Upper Division Electives	3
		General Electives	23
			32

Secondary Teacher Certification: English Endorsement

			Credits
ENG	241	Advanced Composition	3
ENG	304	Language Awareness	3
ENG	315 or 316	Creative Writing I or II	3
ENG	341	History of English	3
ENG	342	Syntax and Usage	2
ENG	412	Literature for Adolescents	2
ENG	377	Materials and Techniques	3
		Other literature courses	15
			34

MINORS

To earn a minor in English, a student is required to complete 20 semester hours. Minors such as literature, language, writing, and professional communication are designed to meet the needs of individual students majoring in other disciplines. Many courses are open to students wanting general education credit or wanting to enjoy and to become familiar with well-known literature and to improve their writing. The students must verify choice of courses with an adviser in English.

ENG COURSES

UNDERGRADUATE

ENG 109 Fundamentals for College English 3(3-0)
Development course for students whose placement test scores indicate a need for instruction in basic language skills. ACT Verbal score below 16 or SAT Verbal score below 336. (S/U gradues).

ENG 110 Composition I 3(3-0)
Beginning course in expository writing, emphasizing skills of written expression, organization, and presentation, ACT Verbal score of 16 or more or SAT Verbal score above 336 required.

ENG 115 Technical and Scientific Communication I 3(3-0)
Course for technology students placing emphasis upon vocabulary, grammar, sentence structure, outlining and written expression. Equivalent to ENG 110. ACT Verbal score of 16 or more of SAT Verbal score above 336 required.

ENG 120 Literature, the Creative Writing Experience 3(3-0)
Use of models from recent poets, short story writers and novelists to stimulate creative and analytical writing skills. Weekly writing assignments prompted by class discussion and analysis of the readings lead to the writing of articulate prose and poetry as a means of self-definition and self-discovery.

ENG 121 The Writer's Response: Evaluating Literature 3(3-0) Prerequisite ENG 120 or permission of instructor.
Explication of literary texts. Use of evidence in forming evaluations and conclusions about novels, poems and short stories. Several short papers and a term paper required.

ENG 130 Introduction to Fiction 1(1-0)
Introduces short stories and novels from varying times and places; for students who have not been exposed to much literature. GEN. ED. IC.

ENG 131 Introduction to Plays 1(1-0)
Literature from varying times and places with emphasis on artistry; especially desirable for the student who has not been exposed to much literature. GEN. ED. IC.

ENG 132 Introduction to Poetry 1(1-0)
Introduces verse and poetry from varying times and places; for students who have not been exposed to much literature. GEN. ED. IC.

ENG 150 Spelling Review 1(1-0) Prerequisite ENG 110 or 115, or permission of instructor.
Five-week module of spelling conventions such as phonetic principles, prefixes, plural forms and compounds.

ENG 152 Punctuation Review 1(1-0) Prerequisite ENG 110 or 115, or permission of instructor.
Five-week module of punctuation convention such as comma use, apostrophes, colon, cash, italics and other signals.

ENG 153 Correct Sentences 1(1-0) Prerequisite ENG 110 or 115, or permission of instructor.
Five-week module of sentence correctness in using clauses and phrases effectively.

ENG 157 Paragraph Development 1(1-0) Prerequisite ENG 110 or 115, or permission of instructor.
Five-week module of methods of paragraph organization and development.

ENG 161 Career for English majors 1(1-0)
Identifies career options and presents employment opportunities for students majoring in English.

ENG 210 American Literature I 3(3-0)
Literature from colonial times to Civil War and includes the growth of naturalism and the rise of the New England school. GEN. ED. IC.

ENG 211 Composition II 3(3-0) Prerequisite ENG 110 or 115.
Sequential course to provide intensive consideration of paragraph and essay development and to introduce procedures and techniques in preparing the referenced paper. It is recommended that this course be completed during the sophomore year.

ENG 212 American Literature II 3(3-0)
Literature from Whitman to the present; emphasis on the influence of westward expansion, growth or regionalism, literature of social protest, and post-World War II writing. GEN. ED. IC.

ENG 216 Technical and Scientific Communication II 3(3-0) Prerequisite ENG 110 or 115.
Writing course specializing in those composition skills which benefit students in technical and scientific areas. It is recommended that this course be completed during the sophomore year.

ENG 221 Western World Literature I 3(3-0)
Historical and thematic sides of major writers from ancient Greece to the Renaissance. GEN. ED. IC.

ENG 222 Western World Literature II 3(3-0)
Continuation of Eng 221; literature from the Renaissance to the present. GEN. ED. IC.

ENG 231 Literature of England I 3(3-0)
Literature and literary history of England from the Anglo-Saxon period to 1750. GEN. ED. IC.

ENG 232 Literature of England II 3(3-0)
Literature and literary history of England from 1750 to the present. GEN. ED. IC.

ENG 254 Science Fiction 3(3-0)
Imaginative literature of fact and fiction; reading, lectures, movies, and television. GEN. ED. IC.

ENG 260 Women in Literature 3(3-0)
Female stereotypes deeply carved in literature and developments toward breaking up these stereotypes; opens the study of literature to feminist thinking; treats both female and male authors. GEN. ED. IC.

ENG 291 Special Topics (1-3 VAR)
Variety of subjects including individual authors, themes, or areas of language development.

ENG 296 Cooperative Education Placement (1-4 VAR) Prerequisite Permission of instructor and cooperative education office.
Arrangements between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study.

ENG 304 Language Awareness and Human Behaviors I 3(3-0)
Incidents and patterns of language in participants' lives to explore humans-as-semantic-reactors who can deceive, coerce or nurture with their forms of language.

ENG 305 Technical and Scientific Report Writing 3(3-0) Prerequisite ENG 211 or 216, or permission of instructor.
Study an application of technical writing in the student's major. Emphasis on discrete professional formats and styles in writing manuals, proposals, government contracts and reports and journal articles. For upperclassmen or special students in technical and professional fields; open only to students who have completed the basic competencies requirements.

ENG 315 Creative Writing: Poetry 3(3-0) Prerequisite ENG 110 and 211, ENG 241 or 252, or permission of instructor.
Introduction to writing poetry; opportunity to write in a self-fulfilling way with some practice on form.

ENG 316 Creative Writing: Fiction 3(3-0) Prerequisite ENG 110 and 211, ENG 241, or permission of instructor.
Introduction to creating character, situation, and overall structure; emphasis on imaginative and real-life portrayal.

ENG 331 Development of the Novel I 3(3-0) Offered alternate years.
Emphasis on social problems and European influences; focus on trends coming to full development in the 20th century. Includes recent works.

ENG 335 Writing for Publication 3(3-0)
Focuses on writing for publication in literary journals.

ENG 340 Advanced Composition (1-3 VAR) Prerequisite ENG 211 or permission of instructor.
Advanced forms of non-fiction writing; essays, articles and reports with attention given to needs of students.

ENG 341 History of the English Language 3(3-0)
English language from Anglo-Saxon period to present; emphasis on history of linguis tic and structural changes.

ENG 342 English Syntax and Usage 2(2-0)
English usage and language systems; emphasis on forms and functions of language analysis.

ENG 351 Children's Literature 2(2-0)
Options for the person selecting literature for children, including the meaningful, the pleasurable, and that which is keyed to a variety of learners.

ENG 363 17th Century British Literature 3(3-0)
Representative and major authors and movements.

ENG 364 18th Century British Literature 3(3-0)
Dryden, Swift, Defoe, Boswell, Johnson, Pope, Fielding, Blake, Austen, Radcliffe, and/or other major writers.

ENG 365 19th Century British Literature 3(3-0)
Arnold, Tennyson, Browning, Ruskin, Carlyle, Mill, the poetry of women writers, and/or other major writers.

ENG 377 Materials and Techniques in Teaching English 3(3-0)
Materials and teaching/learning systems for literature, language, composition.

ENG 381 Drama of Shakespeare 3(3-0)
Shakespeare's dramaturgy and developments of Shakespearean criticism; major histories and tragedies.

ENG 391 Special Topics (1-3 VAR) Prerequisite ENG 110 or 211 and/or permission of instructor.
Explores a variety of subjects including rhetorical techniques, language conventions, or language learning.

ENG 412 Literature for Adolescents 2(2-0)
Literature suitable for adolescents, including classical and contemporary authors, and issues in selection and evaluation.

ENG 441 Chaucer and His Age 3(3-0)
Chaucer and his contemporaries in their cultural setting.

ENG 443 Linguistics 3(3-0)
Theorists, systems, analyses, and studies of language.

ENG 461 Careers for English Majors 1(1-0)
Identify and explore graduate school and employment opportunities.

ENG 481 Literary Criticism 3(3-0)
Great critics and critical movements from Aristotle to Samuel Johnson.

ENG 491 Special Topics (1-3 VAR)
Individual authors, themes, or areas of language development. An extensive term paper in addition to work done for ENG 291.

ENG 493 Seminar 3(3-0)
Examines specific topics, themes and works in American, English or world literature and poetry.

ENG 494 Field Experience (1-5 VAR)
A semester-long internship. Student performs professional duties and English-related skills required by the cooperating commercial business or public service agency.

ENG 495 Independent Study (1-3 VAR)
Directed, intensive study and guidance in studying major literary figures or movements; arranged with the head of the program.

ENG 496 Cooperative Education Placement (1-4 VAR) Prerequisite Permission of instructor and cooperative education office.
Arrangements between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study.

GRADUATE

ENG 511 Seminar: American Literature 2(2-0) Prerequisite Graduate standing.
Selected American classics, emphasizes critical reading skills, basic techniques of evaluation, and practices in writing responses to literature.

ENG 512 Literature for Adolescents 2(2-0) Prerequisite Graduate standing.
Literature suitable for adolescents, including classical and contemporary authors as well as issues in selection and evaluation.

ENG 578 Workshop in the Teaching of Writing 2(2-0) Prerequisite Graduate standing.
Theories of composition, methods, sources and resources, for teachers of writing.

ENG 591 Special Topics (1-3 VAR) Prerequisite Graduate standing.
Individual authors, themes, or areas of language development.

ENG 595 Independent Study 2(2-0) Prerequisite Graduate standing.
Directed, intensive study and guidance for studying major literary figures or movements; arranged with the head of the program.

FOREIGN LANGUAGES

Faculty: Bright, Garcia, Milne, Murphy, Robertson.

The program in foreign languages offers majors in French and Spanish and minors in French, German, Italian, Russian and Spanish. Programs leading to the bachelor of arts (BA) degree in a foreign language prepare students for public school teaching and certification, for admission to graduate school and for careers in international organizations, government and businesses. The program offers courses relating to various fields in order to increase occupational opportunities.

MAJORS

The requirements for the major consist of a minimum of 46 credit hours, 16 hours of which must be upper-division courses, plus one year's college study of a second foreign language.

The combination of 40 hours of a foreign language with another academic program other than foreign language may constitute a possible major.

Note: Advanced placement may reduce the number of credit hours required for majors and minors.

All majors and minors in foreign languages must complete the core curriculum and the additional requirements of the chosen foreign language program.

The core curriculum consists of:

ENG	130, 131, 132	Introduction to Fiction, Plays and Poetry
HIST	101	World Civilization to 1500
	or	
HIST	102	World Civilization since 1500

Beginning Courses: 10 hours of beginning language courses or equivalent.

Intermediate Courses: All second year courses of the language studied.

Additional requirements are as follows:

French

FL	301 or 302	Advanced French Conversation I or II
FL	303	French Phonetics and Diction
FL	308, 309	French Civilization I and II
plus		Approved French elective courses numbered 300 or above.

Spanish

FL	385	Advanced Spanish Grammar
FL	386	Advanced Spanish Composition
plus		Approved Spanish elective courses numbered 300 or above.

Teacher Certification

All students planning to teach foreign languages in public school need:

FL	389	Teaching French, German, and Spanish in Elementary Schools
	or	
FL	388	Teaching French, German and Spanish in Secondary Schools.

Specific courses within the major are also required. Consult a program adviser for a list of these requirements.

MINORS

A minor in French, or Spanish requires satisfactory completion of 32 credit hours, including the courses listed below for each language.

French

FL	308, 309	French Civilization I and II
FL	404, 405	French Culture Today I and II

Italian

Twenty-six credit hours of Italian (including first year courses).

Russian

Twenty-six credit hours of Russian (including FL 161, 162 and 372).

Spanish

FL	385	Advanced Spanish Grammar and Conversation
FL	386	Advanced Spanish Composition and Conversation
plus		Approved Spanish elective course numbered 300 or above.

FL COURSES

UNDERGRADUATE

FL 100 Introduction to Comparative Linguistics 3(3-0)
Basic concepts in linguistics. Classification and comparison of languages. GEN. ED. IB.

FL 101 Introduction to French: Reading/Culture I 3(3-1)
Introduction to culture and language. Emphasis on correct pronunciation and reading skills. Comparison of grammatical structures and vocabulary of English and French. GEN. ED. IB.

FL 102 Introduction to French: Reading/Culture II 3(3-1) Prerequisite FL 101 or equivalent. GEN. ED. IB.

FL 111 Beginning Spoken French I 5(5-1)
Grammar and pronunciation with aural-oral training to develop skills in understanding and speaking. Written exercises to develop reading and writing skills. Introduction to French culture. GEN. ED. IB.

FL 112 Beginning Spoken French II 5(5-1) Prerequisite FL 111 or equivalent. GEN. ED. IB.

FL 121 Introduction to German: Reading/Culture I 3(3-1)
Introduction to culture and language. Emphasis on correct pronunciation and reading skills. Comparison of grammatical structures and vocabulary of English and German. GEN. ED. IB.

FL 122 Introduction to German: Reading/Culture II 3(3-1) Prerequisite FL 121 or equivalent. GEN. ED. IB.

FL 125 Beginning Spoken German I 5(5-1)
Pronunciation and grammar with oral-aural training. Easy reading and conversation. GEN. ED. IB.

FL 126 Beginning Spoken German II 5(5-1) Prerequisite FL 125 or equivalent. GEN. ED. IB.

FL 137 Foreign Language for Travel 1(1-0)
Fundamental vocabulary for basic tourist communication.

FL 138 English as a Foreign Language: Reading and Vocabulary 3(3-0)
Developing reading fluency and expanding vocabulary in formal English at the intermediate level. Cultural and academic reading content.

FL 139 English as a Foreign Language: Composition and Grammar 3(3-0)
Review and expansion of difficult concepts of grammar. Writing of compound sentences, paragraphs and compositions.

FL 140 English as a Foreign Language: Spoken English 3(3-0)
Pronunciation, intonation, topic reports, dialogues, group discussion, plays, situational improvisations. Colloquial English.

FL 146 Introduction to Italian I 3(3-1)
Pronunciation and grammar with oral-aural training. Easy reading and conversation. GEN. ED. IB.

FL 147 Introduction to Italian II 3(3-1) Prerequisite FL 146 or equivalent. GEN. ED. IB.

FL 156 Introduction to Portuguese I 3(3-1)
Oral-aural training, reading, writing. GEN. ED. IB.

FL 157 Introduction to Portuguese II 3(3-1) Prerequisite FL 156 or equivalent. GEN. ED. IB.

FL 161 Introduction to Russian I 3(3-1)
Pronunciation, conversation, grammar. Alphabet, easy reading and writing. GEN. ED. IB.

FL 162 Introduction to Russian II 3(3-1) Prerequisite FL 161 or equivalent. GEN. ED. IB.

FL 171 Introduction to a Critical Foreign Language I 3(3-0)
Study of a critical foreign language not offered regularly. Different languages are offered when enrollment permits.

FL 172 Introduction to a Critical Foreign Language II 3(3-0) Prerequisite FL 171 or permission of the instructor.
Study of a critical foreign language not offered regularly. Different languages are offered when enrollment permits.

FL 181 Introduction to Spanish: Reading/Culture I 3(3-1)
Introduction to culture and language. Emphasis on correct pronunciation and reading skills. Comparison of grammatical structures and vocabulary of English and Spanish. GEN. ED. IB.

FL 182 Introduction to Spanish: Reading/Culture II 3(3-1) Prerequisite FL 181 or equivalent. GEN. ED. IB.

FL 191 Beginning Spoken Spanish I 5(5-1)
Oral-aural training, also some reading and writing; introduction to Hispanic culture. GEN. ED. IB.

FL 192 Beginning Spoken Spanish II 5(5-1) Prerequisite FL 191 or equivalent.
Students are placed by the department. Practice in oral, aural, reading and writing experiences. GEN. ED. IB.

FL 201 French Conversation I 2(2-0) Prerequisite FL 112 or equivalent.
Practice in small groups to develop vocabulary and rapid speaking skills.

FL 202 French Conversation II 2(2-0) Prerequisite FL 201 or permission of instructor.

FL 209 French Plays 2(2-0) Prerequisite Permission of instructor.
Techniques of stage direction and interpretation of French plays. Survey of some of the different approaches used on the French stage. Production of a play in the language.

FL 212 Intermediate French I 5(5-0) Prerequisite FL 112 or equivalent.
Grammar review, idioms and writing of compositions. Selected readings with oral and written exercises.

FL 213 Intermediate French II 5(5-0) Prerequisite FL 212 or equivalent.

FL 221 German Conversation 2(2-0) Prerequisite One year college German or equivalent.
Practice in small groups, everyday-type conversation.

FL 222 Intermediate German I 5(5-0) Prerequisite FL 126 or equivalent.
Review and expansion of first-year grammar. Compositions, reading and discussion of contemporary German life.

FL 223 Intermediate German II 5(5-0) Prerequisite FL 222 or equivalent.

FL 246 Intermediate Italian I 5(5-0) Prerequisite FL 147 or equivalent.
Reading and conversation in Italian, review of grammar, study of idioms, theme writing in Italian.

FL 247 Intermediate Italian II 5(5-0) Prerequisite FL 246 or equivalent.

FL 250 Foreign Language Field Trip (2-6 VAR) Prerequisite Permission of instructor.
Communication, lectures by writer, artists, political leaders and specialists. Visits to museums. Attendance at movies, theatre and excursions.

FL 261 Russian Conversation 2(2-0) Prerequisite FL 162 or equivalent.
Intensive practice.

FL 271 Intermediate Russian I 5(5-0) Prerequisite FL 162 or equivalent.
Advanced grammar and vocabulary. Reading of short stories, oral and written reports.

FL 272 Intermediate Russian II 5(5-0) Prerequisite FL 271 or equivalent

FL 281 Readings in Hispanic Civilizations I 3(3-0) Prerequisite one year college Spanish or equivalent.
Reading and discussion based on cultures of Spain. GEN. ED. IB.

FL 282 Readings in Hispanic Civilizations II 3(3-0) Prerequisite one year of college Spanish or equivalent.
Reading and discussion based on Hispanic America. GEN. ED. IB.

FL 286 Intermediate Spanish Conversation I 2(1-2) Prerequisite one year college Spanish or equivalent.
Conversation in small groups divided according to students' fluency.

FL 287 Intermediate Spanish Conversation II 2(1-2) Prerequisite one year college Spanish or equivalent.

FL 288 Spanish Grammar and Composition I 3(3-0) Prerequisite one year college Spanish or equivalent.
Intermediate review of grammar plus practice in writing compositions.

FL 289 Spanish Grammar and Composition II 3(3-0) Prerequisite FL 288.
Further study of grammar, increased emphasis on composition.

FL 291 Special Topics (1-3 VAR)
An aspect of a foreign language not contained in regular courses.

FL 296 Cooperative Education Placement (1-4 VAR) Prerequisite Permission of instructor and cooperative education office.
Arrangements between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study.

FL 301 Advanced French Conversation I 2(2-0) Prerequisite FL 202, 212, 213 or consent of instructor.
Emphasis on acquisition of vocabulary and idiomatic expressions. Advanced oral practice.

FL 302 Advanced French Conversation II 2(2-0) Prerequisite FL 301, or permission of instructor.

FL 303 French Phonetics and Diction 2(2-0) Prerequisite Intermediate French or permission of instructor.
French pronunciation, theory, correction and practice of diction and intonation. Phonetic transcription and remedial exercises. Required for teacher certification.

FL 308 French Civilization I 3(3-0) Prerequisite Intermediate French or equivalent.
Geography, art, architecture, economics and social problems, correlated with history from the origins to contemporary French. Required for teachers certification.

FL 309 French Civilization II 3(3-0) Prerequisite FL 308 or permission of instructor.
Required for teacher certification.

FL 312 Advanced French Grammar I 3(3-0) Prerequisite Intermediate French or equivalent.
Systematic review of grammar; presentation of the more sophisticated syntactical patterns to enable students to write correctly. Required for teacher certification.

FL 313 Advanced French Grammar II 3(3-0) Prerequisite FL 312.
Required for teacher certification.

FL 322 Advanced German Grammar I 3(3-0) Prerequisite FL 222 or equivalent.
Linguistic analysis, vocabulary building and composition.

FL 323 Advanced German Grammar II 3(3-0) Prerequisite FL 322 or equivalent.

FL 326 German Civilization I 3(3-0) Prerequisite FL 222 or equivalent.
German geography, culture and history from the beginning to the present.

FL 327 German Civilization II 3(3-0) Prerequisite FL 326 or equivalent.

FL 361 Advanced Russian Conversation 2(2-0) Prerequisite FL 162 or 271 or equivalent.
Intensive practice.

FL 371 Russian Civilization I 3(3-0) Prerequisite FL 272 or equivalent.
From early beginnings to middle of 19th century.

FL 372 Russian Civilization II 3(3-0) Prerequisite FL 371 or equivalent.
From middle of the 19th century up to the present.

FL 375 Russian Short Story 2(2-0) Prerequisite FL 271 or equivalent.
Selected short stories. Discussion of ideas, or art and of authors. Stress on both oral and written work.

FL 380 Masterpieces of Spanish American Literature 3(3-0) Prerequisite Two years of college Spanish or equivalent.
Major works of Spanish America with emphasis on cultural aspects of 20th century literature.

FL 381 Masterpieces of Spanish Literature 3(3-0) Prerequisite Two years of college Spanish or equivalent.
Major literary works of Spanish literature from its beginnings to 1680. Essential techniques of literary criticism using a cultural approach.

FL 382 19th Century Spanish Literature 3(3-0) Prerequisite Two years college Spanish or equivalent.
Literature of 1808 to 1898. Emergence of romanticism in Spain and its gradual development toward costumbrismo and realism.

FL 383 The Spanish American Short Story 2(2-0) Prerequisite Two years of college Spanish or equivalent.
Major works of Spanish Americans with emphasis on cultural aspects of 20th century literature.

FL 384 Spanish American Novel 2(2-0) Prerequisite Two years of college Spanish or equivalent.
Outstanding Spanish American novels, concentrating on their artistic and social significance.

FL 385 Advanced Spanish Grammar and Conversation 3(3-0) Prerequisite FL 289.
Required of all Spanish majors.

FL 386 Advanced Spanish Composition and Conversation 3(3-0) Prerequisite FL 289.
Required of all Spanish majors.

FL 387 Contemporary Hispanic America 3(3-0) Prerequisite Two years of college Spanish or equivalent.
Sociology, geography, internal and external politics, economics, and the role of the U.S. in Spanish America and Brazil.

FL 388 Teaching French, German and Spanish in Secondary Schools 2(2-0)
Applied linguistics. All modern methods. Teacher's aide training.

FL 389 Teaching French, German and Spanish in Elementary Schools 2(2-0)
Preparation of materials and techniques of teaching French, German, Spanish in the elementary schools and applied linguistics.

FL 404 French Culture Today I 3(3-0) Prerequisite Two years of college French or equivalent.
Contemporary ideas, problems, current affairs as seen through French media and 20th century literature.

FL 405 French Culture Today II 3(3-0) Prerequisite FL 404 or permission of instructor.

FL 406 Masterpieces of French Literature I 2(2-0) Prerequisite Two years of college French or equivalent.
Close study of outstanding French works with emphasis on literary forms. critical methods and techniques.

FL 407 Masterpieces of French Literature II 2(2-0) Prerequisite Two years of college French or equivalent.

FL 408 Translation 3(3-0) Prerequisite Advanced grammar course in selected language.
Introduction to translating advanced texts of general interest; work in the theory of translation together with practice.

FL 410 Contemporary French Novel and Drama 3(3-0)
Offered in translation. Great 20th century French masters: Proust, Gide, Malraux, Cocteau, Giraudoux, Anouih, Sartre, Camus, Gente, Ionesco, Beckett, Robbe-Grillet.

FL 450 Problems in Teaching Foreign Language 3(3-0) Prerequisite Five semesters' study of FL or equivalent.
Analysis of Spanish phonology, morphology and syntax related to cultural patterns for effective teaching of Spanish.

FL 482 Hispanic Thought 3(3-0) Prerequisite Two years of college Spanish or equivalent.
Essays in Spanish.

FL 484 Mexican Literature 2(2-0) Prerequisite Two years Spanish or equivalent.
Main currents of Mexican literature, primarily of the 20th century.

FL 485 Studies in Latin American Literature 1(1-0) Prerequisite Two years of college Spanish or equivalent.
Reading, analysis and discussion of contemporary Latin American literature. May be repeated for credit as content changes.

FL 486 Cervantes: Don Quixote 2(2-0) Prerequisite Two years of college Spanish except no prerequisite when class is conducted in English.
Primarily the novel Don Quixote; literary and cultural analysis of the characters Don Quixote and Sancho Panza and their environment.

FL 487 Studies in Spanish Literature 1(1-0) Prerequisite Two years of college Spanish or equivalent.
Reading, analysis and discussion of contemporary Spanish literature. May be repeated for credit as content changes.

FL 488 Studies in Spanish Linguistics I 1(1-0) Prerequisite Two years of college Spanish or equivalent. Recommended for bilingual education majors.
Sound patterns of Spanish contrasted and compared with English sound patterns.

FL 489 Studies in Spanish Linguistics II 1(1-0) Prerequisite Two years of college Spanish or equivalent.
Review of the most recent research in linguistics.

FL 494 Field Experience (1-7 VAR) Prerequisite Two years of college study in the language of the country or countries visited.
Communication, lectures by writers, artists, political leaders and specialists. Visits to museums, attendance at movies, theatres and excursions.

FL 495 Independent Study (1-3 VAR)
Specific themes which address particular problems of literature or civilization. May be repeated for credit with approval of major adviser. (S/U grades.)

FL 496 Cooperative Education Placement (1-4 VAR) Prerequisite One year of college FL study.
Arrangement between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study. Two placements must occur in academic semesters and one in a summer session for the equivalent of at least 12 months employment. The student must re-enroll each placement term. Twelve credits maximum allowed toward graduation.

GRADUATE

FL 591 Special Topics (1-3 VAR)
Advanced work in a foreign language, variably dealing with literature, culture, language or pedagogy. Content will have prior approval of the program.

GEOGRAPHY

Faculty: Howard

The geography program, a part of the center for humanistic policy studies, offers a series of lower and upper division and graduate courses that lead to a minor, general education, cultural enrichment, support for social science ma-

jors and background for such vocations as: military and civilian intelligence, commodity and regional analysis, weather forecasting, urban and regional planning, logistics and resource and geoscience management. There is a wide course work support for the public school teacher and those interested in the travel and tour careers. This program gives the student a strong background on man's spatial relationships with his physical and natural environment.

MINOR

Twenty-one credit hours in geography are required including GEOG 102, 103 and 200. it is strongly recommended that the required courses be taken in the sequence listed above.

GEOG COURSES

UNDERGRADUATE

GEOG 102 Principles of Geography 3(3-0)
Landforms, climate, agriculture, population, manufacturing, resources and urbanization. Emphasis on interrelationships and spatial variations. GEN. ED. IIID.

GEOG 103 World Geography 3(3-0)
Geographic structure of the major physical and cultural realms of the world. Characteristics and interrelationships of regional environmental patterns. GEN. ED. IIID.

GEOG 113 Geography of Food and Hunger 2(2-0)
Analysis of the world's food and consumption patterns; emphasis on increasing production and improving food distribution to meet the requirements of a rapidly growing population. GEN. ED. IIC.

GEOG 201 Economic Geography 3(3-0)
Areal variations on the earth's surface in man's activities related to producing, exchanging and consuming resources. GEN. ED. IIC.

GEOG 210 Cultural Geography 3(3-0)
Description, distinction and significance of cultural differentiation based upon language, religion, political organization, urbanization and population. GEN. ED. IIC.

GEOG 250 Field Trip (1-7 VAR) Prerequisite Permission of instructor.
Intensive experience in historical, physical, economic or cultural geography leading to insights and skills in data gathering and group leadership. Requirements include pre-trip preparatory planning and instruction sessions, a prescribed journal and post-trip major written report.

GEOG 281 Geography of the Rocky Mountains 3(3-0)
Analysis of the cultural and physical environment, distribution of population and economic activity in the region. GEN. ED. IIID.

GEOG 311 Geography of U.S.-Canada 3(3-0)
Topical and regional analysis; settlement, urbanization, agricultural, industrial and social distribution relative to patterns, problems and trends.

GEOG 321 Geography of Europe 3(3-0)
Geographic cultural realms and physiography of Europe; emphasis on England, Germany, France, Poland and Scandinavia. National policies and life styles.

GEOG 331 Geography of Latin America 3(3-0)
Geographic regions of Latin America; culture, physiography, economy and political relations with recurring trends; emphasis on Brazil, Argentina, and Venezuela.

GEOG 341 Africa and the Middle East 3(3-0)
Geographic regions, significance of recent economic and political change, the role of resources, environmental and regional relationships and physiography.

GEOG 371 Union of Soviet Socialist Republics 3(3-0)
Systematic regional analysis of physical environment, cultural patterns, economic activities, military power and domestic and foreign relationships.

GEOG 377 Methods of Teaching Geography for Public School Teachers 2(2-0)
Practices and problems of teaching geography in public schools; stresses concepts, methods, curriculum, techniques and source materials.

GEOG 411 Urban Geography 3(3-0) Prerequisite GEOG 103.
Distribution, functions and internal structure of cities. Geographic analysis of urban areas including theoretical models.

GEOG 431 Historical Geography 2(2-0) Prerequisite HIST 101 or 201.
Reconstruction of past environments and social systems of the great civilizations; policies, life styles, internal development and national aspirations.

GEOG 450 Field Trip (1-7 VAR) Prerequisite Permission of instructor.
Intensive research in physical, economic or cultural geography, domestic or foreign, leading to insights, experience in leadership and skill in group management.

GEOG 461 Political Geography 2(2-0)
Factors affecting the internal and external affairs of state. Physical basis of power, elements of the state, environmental determiners of national policy.

GEOG 480 Transportation Geography 3(3-0)
Transportation networks (land and air) as related to regional and urban development and population and supply flow.

GEOG 495 Independent Study (1-2 VAR) Prerequisite Permission of instructor.
Individually directed study, selected readings, field work and substantial research projects geared to develop research skills and techniques.

GRADUATE

GEOG 531 Historical Geography 2(2-0) Prerequisite HIST 101 or HIST 201. Reconstruction of past environments and social systems of the great civilizations; policies, life styles, internal development and national aspirations.

GEOLOGY

Faculty: Engelbrecht, Powell, Schaeffer

The geology degree educates students for careers in petroleum, mining, water resources, environmental studies, oceanography, governmental agencies, engineering, geology, geochemistry, natural resources, geophysics and secondary school teaching.

The geology degree is also encouraged for those who want a broad physical science background but would like to move into other careers such as computers or business after graduation.

All major and minor programs must be approved by a program adviser relevant to the specific area of study in geology.

MAJORS

The geology program offers a BS degree in geology with the following three options:
1) a straight geology major (see requirements below).
2) an engineering geology major.
3) geology or earth science for secondary school teachers.

Specific requirements for option 1 include:

			Credits
GEOL	122, 123	Physical and Historical Geology	8
GEOL	301, 302	Mineralogy and Petrology	8
*GEOL	315	Geological Field Techniques	2
*GEOL	410	Stratigraphy and Sedimentation	5
*GEOL	411	Structural Geology	5
		Additional approved geology courses	14
			42

*courses taught in alternate years.

Additional course requirements include Calculus I, computer programming, general chemistry, principles of physics or general physics, and seven additional credits in approved science courses.

The engineering geology and secondary school teaching options require fewer credits in geology and more credits in engineering or education courses. Specific details should be requested from the head of the geology program.

A 2.0 (C) cumulative grade point average in geology courses is required for the BS degree in geology.

Transfer students are required to complete a minimum of 23 (46 required) semester hours of the required geology courses for the BS degree in geology at the University of Southern Colorado.

Foreign students are required to complete FL 138, 139 and 140: English as a Foreign Language, unless waived by the geology adviser.

MINORS

Twenty credit hours in geology courses which must include GEOL 122 and 123 are required for a minor in geology.

A typical geology schedule is:

Freshman Year			Credits
CHEM	121/121L	General Chemistry I and Lab	5
CHEM	122/122L	General Chemistry II and Lab	5
ENG	110, 211	Composition I and II	6
GEOL	122	Physical Geology	4
GEOL	123	Historical Geology	4
MATH	121	College Algebra	4
MATH	122	College Trigonometry	2
		General Education	3
			33

Sophomore Year			Credits
GEOL	301	Mineralogy	4
GEOL	302	Petrology	4
MATH	126	Calculus and Analytic Geometry I	5
MATH	240	Introduction to Computer Programming	1
MATH	241	Introduction to Digital Computers	2
PE	100	PE Orientation	2
RDG	120	College Reading	2
SPCOM	101	Basic Speech Communication	2
		General Education	6
		Electives	6
			34

Junior Year			Credits
GEOL	315	Geologic Field Techniques	2
PHYS	201, 202	Principles of Physics I and II	8
		General Education	11
		Approved Geology Electives	7
		Electives	4
			32

Senior Year			Credits
GEOL	410	Stratigraphy and Sedimentation	5
GEOL	411	Structural Geology	5
		Approved Geology Electives	7
		Approved Science or Engineering Electives	7
		Electives	3
			27

NOTE: the above sample schedule reflects a typical geology option. Changes would be required for other option areas. Majors should consult the program of geology for specific course requirements for each option.

GEOL COURSES

GEOL 101 Earth Science 4(4-0)
Classification and origin of rocks and minerals. Weathering. mass-wasting, running water, glaciers and crustal structure, elementary oceanography, planetary geology, geodesy and geomagnetism. GEN. ED. IIID.

GEOL 105 Geology of National Parks and Monuments 3(3-0)
Geologic studies of Yellowstone, Yosemite, Zion, Hawaii, Big Bend, Bryce Canon, Crater Lake, Mount Rainier, Grand Canyon, Grand Teton, Glacier, Dinosaur. GEN. ED. IIID.

GEOL 122 Physical Geology 4(3-2)
Petrogenesis of rocks and minerals and origin of landforms. Structural features and solid earth geophysics as applied to the crust of the earth. GEN. ED. IIID.

GEOL 123 Historical Geology 4(3-2) Prerequisite GEOL 101, 105 or 122.
Genesis of rock formations throughout geologic time, paleogeology of North America, identification and classification of fossils. GEN. ED. IIID.

GEOL 204 Introduction to Soil Science 4(3-2) Prerequisite CHEM 111 or 121.
Formation, properties and management of soils emphasizing soil conditions that affect plant growth.

GEOL 210 Map and Aerial Photo Interpretation 2(2-0)
Elements of reading, classifying, evaluating and interpreting maps and aerial photographs relative to their physical and cultural features. Maps made from aerial photos.

GEOL 300 Environmental Geoscience 3(2-2) Prerequisite GEOL 101 or 122.
Geological conditions and influences affecting the life and development of man: mineral, oil, stream erosion, landslides, subsidence, earthquakes.

GEOL 301 Mineralogy 4(3-2) Prerequisite CHEM 121.
Cystallographic, chemical and physical properties of minerals and their methods of identification.

GEOL 302 Petrology 4(3-2) Prerequisite GEOL 301.
Rock petrogenesis and identification by use of macroscopic, binocular microscope methods. Phase systems of silicate melts.

GEOL 303 Optical Mineralogy and Petrography 4(3-2) Prerequisite GEOL 301.
Elements of crystal optics, determination of minerals and rocks with polarizing microscope. Rock-forming minerals and rocks in thin section. X-ray techniques for studying minerals may be included.

GEOL 308 Invertebrate Paleontology 3(1-4) Prerequisite GEOL 123 or BIOL 202.
Identification, classification, morphology and stratigraphic significance of fossil macroinvertebrates plus micro.

GEOL 310 Meteorology 3(3-0) Prerequisite GEOG 102 or GEOL 101.
Meteorological elements emphasizing world climate types and climatic relations to human activities.

GEOL 313 Principles of Geomorphology 3(2-2) Prerequisite GEOL 101 or 122.
Classification and genesis of landforms of earth's surface. Includes fluvial and glacial processes.

GEOL 314 Physical Oceanography 3(3-0) Prerequisite GEOL 101, 105 or 122, MATH 105.
Physical processes in oceans and estuaries. Geomorphology, sedimentation, geochemistry, geophysics and tectonics of oceans and estuaries.

GEOL 315 Geologic Field Techniques 2(0-4) Prerequisite Permission of instructor.
Use of Brunton compass, alidade, aerial photographs and geomorphic interpretation. Introduction to geologic mapping.

GEOL 318 Remote Sensing 3(2-2) Prerequisite GEOL 122, GEOG 210, PHYS 201 or permission of instructor.
Theory of remote sensing systems and techniques using electromagnetic spectrum from ultraviolet through microwave; application of remote sensing to geoscience and environmental problems.

GEOL 405 Ground Water 4(3-2) Prerequisite GEOL 101 or 122, MATH 120.
Principles of ground water hydrology. Methods of conducting ground water survey. Ground water case histories, especially Colorado's.

GEOL 410 Stratigraphy and Sedimentation 5(5-0) Prerequisite GEOL 123 and 302.
Methods of transportation and environments of deposition of sediments. Geologic formations, facies and the tectonic framework.

GEOL 411 Structural Geology 5(5-0) Prerequisite GEOL 123 and 302, MATH 122.
Origin, description, classification and analytical interpretation of the structural features of the earth's crust.

GEOL 412 Tectonics of North America 3(3-0) Prerequisite GEOL 411.
Case histories of the geosynclinal-orogenic cycle of North America. Geotectonics as a function of geologic time.

GEOL 414 Petroleum Exploration 3(3-0) Prerequisite GEOL 122, 123 and MATH 122 or 124.
Genesis, occurrence, migration and accumulation of petroleum. Analyses of reservoir rocks and fluids; stratigraphic, structural and hydrodynamic traps; oil shale strata of the Green River Formation.

GEOL 415 Exploration Geophysics 5(5-0) Prerequisite GEOL 101 or 122, PHYS 201 and MATH 123.
Gravimetric, magnetic, seismic, electrical and gammaneutron methods as applied in the petroleum and mining industries.

GEOL 425 Cartography 4(3-2) Prerequisite GEOG 102 or GEOL 101.
Map projections, compilation, generalization and symbolization. Quantitative data and basic map construction methods.

GEOL 430 X-Ray Crystallography 3(3-0) Prerequisite Permission of instructor.
Theory and practice of powder method, x-ray fluorescence, single crystal method, space group symmetry; application to geoscience problems.

GEOL 440 Geochemistry 3(3-0) Prerequisite CHEM 122 and GEOL 301, or permission of instructor.
Chemical applications to the study of geology, including some study of isotope, age-dating and trace element techniques, organic geochemistry, aqueous geochemistry and geochemistry of some ore deposits.

GEOL 491 Special Topics (1-2 VAR) Prerequisite Permission of instructor.
Topics are considered which serve the interest of 12 or more students.

GEOL 495 Independent Study (1-2 VAR) Prerequisite Permission of the department.
Field and/or laboratory research on special geologic problems.

HISTORY

Faculty: Daxton, Eagan, Wilkin

The history program, a part of the center for humanistic policy studies, offers courses which lead to a Bachelor of Arts (BA) degree. The program is designed to prepare individuals at the undergraduate level for careers in university teaching, law, government and private enterprise. Courses comprising the undergraduate major in history serve to complement the liberal arts core at USC and to prepare students for entry into graduate programs leading toward professional study in law, teaching and other specialized fields. The major also gives students a broad perspective on man and his development through time and provides a strong background on the relationships of people and nations.

The program also offers a minor and gives courses in a wide variety of historical topics which are open to all students.

MAJOR

Requirements for a history major include a minimum of 30 semester hours in history. Required courses include HIST 101, 102, 200, 201 and 202.

A typical history schedule is:

Freshman Year			**Credits**
ENG	110, 211	Composition I and II	6
HIST	101	World Civilization to 1500	5
HIST	102	World Civilization since 1500	5
PE	100	PE Orientation	2
RDG	120	College Reading	2
SPCOM	100	Speech Communications	3
SPCOM	101	Expository Speaking	2
		Foreign Language	10
			35

Sophomore year			**Credits**
HIST	185	Research in History	1
HIST	201	The United States to 1865	3
HIST	202	The United States since 1865	3
		Foreign Language	6
Group	II	Social Sciences	10
Group	III	Natural Science	7
			30

Junior year			**Credits**
Group	III	Natural Sciences	3
		History Electives (300/400 level)	6
		General Electives	24
			33

Senior Year		**Credits**
	History Electives (300/400 level)	7
	General Electives	25
		32

MINOR

Twenty (20) hours of history are required including HIST 102 and 202. The remaining courses are to be chosen by the student with approval of the adviser.

Grade requirements. No grade below C is acceptable in either the major or minor; the course must be repeated or additional hours assigned by the student's adviser in consultation with the student.

HIST COURSES

UNDERGRADUATE

HIST 101 World Civilization to 1500 5(5-0)
Cultural and political growth of civilizations from prehistoric times to 1500; emphasis on the unique contributions of independent cultures to world history. GEN. ED. IIC.

HIST 102 World Civilization since 1500 5(5-0)
Cultural and political interaction of civilizations from 1500 to the present; emphasis on common problems and goals of mankind. GEN. ED. IIC.

HIST 150 The Human Experience 3(3-0)
Human efforts to organize societal activity and relationships for group development and survival through political, economic, and social institutions. GEN. ED. IIC.

HIST 180 History for Everyone 1(1-0)
Introduction to the variety of subjects included in the discipline known as "history." GEN. ED. IIC.

HIST 185 Research in History 1(1-0)
Enhances general knowledge of all students by developing skills to evaluate historical data. GEN. ED. IIC.

HIST 190 Biography as History 1(1-0)
Manner in which biography can be used to develop interest in the past. Includes a segment on the importance of family history to each individual. GEN. ED. IIC.

HIST 201 The United States to 1865 3(3-0)
United States from founding of British North American colonies through the Civil War. GEN. ED. IIC.

HIST 202 The United States since 1865 3(3-0)
United States from Reconstruction era to the mid-twentieth century. GEN. ED IIC.

HIST 203 History of Latin America 3(3-0)
Nations and cultures of Latin America since independence. GEN. ED IIC.

HIST 210 Nations at War 3(3-0)
Causes, consequences and prevention of war. Includes study of seven different conflicts. GEN. ED. IIC.

HIST 211 Colorado History 2(2-0)
History, government and economic factors important to the settlement and development of Colorado. GEN. ED. IIC.

HIST 291 Special Topics (1-3 VAR)
Independent study involving research and seminars.

HIST 301 Emergence of the U.S. 3(3-0)
Beginning of American culture through the movement for independence.

HIST 303 Early 19th Century America (1790-1846) 3(3-0)
Development of the United States from the federalist era to the Mexican War.

HIST 304 Mid-19th Century America 3(3-0)
Expansion and turmoil of the United States from the Mexican War to the end of Reconstruction.

HIST 305 Foundations of 20th-Century America (1865-1930) 3(3-0)
Principal problems and developments of the period from Reconstruction through the Hoover administration.

HIST 306 20th-Century America 3(3-0)
United States from the New Deal to the present.

HIST 311 History of United States Foreign Policy 3(3-0)
United States foreign policy from the founding of the republic to the present.

HIST 313 American West 3(3-0) Prerequisite Permission of instructor.
Role of the individual and the group in the development of the frontier into the twentieth century.

HIST 321 American Constitutional Development 3(3-0) Prerequisite HIST 202 or POLSC 101.
Origin, development, broadening of the American Constitution by legal decisions, customs, political parties, executive agreements, legislative interpretation.

HIST 331 American Urban History 3(3-0)
Development of urban America. View from the city as unique in both its development and existence, often separate from other historical events.

HIST 341 History of England 3(3-0)
Survey of English history from ancient to modern periods with emphasis on major contributions of this nation to world history.

HIST 355 Ancient Near East 3(3-0)
Beginnings of history and civilization from Sumer and Egypt.

HIST 356 History of Islamic World 3(3-0)
From the impact of Mohammed on the Middle East and the outside world to the present day.

HIST 361 History of Russia I 3(3-0)
Cultural and political development of Russian history from ancient times to 1801; emphasis on major trends and personalities.

HIST 362 History of Russia II 3(3-0)
Cultural and political development of Russian and Soviet history from 1801 to the present; emphasis on impact of the Bolshevik revolution on history.

HIST 371 Africa 3(3-0)
Survey history of the continent, its people and its social dynamics from the traditional system to the contemporary.

HIST 389 History of the Southwest 3(3-0)
History of the Mexican cession to the United States from its Indian and Hispanic origin to the present.

HIST 401 The American Military Experience 3(3-0)
Origins and development of the armed forces in American society; six themes: the democratic revolution, the industrial revolution, the managerial revolution, the mechanical revolution, the scientific revolution and the social revolution. Themes developed in chronological sequence.

HIST 415 Historical Biography 2(2-0)
Introduction to biography as a form of history. Students select, study and critique the lives of great men and women.

HIST 416 Revolutions 2(2-0)
General historic development of revolutions; emphasis on one major revolutionary movement in world history.

HIST 440 History of Mexico 3(3-0)
Political, cultural and economic development of Mexico from pre-conquest civilizations to the present.

HIST 441 Chaucer and His Age 3(3-0)
Chaucer and his contemporaries in their cultural setting.

HIST 443 History of Argentina, Brazil and Chile 3(3-0)
ABC nations of South America from their colonial origins to the present.

HIST 444 Japan 3(3-0)
Survey of Japanese history emphasizing the modern period. Japanese culture and tradition as foundations of present society.

HIST 445 The People's Republic of China 3(3-0)
History of modern China from 1911 to the present. Chinese culture and tradition as foundations of present society.

HIST 448 History of East Central Europe 3(3-0)
Development of civilizations in east central Europe from ancient times to the present; emphasis on the unique contribution of each culture in the region.

HIST 451 History of Greece and Rome 3(3-0)
Greek history from Homeric times to the fall of the western Roman empire.

HIST 453 Middle Ages 3(3-0)
Study of medieval life and contributions made by men and women of the middle ages.

HIST 454 Renaissance and Reformation 3(3-0)
Reawakening of learning in Europe and emergence of nationalism and secularization from the Fourth Crusade to the period of Enlightenment.

HIST 456 18th and 19th-Century Europe 3(3-0)
Development of European history from 1688 to 1918; emphasis on trends and personalities of major importance.

HIST 458 20th-Century Europe 3(3-0)
Events and personalities from World War I to the present.

HIST 491 Special Topics (1-3 VAR) Prerequisite Junior or senior status with adequate preparation and permission of instructor.
Independent study involving seminars and research.

GRADUATE

HIST 501 Emergence of the U.S. 3(3-0) Prerequisite Graduate standing.
From the beginning of American culture through the movement for Independence.

HIST 513 American West 3(3-0) Prerequisite Graduate standing.
Role of the individual and the group in the development of the frontier into the twentieth century.

HIST 516 Revolutions 2(2-0) Prerequisite Graduate standing.
General historic development of revolutions; emphasis on one major revolutionary movement in world history.

HIST 540 History of Mexico 3(3-0) Prerequisite Graduate standing.
Political, cultural and economic development of Mexico from preconquest civilizations to the present.

HIST 548 History of East Central Europe 3(3-0) Prerequisite Graduate standing.
Development of civilizations in east central Europe from ancient times to the present; emphasis on the unique contribution of each culture in the region.

HIST 551 History of Greece and Rome 3(3-0) Prerequisite Graduate standing.
Greek history from Homeric times to the fall of the western Roman empire.

HIST 555 Ancient Near East 3(3-0) Prerequisite Graduate standing.
Beginnings of history and civilization from Sumer and Egypt.

HIST 558 20th-Century Europe 3(3-0) Prerequisite Graduate standing.
Events and personalities from World War I to the present.

HIST 587 Historiography 2(2-0) Prerequisite Graduate standing.
Development of the field of history; general approaches used and influences of attitudes on historical presentation.

HIST 589 History of the Southwest 3(3-0) Prerequisite Graduate standing.
History of the Mexican cession to the United States from its Indian and Hispanic origin to the present.

HONORS PROGRAM

The university offers an honors program for academically excellent and gifted students. Any student may enroll in the honors courses but admission to the program is selective. To qualify for admission to the program, incoming freshmen must have been in the upper 10 percent of their high school graduating class. Ongoing USC students may apply with the recommendation of their department head if their grade point average is 3.50 or higher.

Honors courses are interdisciplinary and non-traditional. Freshman and sophomore honors courses may be used to satisfy the general education requirements listed under Group II.

Graduation with distinction or with special distinction is based on a student's grade point average. Graduation with honors means the student has been admitted to and successfully completed the honors program.

Further information and application materials required to enter the program are available from advisers.

IDH COURSES

IDH 101 Global Persons 2(1-2)
Problems of contemporary persons in a technological and developing world society. GEN. ED. IIF. (S/U Grades.)

IDH 102 Technologic Persons 2(1-2)
Historical background of technologic societies, their manifestations and problems, their possible and probable futures. GEN. ED. IIF. (S/U Grades.)

IDH 201 Creative Persons 2(1-2)
Why persons create, the creative processes, and known systems for deliberately increasing creativity. GEN. ED. IK. (S/U Grades.)

IDH 202 Inquisitive Persons 2(1-2)
Examines various methodological approaches applied to the human search for knowledge. GEN. ED. IIIG. (S/U Grades.)

IDH 291 Special Topics (1-3 VAR)
Inter-disciplinary courses designed to be topical, issue-centered, exploratory and experimental. (S/U Grades.)

IDH 301 Social Persons 2(2-0) Prerequisite Four hours previous honors work.
Explores the major paradigms for human relations and the consequences of operating from the paradigms. (S/U Grades.)

IDH 302 Proactive Genesis 2(2-0) Prerequisite Four hours previous honors work.
Reviews the paradigms used to look at self and the world; emphasizes formation of new paradigms; examines trends; introduces future studies as a means for viewing co-creation of a world that works for everyone. (S/U Grades.)

IDH 401 Honors Project 2(2-0) Prerequisite Four hours previous honors work.
Individual, directed, independent study; focuses on applying what has been introduced and learned in Honors courses. (S/U Grades.)

IDH 402 Unifying Persons 2(2-0) Prerequisite Four hours previous honors work.
Reviews, updates, and integrates information and knowledge to identify and clarify contemporary persons' problems, challenges and opportunities in a global society. (S/U Grades.)

IDH 491 Special Topics (1-3 VAR)
Inter-disciplinary courses designed to be topical, issue-centered, exploratory and experimental. (S/U Grades.)

HUMANITIES

Humanities, an interdisciplinary program, offers a composite major leading to the degree of bachelor of arts (BA). The program is suitable for students who intend to enter occupations or graduate schools for which a general liberal arts degree provides preparation. In addition, certain interdisciplinary

courses are offered for all students who wish to obtain a broad integrated knowledge of the fine arts and humanities.

MAJOR

The humanities major requires 40-44 semester credit hours within the humanities. Specifically **required** core courses include: PHIL 311, 313 and 314 or 315, ENG 221 and 222 and one sequence selected from the following three: ART 101 and 102, MUS 121 and 122 or SPCOM 216 and 217. Additional **requirements** are one to three hours in an experience course such as ART 118 and an introductory course in the fields not selected from the ART, MUS and SPCOM sequences listed above. Electives of 17 hours in the humanities, at least six hours of which must be at the 300 or 400 level, complete the major. Students may use the electives for study of areas of particular personal interest, to explore broadly among the humanities disciplines or to specialize in one discipline of the humanities. Strongly **recommended** but not required is a 10-hour sequence in world civilization, HIST 101 and 102.

A typical broad area humanities schedule is:

Freshman Year			**Credits**
ART	101, 102	Art History Survey I and II	6
BCOM	110, 211	Composition I and II	6
PE	100	P.E. Orientation	2
RDG	120	College Reading	2
SPCOM	101	Expository Speaking	2
Group	I	Humanities	3
Group	II	Social Sciences	6
Group	III	Natural Sciences	6
			33

Sophomore Year			**Credits**
ENG	221, 221	Western World Literature I and II	6
SPCOM	216	Theatre Survey I	3
Group	I	Humanities	13
Group	II	Social Sciences	4
Group	III	Natural Sciences	4
			30

Junior Year			**Credits**
HIST	101	World Civilization	5
PHIL	311	Aesthetics	3
PHIL	313, 314	History of Phil. I and II	6
SPCOM	217	Theatre Survey II	3
		Experience course in music	3
		An introductory course in speech	3
		Upper-division electives in humanities	9
			32

Senior Year			**Credits**
HIST	102	World Civilization	5
		Electives (of which 22 must be upper division)	28
			33

HUM COURSES

HUM 100 Film: Art and Technology 3(3-0)
Study of developing of style and subject matter of a significant art form which reflects the impact of technology on the film industry. GEN. ED. I-I.

HUM 150 Humanistic Traditions: From the Hand of Man 3(3-0)
Study of the historical interrelationship between the fine arts and the humanities and contemporaneous social and technological developments from antiquity to the late classical period. GEN. ED. IK.

HUM 151 Humanities and Technology 3(3-0)
Study of the historical interrelationship between the fine arts and the humanities and contemporaneous social and technological developments from late classical period to the present. GEN. ED. IK.

INDUSTRIAL EDUCATION

Faculty: Bottini, Morgan, Tedrow

The program in industrial education offers the master of arts (MA) and bachelor of science (BS) degrees in industrial education. Both programs are suitable preparation for students who wish to teach industrial subjects in the secondary schools. The master's program is also appropriate preparation for those wishing to teach in a community college or vocational school. In addition, the baccalaureate degree includes an industrial option for students who seek careers in construction, insurance, government, manufacturing, public service, retail business, service management, planning, estimating or inspection. Students electing this option are **required** to complete a minor outside the College of Professional Studies and/or to complete two areas of specialization within the college.

Facilities consist of large laboratories which are exceptionally well equipped, in many cases surpassing the recommendations of public schools and industry. The professional staff have both academic and practical industrial experience as well as strong teaching backgrounds, and are well qualified to prepare teachers for today's and tomorrow's schools.

MAJORS

Master of Arts. The master's degree with a major in industrial education is designed to meet the specific needs of each student. The student's background, experience and professional aspirations are important factors in designing each student's course of study. The degree is designed to meet the needs of secondary and post-secondary teachers who are teaching industrial education and of vocational educators.

Programs in unit shop facilities are available in many areas. Staff members who are master craftsmen and have had years of teaching experience are assigned to teach in each area.

Applicants for admission to the master of arts program must have someone knowledgeable with their teaching and background experience submit a letter of recommendation along with other application materials to the Director of Graduate Studies.

Degree Requirements:

1) Required Industrial Education courses (13 Credits)

IED	581	Curriculum Development in Industrial Education	3
IED	582	History of Industrial Education	3
IED	584	Philosophy of Industrial Education	3
IED	585	Organization and Administration of Industrial Education	3
IED	593	Seminar	1
			13

2) Professional education electives (six semester hours) must be approved by the adviser and the teacher education department. In addition, a minimum of eleven semester hours of graduate electives must be approved by the major adviser.
3) Minimum requirements and electives (adviser approval).
4) All transfer credit must be approved by the graduate director and the head of the industrial education department (maximum six semester credits).
5) A minimum of 30 semester credits is required for the MA degree. Students with deficiencies in a particular area may be required to complete additional work as determined by the student's adviser and the head of the department.
6) Program examination is required. It is to be taken after the completion of two-thirds or more of degree requirements.

Bachelor of Science — Teaching Option. This program is designed for individuals who wish to qualify to teach industrial education in private and public schools. Certification requirements may be accomplished by completing the industrial education program listed below and the professional education requirements of the state. See certification under the program of **education.**

All students are required to complete a major emphasis in one of the following: automotive, drafting, electronics, metals or woodworking, hours to be approved by the adviser. Students may elect to fulfill the requirements for a combination concentration by completing one-half the requirements in any two of the above areas. Approval by the head of the industrial education program is required.

Industrial Option. This program is designed for individuals who wish to enter industry. Students complete a core of courses selected from automotive, drafting, electronics, metals, and woodworking.

Students must take additional courses and specialize in one of the core areas above, and complete a minor outside of the College of Professional Studies (business recommended), and/or a second area of specialization. The minor and option must have approval of the head of the program.

A typical program in the teaching option is:

Freshman Year			**Credits**
ENG	110, 211	Composition I and II	6
or			
ENG	115, 216	Technical Writing I and II	
IED	101	Beginning Woodworking	3
IED	102	Machine Woodworking and Lab	6
IED	120	Philosophy of Industrial Education	2
MET	104	Welding Technology	3
MET	111, 112	Technical Drafting I and II	6
PE	100	PE Orientation	2
RDG	120	College Reading	2
SPCOM	101	Expository Speaking	2
		General Education	6
			38

Sophomore Year			**Credits**
APSM	225	Power Mechanics	3
ED	102	Teaching As A Career	1
ED	202	Foundation of Education	3
ED	210	Human Growth and Development	3
IED	135	Period and Modern Furniture Design	3
IED	202	Crafts	3
IED	221	Sheet Metal	2
MET	103	Machining Technology	3
PSYCH	101, 102	General Psychology I and II	6
		General Education	9
		Concentration Elective	6
			42

Junior Year			**Credits**
CET	313	Architectural Drafting I	3
IED	302	Construction and Manufacturing Tech I	3
IED	312	Cabinet and Furniture Making	3
IED	320	Pattern Making and Foundry	3
IED	331	Ornamental Iron and Art Metal	3
IED	345	Career Education	2
IED	377	Materials and Techniques of Teaching Industrial Ed.	3
PSYCH	351	Psychology of the Exceptional Individual	3
		Teacher Education	3
		General Education	6
		Elective in major	6
			38

Senior Year			**Credits**
BBE	405	Education Across Cultures	2
ED	435	Classroom Management	3
ED	460	Laboratory in Education	3
ED	461	Atypical Students in the Secondary Schools	2
ED	488	Student Teaching	10
IED	455	Curriculum Development and Evaluation in Industrial Ed.	3
IED	457	Organization and Administration in Industrial Ed.	3
RDG	425	Teaching Reading in Content Area	2
			28

NOTE: The industrial option is individually designed with an adviser.

MINOR

A minor in industrial education may be earned by completing the following courses: Auto 2 credits, Drafting 6 credits, Metals 6 credits, Wood 9 credits, Welding 3 credits, IED 377 3 credits, IED 455 3 credits. Total 32 credits.

IED COURSES

UNDERGRADUATE

IED 101 Beginning Woodworking 3(0-6)
Basic skills in designing and layout. Hand and machine woodworking tools and equipment are used.

IED 102 Machine Woodworking 6(2-8) Prerequisite IED 101. Corequisite IED 102L.
Projects while using selected power woodworking machines. Safety in the use and care of machines is emphasized.

IED 103 Advanced Woodworking 6(2-8) Prerequisite IED 102.
Intensive study of the woodworking industry as it relates to materials, production, and construction.

IED 106 Fundamentals of Carpentry I 3(0-6)
Tools and types of building materials which are essential in planning and building houses and furniture are investigated.

IED 120 Philosophy of Industrial Education 2(2-0)
Philosophical foundations of industrial education in a modern society. European and American men who have influenced the development of industrial education in America.

IED 130 Period and Modern Architecture 3(3-0)
Identification of European and American architectural masterpieces. Particular emphasis on functional aspects of structure. Some field experience may be required. GEN. ED. I-I.

IED 135 Period and Modern Furniture Design 3(3-0)
The history and practical application of period and modern styles of furniture. GEN. ED. I-I

IED 202 Crafts 3(0-6)
For students who teach crafts. Selection, composition, design and fabrication of plastics, leather and art metals.

IED 203 Wood Turning 3(0-6)
Basic skills in wood turning and the use of the lathe to supplement bench and machine woodworking.

IED 214 Industrial Finishing 3(0-6) Prerequisite IED 101 or equivalent.
Spraying, brushing and padding finishing techniques, traditional and new finishing materials are used.

IED 221 Sheet Metal 2(0-4)
Sheet metal shear, brake, rolls. Joining of sheet metal by seaming, riveting and soldering.

IED 296 Cooperative Education Placement (1-5 VAR)
For freshmen and sophomores. Work experience under direction of a field supervisor and faculty member.

IED 302 Construction and Manufacturing Technology I 3(0-6)
Products and procedures as used in the construction industry. Students simulate industrial practices in laboratory.

IED 305 World of Construction and Manufacturing II 2(0-4) Prerequisite IED 106.
Cognitive and psychomotor skills and attitudes in manufacturing practice experiments.

IED 310 Cabinet and Furniture Making I 2(2-0) Prerequisite IED 102.
Laboratory course in cabinet making and furniture construction.

IED 311 Cabinet and Furniture Making II 6(2-8) Prerequisite IED 310.
Laboratory experience in advanced cabinet making practices, millwork and furniture making.

IED 312 Cabinet Making and Furniture Making III 3(0-6) Prerequisite IED 311.
Individual projects using innovative construction methods and techniques in industry.

IED 320 Pattern Making and Foundry 3(2-4) Prerequisite IED 301.
Pattern and core design, draft, shrinkage, finish and operation of basic woodworking tools and machinery.

IED 331 Ornamental Iron and Art Metal 3(0-6)
Hot and cold iron worked into ornamental objects using various forming tools. Bending, cutting, riveting, welding, layout and design work.

IED 345 Career Education 2(2-0) Prerequisite ED 202.
Design, implementation and conducting of career education programs. Selection and preparation of teaching materials for career education programs.

IED 346 Problems in Career Education 2(2-0) Prerequisite ED 202.
Students develop instructional materials, design teaching aids, and collect occupational information. Review of facilities, equipment and supply needs of career educational programs.

IED 361 Advanced Cabinet and Furniture Making 3(0-6) Prerequisite IED 300.
Innovative materials, designs, construction techniques, tools, and machines used in school and industry explored and utilized.

IED 377 Materials and Techniques of Teaching Industrial Education in the Secondary Schools 3(3-0) Prerequisite IED 120.
Practical methods and techniques of teaching industrial education classes.

IED 455 Curriculum Development and Evaluation in Industrial Education 3(3-0) Prerequisite IED 120.
Practical methods and techniques of organizing curriculum and evaluative materials.

IED 457 Organization and Administration in Industrial Education 3(3-0) Prerequisite IED 120.
Laboratory organizational patterns, administrative duties of the teacher, and safety regulations.

IED 490 Special Projects (1-5 VAR)
For advanced students. Each student selects, outlines and pursues a project. Instructor approval and supervision provided. May be repeated.

IED 493 Seminar (1-5 VAR)
Individual and small-group activities. Individual experimentation and expertise development in industrial education. May be repeated.

IED 495 Independent Study (1-5 VAR)
For advanced students. Each student selects, outlines and pursues a project. Instructor approval and supervision provided. May be repeated.

IED 496 Cooperative Education Placement (1-5 VAR)
For juniors and seniors. Work experience under direction of field supervisor and faculty member.

GRADUATE

IED 500 Workshop 2(2-2) Prerequisite Graduate standing.
Offered in any of the technical areas for special groups of individuals who have similar interests and needs. Investigates special trends and problems. May be repeated.

IED 511 Circuit Theory 3(0-6) Prerequisite EET 356 or equivalent.
Lumped network element models, Kirchoff's laws, mode equations, mesh equations, superposition, reciprocity, substitution. Thevenin's, Norton's compensation, Millman's maximum power transfer theorem.

IED 520 Trends and Problems in Teaching Technical Drawing 2(0-4) Prerequisite MET 311.
Emphasis on problems of technical obsolescence, new drafting standards and methods of coping with expanding drafting technology.

IED 521 Drafting Techniques 2(0-4) Prerequisite MET 308.
Graphic methods for solving and displaying algebraic equations, coordinate geometry and empirical equations, nomography.

IED 528 Crafts — Leather and Plastics 3(0-6) Prerequisite IED 200 or equivalent.
Career awareness and occupational information an integral part of the course. Basic techniques of working leather and plastics will be taught.

IED 530 Advanced Machine Shop 2(0-4) Prerequisite MET 304.
Various types of numerically controlled machine tools, their operation and capabilities.

IED 533 Manufacturing Processes 2(0-4) Prerequisite IED 530.
Current materials of industry and how they affect industrial society.

IED 535 Crafts — Metals 3(0-6) Prerequisite IED 202 or equivalent.
Career awareness and occupational information on the use of different tools, materials.

IED 540 Power Mechanics 2(1-4) Prerequisite APSM 345 or equivalent.
Principles of operation, nomenclature, and methods of service.

IED 541 Advanced Automotive 2(0-4) Prerequisite IED 345 or equivalent.
Use of test and diagnostic equipment, all phases of auto.

IED 542 Fluid Power 2(0-4) Prerequisite MET 321 or equivalent.
Curriculum, equipment, methods and application of fluid power courses in secondary and post-secondary schools.

IED 545 Career Education 2(2-0) Prerequisite IED 345 or equivalent.
Design, implementation and conducting career education programs. Selecting and preparing teaching materials for career education programs.

IED 546 Problems in Career Education 3(3-0) Prerequisite IED 345 or 545.
Students develop instructional materials, design teaching aids and collect occupational information. Review of facilities, equipment and supply needs of career education programs.

IED 547 Career and Occupational Education 2(2-0) Prerequisite Graduate standing.
Techniques and procedures in analyzing occupations. Problems, methods and procedures involved in planning, organizing and disseminating occupational information to students.

IED 555 Trends and Problems in Industrial Education 3(3-0) Prerequisite Graduate standing.
Practical methods and techniques of organizing curriculum materials and controlling a typical industrial education program. May be repeated.

IED 557 Organization and Administration in Industrial Education 3(3-0) Prerequisite IED 457.
Shop organizational patterns, administrative duties of the teacher, and new trends in selection and arrangement of equipment and facilities.

IED 562 Introductory Physics of Metals 2(0-4) Prerequisite MLET 225.
Solid, electron theory of metals, electrical and thermal conductivity theory of magnetism, specific heat diffusion and reaction rates.

IED 570 Special Problems in Woodworking 3(0-6) Prerequisite IED 361.
Experimental work with new tools, equipment, materials and processes for improved program development and teaching techniques in woodworking.

IED 571 Materials and Processes in Teaching Woodworking 3(0-6) Prerequisite IED 561.
Intensive study in selected areas of the woodworking industry as it relates to materials, processes and construction. Mass production and experimentation.

IED 575 Crafts — Woods 3(0-6) Prerequisite Graduate standing.
Course designed for the teacher to experience use of different tools, materials and supplies available for use.

IED 577 Materials and Techniques of Teaching Industrial Education in the Secondary Schools 3(3-0) Prerequisite IED 377.
Practical method and techniques in teaching industrial education classes.

IED 580 Problems in Industrial Education 3(3-0) Prerequisite Graduate standing and permission of instructor.
In-depth study by one or more students who wish to enrich their teaching ability in a specific area of industrial education. May be repeated.

IED 581 Curriculum Development in Industrial Education 3(3-0) Prerequisite IED 455 or equivalent.
Derivation of objectives, selection and arrangements of instruction units and materials for industrial education classes.

IED 582 History of Industrial Education 3(3-0) Prerequisite Graduate standing.
Leaders, agencies and movements that have contributed to the social and philosophical influences in industrial education.

IED 583 Visual Aids in Industrial Education 3(3-0) Prerequisite Graduate standing.
Instructional sheets, charts, graphs and other instructional devices planned and developed by students.

IED 584 Philosophy of Industrial Education and Vocational Education 3(3-0) Prerequisite Graduate standing.
Overview of the nature and purpose of the practical arts and vocational education, their relationships, differences and the place each should have in public schools.

IED 585 Organization and Administration of Industrial Education 3(3-0) Prerequisite IED 455 and 457.
Organization and administration of industrial education programs as they relate to federal, state and local school administration.

IED 588 Experimentation in Industrial Education 2(2-2) Prerequisite Graduate standing.
Investigation of the latest materials, tools and techniques used in industry. May be repeated.

IED 590 Special Projects (1-5 VAR)
For advanced students. Each selects, outlines and pursues a project. Instructor approval and supervision provided. May be repeated.

IED 591 Special Topics (1-5) VAR
Individual and small-group activities in individual experimentation and expertise development in industrial education. May be repeated.

IED 592 Research (1-5 VAR)
Original research under professor's supervision. May be repeated.

IED 593 Seminar (1-5 VAR)
Individual and small-group activities. Current topics, issues, resources, and practices. May be repeated.

IED 595 Independent Study (1-5 VAR)
For advanced students. Each selects, outlines and pursues a project. Instructor approval and supervision provided. May be repeated.

LIFE SCIENCES

Faculty: Dorsch, Farris, Herrmann, Janes, LaVelle, Linam, Murray, Osborn, Seilheimer, Thomas

The program in life sciences offers degrees leading to the bachelor of science (BS) in biology and specialized fields and associate of science (AS) in agriculture. In addition to degree programs, the program serves students by providing fundamental science courses to meet major or program requirements and general education requirements.

MAJORS

The biology major is sufficiently flexible for students to prepare for a wide variety of professional careers, and carefully supervised career planning is a fundamental concern of the program.

The student majoring in biology may plan to enter the world of work or to continue study in graduate school as a professional biologist, or may elect to follow any of the following **pre-professional programs:** pre-chiropractic, pre-optometry, pre-physical therapy, pre-podiatric medicine, pre-veterinary

medicine, pre-dentistry, pre-medicine, or pre-osteopathic medicine. Each of the pre-professional programs has an adviser who can provide detailed and current information about the undergraduate work which the student should pursue to provide the foundation necessary for later entry into the professional school. The student should contact the specialized adviser as early as possible.

The pre-professional program advisers are:

Program	Adviser	Phone
Pre-chiropractic medicine	Dr. Hal Murray	549-2749
Pre-forestry and pre-wildlife management	Dr. Neal O. Osborn	549-2270
Pre-optometric	Dr. Hal Murray	549-2749
Pre-pharmacy	Dr. Jerald L. Connelly	549-2551
Pre-physical therapy	Dr. Hal Murray	549-2749
Pre-podiatric medicine	Dr. John A. Dorsch	549-2420
Pre-veterinary medicine	Dr. Larry Thomas	549-2814
Pre-dental	Dr. Gerald C. Farris	549-2850
Pre-medicine and pre-osteopathic medicine	Dr. John A. Dorsch	549-2420

Frequently, a pre-professional program involves a combination of majors or a major and minor. For example, many pre-medical students choose a double major in biology and chemistry.

The program has an agreement with the School of Natural Resources at Colorado State University in pre-forestry and pre-wildlife management. A student who completes successfully the two-year program at USC with a 2.50 grade point average is guaranteed transfer to the baccalaureate program in the School of Forestry. Grades of D and F do not transfer.

The program also offers a bachelor of science (BS) degree in **medical technology,** with two options. The student may complete three years of work at the university and a year in an affiliated hospital, or may complete the baccalaureate degree in biology and then the required year in the hospital. Students may apply to the hospital laboratory school in the year prior to the intended internship. Four affiliated hospitals are available, two in Pueblo and two in Colorado Springs. Either option of the program qualifies the graduate for the certification examination of the American Association of Clinical Pathologists. Dr. Donald W. Janes, phone 549-2813, is the program director.

The specialization in **environmental health** is designed to meet the curriculum recommended by the Accreditation Council of the National Environmental Health Association (formerly the National Association of Sanitarians). Dr. Jay Linam, phone 549-2509, is the program adviser.

The emphasis in biotechnology is available to students interested in professions and/or graduate schools which require specialization in molecular biology, industrial microbiology or genetics. Dr. Donald Janes, phone 549-2813, is the program adviser.

Core courses required in all programs are:

				Credits
BIOL		171	Career Planning I	1
BIOL		191/191L	Aspects of Biology and Lab	4
BIOL		201/201L	Botany and Lab	5
BIOL		202/202L	Zoology and Lab.	5
BIOL		293/493	Seminar	3
BIOL		301/301L	Microbiology and Lab.	5
BIOL		471	Career Planning IV	1
BIOL		341/341L	Animal Physiology and Lab	4
	or		or	
BIOL		412/412L	Cellular Biology and Lab	4
				28

BIOL 171 should be completed in the fall semester of the first year as a biology major. BIOL 191 and 191L are prerequisites to BIOL 201, 201L, 202 and 202L. BIOL 471 should be completed in the fall semester of the junior or senior year.

The program is housed in a modern building with research-grade equipment available for student use. Specialized facilities include a water research laboratory, a radiation biology complex, a controlled-environment greenhouse, regional museum and local herbarium.

A major in **biology** requires a minimum of 47 semester hours of credit in adviser-approved biology courses and a minimum of 35 semester hours of credit in adviser-approved courses in chemistry, physics, mathematics or geology. Each student should obtain a written description of specific degree requirements from the appropriate adviser. It is recommended that all students who might attend a graduate school take one year of a foreign language and plan to take the Graduate Record Examination during the senior year.

A suggested four-year program for the bachelor of science degree in biology follows. Students should be aware that the pre-professional programs

and specialized tracks such as medical technology or environmental health will require adviser-approved modifications of the program given below, and that planned combinations of majors or major and minor may be suggested by the adviser or investigated by the student.

A suggested four-year program for bachelor of science degree in biology is:

Freshman Year			Credits
BIOL	171	Career Planning I	1
BIOL	191/191L	Aspects of Biology and Lab	4
BIOL	201/201L	Botany and Lab	5
BIOL	293	Seminar	1
CHEM	121/121L	General Chemistry I and Lab	5
CHEM	122/122L	General Chemistry II and Lab	5
ENG	110 or 115	Composition I or Technical and Scientific Comm I	3
BCOM	211 or 216	Composition II or Technical and Scientific Comm II	3
RDG	120	College Reading	2
SPCOM	101	Expository Speaking	2
			31

Sophomore Year			Credits
BIOL	202/202L	Zoology and Lab	5
CHEM	301/301L	Org. Chem. I and Lab	5
CHEM	302/302L	Org. Chem. II and Lab	5
MATH	221	Applied Calculus	5
MATH	240	Intro. to Computer Program	1
PE	100	PE Orientation	2
PHYS	201 and 202	Prin. of Physics I and II	8
	or	or	
PHYS	121	Physics for Health Sciences	4
Group	I and II	General Education	6
			33 or 37

Junior Year			Credits
BIOL	301/301L	Microbiology and Lab	5
Group	I and II	General Education	14
Upper Division adviser-approved electives in biology			12
University-wide electives (either lower or upper division)			3
			34

Senior Year			Credits
BIOL	341/341L	Animal Physiology and Lab	4
	or	or	
BIOL	412/412L	Cellular Biology and Lab	4
BIOL	493	Seminar	1
BIOL	471	Career Planning IV	1
Upper Division adviser-approved electives in biology			8
Additional upper-division or lower-division university-wide electives (minimum)			17
			31

Medical Technology. Students who wish to work in hospital or clinical laboratories may prepare for a career in medical technology by either of two methods: 1) Earn a BS degree in medical technology by attending USC for three years and then serve a one-year internship at one of four affiliated hospital laboratory schools (3 + 1 program), 2) Earn a BS in biology (or chemistry) at USC and then serve a one-year internship at any accredited hospital laboratory school in the United States whether affiliated with USC or not (4 + 1 program). Both programs qualify the student to apply for an examination to be certified by the American Association of Clinical Pathologists.

Students may plan for the 3 + 1 program and apply in their junior year for admission to internship. If not accepted, they may continue with the fourth year of college and complete the 4 + 1 program. The 4 + 1 program provides students with an excellent background for medical technology and many other options in the health-related fields, professional schools, research, and graduate school entrance.

In the year prior to entry into the internship, students in either program must apply to the hospital laboratory school for admission.

The 3 + 1 Program: Students who wish a BS in medical technology are subject to terms of the affiliation agreement made between USC and the four affiliate hospitals, St. Mary-Corwin and Parkview Hospitals in Pueblo, and Memorial and Penrose Hospitals in Colorado Springs. The student must complete at USC a minimum of 90 semester hours of work including a) university requirements and general education, b) 16 semesters hours of adviser-approved biological science including microbiology and immunology, c) 16 semester hours of adviser-approved chemistry including organic or biochemistry and d) one college-level course in mathematics. At the hospital lab school the student may earn 42 semester hours in the MEDT courses listed below. This curriculum is approved by NAACLS, the National Accrediting Agency for Clinical Laboratory Sciences.

Enrollment is limited by the size of the classes in the four affiliate hospitals; completion of the 42 semester hours of hospital-based work is required for graduation with a degree and eligibility to take the ASCP certifying exam.

Students must earn a C or better grade in the required university courses and a grade point average of 2.00 or higher. In the hospital-based course work a higher average is required, depending on the policies of the hospital lab school. Credit and grades earned in the hospital-based courses are recorded on the university transcript and the degree is awarded by the university. Regular tuition and fees will be charged by USC during the three university-based years of instruction, and during the internship at the hospital for the 3 + 1 program.

MEDT COURSES

(Hospital-based)

MEDT 471 Clinical Chemistry 14(0-40) Prerequisite Acceptance to hospital clinical program.
Theory and performance of qualitative and quantitative chemical analysis of blood and body fluids by instrumental and automated methods such as colorimetric, spectrophotometric, gasometric, fluorimetric, electrophoretic and radiommunoassay. Physiological and biochemical rationale for doing various tests.

MEDT 472 Urinalysis 3(3-0) Prerequisite Acceptance to hospital clinical program.
Theory and performance of chemical tests and microscopic studies for kind and quantity of metabolic and cellular constituents of urine and fluids other than blood.

MEDT 485 Clinical Microbiology 8(0-16) Prerequisite Acceptance to hospital clinical program.
Theory and practical experience in isolation and identification of clinically important bacteria, molds and yeasts. Preparation and use of media and staining solutions. Techniques for culturing body fluids and excretions. Techniques for microscopic, biochemical, serological and fluorescent identification. Determining bacterial sensitivity to drugs.

MEDT 496 Blood Banking 5(0-5) Prerequisite Acceptance to hospital clinical program.
Theory, record-keeping and performance of tests and procedures prescribed by the American Association of Blood Banks and Federal Drug Administration relating to preservation and selection of properly matched blood for transfusion and other blood components.

MEDT 497 Hematology 8(0-8) Prerequisite Acceptance to hospital clinical program.
Theory and performance of blood and bone marrow studies. Manual and electronic automated tests to determine number, kind and functional qualities of blood cells.

MEDT 498 Serology 4(0-4) Prerequisite Acceptance to hospital clinical program.
Theory of immunology and clinical performance of tests - complement fixation, precipitation, flocculation, and other procedures on serum and spinal fluid.

The 4 + 1 Program: Students who earn a BS in biology are able to qualify for application to any hospital-based laboratory program in medical technology in the United States and have career options leading them into many other fields in addition to medical technology. The 42-hour hospital-based credit is not earned in this program although students take the same courses during their internship.

The program director is the adviser for both the 3 + 1 and the 4 + 1 programs.

Environmental health. The environmental health program is designed to meet the curriculum specifications of the National Environmental Health Association's Accreditation Council (formerly the National Association of Sanitarians). Upon satisfactory completion of this curriculum a BS degree in biology is awarded.

MINORS

The program recognizes two types of minors: 1) The first minor is recommended for students who might at some time intend to continue their academic education in a biologically-related professional field or graduate program; 2) the second minor is designed for students who wish to establish a minor program and find that biology is helpfully related to their personal goals.

1) Professional biology minor, 23 semester hours: 14 semester hours of specific lower-division courses plus 9 or more additional hours of electives, 8 of which must be upper-division. Required courses are:

			Credits
BIOL	191/191L	Aspects of Biology and Lab	4
BIOL	201/201L	Botany and Lab	5
BIOL	202/202L	Zoology and Lab.	5
			14

Nine additional semester hours, 8 of which must be upper-division BIOL-prefix courses approved by the minor adviser, must be taken.

2) General biological minor, 23 hours of BIOL-prefix courses approved by the minor adviser are required. Eight of these semester hours must be upper-division. The courses selected should have some relationship to the major or intended goals of the student (physical education, psychology, business, mass communications, art, biological hobbies, outdoor interest).

BIOL COURSES

UNDERGRADUATE

BIOL 101 Outdoor Biology 4(4-0)
Principles of biology through outdoor experiences. Mountain survival, native and edible plants, observing and stalking wildlife, environmental awareness and ecology. GEN. ED. IIIA.

BIOL 112 Nutrition 3(3-0)
Analysis of personal dietary habits and behavior in relation to basic human nutritional needs and food composition. GEN. ED. IIIA.

BIOL 121 Environmental Conservation 4(4-0)
Basic principles of ecology and current issues relating to the use of natural resources. GEN. ED. IIIA.

BIOL 132 Human Heredity and Birth Defects 2(2-0)
A non-major course emphasizing the laws and principles of inheritance as they relate to man and the causes of human congenital defects. GEN. ED. IIIA.

BIOL 141 Human Sexuality I 2(2-0)
Sexual behaviors, physiology, dysfunctions, roles, alternative relationships, parenting, legal aspects, contraception and current research in sexuality. GEN. ED. IIIA.

BIOL 162 Personal Health 3(3-0)
In-depth look at the human body from the standpoint of positive health, wellness and fitness. GEN. ED. IIIA.

BIOL 171 Career Planning I 1(1-0)
Identifying career options and creating a personalized educational program.

BIOL 191 Aspects of Biology 3(3-0) Corequisite BIOL 191L.
Introduction to metric measurement, microscope, cell form, function, reproduction, biologically important molecules, bioenergetics, classifying and keying. GEN. ED. IIIA.

BIOL 191L Aspects of Biology Lab 1(0-2) Corequisite BIOL 191.
A laboratory course to accompany BIOL 191. GEN. ED. IIIA.

BIOL 201 Botany 3(3-0) Prerequisite BIOL 191 or permission of instructor. Corequisite BIOL 201L.
Anatomy, physiology, genetics and ecology of the angiosperms. Includes a brief survey of the structures and forms of major plant groups. GEN. ED. IIIA.

BIOL 201L Botany Lab 2(0-4) Corequisite BIOL 201.
A laboratory course to accompany BIOL 201. GEN. ED. IIIA.

BIOL 202 Zoology 3(3-0) Prerequisite BIOL 191 or permission of instructor. Corequisite BIOL 202L.
Anatomy, physiology, ecology and phylogeny of major and minor invertebrate and vertebrate taxa. GEN. ED. IIIA.

BIOL 202L Zoology Lab 2(0-4) Corequisite BIOL 202.
A laboratory course to accompany BIOL 202. GEN. ED. IIIA.

BIOL 206 Introduction to Microbiology 3(3-0) Prerequisite BIOL 191, 221 or 223 and 224. Corequisite BIOL 206L.
For students of nursing and allied health. Applied aspects of medical microbiology.

BIOL 206L Introduction to Microbiology Lab 1(0-2) Corequisite BIOL 206.
A laboratory course to accompany BIOL 206.

BIOL 221 Principles of Human Anatomy and Physiology 3(3-0) Corequisite BIOL 221L.
Fundamentals of anatomical structures and physiological function. GEN. ED. IIIA.

BIOL 221L Principles of Human Anatomy and Physiology Lab 1(0-2) Corequisite BIOL 221.
A laboratory course to accompany BIOL 221. GEN. ED. IIIA.

BIOL 223 Human Physiology and Anatomy I 3(3-0) Corequisite BIOL 223L.
In-depth study of human physiology and anatomy designed for students who require or desire a more thorough understanding of the functional and structural aspect of the human body. Not for biology majors. Topics include physiologically important molecules, and compounds, the cell, tissues, integument, skeleton, muscle, nervous system, special senses and endocrines. GEN. ED. IIIA.

BIOL 223L Human Physiology and Anatomy Lab I 1(0-2) Corequisite BIOL 223.
A laboratory course to accompany BIOL 223. GEN. ED. IIIA.

BIOL 224 Human Physiology and Anatomy II 3(3-0) Corequisite BIOL 224L.
A continuation of BIOL 223. Topics include the vascular system, respiration, digestion, metabolism, excretion, fluid balance and reproduction. GEN. ED. IIIA.

BIOL 224L Human Physiology and Anatomy Lab II 1(0-2) Corequisite BIOL 224.
A laboratory course to accompany BIOL 224. GEN. ED. IIIA.

BIOL 262 (AG 115) Basic Horticulture 3(3-0) Prerequisite BIOL 201 or permission of the instructor. Corequisite BIOL 262L.
Principles of horticulture science applied to the propagation and culture of plants and crops. Landscape design and improvement of plants. GEN. ED. IIIA.

BIOL 262L. Basic Horticulture Lab 1(0-2) Corequisite BIOL 262.
A laboratory course to accompany BIOL 262. GEN. ED. IIIA.

BIOL 291 Topics (1-6 VAR)
Courses designed to study advances in biology or areas of particular interest to special groups of professional biologists and other related professions. Courses must be approved by the department.

BIOL 293 Seminar 1(1-0)
Seminar for freshman biology majors and minors. Includes unique, current, or unusual topics in biology. Activities and speakers include USC faculty and guest speakers. Required of majors.

BIOL 294 Field Experience (1-4 VAR)
Volunteer work experience under program director, department coordinator and faculty supervisor through the cooperative education program. Not open to students who have taken BIOL 296.

BIOL 296 Cooperative Education Placement (1-4 VAR)
Cooperative education work experience under the direction of program director, department coordinator and faculty supervisor. Not open to students who have taken BIOL 297.

BIOL 301 General Microbiology 3(3-0) Prerequisite BIOL 191 and CHEM 301, 301L or permission of the instructor. Corequisite BIOL 301L.
Introduction to the bacteria and viruses including microbial genetics and physiology.

BIOL 301L General Microbiology Lab 2(0-4) Corequisite BIOL 301.
Laboratory techniques of observation, handling, cultivation, identification and control of microorganisms.

BIOL 302 Pathogenic Microbiology and Immunology 3(3-0) Prerequisite BIOL 301 or permission of the instructor. Corequisite BIOL 302L.
Introduction to immunology and survey of pathogenic bacteria, viruses and fungi.

BIOL 302L Pathogenic Microbiology and Immunology Lab 2(0-4) Corequisite BIOL 302.
Laboratory techniques of immunology and medical microbiology.

BIOL 320 Emergency Medical Technician (EMT) Training 6(6-0) Prerequisite Standard or advanced first aid or equivalent, or permission of instructor.
Emergency care and transportation of the sick and injured. Field work in hospital emergency rooms and ambulance. State certification.

BIOL 321 Comparative Vertebrate Anatomy 3(3-0) Prerequisite BIOL 202 or permission of instructor. Corequisite BIOL 321L.
Comparative study of developmental anatomy of vertebrate animals.

BIOL 321L Comparative Vertebrate Anatomy, Dissection 2(0-4) Corequisite BIOL 321.
Comparative dissection of representative vertebrate animals.

BIOL 324 Anatomy of the Head, Neck and Chest 2(2-0) Prerequisite BIOL 221 or BIOL 321 or permission of instructor. Corequisite BIOL 324L.
Anatomical structures of the head, neck and chest with analysis of development and function.

BIOL 324L Anatomy of the Head, Neck and Chest, Dissection 1(0-2) Corequisite BIOL 324.
Dissection and examination of the anatomical structure of the head, neck and chest.

BIOL 326 Plant Morphology 2(2-0) Prerequisite BIOL 201 or permission of instructor. Corequisite BIOL 326L.
Forms, basic structures, relationships, life histories and evolutionary trends of representatives of the major autotropic plant groups.

BIOL 326L Plant Morphology Lab 1(0-2) Corequisite BIOL 326.
A laboratory course to accompany BIOL 326.

BIOL 332 Embryology 2(2-0) Prerequisite BIOL 202 or permission of instructor. Corequisite 332L.
Development of representative vertebrate and invertebrate animals with particular emphasis on the early embryology of *Branchiostoma*, frog, chick and pig.

BIOL 332L Embryology Lab 2(0-4) Corequisite BIOL 332.
A laboratory course to accompany BIOL 332.

BIOL 341 Vertebrate Physiology 3(3-0) Prerequisite BIOL 202, CHEM 205 and 205L or 301 and 301L. Corequisite BIOL 341L.
Basic general physiology and the functions of animal and human body systems.

BIOL 341L Vertebrate Physiology Lab 1(0-2) Corequisite BIOL 341.
A laboratory course to accompany BIOL 341.

BIOL 342 Pathobiology 3(3-0) Prerequisite BIOL 341 or permission of instructor. Corequisite 342L.
Physiological dysfunction and disease mechanisms in humans and other mammals.

BIOL 344 Human Sexuality II 2(2-0) Prequisite Junior standing or permission of instructor.
Biological and psychological aspects of human sexual behavior.

BIOL 351 Genetics 3(3-0) Prerequisite BIOL 191, 201, 202 or permission of instructor. Corequisite BIOL 351L.
Mendelian genetics, cell cycles, molecular genetics, medical genetics and population genetics, with laboratory emphasis on *Drosophila* and man.

BIOL 351L Genetics Lab 1(0-2) Corequisite BIOL 351.
A laboratory course to accompany BIOL 351.

BIOL 352 Evolution and Futuristics 2(2-0)
Historical view of the theory of evolution with emphasis upon man's place in nature and the forces which have produced evolution. Issues involving man's management of his future.

BIOL 353 Ecology 4(4-0) Prerequisite BIOL 201 and 202 or permission of instructor. Corequisite BIOL 392L.
Interaction and interdependencies between organisms and their environment.

BIOL 353L Ecology Field Studies 1(0-2) Corequisite BIOL 392.
Independent and group ecological research in aquatic and terrestrial ecosystems.

BIOL 354 Urban Ecology 3(3-0)
Urban ecology and problems arising from urban implosion. The critical state of energy resources, recent changes in legislation concerning the environment and case studies on national, regional and local urban areas.

BIOL 360 Applications of Computers in the Laboratory 3(2-2) Prerequisite CST 100 or MATH 240 or equivalent.
Applications of computing to medicine, nursing, agriculture, biological sciences, with emphasis placed upon the use of microcomputers, peripheral devices, data banks and communications available to the life scientist.

BIOL 377 Methods and Materials in Teaching Biology 2(2-0)
Current trends in teaching biology; BSCS biology is given special emphasis. Study of resource materials, techniques of experimentation and demonstrations.

BIOL 378 Laboratory in Teaching Biology 1(0-2)
Teaching experience under supervision of instructor.

BIOL 381 Entomology 2(2-0) Prerequisite BIOL 191 or permission of instructor. Corequisite BIOL 381L.
Structure, classification, ecology and control of insects.

BIOL 381L Entomology Lab 1(0-2) Prerequisite BIOL 191. Corequisite BIOL 381.
Collection and identification of local insects.

BIOL 382 Parasitology 2(2-0) Prerequisite BIOL 191 or permission of instructor. Corequisite BIOL 382L.
Taxonomy, morphology, life cycles, host relationships of animal parasites.

BIOL 382L Parasitology Lab 1(0-2) Prerequisite BIOL 191. Corequisite BIOL 382.
Identification of animal parasites.

BIOL 383 Mammalogy 1(1-0) Corequisite BIOL 383L.
Evolution, classification and biology of mammals; practice in identifying and preparing specimens. Offered alternate years.

BIOL 383L Mammalogy Lab 1(0-2) Corequisite BIOL 383.
Offered alternate years.

BIOL 384 Ornithology 1(1-0) Corequisite BIOL 384L.
Classification, life history, laboratory and field identification of birds. Offered alternate years.

BIOL 384L Ornithology Lab 1(0-2) Corequisite BIOL 384.
Offered alternate years.

BIOL 385 Plant Taxonomy 2(2-0) Prerequisite BIOL 201 or permission of instructor. Corequisite BIOL 385L.
Identification of the common families of conifers and flowering plants; study of their systematic relationships.

BIOL 385L Plant Taxonomy Lab 2(0-4) Corequisite BIOL 385.
Collection and classification of local flora.

BIOL 394 Field Experience (1-4 VAR)
Volunteer work experience under program director, program coordinator and faculty supervisor through the cooperative education program. Not open to students who have taken BIOL 396.

BIOL 396 Cooperative Education Placement (1-4 VAR)
Cooperative education work experience under the direction of program director, department coordinator and faculty supervisor. Not open to students who have taken BIOL 397.

BIOL 412 Cellular Biology 3(3-0) Prerequisite BIOL 201, 202, CHEM 122, 122L, 205, 205L or permission of instructor. Corequisite BIOL 412L.
Structural and functional organization of the cell, life cycles of cells, intracellular digestion, protein synthesis and cell death.

BIOL 412L Cellular Biology Lab 1(0-2) Corequisite BIOL 412.
A laboratory course to accompany BIOL 412.

BIOL 441 Freshwater Invertebrate Zoology 2(2-0) Prerequisite BIOL 191, 202, or permission of instructor. Corequisite BIOL 441L.
Classification, phylogeny, systematics, morphology, physiology, and natural history of freshwater invertebrates inclusive of insects. Offered alternate years.

BIOL 441L Freshwater Invertebrate Zoology Lab 2(0-4) Corequisite BIOL 441.
Identification of freshwater invertebrates. Offered alternate years.

BIOL 443 Limnology 2(2-0) Prerequisite BIOL 191, 201, 202 or permission of instructor. Corequisite BIOL 443L, BIOL 392 and 392L are recommended.
Biology, chemistry and physics of lakes and rivers. Offered alternate years.

BIOL 443L Limnology Lab 2(0-4) Corequisite BIOL 443.
Limnological methods. Offered alternate years.

BIOL 471 Career Planning IV 1(1-0)
Creating and securing graduate school and employment opportunities.

BIOL 472 Radiation Biology 3(3-0) Prerequisite BIOL 201, 202, CHEM 122, 122L, or permission of instructor. Corequisite BIOL 472L.
Nature, production and use of radioisotopes, radiological safety, effects of ionizing radiation at the subcellular, cellular and organism level, environmental radiation and radionuclide cycling.

BIOL 491 Special Topics (1-6 VAR)
Courses designed to study advances in biology or areas of particular interest to special groups of professional biologists and other related professions. Courses must be approved by the department.

BIOL 493 Seminar 1(1-0) Prerequisite Permission of program chairman.
Seminar for majors and minors concerning unique, current or unusual topics in biology. Speakers may include guests, faculty, or students. Required of majors. (S/U grades)

BIOL 494 Field Experience (1-4 VAR)
Volunteer work experience under program director, program coordinator and faculty supervisor through the cooperative education program. Not open to students who have taken BIOL 496.

BIOL 495 Independent Study (1-6 VAR) Prerequisite Junior standing or permission of instructor.
Designed for academically strong juniors and seniors and graduates majoring in biology. Students should choose a supervising professor and obtain permission from the department.

BIOL 496 Cooperative Education Placement (1-4 VAR)
Cooperative education work experience under the direction of program director, department coordinator and faculty supervisor. Not open to students who have taken BIOL 497.

BIOL 498 Internship 15(0-30)
1. Measurement and control of air pollution
2. Noise and the environment
3. Industrial hygiene and accident prevention
4. Milk and food sanitation
5. Water and waste water sanitation
6. Housing and institutional environmental health
7. Solid waste management

GRADUATE

BIOL 591 Special Topics (1-6 VAR)
Courses designed to study advances in biology or areas of particular interest to special groups of professional biologists and other related professions. Courses must be approved by the department.

BIOL 595 Independent Study (1-6 VAR) Prerequisite Junior standing or permission of instructor.
Designed for academically strong juniors and seniors and graduates majoring in biology. Students should choose a supervising professor and obtain permission from the department.

AGRICULTURE

Faculty: Thomas

The agriculture program at the University of Southern Colorado consists of four options involving the agriculture curriculum. Option I: a two year preprofessional general agriculture curriculum oriented toward initial employment entry in technical agriculture or transfer to a college or university offering professional degrees in agriculture. Upon completion of the required courses in agriculture, general education, related science courses, and university requirements, the associate of science (AS) degree is awarded. Option II: an agriculture emphasis area in life sciences. Upon completion of the required courses, the bachelor of science degree is awarded. Option III: an agriculture emphasis area in business administration. Upon completion of the required courses in agriculture, general education, business administration, and the university requirements, the bachelor of science of business administration (BSBA) degree is awarded. Option IV: a minor in agriculture is available for those students completing the required courses.

The agriculture program is a part of the life sciences department, therefore, students desiring to take more than the required AS degree courses may transfer the additional courses without being subject to the 60 semester hour college transfer maximum.

Required agriculture core courses for Option I:

			Credits
AG	101/101L	Introduction to Animal Science and Lab	3
AG	103/103L	Livestock Judging and Lab	2
AG	105	Agriculture Economics	3
AG	115/115L	Basic Horticulture and Lab	4
	or		
AG	121/121L	Principles of Crop Production and Lab	4
AG	202	Farm and Ranch Management	3
AG	204/204L	Introduction Soil Science and Lab	4
AG	206	Feeds, Animal Nutrition	3
BIOL	171	Career Planning I	1
			23

Required related science courses

			Credits
BIOL	191/191L	Aspects of Biology and Lab	4
BIOL	201/201L	Botany and Lab	5
BIOL	202/202L	Zoology and Lab	5
*CHEM	111/111L	Principles of Chemistry and Lab	4
	or		
**CHEM	121/121L	General Chemistry I and Lab	5
**CHEM	122/122L	General Chemistry II and Lab	5
MATH	120	Algebra	3
			21-27

*21 hours related science for those pre-professional students majoring in areas not requiring a professional background in chemistry, i.e., agricultural business, agricultural economics, farm and ranch management, agricultural education

**27 hours pre-professional requiring strong background in chemistry, i.e., animal science, agronomy, soils.

The graduating candidate must have a 2.0 cumulative grade point average in major area of study. Upon completion of the AS Degree the student is prepared to transfer to universities offering professional degrees in agricultural science.

Option II: An agriculture emphasis area in life science. Upon completion of the required courses in agriculture, general education, biology, and the university requirements, the bachelor of science degree is awarded.

Agriculture emphasis area in business administration option II:

			Credits
AG	101/101L	Introduction to Animal Science and Lab	3
AG	105	Ag Economics	3
AG	115/115L	Basic Horticulture	
	or	or	
AG	121/121L	Principles of Crop Production	4
AG	202	Farm & Ranch Management	3
AG	204/204L	Introduction to Soil Science	4
AG	206	Feeds & Animal Nutrition	3
AG	381/381L	Entomology	3
AG	385/385L	Plant Taxonomy	4
AG	360	Computer Applications in Agriculture	3
AG	498	Internship	6
			36

Required related science courses:

			Credits
BIOL	171 or 471	Career Planning	1
BIOL	191/191L	Aspects of Biology	4
BIOL	201/201L	Botany	5
BIOL	202/202L	Zoology	5
BIOL	351/351L	Genetics	4
BIOL	353/353L	Ecology	5
BIOL	412/412L	Cell Biology	4
CHEM	121/121L	General Chemistry I	5
CHEM	122/122L	General Chemistry II	5
CHEM	213/213L	Organic Chemistry	4
MATH	121	College Algebra	4
PHYS	201	Principles of Physics	4
			50

Agriculture emphasis area in life sciences option III:

			Credits
AG	101/101L	Introductory Animal Science	3
AG	105	Agriculture Economics	3
AG	115/115L	Basic Horticulture	
	or	or	
AG	121/121L	Principles of Crop Production	4
AG	202	Farm & Ranch Management	3
AG	204/204L	Introducstion to Soil Science	4
AG	206	Feeds & Animal Nutrition	3
AG/BIOL	360	Applications of Computers in Agriculture	3
AG	480	Agriculture Policy	3
AG	498	Internship	15
		Electives	3
			44

Required related science courses:

			Credits
BIOL	471	Career Planning IV	1
BIOL	191/191L	Aspects of Biology and Lab	4
PHYS	201	Principles of Chemistry and Lab	4
MATH	221	Applied Calculus	5
			14

MINOR

The agriculture program also offers a minor which may be completed in conjunction with any major. The minor in agriculture is offered for those students intending to seek employment or further their academic education in agriculture or related fields.

Required Courses			Semester Hours
AG	101/101L	Intro. Animal Science and Lab	3
AG	105	Agriculture Economics	3
AG	115/115L	Basic Horticulture and Lab	4
	or		
AG	121/121L	Principles of Crop Production and Lab	4
AG	202	Farm and Ranch Management	3
AG	204/204L	Introductory Soil Science and Lab	4
AG	206	Feeds and Animal Nutrition	3
			20

AG COURSES

AG 101 Introductory Animal Science 2(2-0) Corequisite AG 101L.
Introductory course dealing with domestic animals, cattle, horses, sheep, swine, poultry, and pets. Emphasis on origin, breeds, production characteristics, breeding (genetic principles), nutrition, management and health. GEN. ED. IIIA.

AG 101L Introductory Animal Science Lab 1(0-2) Corequisite AG 101.
Pragmatic instruction dealing with skills relative to animal production. GEN. ED. IIIA.

AG 103 Livestock Judging 1(1-0) Corequisite AG 103L.
Evaluation of beef, sheep, swine and horses for breeding and marketing purposes. Emphasis on type evaluation.

AG 103L Livestock Judging Lab 1(0-2) Corequisite AG 103.

AG 105 Agriculture Economics 3(3-0)
The role of agriculture in the economy, relation to economic forces to the farm business and agriculture industry.

AG 112 Fundamentals of Dairy 2(2-0) Corequisite AG 112L.
Dairy cattle breeds, selection of breeding stock, feed and milking practices, reproductive problems, milk production, marketing.

AG 112L Fundamentals of Dairy Lab 1(0-2) Corequisite AG 112.
Field experience and skill development related to dairy farming enterprise.

AG 115 Basic Horticulture 3(3-0) Prerequisite BIOL 201 and 201L or permission of instructor. Corequisite AG 115L. GEN. ED. IIIA.

AG 115L Basic Horticulture Lab 1(0-2) Prerequisite BIOL 201 and 201L or permission of instructor. Corequisite AG 115. GEN. ED. IIIA.

AG 121 Principles of Crop Production 3(3-0) Prerequisite BIOL 201 or permission of instructor. Corequisite AG 121L.
Crop production, cultural practices, botanical characteristics, techniques of production and crop improvement.

AG 121L Principles of Crop Production Lab 1(0-2) Corequisite AG 121.
Skill development field experience related to field crop production.

AG 200 Sheep Production 2(2-0) Prerequisite AG 101, 206.
Commercial and purebred sheep production under farm and range conditions, breeds, breeding, feeding management.

AG 202 Farm and Ranch Management 3(3-0) Prerequisite AG 105 or permission of instructor.
Operational economics of a farm or ranch, size, resource allocation, enterprise combination, labor and equipment efficiences.

AG 204 Introductory Soil Science 3(3-0) Prerequisite CHEM 111, 111L or 121 and 121L or permission of instructor. Corequisite AG 204L.
Formation, properties, and management of soils, emphasizing soil conditions that affect plant growth.

AG 204L Introductory Soil Science Lab 1(0-2) Corequisite AG 204.
Chemical and physical properties of soils.

AG 206 Feeds and Feeding, Applied Animal Nutrition 3(3-0) Prerequisite AG 101, CHEM 111/111L or 121/121L or permission of instructor.
Nutrient classification, nutrient sources and requirements of food-producing animals, ration formulation for all species domestic animals.

AG 210 Pork Production 2(2-0) Prerequisite AG 101, 206, or permission of instructor.
Production of purebred and commercial swine; breeds, breeding, feeding, marketing, and management.

AG 213 Advanced Livestock Judging 2(1-2) Prerequisite Permission of instructor.
Judging, meat animals, breeding animals, beef, sheep, swine and horses.

AG 220 Beef Production 2(2-0) Prerequisite AG 103, 206, or permission of instructor.
Production and management of purebred, commercial and slaughter beef cattle to meet the needs of the beef industry.

AG 230 Light Horse Management 2(2-0) Corequisite AG 230L.

AG 230L Light Horse Management Lab 1(0-2) Corequisite AG 230.
Skill development, field experience related to light horse production.

AG 291 Special Topics (1-3 VAR)
Areas of current progress in agriculture topics selected to meet group desires.

AG 360 Computer Applications in Agriculture 3(2-2) Prerequisite CST 100 or MATH 240 or equivalent.
Application of computing to agriculture with emphasis placed upon the use of microcomputers, peripheral devices, data banks and communications available to the life scientist.

AG 381 Entomology 2(2-0) Prerequisite BIOL 191, or permission of instructor. Corequisite AG 381L.
Structure, classification, ecology and control of insects.

AG 381L Entomology Lab 1(0-2) Prerequisite BIOL 191. Corequisite AG 381.
Collection and identification of local insects.

AG 385 Plant Taxonomy 2(2-0) Prerequisite BIOL 201 or permission of instructor. Corequisite AG 385L.
Identification of the common families of conifers and flowering plants; study of their systematic relationships.

AG 385L Plant Taxonomy Lab 2(0-4) Corequisite AG 385.
Collection and classification of local flora.

AG 480 Agricultural Policy 3(3-0) Prerequisite ECON 201, 202, AG 105.
Formation and administration of public policies affecting United States agricultural industry farm programs and other government policies associated with agriculture.

AG 498 Internship 15(0-40)
Career or job field work experience with an individual farm business agency, institution, or program. (S/U grade).

MASS COMMUNICATIONS

Faculty: Anderson, von Friedericks-Fitzwater, Miller, Orman, Pavlik, Wayne

Mass communications offers programs leading to the degree of bachelor of arts (BA) or bachelor of science (BS).

The program cooperates with the English program in offering a composite major for students intending to teach in the secondary schools. A minor is available, and many courses are open to all students.

Mass communications graduates work in the mass media or the related fields, public relations and advertising, as writers, editors, broadcasters and communication specialists. Some students find the program excellent preparation for graduate or professional study, such as law school.

In keeping with the university's functional thrust of career orientation in its educational programs, the primary objective of the department of mass communications is to offer a professionally oriented program aimed at preparing its majors for careers in the mass media and their related agencies.

Application of the principles of mass communications is accomplished through supervised work on campus publications, a departmental newspaper, the university's FM radio station, the university television station, the university's news services and sports information offices, and local internship programs. Internships (MACOM 499-Field Placement) are strongly recommended but not required.

MAJORS

All students enrolled in the mass communications major must complete a seven-course, 21-credit-hour core curriculum. The core curriculum includes the following courses:

			Credits
MACOM	101	The Mass Media	3
MACOM	102	Introduction to Broadcasting	3
MACOM	201	News Writing	3
MACOM	280	Public Relations	2
MACOM	401	Photographic Procedures	4
MACOM	411	Journalism Law and Ethics	3
MACOM	465	Mass Media Seminar	3
			21

In addition all majors are **required** to specialize in one of four emphasis areas offered in the program. Emphasis areas, or sequences, require 20 to 21 additional credit hours of course work beyond the mandatory 21-credit-hour core curriculum for completion of the major. The four emphasis areas in the program and total credit hours required for each are:

	Total Credits
News-Editorial	44
Radio/Television Broadcasting	42
Public Relations	45
Advertising	42
	173

All students majoring in mass communications specialize in one of the four sequences listed above, arranging a schedule with the appropriate sequence director. All majors should complete the basic communications sequence (10 semester hours) prior to enrolling in MACOM 201, a core curriculum requirement.

The sample schedule below reflects a news-editorial emphasis. Changes would be required for other sequence areas. Majors should consult the mass communications program office for specific course requirements for each of the four emphasis areas.

A typical mass communications schedule is:

Freshman Year			Credits
ENG	110, 211	Composition I and II	6
MACOM	101	The Mass Media	3
MACOM	102	Introduction to Broadcasting	3
PE	100	PE Orientation	2
RDG	120	College Reading	2
SPCOM	101	Basic Speech Communication	2
Group	I	Humanities	8
Group	II	Social Sciences	8
			34

Sophomore Year			Credits
MACOM	151, 152	Staff Publications	2
MACOM	201	Newswriting	3
MACOM	202	Feature Writing	3
MACOM	280	Public Relations	2
Group	I	Humanities	2
Group	II	Social Sciences	10
Group	III	Natural Sciences	10
		Electives	2
			34

Junior Year			Credits
MACOM	301	Editorial Writing	3
MACOM	311	Copyediting and Makeup	3
MACOM	401	Photographic Procedures	4
		Electives	21
			31

Senior Year			Credits
MACOM	411	Journalism Law and Ethics	3
MACOM	445	Reporting Public Affairs	5
MACOM	465	Mass Media Seminar	3
		Electives	21
			32

English-mass communications composite major. The individual who plans a career in secondary education, technical writing or a similar field may choose the English/mass communications composite major. The student must complete the mass communications core curriculum as well as an arranged program of course work preferably including MACOM 377. The English curriculum of the composite major is arranged by an adviser from the English faculty.

USC Today. USC TODAY, the university's weekly newspaper, is published as a laboratory tool of the mass communications program each Thursday of the regular academic year. The newspaper serves the students, faculty, and staff of USC in addition to the Pueblo community. Editorial and management positions are awarded each spring for the following academic year after review of all applications by interested parties. The newspaper is funded totally through advertising revenue. The newspaper's editorial and advertising advisers are members of the mass communications faculty, who may also participate on the publications review board. The USC TODAY offices are located in ART/MUSIC 109 and 110.

KTSC-FM. KTSC-FM is licensed to USC as an educational radio station by the Federal Communications Commission. Operated by the Mass Communication program, the 10,000-watt station serves a 50-mile radius of the campus. Advanced mass communications students are involved in the daily programming, production and news. KTSC-FM operates on a daily basis throughout the calendar year.

KTSC/Channel 8. USC's Public Broadcasting System affiliate, KTSC/Channel 8, furnishes an opportunity to prepare broadcasting students in many technical areas by providing laboratory training and on-campus jobs for television students. KTSC/Channel 8 is operated by the Telecommunications Division. The station provides PBS programming in addition to local productions and services to Southern Colorado.

MINOR

Students desiring a minor in mass communications must complete the 21-semester-hour core curriculum or an approved program of 21 semester hours arranged by an adviser. It is not necessary for the minor to declare an emphasis area.

MACOM COURSES

UNDERGRADUATE

MACOM 101 The Mass Media 3(3-0)
Mass media in American society, their growth, development and impact on contemporary culture. Open to all students. GEN. ED. ID.

MACOM 102 Introduction to Broadcasting 3(3-0)
Introductory course in broadcasting with emphasis on the historical and social impact of radio and television on American culture. Open to all students. GEN. ED. ID.

MACOM 110 Career Orientation 1(1-0)
Survey of career opportunities in the communication industry with emphasis on the mass media and related agencies. Recommended for majors and minors in mass communications.

MACOM 151 Staff Publications 1(0-2)
Practical application of theory for editorial, pictorial and advertising members of student publications. Sequence may be repeated one time.

MACOM 201 News Writing 3(3-0) Prerequisite BCOM 110, 211.
Instruction and practice in basic news writing skills including interpretation of news values and interviewing techniques for both print and broadcast media. Required of all majors and minors. Basic typing skills required.

MACOM 202 Feature Writing 3(3-0) Prerequisite MACOM 201.
Reporting campus events via interpretative articles, news features, straight features, seasonal stories and series articles.

MACOM 210 Photography 2(2-0)
Introductory course in photography with emphasis on its development, uses and impact on contemporary society. Open to all students.

MACOM 215 Media and Human Relations 3(3-0)
Behavioral science/communications approach to media, their roles and functions, with emphasis on interpersonal interaction in mass society. GEN. ED. ID.

MACOM 216 Advertising 3(3-0) Prerequisite Upperclass standing.
Principles of advertising on local and national levels for newspapers, magazines, radio and television.

MACOM 222 Broadcast News Writing 3(3-0) Prerequisite MACOM 102, 201.
Preparation of copy for radio/television news reports, interviews and commentary.

MACOM 224 Broadcast Announcing 3(3-0) Prerequisite MACOM 102.
Study and application of the principles of oral communication to radio and television announcing.

MACOM 226 Introduction to Television Production 3(3-0) Prerequisite MACOM 102.
Concepts, skills and technical facilities involved in production of television programs. Emphasis on the understanding of the technical equipment used in program broadcasting.

MACOM 235 Women in Media 3(3-0)
The historical and cultural implications of the mass media's portrayal of women and the extent of their media participation from colonial to contemporary times.

MACOM 241 Radio Station Operation 1(0-3) Prerequisite MACOM 102, 222, 224.
Practical application of radio theory with emphasis on the news and entertainment functions of the medium.

MACOM 245 Broadcast Regulation 2(2-0)
Specific laws governing the electronic mass media and the process by which those laws are formed and administered. Technological and economic influences on policy stemming from 1934 Communications Act; contemporary problems of copyright in the electronic media and content regulation.

MACOM 250 Radio Sportscasting 1(0-3)
Play-by-play announcing of sporting events, with emphasis on announcing-booth techniques at seasonal intercollegiate athletic events. Repeatable once.

MACOM 251 Sports Writing and Statistics 3(2-3) Prerequisite MACOM 201, 202.
Study and practical application of sports writing and statistics; emphasis on press box experience at season intercollegiate athletic events. Repeatable once.

MACOM 265 History of Journalism 3(3-0)
History of the press in America from colonial times to the present day; political and economic impact of newspapers and magazines during the 19th and 20th centuries. Open to all students.

MACOM 280 Public Relations 2(2-0)
Historical and theoretical approach to contemporary public relations, with emphasis on the public relations process and ethics of contemporary practice. GEN. ED. IIB.

MACOM 301 Editorial Writing 3(3-0) Prerequisite MACOM 201, 202.
Study of editorial page management and policy, with emphasis on preparation of editorials, columns and critical reviews. Attendance at weekly editorial board meetings and selected on- and off-campus events required.

MACOM 302 Advertising Writing 3(3-0) Prerequisite MACOM 215 or permission of instructor.
Copy writing essentials and formats for print, broadcast and direct mail advertising. Emphasis on developing writing techniques for practical application in both retail and product advertising.

MACOM 311 Copy Editing and Makeup 3(3-0) Prerequisite MACOM 201, 202.
News evaluation, copyreading, rewriting, headline writing, page makeup and similar duties of the newspaper copy editor.

MACOM 312 Typographic Techniques 3(3-0) Prerequisite MACOM 311.
Technical introduction to production methods used in newspapers, advertising and public relations; emphasis on printing techniques, typography, photomechanical processes, computerized typesetting and graphic technology.

MACOM 316 Advertising Campaigns 3(3-0) Prerequisite MACOM 216 or permission of instructor.
Practical application of planning and development of advertising campaigns for print and broadcast media; emphasis on the use of creative strategy.

MACOM 317 Advertising Strategy 3(3-0) Prerequisite MACOM 216, 316.
Seminar emphasizing tactics and strategies of advertising planning, utilizing media techniques, marketing posture and creative media buying.

MACOM 318 Retail Advertising 3(3-0) Prerequisite MACOM 216, 316.
The need, direction and potential of local advertising and the media associated with retail communication, with emphasis on retail campaign design, client services and problem solving.

MACOM 320 Broadcast Station Programming 3(3-0) Prerequisite MACOM 222, 224, 226.
Program types used on broadcast stations; analysis of network structure and local station programs; ethical requirements in programming.

MACOM 326 Advanced Television Production 3(3-0) Prerequisite MACOM 226.
Television studio and control room operation; emphasis on video console equipment, cameras, microphones, stagecraft and lighting.

MACOM 341 Broadcast Production Workshop 1(0-3) Prerequisite Upperclass standing and permission of instructor.
Laboratory devoted to experiencing the operation of all technical equipment in a radio or television station control room and studio. Repeatable once.

MACOM 351 Publication Workshop 5(0-15) Prerequisite MACOM 201, 202, 311 and permission of instructor.
Advanced course in practical laboratory work for upperclass students in unpaid editorial positions on campus publications. Repeatable once.

MACOM 377 Journalism in the Secondary School 3(3-0) Prerequisite Upperclass standing and permission of instructor.
Introduction to teaching journalism/communications in junior and senior high school; emphasis on organizing and supervising student publications.

MACOM 401 Photographic Procedures 4(3-2) Prerequisite MACOM 210 or permission of instructor.
Practical course in still photography; emphasis on camera operation and darkroom procedure. A 35mm camera is required.

MACOM 402 Photojournalism 4(3-2) Prerequisite MACOM 401.
Practical course in pictorial reporting; emphasis on spot news features, picture stories and photographic essays.

MACOM 411 Journalism Law and Ethics 3(3-0) Prerequisite Upperclass standing.
Ethical principles and state and federal laws affecting the reporting of news, expressing of opinion, news photos, advertising, publication of newspapers and magazines and radio and television broadcasting.

MACOM 421 Public Relations Case Problems 3(3-0) Prerequisite MACOM 202, 222, 290.
Continuation of MACOM 290; emphasis on practical approach is to client-community problems, press relations, industrial publications, brochures and other specialized public relations tools.

MACOM 422 Public Relations Campaigns 3(3-0) Prerequisite MACOM 421.
Simulated independent public relations agency approach to developing and implementing public relations campaigns; emphasis on practical application of agency-client relations and problem solving.

MACOM 425 Audience Research Methodology 3(3-0)
Generalized research methodology course. Effective and appropriate research tools to define and describe various publics contained within the mass audience. Emphasis on sampling practices, encoding and interpretation of results. Pragmatic task activities via Nielson, Arbitron, SRDS, content analysis and related data sources.

MACOM 430 Radio Station Management 2(0-4) Prerequisite Permission of instructor.
Workshop for training appointed radio station managers and directors involved in key positions on the university radio station.

MACOM 440 Magazine Writing 3(3-0) Prerequisite MACOM 201, 202.
Instruction and practice in writing nonfiction magazine articles, with emphasis on story research and market selection.

MACOM 445 Reporting Public Affairs 5(3-4) Prerequisite MACOM 201, 202.
Instruction and practice in reporting public affairs, including crime and the courts, and news originating in city and county governments, state legislature, and school boards. Interpretive and investigative reporting skills. Attendance at public meetings required.

MACOM 450 Film Criticism in the Media 3(3-0) Prerequisite Senior standing.
The role and function of the film critic in television and print journalism, with emphasis on writing the critical review.

MACOM 490 Special Projects 3(0-3) Prerequisite Upperclass standing or permission of instructor.
Individualized instruction within a special interest area, under supervision of a member of the department. Repeatable once.

MACOM 491 Special Topics (1-3 VAR) Prerequisite Upperclass standing or permission of instructor.
Exploration of scholarly and special interest subjects in the mass media and related fields.

MACOM 493 Seminar 3(3-0) Prerequisite Senior standing.
Seminar devoted to special problems in mass media; emphasis on interrelationships of media, understanding media, and the role of criticism.

MACOM 494 Field Experience (3-10 VAR) Prerequisite Upperclass standing, minimum of 30 hours in major, or permission of program chairman.
A semester-long internship. Student performs the professional duties required by the cooperating commercial mass medium, business or public service agency. May be repeated for up to 15 hours credit.

MACOM 495 Independent Study 2(0-2) Prerequisite Upperclass standing or permission of instructor.
Individual research, directed reading and/or special assignments under supervision of a member of the department. Repeatable once.

MACOM 496 Cooperative Education Placement (1-4 VAR) Prerequisite Permission of instructor.
Arrangement between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study. Two placements must occur in academic semesters and one in a summer session for the equivalent of at least 12 months employment. The student must re-enroll each placement term. 12 credits maximum allowed toward graduation.

GRADUATE

MACOM 591 Special Topics (1-3 VAR) Prerequisite Graduate standing. Exploration of scholarly and special interest subjects in the mass media and related fields.

MATHEMATICS

Faculty: Allen, Blandford, Bramlett, Bronn, Derr, Gill, Johnson, Li, Miller, Nichols, Orr, Phillips, Prater, Redman, Withnell

The program in mathematics offers courses leading to the degrees of bachelor of arts (BA) and bachelor of science (BS). Each degree includes options in computer science and applied mathematics. A major is also available for those who wish to teach secondary school mathematics.

The program offers minors designed for individual students and a teaching minor for secondary school mathematics. It also provides service courses for students in business, the sciences and technologies and general mathematics courses open to all students.

The program:

- provides tutorial services through the mathematics learning center, located in the Physics/Mathematics building, Room 112. These services are currently available to all students. (Prospective secondary mathematics majors gain considerable "on-the-job" experience by assisting the tutorial staff.)
- allows students the opportunity to test out of many mathematics courses. Copies of the test-out procedure may be obtained in the program office.
- grants advanced placement standing to qualified incoming students.
- offers a Mathematics Placement Test service to all freshman and transfer students.

Because mathematical methods are finding spectacular applications in such areas as the physical, management and social sciences, a student not majoring in mathematics will find numerous courses for which the prerequisite may be no more than an adequate knowledge of algebra and/or working knowledge of BASIC computer language. Program faculty members can provide information about entry requirements for these courses.

The role of mathematics in the physical sciences and engineering is well established; recently its use in the life and social sciences, economics, and management has increased at a remarkable rate. The computer, with its speed, information capacity, and decreased cost has been and will continue to be the principal cause for this phenomenal growth in the applications of mathematics.

Majors in the mathematical sciences may choose from a broad spectrum of career opportunities. Actuarial science, computer science, mathematical modeling, statistics, industrial control, market forecasting and operations research are among the areas which are currently in high demand and for which growth is projected in the coming decade.

In order to enhance each student's potential to achieve his or her career goal, only those mathematics courses in which one has earned a grade of C or better may be applied toward satisfying mathematics major or minor requirements.

MAJORS

Students may select a major in the mathematical sciences or a secondary school mathematics teaching major. Two areas of concentration are available in the mathematical sciences: computer science and applied mathematics.

The curriculum in computer science is designed to prepare a student to pursue professional or academic goals in a mathematically-oriented computer environment. The applied mathematics program requires more coursework in mathematics and places a lighter emphasis on computer technology.

The sample four-year program that follows serves only to illustrate a possible schedule. In order to assure appropriate initial placement, explicit short and long-term course planning, as well as timely evaluation of student progress, each student interested in majoring or minoring in mathematics must declare that intention at the earliest possible time. The student then is assigned a mathematics adviser whose responsibilities include assisting the student in planning and fulfilling university and program degree requirements.

Bachelor of Science in Mathematics/Computer Science Emphasis

Freshman Year			Credits
CST	102	Computer Science II	3
EN	105	FORTRAN	2
ENG	110, 211	Composition I and II	6
MATH	126, 224	Calculus and Analytic Geometry I and II	10
MATH	245	Intro. to Discrete Mathematics	3
PE	100	PE Orientation	2
RDG	120	College Reading	2
SPCOM	100, 101	Basic Speech Communication	3
			31

Sophomore Year			Credits
ACCTG	201	Principles of Financial Accounting	3
CST	115	Operating Systems I	3
CST	210	Intro. Assembler Lang.	4
CST	240	Systems Analysis and Design I	3
ECON	201	Principles of Economics I	3
MATH	307	Linear Algebra	3
MATH	325	Calculus and Analytic Geometry	4
PHYS	221/221L	General Physics I and Lab	5
Group	I	Humanities	3
Group	II	Social Sciences	3
			34

Junior Year			Credits
CST	330	Programming Languages	3
CST	416	Operating Systems II	3
MATH	327	Algebraic Systems	3
MATH	337, 338	Differential Equations I and II	6
MATH	342	Numerical Analysis	3
PHYS	222	General Physics II	5
Group	I	Humanities	7
Group	II	Social Sciences	3
			33

Senior Year			Credits
CST	360, 422	Optional	3
CST	420	Data Structures	3
MATH	301	Problem Solving	1
MATH	443	Optimization Techniques	3
MATH	445	Topics in Discrete Mathematics	3
MATH	456	Applied Statistics I	3
PHYS	331	Electricity and Magnetism	4
		Electives	10
			30

Majors should consult the mathematics program office for specific course requirements for each of the emphasis areas.

MINORS

Programs leading to a minor in mathematics are diverse in order to meet the needs of a variety of students. The program will make every attempt to cooperate on an intra and inter-program level to design specific programs to suit individual student needs.

Students planning a mathematics minor should contact a mathematics program adviser early in their academic program.

The mathematics teaching minor requires MATH 126, 224, 307, 327, 330 and 377 for a total of twenty-five semester hours.

The following criteria is the guide for all other mathematics minors:

1) one year of calculus (MATH 126, 224)

2) three mathematics courses numbered above 300 (excluding MATH 301, 360, 361, 377) at least two of which must be taken at USC.

The generality of the requirements allow for greatest flexibility and diversity in the design of individual minor programs.

MATH COURSES

UNDERGRADUATE

MATH 104 Arithmetic for College Students 3(3-0)
Individualized course which provides developmental instruction in the basic skills of arithmetic. Credit applies to associate degrees only.

MATH 105 Introductory Algebra 3(3-0)
Development of problem-solving skills. Includes elementary algebraic operations, linear and quadratic equations and the quadratic formula.

MATH 109 Mathematics for Everyone 3(3-0)
General education course designed to broaden and deepen the student's experience with elementary concepts and enhance his or her problem-solving ability. GEN. ED. IIIE.

MATH 120 Intermediate Algebra 4(4-0) Prerequisite one year of high school algebra or MATH 105.
Development of problem-solving skills. Includes linear equations and inequalities, polynomials, roots and radicals, quadratic equations. GEN. ED. IIIE.

MATH 121 College Algebra 4(4-0) Prerequisite MATH 120 or three years of high school mathematics.
Functions, solutions of polynomial and radical equations, exponential and logarithmic functions, systems of equations, matrices, and determinants. GEN. ED. IIIE.

MATH 122 College Trigonometry 2(2-0) Prerequisite MATH 121 or equivalent.
Trigonometric and circular functions, identities, inverse functions, vectors, complex numbers. GEN. ED. IIIE.

MATH 124 Precalculus Math 5(5-0) Prerequisite MATH 120 or equivalent.
Polynomial, rational, exponential and logarithmic functions; solutions of systems of equations; trigonometric, circular and certain special functions. GEN. ED. IIIE.

MATH 126 Calculus and Analytic Geometry I 5(5-0) Prerequisite MATH 124 or equivalent.
Introduction to analytic geometry, functions, limits, continuity, differentiation and integration of algebraic functions, the theory of calculus and selected applications. GEN. ED. IIIE.

MATH 131 Mathematics for Engineering Technology I 4(4-0) Prerequisite MATH 120 or equivalent.
Integrated sequence (131-132-233) covering topics in algebra, trigonometry, analytic geometry, differential calculus, integral calculus, with engineering applications. GEN. ED. IIIF.

MATH 132 Mathematics for Engineering Technology II 4(4-0) Prerequisite MATH 131.
Continuation of MATH 131. GEN. ED. IIIF.

MATH 156 Introduction to Statistics 3(3-0) Prerequisite MATH 120 or equivalent.
Introduction to data analysis. Binomial and normal models. Sample statistics, confidence intervals, hypothesis tests, linear regression and correlation, and chi-square tests. GEN. ED. IIIE.

MATH 221 Applied Calculus: An Intuitive Approach 5(5-0) Prerequisite MATH 121 or equivalent.
Non-rigorous introduction to calculus with emphasis on applications and modeling in the life sciences, social and behavioral sciences and business. GEN. ED. IIIE.

MATH 224 Calculus and Analytic Geometry II 5(5-0) Prerequisite MATH 126.
Applications of differentiation and integration, operations on trigonometric, logarithmic and other transcendental functions.

MATH 233 Mathematics for Engineering Technology III 5(5-0) Prerequisite MATH 132.
Continuation of MATH 132. GEN. ED. IIIF.

MATH 240 Introduction to Computer Programming 1(1-0) Prerequisite MATH 120 or equivalent.
Principles of computers, numeration systems, data representations, and a general familiarization with computer equipment. Introduction to programming using high level languages. GEN. ED. IIIE. May be offered in a 5-week module.

MATH 241 Introduction to Digital Computers 2(2-0) Prerequisite MATH 240.
Continuation of MATH 240. More programming using high level languages and computer terminal usage. May be offered in a 10-week module. GEN. ED. IIIE.

MATH 243 Introduction to Computer Modeling 3(3-0) Prerequisite MATH 120 and 240 or equivalent.
Introduction to mathematical modeling. Emphasis on modeling techniques. Formulated models and existing computer programs will be used.

MATH 244 Techniques in Operations Research 3(3-0) Prerequisite MATH 120 or equivalent.
Linear, integer, goal, nonlinear, and dynamic programming. Optional transportation, network problems and simulation. GEN. ED. IIIE.

MATH 245 Introduction to Discrete Mathematics 3(3-0) Prerequisite MATH 121 or equivalent.
Logic and algebra of sets, permutations and combinations, relations and functions, graph theory, trees, recurrence relations and induction. GEN. ED. IIIE.

MATH 253 Applied Data Analysis with Computers 3(3-0) Prerequisite MATH 120 and 156.
Statistical models of linear regression and analysis of variance will be covered. SPSS computer programs are used. Emphasis on the underlying assumptions of mathematical models and problems encountered in real situations.

MATH 291 Special Topics (1-3 VAR) Prerequisite Permission of instructor and approval of the program.

MATH 301 Problem Solving 1(1-0) Prerequisite MATH 224.
The strategy and technique of mathematical problem solving, emphasizing presentation and rigor.

MATH 307 Introduction to Linear Algebra 3(3-0) Prerequisite MATH 121 or equivalent.
Matrices, vectors, vector spaces, linear transformations, and change of basis. Application topics are included.

MATH 325 Intermediate Calculus 4(4-0) Prerequisite MATH 224
Continuation of MATH 224: Solid analytic geometry, vector operations in three dimensions, multivariable calculus, and infinite series.

MATH 327 Introduction to Algebraic Systems 3(3-0) Prerequisite MATH 224 or permission of instructor.
Introduction to various algebraic systems such as groups, rings, and fields and their elementary properties. Properties of the integers and other common number systems.

MATH 330 Introduction to Higher Geometry 4(4-0) Prerequisite MATH 224 or permission of instructor.
Euclidean, hyperbolic, finite, and transformation geometries, models, and constructions.

MATH 337 Differential Equations I 3(3-0) Prerequisite MATH 224 or equivalent.
First order differential equations, homogeneous and non-homogenous linear differential equations, introduction to the Laplace transform, applications.

MATH 338 Differential Equations II 3(3-0) Prerequisite MATH 325, 337.
Linear systems, existence and uniqueness of solutions, non-linear equations, series solutions, orthogonal sets of functions, Fourier series, boundary value problems, partial differential equations and applications.

MATH 342 Introduction to Numerical Analysis 3(3-0) Prerequisite MATH 307 and FORTRAN or program permission.
Finding numerical solutions of polynomial, differential, integral, and other equations using the computer.

MATH 348 Numerical Methods 3(3-0) Prerequisite MATH 224, 307 and a high level programming language.
Discussion and development of programs to solve linear and non-linear systems of equations, to use eigenvalues and eigenvectors to solve systems of differential equations and boundary value problems. To apply iterative methods and rational function approximations and to use other related concepts and techniques.

MATH 350 Probability 3(3-0) Prerequisite MATH 224.
Introduction to elementary probability theory and stochastic processes. Probability spaces, random variables and their distributions, exponential and Poisson processes, limit theorems and applications.

MATH 355 Nonparametric Methods 2(2-0) Prerequisite MATH 156 or BUSAD 260 or PSYCH 253.
Topics include different tests for one sample case, two and K-related or independent samples case and their normal approximations.

MATH 356 Statistics in Decision Making 2(2-0) Prerequisite MATH 156 or BUSAD 260 or PSYCH 253.
Topics include decision and action space, utility, with or without data in making decision, minimax principle and Bayesian procedures.

MATH 360 Mathematics for Elementary Teachers I 3(3-0) Prerequisite MATH 120.
Sets, numeration systems, whole numbers, algorithms, number theory, integers and intuitive geometry.

MATH 361 Mathematics for Elementary Teachers II 3(3-0) Prerequisite MATH 360.
Metric geometry, rational numbers, real numbers, logic, mathematical systems, metric system, probability and statistics.

MATH 377 Materials and Techniques of Teaching Secondary School Mathematics 4(4-0) Prerequisite MATH 327.
Instructional materials, methods, evaluation and other related topics.

MATH 411 Introduction to Topology 3(3-0) Prerequisite MATH 224.
Introduction to topological, compact, connected and metric spaces. Continuous functions and separation properties.

MATH 421 Advanced Calculus I 3(3-0) Prerequisite MATH 224.
Rigorous development of concepts of elementary calculus. Sequences and series, uniform convergence, partial derivatives, Stieltjes Integral and metric spaces.

MATH 422 Advanced Calculus II 3(3-0) Prerequisite MATH 421.
Continuation of MATH 421.

MATH 425 Complex Variables 3(3-0) Prerequisite MATH 325.
Complex numbers, sequences and series, derivatives and integrals, analytic functions, conformal mappings.

MATH 443 Optimization Techniques 3(3-0) Prerequisite MATH 307 and FORTRAN or departmental permission.
Linear programming and its derivatives, network optimation and their applications to practical problems.

MATH 445 Discrete Mathematics 3(3-0) Prerequisite MATH 224, 307 and knowledge of a programming language.
Topics selected from mathematical reasoning, combinatorial techniques, set theory, binary relations, functions and sequences, algorithm analysis, and discrete analysis.

MATH 450 Design and Analysis of Experiments 4(4-0) Prerequisite MATH 156 or BUSAD 260 or PSYCH 253.
Design and analysis of experimental studies, including randomized block, Latin square and factorial experiments; general regression analysis of variance.

MATH 455 Sampling and Survey Methods 2(2-0) Prerequisite MATH 156 or BUSAD 260 or PSYCH 253.
Nature and rationale of basic sample survey designs, ratio estimation and sampling from wildlife populations.

MATH 456 Applied Statistics I 3(3-0) Prerequisite MATH 224.
Probability space, discrete and continuous random variables; distributions; mathematical expectation; sampling; statistical inference; Bayesian rule; and linear regression.

MATH 463 History of Mathematics 2(2-0) Prerequisite MATH 126 or permission of the instructor.
Survey of the origins of several important mathematical concepts and of the mathematicians responsible for these discoveries.

MATH 491 Special Topics (1-3 VAR) Prerequisite Permission of instructor and approval of program.

MATH 493 Seminar (1-3 VAR) Prerequisite Senior Standing, permission of instructor.

MATH 495 Independent Study (1-3 VAR) Prerequisite Senior standing, permission of instructor.
Allows academically strong seniors to earn credit for independent work done under the guidance of a faculty member.

GRADUATE

MATH 501 Foundations of Mathematics 3(3-0)
Sets, logic, axiomatics, mappings and the various sub-systems of the reals for beginning graduate students.

MATH 507 Linear Algebra 3(3-0)
Vector spaces, matrices, eigenvalues, linear functionals and dual space and selected applications.

MATH 521 Intermediate Analysis 3(3-0)
Point set theory including the Heine Borel theorem, continuity, differentiation, sequences and series and the Riemann-Stieltjes integral.

MATH 527 Abstract Algebra 3(3-0)
Groups, rings, integral domains, quotient rings, ideals, fields, homeomorphisms and related topics.

MATH 530 Advanced Geometry 3(3-0)
Foundations of geometry, transformations, types of geometry and selected Euclidean and non-Euclidean topics.

MATH 541 Computers 3(3-0)
Preparation for teachers in utilizing the computer to teach secondary school mathematics.

MATH 544 Mathematical Methods of Applied Science 3(3-0) Prerequisite Graduate standing.
Topics in applied mathematics for engineering and management. Emphasis will be given to the application of mathematical techniques, to problems in business and industry. Topics include deterministic and stochastic models, programming, opitimization, networks and simulation.

MATH 550 Elementary Statistical Methods 3(3-0)
Sampling techniques, testing of hypotheses, experimental design and analysis of variance and regression as an aid to research in behavior, education and science.

MATH 560 Concepts in Elementary School Mathematics (1-3 VAR)
Problems of the curriculum, methods of teaching and evaluation in the elementary school.

MATH 577 Concepts in Secondary School Mathematics (1-3 VAR)
Problems of teaching secondary school mathematics; the slow learner, methods, gifted students, evaluation.

MATH 591 Special Topics (1-3 VAR)

MATH 595 Independent Study (Projects) (1-2 VAR)
Allows students to earn credit independently under guidance of a faculty member.

MECHANICAL AND METALLURGICAL ENGINEERING TECHNOLOGY

Faculty: Ahmadieh, Chen, Greet, Hamidzadeh, Stanton, Sweet

The programs in mechanical and metallurgical engineering technologies offer degrees of associate in applied science (AAS) and bachelor of science in mechanical engineering technology (BSMET) and metallurgical engineering technology (BSMLET). Students interested in variations permitting an emphasis in the area of manufacturing should contact a faculty member in this program.

The programs are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Both associate and baccalaureate degree candidates must complete the program requirements with not less than a 2.00 cumulative grade point average in the major area of study. A minimum of 72 semester hours credit is required for the AAS degree while the students in the BS programs must complete a minimum of 136 semester hours credit.

Transfer students must have a minimum overall grade point average of 2.5 for acceptance.

MAJORS

Mechanical engineering technology. The mechanical engineering technology program prepares students to become effective members of the engineering team. It emphasizes the practical applications of scientific and engineering principles to develop industrially oriented personnel with competencies which are needed in technology, research, design, development and production.

The program provides graduates with competency-based education in technology as well as in non-technical related areas. Mechanical engineering technologists are employed in most sectors of industry to participate in the growth and advancement of today's complex technology. They are responsible for the design, development and control of modern systems to benefit society.

The Society of Manufacturing Engineers Certification test may be taken before graduation. Satisfactory completion and a nominal fee afford the graduate provisional certification as a manufacturing engineering technologist.

A typical schedule for the BS degree is:

Freshman Year			**Credits**
CHEM	121/121L	General Chemistry I and Lab	5
EET	108	Basic Electronics Principles I	2
ENG	115, 216	Technical and Scientific Writing I and II	6
MATH	131, 132	Math for Engineering Tech. I and II	8
MET	103	Machining Technology	3
MET	104	Welding Technology	3
MET	111, 112	Technical Drafting I and II	6
PE	100	PE Orientation	2
RDG	120	College Reading	2
			37

Sophomore Year			**Credits**
MATH	233	Math for Engineering Technology III	5
MET	201	Mechanics	3
MET	202	Strength of Materials	3
MET	205	Computer Programming and Algorithms	3
MET	222	Dynamics of Machinery	4
MLET	201	Prin. and Application of En Materials	4
PHYS	201/201L,	Prin. of Physics I and Lab	4
PHYS	202/202L	Prin. of Physics II and Lab	4
		General Education	6
			36

Junior Year			**Credits**
EET	350	Electric Motors and Controls	3
EN	315	Industrial Organization and Operation	3
MET	308	Industrial Detailing	3
MET	321	Fluid Systems	3
MET	331	Applied Thermodynamics	3
MET	352	Design of Machine Elements	3
MET	371	Numerical Control Programming	4
MET	372	Computer-Aided Manufacturing	3
SPCOM	101	Basic Speech Communication	2
		General Education	6
		Guided Elective	3
			36

Senior Year			**Credits**
MET	409	Pneumatic Technology	3
MET	412	Applied Heat Transfer	3
MET	451	Industrial Robotics	3
MET	460	Instrumentation and Control Systems	4
		General Education	8
		Guided Electives	6
			27

MET COURSES

***MET 103 Machining Technology 3(1-4)**
Functions, applications, tooling and operation of saws, lathes, grinders, drilling and milling machines. Basic layout work, cutting tool geometry, machining sequences, establishing operating parameters for high efficiency machining.

***MET 104 Welding Technology 3(1-4)**
Welding and cutting processes. Arc welding techniques for shielded metal, gas tungsten and gas metal. Oxy-acetylene welding, brazing and cutting. Electrode and gas selection, weldability of metals, joint design, welding defects, distortion control and weld testing.

***MET 111 Technical Drafting I 3(0-6)**
Professional drafting techniques, lettering, line quality, scales and measurements to include metric, geometric constructions, orthographic projections, technical sketching, sectioning, isometric and auxiliary views. GEN. ED. IIIC.

***MET 112 Technical Drafting II 3(0-6) Prerequisite MET 111.**
Dimensioning, tolerances, and allowances, descriptive geometry, pattern development and working drawings.

***MET 201 Mechanics 3(3-0) Prerequisite MATH 132.**
Basic concepts and application of statics forces; couples, resultants, equilibrium, trusses, cables, friction, centroids and moments of inertia.

***MET 202 Strength of Materials 3(2-2) Prerequisite MET 201. Corequisite MLET 202, MATH 233 or consent of the instructor.**
Stress-strain relationships, elastic and plastic; tension, compression, shear, torsion, bending and combined stresses; beams, columns and photo-elasticity.

MET 204 Manufacturing Processes 3(2-2) Prerequisite MET 103.
Industrial processes used in the manufacturing community. GEN. ED. IIIC.

MET 205 Computer Programming and Algorithms 3(3-0) Prerequisite MATH 124 or 131 or equivalent.
Special treatment of scientific programming languages and techniques. Languages supported dependent on equipment on hand for topics in robotics, automated drafting, and digital process control machines. Emphasis on man-machine interface.

***MET 222 Dynamics of Machinery 4(3-2) Prerequisite MET 112, 201, PHYS 201.**
Fundamentals of kinematics and kinetics of moving parts in machine elements and mechanisms using analytical and graphical techniques. Cam and gear, gear train design and analysis.

MET 291 Special Topics (1-3 VAR) Prerequisite Sophomore status in MET.
For students majoring in mechanical engineering technology or individuals from local industry who have special interests not covered by existing courses.

***MET 308 Industrial Detailing 3(1-4) Prerequisite MET 112, 205.**
Detail drawings, true position, feasibility and economics. Computer graphics and computer aided design.

***MET 321 Fluid Mechanics 3(2-2) Prerequisite PHYS 201.**
Properties of fluids, fundamentals of fluid flow, viscosity, and fluid friction. Incompressible flow in pipes.

***MET 331 Applied Thermodynamics 3(3-0) Prerequisite PHYS 201, MATH 233.**
Fundamental concepts of work, heat and energy. First and second laws of thermodynamics and applications. Heat, energy and power cycles.

***MET 352 Design of Machine Elements 3(2-2) Prerequisite MET 112, 202, MATH 233.**
Fundamental concepts in the correct design of the separate elements which compose machines, application of properties and mechanics of materials modified by practical considerations.

MET 364 Production Planning 3(3-0) Prerequisite MET 204.
Production planning and coordination for efficient manufacturing. Management systems, material and motion study; process selection and automation systems.

***MET 371 Numerical Control Programming 4(2-4) Prerequisite MET 103.**
Principles of numerical control (NC) and computerized numerical control (CNC) machine tool programming and operations. NC punched tape codes and formats. Point-to-point drilling and straight-line milling. Contouring using circular and linear nterpolation. Tool selection. Specifying cutting speed and feeds. Canned cycles, macros, looping and editing.

***MET 372 Computer-Aided Manufacturing 3(1-4) Prerequisites MET 371.**
Principles of computer-assisted numerical control programming using APT and Compact II language. Initialization, geometry, and machining statements. Log-in, loading, debugging, postprocessing and plotting the source program. Generating list and machine tape files. Calculation of costs.

MET 403 Plant Operations 2(2-0) Prerequisite MET 204.
Principles of plant layout, material flow, material handling, plant utilities, location and arrangement of equipment and machinery.

***MET 409 Applied Fluid Power 3(2-2) Prerequisite MET 321.**
Application of physical, thermodynamic and fluid flow principles to the study of applied fluid systems.

***MET 412 Applied Heat Transfer 3(3-0) Prerequisite MET 331.**
Principles of heat transfer, radiation, conduction and convection; heat exchangers.

***MET 420 Combustion Engines 2(1-2) Prerequisite MET 331.**
Thermodynamic analysis of various heat engine cycles. Combustion processes in actual systems and performance characteristics.

MET 423 Quality Assurance 3(3-0) Prerequisite Senior standing.
Quality assurance function in industry, including development of quality standards, sampling techniques, statistical analysis, inspection instruments, methods and planning.

MET 441 Energy Technology 2(2-0) Prerequisite Permission of instructor.
Introduction to energy technology and alternative energy sources.

***MET 451 Industrial Robotics 3(2-2) Prerequisite Senior standing.**
History, basic theory, kinematics, geometry, control and application.

MET 452 Refrigeration and Air Conditioning 3(3-0) Prerequisite MET 331, 412.
Concepts and techniques in principles and applications of heating, ventilation and air conditioning.

MET 460 Instrumentation and Control Systems 4(3-2) Prerequisites EET 108, MET 321.
Experimental transducers, methods or laboratory instrumentation, logic circuits and feedback control of experimental processes.

MET 473 Advanced Computer-Aided Manufacturing 3(1-4) Prerequisite MET 372.
Computer-assisted numerical control programming of complex part geometry utilizing conditional branching, looping, subroutines, variables, patterns, sets, rotation, translocation and mirroring. Lathe programming. Part boundary geometry. Mill/drill and lathe links. Interfacing CAM with computer graphics to achieve CAD-DAM.

MET 490 Special Projects 3(0-6) Prerequisite Senior standing in MET.
Research and design of working devices including planning of concept, feasibility, marketing, testing and fabrication. A formal report required.

MET 491 Special Topics (1-3 VAR) Prerequisite Senior status in MET.
Special interest topics in areas not covered by existing department courses.

MET 493 Seminar (1-3 VAR) Prerequisite Senior standing in MET.
New topics and developments in mechanical design and technology.

MET 496 Cooperative Education Placement (1-5 VAR) Prerequisite Permission of head of the program.
For juniors and seniors. Work experience under the direction of field supervisor and faculty member.

*Required courses.

Metallurgical engineering technology. This program provides students with a broad and comprehensive training in various metallurgical subjects so they may develop the versatility required of metallurgical engineering technologists.

Students who graduate as metallurgical engineering technologists are prepared with the technical competence for entrance into responsible positions in quality control, material testing, production and research. They are employed by private industry and government agencies to deal with problems of design and manufacture of metals and alloys, corrosion and protection, nondestructive testing and application of materials to specific needs and requirements.

A typical schedule for the BS degree is:

Freshman Year			Credits
BCOM	115, 216	Technical and Scientific Writing I and II	6
CHEM	121/121L	General Chemistry I and Lab	5
CHEM	122/122L	General Chemistry II and Lab	5
MATH	131, 132	Math for Engineering Tech. I and II	8
MET	103	Machining Technology	3
MET	104	Welding Technology	3
MET	111	Technical Drafting I	3
MLET	111	Nondestructive Testing I	3
			36

Sophomore Year			Credits
MATH	233	Math for Engineering Technology III	5
MET	201	Mechanics	3
MET	202	Strength of Materials	3
MET	205	Computer Programming and Algorithms	3
MLET	201	Prin. and Application of En. Materials	3
MLET	212	Nondestructive Testing II	3
PHYS	201/201L	Principles of Physics I and Lab	4
PHYS	202/202L	Principles of Physics II and Lab	4
RDG	120	College Reading	2
		General Education	6
			36

Junior Year			Credits
EET	108	Basic Electronic Principles	2
EN	315	Industrial Organization and Operation	3
MLET	303	Industrial Radiography	3
MLET	351	Materials Tech. and Processes	3
MLET	353	Metallography	2
MLET	372	Oxidation and Corrosion I	3
MLET	382	Metallurgy of Joining	3
PE	100	Orientation	2
SPCOM	101	Basic Speech Communication	2
		General Education	9
		Guided Elective	3
			35

Senior Year			Credits
MET	331	Applied Thermodynamics	3
MET	412	Applied Heat Transfer	3
MLET	407	Metals Casting	3
MLET	411	Oxidation and Corrosion II	3
MLET	451	Materials Processing and Fabrication	2
MLET	452	Mechanical Behavior of Materials	3
		General Education	5
		Guided Electives	6
			28

MLET COURSES

***MLET 111 Nondestructive Testing I 3(2-2).**
Determination of quality without change to the material by using liquid penetrant, magnetic particles, magnetic rubber and leak testing.

***MLET 201 Principles and Application of Engineering Materials 4(3-2) Prerequisite CHEM 121.**
Atomic structure, bonding and arrangement of atoms in materials; behavior and properties of engineering materials including ceramic, polymeric and composite materials. Phase diagrams, microstructure, deformation and recrystallization; transformations and properties-structure relationships.

***MLET 212 Nondestructive Testing II 3(2-2) Prerequisite MLET 111.**
A continuation of MLET 111 in-depth theory and application of ultrasonic, eddy current and electro-magnetic testing.

MLET 225 Applied Physical Metallurgy 3(2-2)
Properties structure, testing of metals. Behavior of metal during heating, cooling and processing. Heat treatment of steel and surface treatment of metals.

MLET 291 Special Topics (1-3 VAR) Prerequisite Sophomore standing in MLET.
For students majoring in MLET or an individual from local industry who has special interests not covered by existing courses.

***MLET 303 Industrial Radiography 3(2-2) Prerequisite MLET 201.**
Principles and operations of x-ray and gamma ray sources for radiographic examinations. Development of radiographic techniques using a 250 KV x-ray unit.

MLET 314 Advanced Industrial Radiography 3(2-2) Prerequisite MLET 303, PHYS 202.
Principles of special radiographic techniques; in-motion techniques including extended specimens, rotary, orthogonal projections, tomography, stero-radiography, autoradiography, computerized tomography and electron microradiography.

***MLET 351 Materials Technology and Processes 3(3-0) Prerequisite MLET 202. Corequisite MLET 353.**
Crystal structure, defects, diffusion, heat treatment, solid solutions, solid state transformations and hardening; nucleation, growth, and recrystallization. Relationships between structure and properties of engineering materials with emphasis on Fe-C systems.

***MLET 353 Microstructural Analysis 2(0-4) Corequisite MLET 351.**
Metallography, qualitative and quantitative optical analysis. Laboratory investigations of topics covered in MLET 351 and related areas.

***MLET 362 Process Metallurgy 3(2-2) Prerequisite CHEM 122. Corequisite MLET 351.**
Mining, ore preparation, fuel, furnace, smelting, refining, slag control, and refractory materials.

MLET 372 Oxidation and Corrosion I 3(2-2) Prerequisite MLET 353, CHEM 122.
Corrosion chemistry, mechanism of corrosion, galvanic cell, pitting, stress corrosion, intragranular corrosion and controlling environment.

MLET 382 Metallurgy of Joining 3(2-2) Prerequisite MET 104, MLET 353.
Weldability, defects, heat flow, phase transformation, residual stress, pre- and post-heat treatment, heat affected zone, microstructure and properties. Weld procedure and qualification.

***MLET 407 Metals Casting 3(2-2) Prerequisite MLET 353.**
Casting, fabrication and uses in service. Kinetics of solidification, phase transformation and equilibrium. Casting design and modern casting technology.

***MLET 411 Oxidation and Corrosion II 3(2-2) Prerequisite MLET 372.**
Modern theory, mechanism and kinetics. Polarization corrosion, underground corrosion and hydrogen embrittlement. Corrosion prevention and corrosion case study.

***MLET 451 Materials Processing and Fabrication 2(1-2) Prerequisite MLET 351, senior standing in MLET.**
Deformation processing, metal forming and powder metallurgy. Materials properties and behavior during and after processing.

***MLET 452 Mechanical Behavior of Materials 3(2-2) Prerequisite MLET 351, senior standing in MLET.**
Elastic and plastic deformation, strength and failure of engineering materials from the metallurgical viewpoint. Dislocation behavior and mechanisms of yielding, work hardening, strengthening, creep, fatigue and failure analysis. Property evaluation and behavior of materials.

MLET 490 Special Projects 3(0-6) Prerequisite Senior standing in MLET.
Selection and completion of a typical industrial problem project under faculty supervision. Results are presented in a formal report.

MLET 491 Special Topics (1-3 VAR) Prerequisite Senior standing in MLET.
Topics and developments in materials design and technology.

MLET 496 Cooperative Education Placement (1-5 VAR) Prerequisite Permission of department head.
For juniors and seniors. Work experience under the direction of a field supervisor and faculty member.

*Required Courses

MENTAL HEALTH

Professors: S. Krinsky, Madrid

The mental health program, offered in the center for psychology and mental health, leads to an associate of arts (AA) degree upon completion of 76 semester hours (normally 5 semesters) in specialized mental health and supporting courses. Specialized courses focus on developing skills in working with people and their families. Students may minor in mental health by completing 20 semester hours of mental health courses, not including field experience courses.

The U.S. Department of Health and Human Services and the National Institute of Mental Health define mental health workers as persons who are, or will be, employed to perform a variety of therapeutic, supportive, and preventive functions for people with emotional, developmental, or social problems within an organized mental health delivery system. These workers are not members of the core mental health disciplines of psychiatry, psychology, social work or psychiatric nursing. The University of Southern Colorado program provides knowledge and skills which can be put to use in a variety of settings to provide mental health and social restoration services. At the same time, the program prepares the student for work on a baccalaureate degree in one of the many allied disciplines.

MAJOR

Students should see a program adviser for information about degree requirements and scheduling of classes:

All majors must earn a grade of C or better in in required mental health courses and are **required** to complete the following:

Freshman Year			**Credits**
ENG	110, 211	Composition I and II	6
MATH	105	Introductory Algebra	3
MH	115	Introduction to Mental Health	2
MH	121	Interviewing	2
MH	131	Counseling	2
MH	141	Group Process I	3
MH	151	Introduction to Human Development	3
MH	170	Field Experience I	3
MH	181	Seminar I	1
PE	100	PE Orientation	2
PSYCH	101,102	General Psychology I and II	6
RDG	120	College Reading	2
		General Education	3
			38

Sophomore Year			**Credits**
FL	181	Introductory to Spanish	3
	or		
FL	191	Beginning Spanish	5
MH	210	Drugs, Society and Human Behavior	2
MH	231	Family Dynamics	3
MH	251	Behavior Modification	3
MH	294	Field Experience	8
SOC	230	Marriage and the Family	3
SPCOM	101	Basic Speech Communication	2
		General Education	12
			36-38

MH COURSES

MH 115 Introduction to Mental Health 2(2-0)
Overview of the field from an applied-psychological perspective. GEN. ED. IIA.

MH 121 Interviewing 2(2-0)
Interviewing principles and techniques related to mental health.

MH 131 Counseling 2(2-0) Prerequisite MH 121 or permission of instructor.
Exploration of basic principles and techniques and their practical application and implementation in the therapeutic process.

MH 141 Group Process I 3(3-0)
Structure and dynamics of groups practicing interpersonal skills and leadership qualities.

MH 151 Introduction to Human Development 3(3-0)
Survey of human development through life span. GEN. ED. IIA.

MH 181 Mental Health Seminar I 1(1-0)
Open-ended discussions exploring aspects of mental health work relevant to student experiences in the program.

MH 210 Drugs, Society and Human Behavior 2(2-0)
Use and misuse of drugs; analysis of causes of drug abuse. Different treatment modalities used in cure of drug abuse. GEN. ED. IIA.

MH 231 Family Dynamics 2(2-0)
Family processes influencing mental health and the effect of stress on the family structure. Family potential in fostering mental health emphasized. GEN. ED. IIA.

MH 251 Behavior Modification 3(3-0)
Learning theory and its application for modification of maladaptive behavior. Various techniques examined.

MH 291 Special Topics (1-3 VAR)
Topics of interest to those involved in mental health. For majors and others whose work involves relating with people.

MH 294 Field Experience (2-8 VAR) Prerequisite MH 121 and program permission.
Work experience with clients seeking help. Clinical field work based on student experience and ability. Supervisory conference required.

MH 310 Aging and Mental Health Practicum 4(1-4) Prerequisite Departmental permission.
Discussion of the emotional crises that confront older people; affirmative approach to dealing with problems of physical and mental rehabilitation. Critical evaluation of studies dealing with aging, plus field placement in at least one agency which serves the elderly client.

MH 320 Developmental Disabilities Practicum 4(1-4) Prerequisite Departmental permission.
Critical evaluation of studies dealing with retardation and other developmental disabilities. Institutions, agencies and treatment methods will be discussed. Field placement in at least one agency which serves the developmentally disabled client is also required.

MH 341 Family Therapy 3(3-0) Prerequisite MH 231 or permission of instructor.
Counseling techniques to develop skills in working with families.

MH 410 Drug and Alcohol Counseling Practicum 4(1-4) Prerequisite Departmental permission.
Institutions, agencies and treatment methods used in drug and alcohol counseling. Critical evaluation of studies dealing with treatment and rehabilitation. Field placement in at least one agency which serves clients suffering from drug or alcohol addictions.

MH 420 Youth Counseling Practicum 4(1-4) Prerequisite Departmental permission.
Survey of intervention methods with young clients in need of social and emotional rehabilitation. Critical evaluation of studies dealing with youth counseling. Includes a field placement in at least one agency which serves young clients who have social and emotional problems.

MILITARY SCIENCE (RESERVE OFFICERS' TRAINING CORPS PROGRAM)

Faculty: Flynn, Hollis, Navarro, Scholze

The Army ROTC program. The Army Reserve Officers' Training Corps exists to develop college-educated officers for the active Army and Reserve components. Producing 75% of the commissioned officers in the Army, it enables selected young men and women to prepare for positions of leadership in either military or civilian careers of their choice. The program is specifically designed to provide leadership instruction, a knowledge of the national security structure and an opportunity to gain practical experience in leadership and management techniques. The program of instruction is open to all qualified students and may be taken with no military obligation.

The program may be integrated with any academic major and thus may lead to either a bachelor of arts (BA) or a bachelor of science (BS) degree in the major field. Graduates are commissioned as second lieutenants in the Regular Army, the Army Reserve or the National Guard.

Four-year ROTC program. The four-year program is divided into two phases—a two-year basic course and a two-year advanced course. The basic course, conducted for freshmen and sophomores, does not obligate students in any way and can be taken in the same manner as any other academic course. Only those cadets who have demonstrated a positive potential for becoming effective officers while successfully completing the basic course are selected for the advanced course. Advanced course cadets attend a six week summer camp with pay, travel expenses, food and lodging provided.

Two-year ROTC program. This program is designed for junior college transfer students or those students who have not participated in ROTC during their freshman and sophomore years. Veterans and students who have had the equivalent of the basic course may be granted constructive credit and be selected for the advanced course.

A six-week summer training period (basic camp) conducted after the sophomore year at Fort Knox, Kentucky, substitutes for the first two years of ROTC in the normal four-year program. Also, summer session and winter intersession Compression Programs may provide all the requirements for the first two years.

Army ROTC courses. All courses are approved by the university and credits are applied as electives toward requirements for graduation. Instruction is both academic and practical and is designed to develop self-reliance, confidence, initiative, courtesy and a strong sense of citizenship.

Leadership Labs. Regularly scheduled leadership labs provide students with actual leadership situations in drill and ceremony, physical, tactical and interpersonal training both on and off campus.

Assignment of branch. Upon graduation, the ROTC cadet is afforded a selection of one of the following branches of the Army aligned with his or her academic major and/or individual preference:

Adjutant General's Corps
Air Defense Artillery
Armor
Army Nurse Corp
Aviation
Chemical Corps
Corps of Engineers
Field Artillery
Finance Corps
Infantry
Medical Service Corps
Military Intelligence
Military Police Corps
Ordnance
Quartermaster Corps
Signal Corps
Transportation Corps

MILSC COURSES

MILSC 101 National Defense Studies 1(1-0)
Organization of the Army and its role in American society. Also, related topics on the U.S. Army Special Organizations. Attendance of leadership laboratories is optional.

MILSC 102 Basic Survival Skills 1(1-0)
Introduction to basic skills required in the Army environment, appropriate for some civilian endeavors. Includes leadership, rappelling, tactical aircraft control, and others. Attendance of leadership laboratories is optional.

MILSC 201 Land Navigation Techniques 1(1-2)
Practical exercise in cross country land navigation. Emphasis on the use of the topographical map and lensatic compass. Includes leadership laboratories.

MILSC 202 Applied Survival Skills 1(1-2)
Skills required by both military and civilian leaders and managers, including survival, leadership, and managerial skills. Leadership laboratories.

MILSC 204 ROTC Basic Camp 4(0-4)
Six week practical training session providing cadets experience and instruction in basic military subjects. Substitutes for first two ROTC years. Conducted at Fort Knox, Kentucky. Transportation, housing, meals and pay are provided.

MILSC 210 Nations at War 3(3-0)
Causes, consequences and prevention of war. Includes study of seven different conflicts. GEN. ED. IIC.

MILSC 211 Public Speaking (2-3 VAR)
Introduction to speaking groups, emphasizing organization, effective support, speaker credibility and audience analysis. Application made through classroom presentations and analysis of models. GEN.ED.I

MILSC 301 Leadership and Management Development 3(3-2) Prerequisite Sophomore standing.
Technique and practice in applied leadership and management at the small group level. Military and corporate management simulation exercises. Leadership laboratories.

MILSC 302 Advanced Leadership and Instructor Techniques 3(3-2)
Leadership theory and research; emphasis on applicability to the Army leadership phenomenon. Also, theory and practice in preparing and presenting instruction. Leadership laboratories.

MILSC 304 ROTC Advanced Camp 6(0-6) Prerequisite MILSC 301, 302.
Six-week practical training session supplementing on-campus instruction by providing cadets experience and instruction in tactical subjects; emphasis on leadership development. Course is conducted at Fort Lewis, WA. (S/U Grades.) Transportation, housing, meals and pay are provided.

MILSC 310 Principles of Management 3(3-0)
Decision making, communication and leadership principles in business and nonprofit organizations.

MILSC 401 The American Military Experience 3(3-0)
Origins and development of the armed forces in American society; six themes: the democratic revolution, the industrial revolution, the managerial revolution, the mechanical revolution, the scientific revolution, and the social revolution. Themes developed in chronological sequence. Leadership laboratories.

MILSC 402 Advanced Leadership and Management 3(3-2)
Analysis and discussion of military leadership theory. Development of management knowledge in such subjects as military law, the Army personnel management system, and professionalism and ethics. Leadership laboratories.

MUSIC

Faculty: Beck, Duncan, Kellogg, Muller, Roach, Strobel, Vorce'
Artists in Residence: Cedrone, Markowski, Grabiec
Thatcher Chair of Music: Track

The program in music offers the bachelor of arts (BA) with emphasis in one of the following programs: music theory; music performance; certification in music education. The department is accredited by the National Association of Schools of Music.

The performance emphases are: voice, keyboard instruments, string instruments, woodwind instruments, brasswind instruments and percussion instruments.

The program also offers a minor and numerous courses and ensembles open to all students by audition. Facilities include an excellent recital hall and suitably equipped studios and practice rooms.

Graduates perform as professional musicians, teach privately or in schools or colleges or combine these and other activities.

MAJOR

Each of the programs for the music major requires the following core courses:

			Credits
MUS	101, 102	Theory I	8
MUS	121, 122	Survey of Music History I and II	4
MUS	201, 202	Theory II	8
MUS	244, 245	Conducting I and II	4
MUS	311, 312	Arranging I and II	4
MUS	321, 322	Music History (1700-Present)	6
			34

In addition to the core requirement, the theory program and performance require MUS 301 and MUS 304 (4 hours). The music education program requires additional courses in music and education for certification as required by the Colorado State Board of Education. The music education student must consult with the head of the department of music to establish a music education program.

All music majors must complete a minimum of eight semesters of applied major study, eight semesters of appropriate ensemble, and eight semesters of symposium.

A typical music schedule (performance or theory):

Freshman Year			**Credits**
ENG	110, 211	Composition I and II	6
MUS	101, 102	Theory I	8
MUS	121, 122	Survey of Music History I and II	4
MUS	161, 162	Applied Music Major	4
MUS	171, 171	Choir	6
MUS	185	Symposium	2
SPCOM	101	Basic Speech Communication	2
		Electives (Gen. Ed., Minor)	4
			36

Ensembles. Each student majoring in music must participate in one of the major ensembles offered by the program. This major ensemble must be the appropriate one for the student's declared performance emphasis. Appropriate major ensembles are as follows:

For students whose major performance emphasis is:

1) Voice
2) String instrument
3) Brass, woodwind and percussion instruments
4) Keyboard instrument

The appropriate ensemble is:

1) Choir
2) Orchestra or string ensemble
3) Band
4) Piano ensemble

If the student's performance emphasis is keyboard instruments and the academic emphasis is music education, the student must participate at least two academic years in the university choir.

Various minor ensembles, stage band and percussion ensemble, are offered by the program and are available to all students on an audition basis or with permission of the instructor.

Those students enrolled in an applied music major must take a jury examination in their elected area at the end of each semester.

Those students enrolled in performance block must take a jury examination at the discretion of the component instructors involved at the end of each semester.

MINOR

Students desiring a minor in music are required to consult with the music program staff and the head of the music program. The minor in music does not lead to teacher certification.

Courses required for the minor are:

MUS	101, 102	Basic Musicianship I and II	8
MUS	121, 122	Survey of Music History I and II	4
MUS	244 or 245	Conducting I or II	2
			14

In addition, the student must have a minimum of four semesters of applied study, four semesters of ensemble and four semesters of symposium.

MUS COURSES

UNDERGRADUATE

MUS 101 Theory I 4(3-2)
Fundamentals of musicianship correlating sight-singing, rhythmic reading, keyboard harmony and basic principles of part-writing. GEN. ED. IE.

MUS 102 Theory I 4(3-2)
Continuation of MUS 101.

MUS 118 Music Appreciation 3(3-0)
Terms related to music and specific music-listening skills to broaden understanding and appreciation of music as an art. GEN. ED. IE.

MUS 119 How to Read Music 3(3-0)
Music notation in its various rhythmical and pitch patterns related to the treble and bass clefs. GEN. ED. IE.

MUS 120 Jazz and Folk Music 3(3-0)
Beginning and development of jazz and folk music in the United States. GEN. ED. IE.

MUS 121 Survey of Music History I 2(2-0)
Historical style periods in western culture from the Middle Ages to 1800. GEN. ED. IE.

MUS 122 Survey of Music History II 2(2-0)
Continuation of MUS 121 from 1800 to present. GEN. ED. IE.

MUS 126 Introduction to Opera 3(3-0)
A survey of operas performed in major opera companies today. GEN. ED. IE.

MUS 144 Woodwind Class 2(0-4)
Techniques employed and problems confronted in teaching and playing woodwind instruments.

MUS 145 Brass Class 2(0-4)
Techniques employed and the problems confronted in teaching and playing brass instruments.

MUS 147 Functional Piano Class 2(2-0)
For students with little or no background in keyboard instruments. Explores the basic fundamentals of piano playing.

MUS 161 Applied Music Major 2(0-6)
In-depth study of the performance practices of keyboard, brass, woodwind, percussion or string instrument or voice.

MUS 162 Applied Music Major 2(0-6)
Continuation of MUS 161.

MUS 165 Performance Block C (1-3 VAR)
For music majors desiring to perform in ensembles other than those required. Also open to students majoring in other departments who wish to perform in any of the available ensembles. Credit depends on the number of ensembles desired.

MUS 170 Band 3(1-4)
Open to all regularly enrolled university students by permission. May be repeated for lower-division credit.

MUS 171 Choir 3(1-4)
Open to all regularly enrolled university students by permission. May be repeated for lower-division credit.

MUS 172 Piano Ensemble 2(2-0)
Open to all regularly enrolled university students by permission. May be repeated for lower-division credit.

MUS 174 String Ensemble/Chamber Orchestra 2(0-4)
Ensemble specializing in the performance of appropriate string chamber literature. Open to all students who qualify by audition. May be repeated for additional credit.

MUS 175 Private Lesson 1(0-1)

MUS 181 Lab Choir 1(0-2)
Required of all music education majors every other fall semester of residence.

MUS 182 Lab Band 1(0-2)
Required of all music education majors each spring semester of residence. Freshman string, piano, and voice majors may be excused if they do not play a wind or percussion instrument.

MUS 185 Symposium 1(1-0)
Required course for all music majors. Student performance, both solo and ensemble, faculty lectures and demonstrations and public performance preparation.

MUS 186 Beginning Guitar Class I 1(1-0)
For the non-musician. Application of both melodic and chordal (rhythmic) mediums; introduction to the basic folk music of America.

MUS 187 Beginning Guitar Class II 1(1-0)
For the student with slight knowledge of the instrument. Finger picking techniques and chordal harmonization; chords covering the entire spectrum of the instrument.

MUS 201 Theory II 4(3-2) Prerequisite MUS 102.
Analytical techniques stressing style and ear-training.

MUS 202 Theory II 4(3-2) Prerequisite MUS 201.
Continuation of MUS 201.

MUS 210 Electronic Music 3(3-0)
Scientific and aesthetic practices employed in sound recording studio and electronic music. Intensive experience with the Arp synthesizer is acquired. Several computer music software programs are introduced.

MUS 241 String Class 2(0-4)
Techniques employed and problems confronted by the string instrument teacher.

MUS 242 Percussion Class 2(0-4)
Techniques employed and problems confronted in teaching and playing percussion instruments, tuned and untuned.

MUS 244 Conducting I 2(2-1)
Techniques and methods of conducting both vocal and instrumental ensembles.

MUS 245 Conducting II 2(2-1)
Continuation of MUS 244.

MUS 251 Music in the Elementary School I 2(2-0)
Logical steps in developing music appreciation and music skills throughout the elementary grades in the public school.

MUS 252 Music in the Elementary School II 2(2-0) Prerequisite MUS 251.
Continuation of MUS 251.

MUS 261 Applied Music Major 2(1-5) Prerequisite MUS 162.
In-depth study of performance practices of keyboard, brass, woodwind, percussion or string instruments.

MUS 262 Applied Music Major 2(1-5) Prerequisite MUS 261.
Continuation of MUS 261.

MUS 265 Performance Block C (1-3 VAR)
Continuation of MUS 165 for the sophomore student.

MUS 291 Special Topics (1-3 VAR)
Special study and/or activity not covered by regular offerings.

MUS 301 Counterpoint 2(2-0) Prerequisite MUS 202.
Directed approach to 16th Century composition. Writing in two, three, four and more voices.

MUS 304 Form and Analysis 2(2-0) Prerequisite MUS 202.
Analytical techniques in music from Gregorian Chant to contemporary music.

MUS 311 Arranging I 2(2-0) Prerequisite MUS 202.
Techniques of scoring for all instrumental combinations.

MUS 312 Arranging II 2(2-0) Prerequisite MUS 311.
Continuation of MUS 311.

MUS 321 Music from 1700 to 1850 3(3-0) Prerequisite MUS 122.
In-depth study of styles, forms and composers from the late baroque through romantic era.

MUS 322 Music from 1850 to the Present 3(3-0) Prerequisite MUS 321.
Post-romanticism and contemporary composition.

MUS 324 Piano Literature 2(2-0)
Survey of piano literature from the 18th Century to the present.

MUS 347 Piano Pedagogy I 2(2-0)
Introduction to the practices in teaching private and class piano.

MUS 348 Piano Pedagogy II 2(2-0) Prerequisite MUS 347.
Continuation of MUS 347.

MUS 361 Applied Music Major 2(1-5) Prerequisite MUS 262.
Continuation of MUS 262 for the junior music student.

MUS 362 Applied Music Major 2(1-5) Prerequisite MUS 361.
Continuation of MUS 361.

MUS 365 Performance Block C (1-3 VAR)
Continuation of MUS 265 for the junior student.

MUS 370 Band 3(1-4) Prerequisite Junior standing.
Open to all regularly enrolled university students by permission. May be repeated for credit.

MUS 371 Choir 3(1-4) Prerequisite Junior standing.
Open to all regularly enrolled university students by permission. May be repeated for credit.

MUS 372 Piano Ensemble 2(2-0) Prerequisite Junior standing.
Open to all regularly enrolled university students by permission. May be repeated for credit.

MUS 374 String Ensemble/Chamber Orchestra 2(0-4) Prerequisite Junior standing.
Ensemble specializing in performance of appropriate string chamber literature. Open to all students who qualify by audition. May be repeated for additional credit.

MUS 377 Materials and Techniques of Teaching Music in Public Schools I 3(3-0) Prerequisite MUS 144, 145, 241, 242, 245.
Comprehensive study in materials, techniques, methods and problem-solving necessary for the teacher of music in the public schools.

MUS 378 Materials and Techniques of Teaching Music in the Public Schools II 3(3-0)
Continuation of MUS 377.

MUS 385 Symposium 1(1-0)
Upper division continuation of MUS 185.

MUS 430 Practicum in Music I 2(0-4)
For the advanced music student to practice the teaching of music by assisting in the teaching of applied music groups within the department.

MUS 431 Practicum in Music II 2(0-4)
Continuation of MUS 430.

MUS 461 Applied Music Major 2(1-5) Prerequisite MUS 362.
Continuation of MUS 362 for the senior music student.

MUS 462 Applied Music Major 2(1-5) Prerequisite MUS 461.
Continuation of MUS 461.

MUS 465 Performance Block C (1-3 VAR)
Continuation of MUS 365 for the senior student.

MUS 495 Independent Study (1-4 VAR)
Combination of lecture and lab appropriate to the project. Individual instruction in special interest areas not offered in any course regularly taught.

GRADUATE

MUS 501 Special Methods in Music Education 2(2-0) Prerequisite Graduate standing.
Combination of lecture and lab appropriate to the project. For graduate students. In-depth study of techniques and materials for teaching music in the elementary and middle school. Involvement in research and practical application of approved methods.

MUS 593 Seminar 2(2-0) Prerequisite Graduate standing.
For graduate students. Practical application of current music techniques to secondary teaching.

NURSING

Faculty: Atteberry, Gilbert, Gray, King, Mettler, Mutzebaugh, Rice, Sabo, Sczekan, Wermers
Auto Tutorial Laboratory Director: Berumen

The program in nursing offers two professional degrees, a two-year associate of science in nursing (ASN) degree and an upper division two-year bachelor of science in nursing (BSN) degree. Both programs are accredited by the National League for Nursing. Admission to nursing is selective; students should be aware that admission to the university does not constitute admission to either nursing program. Only registered nurses are eligible for admission to the baccalaureate program. Students should also note that most nursing courses have prerequisites or corequisites and therefore must be taken in the sequence indicated. The program also offers two courses open to all university students for general education credit.

Arrangements with a wide variety of community based health care agencies in Pueblo, Colorado Springs, and at military installations in southern Colorado provide clinical experience.

MAJORS

Associate of Science in Nursing

The associate degree program has as its primary goal the development of practitioners of nursing who are clinically proficient and are aware of their social responsibilities as members of the health care system. The curriculum requires a minimum of five semesters. Enrollment for the ASN is limited; acceptance is not automatic on the basis of admission to the university. Information regarding preacceptance requirements and the application process may be obtained from the program office. Nursing courses must be completed in sequential order beginning with the fall semester.

Freshman Year			**Credits**
BIOL	223/223L	Human Anatomy and Physiology I and Lab. . .	4
BIOL	224/224L	Human Anatomy and Physiology II and Lab . .	4
ENG	110	Composition I	3
MH	151	Intro to Human Behavior.	3
*NSG	110	Nursing I	8
*NSG	120	Nursing II.	9
RDG	120	College Reading	2
			33

Summer			**Credits**
CST	100	Intro to Interactive Computing	3
Group	I	Humanities (SPCOM 221 or 222 recommended)	3
			6

Sophomore Year			**Credits**
BIOL	206/206L	Introduction to Microbiology and Lab.	4
NSG	205	Professional Development for NSG	2-3
	or		
**NSG	298	Theoretical Foci of Nursing.	3
*NSG	210	Nursing III	9
*NSG	220	Nursing IV.	10
PE	100	PE Orientation.	2
SOC	101	General Sociology I.	3
Group	I	Humanities	3
			34

*Includes clinical practicums, which are instructor-defined learning experiences on campus and in health-care agencies.
**Nursing 298 is recommended for students continuing into the baccalaureate degree program.

NSG COURSES (ASN)

***NSG 110 Nursing I 8(4-12) Prerequisite Admission to ASN Program. Corequisite BIOL 223, 223L.**
Introduction to concepts of wellness/illness, basic human needs and the nurse as a member of the health team. Use of nursing process as means for application of scientific principles in nursing care. Emphasis on communication, assessment and technical nursing skills. Provides guided experience in campus and clinical laboratory settings.

NSG 115 Pharmacology in Nursing 3(3-0) Prerequisite NSG 110, BIOL 223, 223L, or permission of instructor.
Concepts related to drugs, their mechanism of action, potential dangers, and interaction with other drugs. Approach is to broad classifications rather than specific drugs.

NSG 117 Women, Health and Society 2(2-0)
Cultural, sociological and medical issues related to the role and status of women in society and the relationship between these norms and health status. Current health practices, sexism and racism in medicine and psychiatric approaches to women in therapy. GEN. ED. IIB.

***NSG 120 Nursing II 9(4-15) Prerequisite NSG 110, MH 151. Corequisite BIOL 224, 224L.**
Maternal-infant and psychiatric-mental health nursing. Focus is on family involvement, interpersonal relationships and therapeutic use of self. Laboratory experiences included for both areas.

NSG 205 Professional Development for Nursing 2(2-0) Prerequisite Second-level placement.
Issues significant for entering nursing practice. Decision-making related to entry into practice, determining and maintaining standards of practice, career planning, professional organizations and economic considerations.

***NSG 210 Nursing III 9(5-12) Prerequisite NSG 120. Corequisite BIOL 206, 206L.**
Application of previously learned concepts in care of adults and children with selected health problems that interfere with meeting basic human needs. Surgical intervention is introduced. Expands on use of nursing process for meeting needs of the individual in hospital and other agencies.

***NSG 220 Nursing IV 10(4-18) Prerequisite NSG 210.**
Continued application of concepts and the nursing process in caring for adults and children with complex health problems that interfere with basic human needs. Information needed for transition from student to graduate included. Clincial experience provided in various health agencies.

NSG 291 Special Topics (1-4 VAR) Prerequisite Permission of instructor.
Topics and/or nursing skills, for enrichment of required nursing courses, and which serve the interest of 10 or more students will be considered.

NSG 295 Parent-Child Nursing 3(3-0) Prerequisite NSG 120.
In-depth view of parent-child nursing practice. Fetal growth and development, labor and delivery, complications of pregnancy, family planning and childhood diseases. Student preparation and presentation of a project.

Bachelor of Science in Nursing

The baccalaureate degree is designed to prepare the registered nurse to function as a generalist in a variety of settings. Learning experiences are conceptually based and include application of the nursing process in complex and diverse situations. Focus is on expansion of professional skills, theoretical frameworks, role development, leadership and nursing research. Experience is provided in urban and rural settings. Minimum time for program completion is four semesters; full or part-time study is available. Candidates seeking admission to the program must be registered nurses and should meet with a faculty member for evaluation and advisement. Specific information regarding admission and curriculum requirements is available in the nursing department.

Representative schedule (last two years only):

Junior Year			**Credits**
BIOL	341/341L	Vertebrate Physiology and Lab	4
BIOL	342/342L	Pathobiology and Lab	4
NSG	298	Theoretical Foci of Nursing Practice	3
NSG	300	Nursing Process I	3
NSG	303	Nursing Process II	2
NSG	310*	Health Assessment	7
NSG	311*	Community Health Nursing I	7
		Elective	3
			33

Senior Year			**Credits**
MATH	156	Introduction to Statistics	3
NSG	309	Research Process in Nursing I	2
NSG	402*	Leadership Dynamics in Nursing	4
NSG	405	Professional Issues and Trends	2
NSG	406	Principles of Mental Health Nursing	3
NSG	409	Research Process in Nursing II	2
NSG	411*	Community Health Nursing II	5
NSG	412*	Clinical Nursing Synthesis	6
		Elective	3
			30

*Include clinical practicums, which are instructor-defined learning experiences on campus and in health-care agencies.

NSG COURSES (BSN)

NSG 288 Theoretical Foci of Nursing Practice 3(3-0) Prerequisite Permission of instructor.
Theoretical foundation for students preparing for baccalaureate nursing education. Development of scientific knowledge in nursing, theory and role developments, and examination of major theoretical and conceptual frameworks basic to nursing practice.

NSG 300 Nursing Process I 3(3-0) Prerequisite Permission of instructor.
For RN students only. Provision of client care through steps specified as the nursing process: assessment, nursing diagnosis, planning, implementation and evaluation.

NSG 303 Nursing Process II 2(2-0) Prerequisite NSG 298, 300.
Sociocultural influences that affect man's health or behavior and conceptual tools and theories for effecting change. Emphasis on application of the nursing process in ethnic contexts.

NSG 305 Ethical Issues in Health Care 3(3-0) Prerequisite Permission of instructor.
Selected philosophical theories which influence ethical choice. Areas of the law and legal systems which affect the public health. Current ethical issues related to nursing practice.

NSG 309 Research I 2(2-0) Prerequisite NSG 300, MATH 156 and admission to program.
Overview of steps and procedures in research in nursing and interfaces between research and clinical nursing practice.

***NSG 310 Health Assessment 7(3-8) Prerequisite Permission of instructor.**
Nursing history, physical examination and socio-psychocultural aspects of assessing the individual throughout the life span.

***NSG 311 Community Health Nursing I 7(3-8) Prerequisite NSG 300. Admission to program. Corequisite ANTHR 102.**
Synthesis of professional generalist nursing practice with focus on families as the basic unit of society in a complex health care system. Family theories applied to client families utilizing the nursing process.

NSG 391 Special Topics (1-5 VAR) Prerequisite Permission of instructor.
Topics are considered which serve the interest of 10 or more students focusing on a contemporary trend in nursing practice.

***NSG 402 Leadership Dynamics in Nursing 4(3-2) Prerequisite Senior status.**
Clinical application of leadership principles, decision-making skills and management of groups in nursing practice.

NSG 405 Professional Issues and Trends 2(2-0) Prerequisite Permission of instructor.
Issues which influence nursing education and practice and its roles and functions within changing health care systems. Role definition, political issues, nursing as a profession and current health care trends.

NSG 406 Principles of Mental Health Nursing 3(3-0) Prerequisite Permission of instructor.
Primary prevention efforts in mental health from an interdisciplinary perspective. Development of conceptual models for nursing practice based on analysis and application of this perspective in non-traditional mental health settings.

***NSG 411 Community Health Nursing II 5(3-4) Prerequisite NSG 311 and Senior status.**
Synthesis of professional generalist nursing practice with focus on promotion of health in defined populations. Theories of communities applied to client populations including analysis of multiple health care systems and rural health care settings.

***NSG 412 Clincial Nursing Synthesis 6(2-8) Prerequisite NSG 310, 311, 402, 411.**
Clinical synthesis and analysis of data in acute care, chronicity and rehabilitation. Nursing process is utilized in analysis and synthesis.

NSG 492 Research 2(2-0) Prerequisite NSG 309.
Major nursing theories in terms of nursing functions they imply, kinds of hypotheses they would generate, and kinds of research they would stimulate. Aspects of the research process, design, methods of collecting and analyzing data, and interpretation of data.

NSG 495 Independent Study (1-6 VAR)
In-depth applications of the nursing process in selected areas of nursing practice.

PHILOSOPHY

Faculty: Aichele, Driscoll, Nicholl

The program in philosophy includes courses leading to the degree of bachelor of arts (BA). A minor in philosophy is available for students majoring in other disciplines, and many courses are open to all students.

Instruction is designed to help students understand and appreciate the great philosophic ideas and movements of the past and present, to see these ideas in relation to their cultural setting, to develop the ability to think, speak, and write in a clear and analytical manner, and to begin to formulate a viable philosophy of life. The department seeks to meet the needs of four types of students:

1) Those who have no professional interest in philosophy but who wish to make the study of philosophy a part of a general liberal education or a part of the broad area humanities major.
2) Those with primary interests in fields related to philosophy (such as politics, law, literature), who wish to use a major or minor in philosophy as preparation for advanced professional or graduate study in schools which approve of philosophy as an undergraduate major or minor field.
3) Those with a professional interest in philosophy who wish to go on to do graduate work in the field.
4) Those majoring in areas such as nursing, the technologies, business, the arts and sciences, who wish support courses to provide theoretical underpinning for, or to explore practical implications for everyday life of, their major area of study.

Students wishing to become professional philosophers usually expect to teach in a university setting and should plan for graduate work leading to a doctorate.

MAJOR

The philosophy faculty encourage a more extensive general education background than the minimum required by the university. In particular, the department recommends (but does not require) that the student schedule 9 hours in history, 6 hours in literature and 6 hours in psychology. For **foreign language requirement,** see institutional requirements for the BA degree. In addition, work is encouraged in the following fields: art, music, speech communication and theatre; anthropology, political science and sociology; biology, chemistry, physics and mathematics.

Thirty hours of philosophy **are required.** The total program of the prospective graduate with a major in philosophy must be approved by the program faculty. The 30 hours must include the following: PHIL 100 or 101, 205, 313, 314, 315, 220, 401 and 402. Six hours of upper-division elective course work are also required.

In addition only one philosophy course with a grade below C will be accepted as credit toward the major. Other philosophy courses with a grade below C must be repeated or additional hours taken.

A typical philosophy schedule is:

Freshman Year			**Credits**
ENG	110, 211	Composition I and II	6
PHIL	100	Introduction to Plato	3
PHIL	**or** 101	Introduction to Problems in Philosophy	3
PE	100	PE Orientation	2
RDG	120	College Reading	2
SPCOM	101	Basic Speech Communication	2
Group	II	Social Sciences	6
Group	III	Natural Sciences and Math	6
			27

Sophomore Year			**Credits**
PHIL	205	Deductive Logic	3
PHIL	220	Ethics and Values	3
PHIL	313	History of Philosophy I	3
		General Education	15
		Electives	8
			32

Junior Year			**Credits**
PHIL	314, 315	History of Philosophy II and III	6
PHIL	401	Epistemology	3
Group	I	Humanities	3
		Upper Division Electives	6
		General Electives	16
			34

Senior Year			**Credits**
PHIL	402	Metaphysics	3
		Upper Division Electives	19
		General Electives	10
			32

MINOR

Twenty-one hours of philosophy are required. The student's program must be approved by the philosophy faculty. The minor in philosophy is:

			Credits
PHIL	100	Introduction to Plato	3
	or 101	Introduction to Problems in Philosophy	3
PHIL	205	Deductive Logic	3
PHIL	313, 314	History of Philosophy I and II	6
PHIL	401	Epistemology	3
	or 402	Metaphysics	3
		Lower division electives in philosophy	3
		Upper division electives in philosophy	3
			21

PHIL COURSES

UNDERGRADUATE

PHIL 100 Introduction to Plato 3(3-0)
Introduction to the world of philosophic ideas through a study of Plato, relating Plato's views to contemporary issues. GEN. ED. IF.

PHIL 101 Introduction to Problems in Philosophy 3(3-0)
Some of the crucial problems of philosophy, with solutions from the major philosophers. GEN. ED. IF.

PHIL 103 Civilization 1(1-0)
Kenneth Clark's film series Civilisation. Fifteen 50-minute films exploring the notion of civilization particularly from the viewpoint of the humanities. GEN. ED. IF.

PHIL 105 Logic and Fallacies 3(3-0)
General principles of good reasoning with emphasis on the role of language in the thinking process. Major concern with fallacies. GEN. ED. IF.

PHIL 108 Philosophy of Religion: The Supernatural I: Devils, Witches and God 1(1-0) GEN. ED. IF.

PHIL 109 Philosophy of Religion: The Supernatural II: Life after Death, Ghosts, Reincarnation 1(1-0) GEN. ED. IF.

PHIL 110 Philosophy of Religion: The Supernatural III: ESP, Miracles, Faith Healing 1(1-0) GEN. ED. IF.

PHIL 121 Oriental Religions I, India: Hinduism and Buddhism 1(1-0) GEN. ED. IF.

PHIL 122 Oriental Religions II, China and Japan: Taoism, Confucianism and Shinto 1(1-0) GEN. ED. IF.

PHIL 123 Oriental Religions III, Lesser Asian Religions: Zoroastrianism, Jainism, Islam, Sikhism and Zen 1(1-0) GEN. ED. IF.

PHIL 205 Deductive Logic 3(3-0)
Methods and principles used to distinguish "good" from "bad" deductive reasoning patterns. Useful for students in computer-related fields. GEN. ED. IF.

PHIL 220 Ethics and Values 3(3-0)
Representative ethical theories, competing conceptions of value and obligations; encourage development of an evolving personal value system. GEN. ED. IF.

PHIL 221 Ethics and Technology 3(3-0)
Scrutiny of technological society from ethical standpoints. Covers human-machine relations, limits of progress, leisure for the masses. GEN. ED. IF.

PHIL 291 Special Topics (1-3 VAR)
Special topics and/or authors of philosophical interest, may be repeated for 12 credits maximum.

PHIL 296 Cooperative Education Placement (1-4 VAR) Prerequisite Permission of instructor and cooperative education office.
Arrangements between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study.

PHIL 305 Ethical Issues in Health Care 3(3-0)
Current problems of medical ethics such as experimentation on humans, genetic counseling, right to die, abortion, allopathic medicine. Cross under with NSG 305.

PHIL 311 Aesthetics 3(3-0) Prerequisite Previous work in philosophy or strong background in the fine arts.
Beauty and creation — appreciation and criticism of works of art.

PHIL 313 History of Philosophy I 3(3-0)
Greek, Latin, and medieval philosophy.

PHIL 314 History of Philosophy II 3(3-0)
Early modern period (Renaissance) in Western philosophy from Hobbes to Hume. Emphasis on the continental rationalists and the British empiricists.

PHIL 315 History of Philosophy III 3(3-0)
Later modern period in philosophy beginning with Kant and continuing to the beginning of the 20th Century.

PHIL 370 Political Thought 3(3-0) Prerequisite Previous work in philosophy or a strong background in political science.
Systematic survey of political thought from beginnings in Ancient Near East to present. Emphasis on contributions relevant to contemporary theory.

PHIL 401 Epistemology 3(3-0) Prerequisite PHIL 205, 313 and 314.
Philosophic principles relevant to various claims "to know."

PHIL 402 Metaphysics 3(3-0) Prerequisite PHIL 313 and 314.
Ontology, cosmology, space, time, substance, change, freedom, and other topics of metaphysics.

PHIL 403 Philosophy of Science 3(3-0) Prerequisite PHIL 205 or a strong background in experimental science.
Consideration of the logical structure of scientific knowledge.

PHIL 491 Special Topics (1-3 VAR)
Special topics and/or authors of philosophical interest. May be repeated for 12 credits maximum. More advanced than PHIL 291.

PHIL 495 Independent Study (1-3 VAR) Prerequisite Senior status and permission of instructor.
Specialized study of selected persons, ideas, schools, historical trends or problems in philosophy. May be repeated for credit.

PHIL 496 Cooperative Education Placement (1-4 VAR)
Arrangement between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study. Two placements must occur in academic semesters and one in a summer session for the equivalent of at least 12 months employment. The student must re-enroll each placement term. Twelve credits maximum allowed toward graduation.

GRADUATE

PHIL 505 Advanced Philosophical Psychology 3(3-0) Prerequisite Graduate standing.
Advanced philosophical study of the concept of mind, of human consciousness, of such mental phenomena as emotions, and of the dynamics of how people think.

PHYSICAL EDUCATION

Faculty: Aguilar, Banks, Barnes, Cranmer, Haering, Jacobs, McIntosh, Stutters

The progam in physical education and recreation offers programs leading to the degree of bachelor of science (BS) in physical education and recreation. It also offers minors in physical education, coaching and recreation and activities courses for all students.

The professional preparation leading to a degree in physical education includes preparation for teacher certification with endorsements in elementary, secondary or K-12. Certification requirements are accomplished by completing a physical education program listed below and the professional education requirements of the state. Students should consult the education section of this catalog.

MAJORS

The requirements for the major consist of a minimum of 45 hours in approved physical education courses. All courses applied toward the major must be approved by the student's adviser and by the head of the program.

The following courses are **required** of all physical education majors:

			Credits
PE	232	First Aid	2
PE	233	Introduction and History of HPE and R	3
PE	235	Principles of PE	2
PE	380L, 389L	Student Assistant	2
		Two elective courses approved by the student's adviser	4
PE	322	Elementary School PE	2
PE	342	Training Room Methods	2
PE	343	Tests and Measurements in PE	2
PE	364	Kinesiology	2
PE	378	Principles and Techniques of Teaching PE	2
PE	442	Physiology of Exercise	2
PE	451	Officiating	2
PE	461	Organization and Administration of HPE and R	3
PE	465	Adaptive PE	2
			32

All students seeking endorsement for teaching physical education must complete the courses listed above plus certain methods courses in which they must earn grades of C or above. All endorsements require:

			Credits
PE	242	Skills and Techniques of Perceptual Motor and Self Testing Activities	3
PE	243	Skills and Techniques of Rhythmic Activities	1
PE	244	Skills and Techniques of Soccer, Volleyball, Track and Basketball	3
PE	245	Skills and Techniques of Weight Training, Circuit Training and Self Defense	2
PE	247	Skills and Techniques of Gymnastics, Tumbling and Apparatus	2
			11

In addition to the above, each type of endorsement **requires** certain other methods courses with grades of C or above, as follows:

Elementary (total of 45 hours)

PE	249	Skills and Techniques of Elementary Activities	2

Secondary (total of 48 hours)

PE	246	Skills and Techniques of Softball, Bowling, Handball or Racquetball	2
PE	248	Skills and Techniques of Badminton and Archery	1
PE	250	Skills and Techniques of Recreational Sports	2

K-12 (total of 50 hours) All courses listed above.

The following schedule is typical for the physical education major who wishes to be certified to teach kindergarten through twelfth grade.

Freshman Year			Credits
BIOL	162	Personal Health	3
ED	102	Teaching as a Career	1
ENG	110, 211	Composition I and II	6
PE	100	Physical Education Orientation	2
PE	232	First Aid	2
PE	248	Skills and Tech of Badminton and Archery	1
PSYCH	101, 102	General Psychology I and II	6
RDG	120	Developmental Reading	2
SPCOM	101	Basic Speech Communication	2
		General Education	9
			34

Sophomore Year			Credits
BIOL	221/221L	Human Anatomy and Physiology	4
ED	202	Foundations of Education	3
ED	210	Human Growth and Development for Educators	3
PE	233	Introduction and History of HPE and R	3
PE	235	Principles of Physical Education	2
PE	242	Skills and Tech of Percept. Motor Trng	3
PE	243	Skills and Tech. of Rhythmic Activities	1
PE	244	Skills and Tech. Soccer, Volleyball, Track and Basketball	3
PE	245	Skills and Tech. Wgt. Trng., Circt. Trng., Self-Defense	2
PE	246	Skills and Tech. Softball, Bowling and Racquetball	2
PE	247	Skills and Tech. Gymnastics, Tumbling and Apparatus	2
PE	249	Skills and Tech. of Elementary Activities	2
PE	250	Skills and Tech. of Recreation Sports	2
PE	380L	Student Assistant	1
SPCOM	211	Public Speaking	2
			35

Junior Year			Credits
BBE	405	Education Across Cultures	2
ED	435	Middle/Jr. and Sr. High School	4
IED	345	Career Education	2
PE	322	Elementary School Physical Education	2
PE	342	Training Room Methods	2
PE	343	Tests and Measurements in Physical Ed	2
PE	364	Kinesiology	2
PE	378	Principles and Techniques of Teaching PE	2
PE	389L	Student Assistant	1
PSYCH	351	Psychology of the Exceptional Individual	3
RDG	201	Teaching and Language Arts in Elem. School	4
		General Education	6
			32

Senior Year			Credits
ED	416 or 460	Education Lab	3
ED	488	Student Teaching K-12	15
PE	442	Physiology of Exercise	2
PE	451	Officiating	2
PE	461	Organization and Administration of HPE & R	3
PE	465	Adaptive Physical Education	2
PE	471, 472 473, 474 482, 483	Coaching (Select two courses)	4
			31

Variations of this schedule exist for physical education major tracks kindergarten through sixth grade and seventh through twelfth grade. The assigned adviser informs the students of these differences.

MINOR

The requirements for the minor consist of a minimum of 20 hours in physical education courses which must be approved by the student's adviser and the head of the program.

PE COURSES

UNDERGRADUATE

PE 100 Physical Education Orientation 2(1-1)
Survey course with emphasis on lecture and minimal laboratory experience to acquaint the student with basic knowledge and understanding of physical education activities.

PE 101L Basketball 1(0-2)

PE 102L Flag Football 1(0-2)

PE 107L Scuba Diving 1(0-2)

PE 108L Windsurfing 1(0-2)

PE 109L Volleyball 1(0-2)

PE 110L Weight Training 1(0-2)

PE 114L Self Defense 1(0-2)

PE 116L Camping 1(0-2)

PE 117L Backpacking 1(0-2)

PE 118L Jogging 1(0-2)

PE 120L Rhythmic Aerobics 1(0-2)

PE 153L Figure Fixers 1(0-2)

PE 167L Bowling 1(0-2)

PE 173L Social Dance 1(0-2)

PE 174L Tennis 1(0-2)

PE 175L Racquetball 1(0-2)

PE 176L Advanced Life Saving 1(0-2) Prerequisite Swimming pre-test.

PE 178L Karate 1(0-2)

PE 179L Intercollegiate Gymnastics 2(0-15)

PE 180L Intercollegiate Volleyball 2(0-15)

PE 181L Intercollegiate Baseball 2(0-15)

PE 182L Intercollegiate Basketball 2(0-15)

PE 183L Intercollegiate Cross Country 2(0-15)

PE 184L Intercollegiate Football 2(0-15)

PE 185L Intercollegiate Golf 2(0-15)

PE 186L Intercollegiate Tennis 2(0-15)

PE 187L Intercollegiate Track and Field 2(0-15)

PE 188L Elementary Physical Conditioning 2(0-15)

PE 199L Intercollegiate Wrestling 2(0-15)

PE 204L Fitness for Life 2(0-4)
Physical fitness information and training for life. Extensive physical fitness activities; emphasis on cardiovascular adaptation.

PE 231 Cardiopulmonary Resuscitation 1(1-0)
Technique of applying a combination of artificial respiration and artificial circulation in the event cardiac arrest occurs.

PE 232 First Aid 2(2-0)
Knowledge and skills in the latest approved first aid procedures. Advanced Red Cross certification.

PE 233 Introduction and History of HPE and R 3(3-0)
History and philosophies of physical education and recreation and their influences upon contemporary American society.

PE 235 Principles of Physical Education 2(2-0)
Analysis of the scientific principles and contemporary problems faced by the modern physical education instructor.

PE 242 Skills and Techniques of Teaching Perceptual Motor and Self Testing Activities 3(3-0)
Techniques of teaching of elementary physical education activities designed to develop perceptual-motor competency.

PE 243 Skills and Techniques of Teaching Rhythmic Activities 1(1-1)
Fundamentals of folk, square and social dance; emphasis on the teaching techniques involved in basic dance styles and rhythms.

PE 244 Skills and Techniques of Teaching Soccer, Volleyball, Track and Basketball 3(3-0)
Basic skills and techniques of basketball, soccer, volleyball, track and field; emphasis on organization and teaching procedures of these activities.

PE 245 Skills and Techniques of Teaching Weight Training, and Self Defense 2(2-0)
Basic skills and techniques of self defense, weight training and circuit training; emphasis on teaching procedures.

PE 246 Skills and Techniques of Teaching Softball, Bowling, Handball or Racquetball 2(2-0)
Basic skills and techniques of softball, bowling, handball, or racquetball; emphasis on planning, organization and teaching procedures.

PE 247 Skills and Techniques of Teaching Tumbling, Gymnastics and Apparatus Activities 2(2-0) Prerequisite PE 154.
Basic skills and techniques of tumbling, gymnastics and apparatus activities; emphasis on spotting and teaching procedures.

PE 248 Skills and Techniques of Teaching Badminton and Archery 1(1-0)
Techniques of teaching basic skills and badminton and archery; consideration of equipment, organization and strategy.,

PE 249 Skills and Techniques of Teaching Elementary Activities 2(2-0)
Low organization games and enrichment activities appropriate for the elementary and physical education curriculum; emphasis on teaching procedures.

PE 250 Skills and Techniques of Teaching Recreation Sports 2(1-2) Prerequisite PE 174L.
Skills and techniques of golf and tennis; emphasis on organization and teaching procedures in these activities.

PE 276L Water Safety Instructor Certification 2(0-2) Prerequisite Advanced Life Saving.
Water safety instruction certification may be earned in this course.

PE 279L Intercollegiate Gymnastics 2(0-15)

PE 280L Intercollegiate Volleyball 2(0-15)

PE 281L Intercollegiate Baseball 2(0-15)

PE 282L Intercollegiate Basketball 2(0-15)

PE 283L Intercollegiate Cross Country 2(0-15)

PE 284L Intercollegiate Football 2(0-15)

PE 285L Intercollegiate Golf 2(0-15)

PE 286L Intercollegiate Tennis 2(0-15)

PE 287L Intercollegiate Track and Field 2(0-15)

PE 288L Advanced Physical Conditioning 2(0-15)

PE 289L Student Assistant 1(0-2)

PE 291L Special Topics (1-5 VAR)
Specific and unique topics not part of the continuing curriculum.

PE 299L Intercollegiate Wrestling 2(0-15)

PE 322 Elementary School Physical Education 2(2-0)
Mental, emotional, social and physical needs of elementary school age children; planning programs, selecting materials and methods of teaching physical education at this level.

PE 342 Training Room Methods 2(2-0) Prerequisite BIOL 221, 221L.
Procedures utilized in prevention, care and treatment of athletic injuries.

PE 343 Tests and Measurements in Physical Education 2(2-0)
Modern testing programs in physical education; emphasis on preparation and administration of both written and skills tests.

PE 364 Kinesiology 2(2-0) Prerequisite BIOL 221, 221L.
Fundamental body movements and the primary muscles involved in those movements.

PE 378 Principles and Techniques of Teaching Physical Education Activities 2(2-0)
Classroom course used to identify and examine methods in teaching of physical education activities.

PE 389L Student Assistant 1(0-2) Prerequisite PE 289L.

PE 442 Physiology of Exercise 2(2-0) Prerequisite BIOL 221,221L.
Effects of muscular activity on the various organs and systems of the body; an analysis of intramuscular and extramuscular adaptations which occur with training.

PE 451 Officiating 2(2-0)
General principles and philosophies of officiating and the mechanics involved in the officiating of interscholastic sports.

PE 461 Organization and Administration of HPE and R 3(3-0)
Organizational and administrative processes necessary for the responsible conduct of physical education, recreational activities and interscholastic athletics.

PE 465 Adaptive Physical Education 2(2-0) Prerequisite BIOL 221, 221L.
Remedial and corrective programs in physical education; emphasis on diseases and injuries which cause individuals to require special attention above and beyond the regular physical education program.

PE 471 Coaching of Football 2(2-0)
Techniques and strategy of coaching football.

PE 472 Coaching of Basketball 2(2-0)
Techniques and strategy of coaching basketball.

PE 473 Coaching of Track, Field and Cross Country 2(2-0)
Techniques and strategy of coaching track and field.

PE 474 Coaching of Gymnastics 2(2-0)
Techniques and strategy of coaching gymnastics.

PE 482 Coaching of Wrestling 2(2-0)
Techniques and strategy of coaching wrestling.

PE 483 Coaching of Baseball 2(2-0)
Techniques and strategy of coaching baseball.

PE 491 Special Topics (1-5 VAR)
Study and/or activity designed to increase understanding in areas not covered by regular offerings of the department. (S/U grades.)

PE 494 Field Experience (1-5 VAR) Prerequisite Approval of program head.
Learning experience to be conducted in the actual environment and supervised by the physical education program. (S/U grades.)

PE 495 Independent Study (1-5 VAR) Prerequisite Approval of program head.
Individual research, directed reading and/or special assignments under supervision of a member in the department.

GRADUATE

PE 500 Workshop (1-5 VAR) Prerequisite Approval of program head.
Graduate learning experience in physical education offered in large blocks of time not corresponding to the weekly meeting times of the regular course offerings.

PE 522 Elementary School Physical Education 2(2-0) Prerequisite Graduate standing.
Advanced course of mental, emotional, social and physical needs of elementary school age children; emphasis on planning programs, selecting materials and methods of teaching physical education at this level.

PE 591 Special Topics (1-5 VAR) Prerequisite Approval of program head.
Graduate level study and/or activity designed to increase understanding in areas not covered by regular offerings of the department.

PHYSICS/PHYSICAL SCIENCE

Faculty: Bard, Graham, Spenny, Watkins

The program in physics/physical science offers courses leading to the bachelor of science (BS) degree in physics and provides supporting courses

and general education courses in physics and physical science for students with a wide spectrum of interests, backgrounds and needs. Anyone considering a program in physics should consult with a departmental adviser as early as possible to discuss options, career objectives and course scheduling. A detailed plan of study must be worked out and approved by the department no later than the start of the junior year.

Students graduating with a BS in physics must have at least a 2.0 grade point average in the major area of study and no more than four credits in the major with grades of D. Students graduating with a minor in physics must have at least a 2.0 grade point average in physics. A 2.5 grade point average in the major area is required for admission to the teacher education program.

Students must have earned a C or better grade in lower division prerequisite courses before being admitted to upper division courses in physics.

MAJORS

The bachelor of science degree in physics is offered with several options, as follows:

I. Physics/engineering option
For students planning to enter positions in industry upon graduation. Courses in engineering and technical electives enhance the utility of the graduate to potential employers. **Requirements** include 32 or 33 credits in physics (PHYS 221, 221L, 222, 222L, 301, 321, 322, 323, 323L, 341, 342, 431, 499), 32-38 credits in engineering and technical courses, **plus** supporting courses in mathematics and chemistry.

II. Physics option
Primarily for students planning graduate study toward a professional career in physics, astronomy or other related fields. **Requirements** include 38 credits in physics (PHYS 221, 221L, 222, 222L, 301, 321, 322, 323, 323L, 341, 342, 431, 432, 441, 480, 499) **plus** supporting courses in mathematics (including at least one course from among MATH 307, 338, 425) and chemistry.

III. Physics/Options in chemical physics, geophysics, biophysics, or mathematical physics.
Designed to meet specific career objectives for an individual. **Requirements** include 32 credits in physics and 32 credits in chemistry, geology, biology or mathematics, as well as approval by the department.

IV. Physics/secondary teaching option
Provides the student with the knowledge and skills necessary to obtain Colorado Department of Education certification as a secondary science teacher. **Requirements** include 34 credits in physics (PHYS 110, 221, 221L, 222, 222L, 301, 321, 323, 323L, 341, 342, 431, 432, 498), supporting courses in mathematics, geology and chemistry, **plus** education courses needed for teacher certification. Dr. Eugene D. Bard, phone 549-2863, is the program adviser.

Under Options I, II, III, and IV the recommended sequences of courses presume that the student is ready to begin MATH 126 in the first semester of the freshman year. If not, MATH 124 should be taken in the Fall and MATH 126 in the Spring of the freshman year concurrently with PHYS 221. Otherwise it may not be possible to complete the requirements for a physics degree within four years.

V. Physics/physical science secondary teaching option.
Normally a teacher certification program. **Requirements** include 62 credits in physical science supporting courses including PHYS 110, 201, 201L, 202 and 202L; GEOL 101 (or 122), 123 and 313 (or 205 or 310); CHEM 121, 121L, 122 and 122 L; BIOL 121, 162, 191 and 191L; MATH 126 (or 221) and 240; **and** fourteen additional credits in one of the physical sciences. Appropriate courses in education and PHYS 377 are required for certification. Dr. Eugene D. Bard, phone 549-2863, is the program adviser.

A typical physics schedule is:

Freshman Year			**Credits**
CHEM	121/121L	General Chemistry I and Lab.	5
CHEM	122/122L	General Chemistry II and Lab	5
ENG	110, 211	Composition I and II.	6
MATH	126	Calculus and Analytic Geometry I	5
MATH	224	Calculus and Analytic Geometry II.	5
PHYS	221/221L	General Physics I and Lab.	5
		Courses in chosen option	5
			36

Sophomore Year			Credits
MATH	325	Intermediate Calculus	4
MATH	337	Differential Equations I	3
PE	100	PE Orientation	2
PHYS	222/222L	General Physics II and Lab	5
PHYS	323/323L	General Physics III and Lab	5
RDG	120	College Reading	2
SPCOM	101	Expository Speaking	2
Group	I	Humanities	3
		Courses in chosen option	10
			36

Junior Year			Credits
PHYS	301	Theoretical Mechanics	4
PHYS	321	Thermodynamics	3
PHYS	322	Advanced Laboratory-Heat	1
PHYS	341	Optics	3
PHYS	342	Advanced Laboratory-Optics	1
Group	II	Social Sciences	7
		Courses in chosen option and/or electives	15
			34

Senior Year			Credits
PHYS	431	Electricity and Magnetism	4
PHYS	432	Advanced Laboratory-Electricity and Magnetism	4
PHYS	480	Practicum in Laboratory Instruction	1
PHYS	492	Research	1
Group	I	Humanities	7
Group	II	Social Sciences	3
		Chosen option and/or electives	15
			35

MINORS

Physics minor			Credits
PHYS	221/221L	General Physics I	5
PHYS	222/222L	General Physics II	5
PHYS	323/323L	General Physics III	5
		Additional credits in physics from courses numbered 301 or higher	5

NOTE: To satisfy prerequisites for courses required for the physics minor, it is necessary to complete the following courses: MATH 126, 224, 325 and 337.

Physical science minor. The physical science minor requires 24 credits selected from the following courses:

PHYS 100, 110, 201/201L, 202/202L, 361; CHEM 111/111L, 205/205L; GEOL 122, 300; MATH 240 and 241. Other courses may be substituted with the approval of the program adviser.

PHYS COURSES

UNDERGRADUATE

PHYS 100 Physical Science 3(2-2)
Hands-on approach to developing a citizen's understanding of the basic concepts of contemporary physical science. Integrated lecture, lab, discussion periods. GEN. ED. IIIF.

PHYS 101 Fundamentals of Physics 1(1-0)
The strategy and technique of physics problem solving emphasizing vectors, error analysis, Fermi approximations and the mathematical treatment of data.

PHYS 110 Elementary Descriptive Astronomy 3(3-0)
Solar system, including motions of the planets, eclipses, and satellite exploration; classification and evolution of stars; clusters, nebulae, galaxies and the expanding universe. GEN. ED. IIIF.

PHYS 121 Physics for the Life Sciences 3(3-0) Prerequisite MATH 105 or equivalent. Corequisite PHYS 121L.
Forces, motion, energy, properties of matter, heat, sound, light, electricity and magnetism, and atomic and nuclear physics. For students in the life and health sciences and others who require only a one-semester introductory physics course. GEN. ED. IIIF.

PHYS 121L Physics for the Life Sciences Lab1(0-2) Corequisite PHYS 121.
A laboratory course to accompany PHYS 121. GEN. ED. IIIF.

PHYS 130 Physics for Everybody I: Solar Energy 1(1-0)
A five-week, single topic mini-course designed for students not majoring in science. GEN. ED. III F.

PHYS 131 Physics for Everybody II: Lasers 1(1-0).
A five-week, single topic mini-course designed for students not majoring in science. GEN. ED. III F.

PHYS 132 Physics for Everybody III: Einstein 1(1-0).
A five-week, single topic mini-course designed for students not majoring in science. GEN. ED. III F.

PHYS 201 Principles of Physics I 3(3-0) Prerequisite MATH 120 or equivalent. Corequisite PHYS 201L.
Motion, forces, conservation of energy and momentum, wave motion, sound and heat. For engineering technology, life sciences, and other interested students. GEN. ED. IIIF.

PHYS 201L Principles of Physics Lab I 1(0-2) Corequisite PHYS 201.
A laboratory course to accompany PHYS 201. GEN. ED. IIIF.

PHYS 202 Principles of Physics II 3(3-0) Prerequisite PHYS 201. Corequisite PHYS 202L.
Electrostatics, electromagnetism, light, atomic and nuclear physics. GEN. ED. IIIF

PHYS 202L Principles of Physics Lab II 1(0-2) Corequisite PHYS 202.
A laboratory course to accompany PHYS 202. GEN. ED. IIIF.

PHYS 221 General Physics I 4(4-0) Prerequisite or Corequisite MATH 126. Corequisite PHYS 221L.
Newtonian mechanics, including linear and rotational dynamics, momentum, energy, gravitation, fluid mechanics, wave motion and thermodynamics. Uses the calculus and vector notation. For majors in physics, mathematics, geoscience, engineering, chemistry and pre-medicine. GEN. ED. IIIF.

PHYS 221L General Physics Lab I 1(0-2) Corequisite PHYS 221.
A laboratory course to accompany PHYS 221. GEN. ED. IIIF.

PHYS 222 General Physics II 4(4-0) Prerequisite PHYS 221. Corequisite PHYS 222L.
Electrostatics, electromagnetism, elementary circuits, electrical oscillations, geometrical optics and the wave aspects of light. GEN. ED. IIIF.

PHYS 222L General Physics Lab II 1(0-2) Corequisite PHYS 222.
A laboratory course to accompany PHYS 222. GEN. ED. IIIF.

PHYS 291 Special Topics (1-4 VAR)
Meets the needs of special interest groups. Content and credit must be approved by the department. Offered on demand.

PHYS 301 Theoretical Mechanics 4(4-0) Prerequisite PHYS 222, MATH 325 and MATH 337.
Statics and dynamics of particles and rigid bodies. Conservation principles, minimum principles, accelerated coordinate systems, Lagrangian and Hamiltonian methods, and vector and matrix methods.

PHYS 321 Thermodynamics 3(3-0) Prerequisite PHYS 221.
Introduction to energy equations and flows, entropy, kinetic theory and statistical mechanics.

PHYS 322 Advanced Laboratory-Heat 1(0-2) Prerequisite or Corequisite PHYS 321.
Experiments in heat of combustion, heat transfer, thermal electromotive force, viscosity, and specific heat measurements.

PHYS 323 General Physics III 4(4-0) Prerequisite PHYS 222, 222L and MATH 224. Corequisite PHYS 323L.
Introduction to special relativity, kinetic theory, quantization, wave mechanics, atomic structure and spectroscopy.

PHYS 323L General Physics Lab III 1(0-2) Corequisite PHYS 323.
A laboratory course to accompany PHYS 323.

PHYS 341 Optics 3(3-0) Prerequisite PHYS 222, 222L, MATH 325. Corequisite MATH 337.
Geometrical optics, interference, diffraction, polarization of light, optical properties of materials, optical sources including lasers, and holography.

PHYS 342 Advanced Laboratory-Optics 1(0-2) Prerequisite or Corequisite PHYS 341.
Experiments in interference, diffraction, absorption, spectral characteristics and polarization of light.

PHYS 361 Physics of Sound 3(3-0) Prerequisite MATH 105 or equivalent.
Sound waves, sources of sound, physics of hearing, acoustical measurements. For speech correction majors and other interested students.

PHYS 377 Materials and Techniques of Teaching Physics/Physical Science 2(2-0)
Instruction and experience in preparing for and conducting discussion sessions and laboratory exercises in secondary school physics/physical science.

PHYS 431 Electricity and Magnetism 4(4-0) Prerequisite PHYS 222, 222L, MATH 325 and 337.
Mathematical treatment of electrostatics, currents, magnetism, electromagnetic induction, Maxwell's equations and electrodynamics.

PHYS 432 Advanced Laboratory-Electricity and Magnetism 1(0-2) Prerequisite or Corequisite PHYS 431.
Experiments in electrostatic constants, magnetic effects, capacitance, thermoelectric effects, magnetic properties, inductance, mutual inductance, and production, propagation and diffraction of microwaves.

PHYS 441 Quantum Mechanics 4(4-0) Prerequisite PHYS 323/323L, MATH 325 and 337.
Wave packets, operators, the Schroedinger equation, eigenstates, angular momentum, spin, magnetic moments, Heisenberg formulation.

PHYS 480 Practicum in Laboratory Instruction 1(0-2)
Participation in laboratory instruction under the guidance of a staff member. May be repeated for a maximum of two credits.

PHYS 491 Special Topics (1-4 VAR)
Meets the needs of special interest groups. Content and credit must be approved by the department. Offered on demand.

PHYS 492 Research 1(0-2) Prerequisite Eight credits in upper division physics courses.
The student conducts research under the guidance of a staff member. May be repeated for a maximum of two credits.

PHYS 493 Seminar 1(1-0) Prerequisite Advanced standing with a major or minor in physics.
Class members report on recently published work or on their own research in physics or applied physics. May be repeated for a maximum of two credits.

PHYS 495 Independent Study (1-2 VAR)
For academically strong juniors and seniors only. Each student must choose a supervising professor and obtain approval by the department.

GRADUATE

PHYS 501 Science for Elementary Teachers 3(3-0)
Seminar/Laboratory course emphasizing elementary school science pedagogy; includes new science programs, utilization of teaching materials, program implementation.

POLITICAL SCIENCE

Faculty: Eberling, Love

The political science program, a part of the center for humanistic policy studies, offers the degrees of bachelor of arts (BA) and bachelor of science (BS). The program is designed to prepare individuals at the undergraduate level for careers in law, government and politics. Courses comprising the undergraduate major in political science also serve to complement the liberal arts core at USC and to prepare students for entry into graduate programs leading toward professional courses in law or administration or toward specialized academic degrees.

MAJOR

The political science major **requires** 36 hours as approved by the adviser in political science including POLSC 101, 201 or 202, 210, 370 and 490.

Electives are selected in accordance with one of five basic course orientations in political science: 1) preparation for a career in public service, 2) legal assistant training, 3) political party and interest group activity, 4) graduate school preparation or 5) law school preparation.

Pre-law and legal assistant sequences. The pre-law students and students wishing to receive certification as legal assistants are advised to consult the program adviser, Kathleen Eberling, J.D., phone 549-2538.

Program recommendations include either one year of foreign language or courses in statistics, depending on the student's interests and goals.

MINOR

The political science minor is available to support majors in various areas. Twenty-one hours in political science, including POLSC 101, 201 or 202 are required.

A typical political science schedule is:

Freshman Year			**Credits**
ENG	110, 211	Composition I and II	6
PE	100	PE Orientation	2
POLSC	100	Level Electives	3
POLSC	101	American National Politics	3
POLSC	210	Techniques of Analysis	3
RDG	120	College Reading	2
		General Education	12
			31

Sophomore Year			Credits
POLSC	201	Comparative Politics	3
	or		
POLSC	202	Politics of Developing Nations	3
POLSC	200 or 300	Level Electives	6
		General Education	18
		Other Electives	6
			33

Junior Year			Credits
POLSC	300 or 400	Level Electives	9
		General and Upper Division Electives	23
			32

Senior Year			Credits
POLSC	370	Political Thought	3
POLSC	493	Seminar	3
POLSC	400 level	Electives	3
		General and Upper Division Electives	23
			32

POLSC COURSES

POLSC 100 The Study of Politics 3(3-0)
Contemporary political-economic systems and the ideologies which support them. GEN. ED. IIC.

POLSC 101 American National Politics 3(3-0)
Basic processes in American politics. Principles and structure of national government. GEN. ED. IIC.

POLSC 102 State and Local Government and Politics 3(3-0)
Behavioral aspects, government organization and interrelationships of state and local politics, relations with federal government and other states. Special attention to Colorado government. GEN. ED. IIC.

POLSC 104 You and the Law 1(1-0)
A mini-course intended for students who desire to understand the American legal system for purposes of personal utilization. GEN. ED. IIC.

POLSC 150 The Human Experience 3(3-0)
Human efforts to organize societal activity and relationships for group development and survival through political, economic, and social institutions. GEN. ED. IIC.

POLSC 185 Research in History 1(1-0)
Techniques and skills used in evaluating historical data. GEN. ED. IIC.

POLSC 201 Comparative Politics 3(3-0)
Introduction to comparative political analysis through study of selected political systems. Emphasis on basic political function and processes in developed countries. GEN. ED. IIC.

POLSC 202 Politics of Developing Nations 3(3-0)
Comparison of basic political features, problems of political development with political implications of socio-economic changes in transitional systems of the non-Western world. GEN. ED. IIC.

POLSC 210 Techniques of Analysis 3(3-0)
Introduction to the methods of scientific investigation in the social sciences.

POLSC 250 International Relations 3(3-0)
Analysis of international political behavior and organization. Comparison of national power, goals, and politics. GEN. ED. IIC.

POLSC 260 Computer Method 1(1-0)
Introduction to computerized data analysis as applicable to research in social science disciplines. Basic understanding and experience necessary to utilize SPSS in problem solving.

POLSC 291 Special Topics (1-3 VAR)
Independent study involving research and seminars.

POLSC 292 Research 2(2-0)
Introduction to the basic reference materials of legal research. Use of law libraries, interpretation of statutes and judicial decisions, and preparation of legal memoranda.

POLSC 301 Political Parties and Pressure Groups 3(3-0) Prerequisite Previous work in political science.
History, organization and functions of party politics and pressure group activity with special emphasis on American political processes.

POLSC 302 Public Opinion and Elections 3(3-0)
Analysis of forces shaping socio-political attitudes. Basic techniques used to measure and manage these attitudes. Expression in voting behavior and patterns.

POLSC 321 American Constitutional Development 3(3-0) Prerequisite POLSC 101 or HIST 202.
Origin, development, broadening of the American Constitution by legal decisions, customs, political parties, executive agreements, legislative interpretation.

POLSC 322 American Constitutional Law 3(3-0) Prerequisite POLSC 101 or HIST 202.
Intensive survey of American constitutional law; major Supreme Court decisions and the development of basic constitutional principles.

POLSC 323 Criminal Law and Procedure 3(3-0) Prerequisite POLSC 101 or HIST 202.
Content and characteristics of criminal law and procedures. Roles and functions of persons and agencies involved in judicial administration.

POLSC 324 Family Law 3(3-0) Prerequisite POLSC 101.
Survey of legal issues concerning domestic relations; Supreme Court decisions and legislative enactments.

POLSC 330 Introduction to Public Service 3(3-0)
Role of public bureaucracy in modern society. Principles and processes of public administration, personnel management and administrative responsibility.

POLSC 340 Public Policy Evaluation 2(2-0) Prerequisite POLSC 330.
Problems of public policy analysis in decision-making processes. Techniques of assessing policy alternatives toward selection of effective governmental programs.

POLSC 350 The American Presidency 3(3-0)
The office, powers and politics of the American presidency — the key institution in American government.

POLSC 360 Urban Government and Politics 2(2-0)
Growth of metropolitan areas and their legal status. Municipal politics and organizations as related to contemporary problems in personnel, finance and general welfare areas.

POLSC 370 Political Thought 3(3-0) Prerequisite Previous work in political science or philosophy.
Systematic survey of political thought from beginnings in Ancient Near East to present. Emphasis on contributions relevant to contemporary political theory.

POLSC 411 Legislatures and Legislation 3(3-0)
Organization, function, and process of American legislatures at national, state and local levels. Party organization, legislative procedures, lobbying and legislative reorganization.

POLSC 421 Public Organization and Management 3(3-0)
Functions of public administrators; theory and practical application of management and organization concepts; development skills in analyzing organizational and management systems in public agencies.

POLSC 435 Micropolitics 2(2-0)
Application of behavioral methodology to understanding of individual political behavior within government. Impact and modification of attitudes in relation to decision-making processes.

POLSC 461 Political Geography 2(2-0)
Factors affecting the physical basis of national power, constituent elements of the state, environmental determiners of national policy and relations.

POLSC 473 American Political Thought 2(2-0)
Development of American segment of modern political thought from colonial times to present. Interrelationship of individuals, ideas and institutions shaping modern American political responses.

POLSC 480 Practicum in Politics and Public Service (6-12 VAR)
For advanced students. Practical experience as interns in governmental agencies or political parties or interest groups. Research thesis program on an individual basis.

POLSC 491 Special Topics (1-3 VAR) Prerequisite Junior or senior status with adequate preparation and approval of instructor.
Independent study involving seminars and research.

POLSC 493 Seminar (1-3 VAR)
Application of research methods and materials. Emphasis on in-depth study of specific political topics. Involves writing and discussion of research papers at advanced level.

POLSC 496 Cooperative Education Placement (1-4 VAR) Prerequisite Permission of instructor.
Arrangement between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study. Two placements must occur in academic semesters and one in a summer session for the equivalent of at least 12 months employment. Students must re-enroll each placement term. Twelve credits maximum allowed toward graduation.

PSYCHOLOGY

Faculty: Cameron, Gardner, Hearn, R. Krinsky, Kulkosky, Megenity, Mo, Post-Gorden, Schnur, Snowden

The program in psychology offers courses leading to the degrees of bachelor of arts (BA) and bachelor of science (BS). An extensive curriculum allows the student to emphasize a variety of specialties within the field including clinical/counseling, experimental, developmental, and psychological testing. The program is housed in a modern facility with extensive teaching and re-

search laboratories. Several of the psychology faculty are actively involved in a variety of research projects and interested students are invited to participate in the research process.

The Psychology building also houses the Student Development Center and offers a variety of psychological services to students. Psychology majors use the facility to gain experience in a wide variety of psychological techniques.

MAJORS

The bachelor's degree program in psychology is designed to prepare students either to enter the workplace or to continue their studies at the graduate level. Although employment opportunities exist with the bachelor's degree, students who wish to function as professional psychologists should seriously consider further graduate training. The doctoral degree is generally considered the appropriate terminal degree in psychology.

The psychology major consists of a minimum of 45 semester credit hours, of which 30 are required and 15 are considered electives. All majors are required to complete the following:

PSYCH	101, 102	General Psych.	6
PSYCH	202	Data Analysis	4
PSYCH	333/333L	Experimental Psych	4
PSYCH	381	Prin. of Psych Test.	4
PSYCH	401	Hist and System	3
			21

In addition to this group, one course is selected from each of the following general areas:

Developmental: PSYCH 251, 252, 253, 351.
Clinical: PSYCH 311, 313, 362, 471.
Experimental: PSYCH 331, 334, 335, 336.
Electives: As needed to complete 45 credit hour requirement.

While the psychology curriculum offers optional emphasis areas in clinical/counseling, developmental and experimental psychology, students should work closely with their major advisers in deciding what elective courses to take that would provide the necessary background to meet each student's specific goals for a successful career.

A typical psychology schedule is:

Freshman Year			**Credits**
ENG	110, 211	Composition I and II	6
*PSYCH	101, 102	General Psychology I and II	6
RDG	120	College Reading	2
SPCOM	101	Expository Speaking	2
		General Education	10
		General Electives	4
			30

Sophomore Year			**Credits**
*PSYCH	202	Data Analysis	4
		Develop. Requirement	3
		General Education	14
		General Electives	8
		PSYCH Electives	3
			32

Junior Year			**Credits**
*PSYCH	333/333L	Experimental Psychology	4
*PSYCH	381	Principles of Psychology Testing I.	4
Group	II	Social Science	3
Group	III	Natural Sciences	4
		Experimental Requirement	3
		General Electives	10
		PSYCH Electives	4
			32

Senior Year			**Credits**
PSYCH	401	History and Systems	3
		Clinical Requirement	3
		General Electives	18
		PSYCH Electives	8
			32

MINORS

A minor in psychology requires a minimum of 20 semester credit hours, of which 9 hours must be 300/400 level courses. PSYCH 101 and 102 are required courses for the minor. Psychology credits in Practicum in Individual-

ized Instruction (PSYCH 240/440), Cooperative Education Placements (PSYCH 496) and Field Experience (PSYCH 497) do not count toward the psychology minor. A maximum of 3 credits in Individual Projects (PSYCH 295/495) may count toward the minor if the project undertaken is research based.

Students wishing to minor in psychology must have a minor advisor who will advise them on the sequence of courses to be taken.

PSYCH COURSES

UNDERGRADUATE

PSYCH 101 General Psychology I 3(3-0)
History and systems, neurology, cognition, emotion, selection and laws of heredity, learning and motivation. GEN. ED. IIA.

PSYCH 101L General Psychology Lab I 1(0-2) Corequisite PSYCH 101.
Laboratory exercises utilizing active student involvement in the topics covered in General Psychology I. GEN. ED. IIA.

PSYCH 102 General Psychology II 3(3-0)
Personality, social psychology, abnormal psychology, psychotherapy, developmental psychology and evaluation of personality. GEN. ED. IIA.

PSYCH 102L General Psychology Lab II 1(0-2) Corequisite PSYCH 102.
Laboratory exercises utilizing active student involvement in the topics covered in General Psychology II. GEN. ED. IIA.

PSYCH 110 Improving Memory 2(2-0)
Practical guide to understanding and improving memory. Emphasis on the application of mnemonic techniques for memory improvement. Laboratory exercises designed to increase memory ability. GEN. ED. IIA.

PSYCH 120 Understanding Animal Behavior 2(2-0)
Basic comparative and ethological perspectives regarding animal behavior. Scientific techniques for field observation of animal behavior are demonstrated on campus with residential wildlife. GEN. ED. IIIA.

PSYCH 202 Data Analysis 4(4-0) Prerequisite PSYCH 101, 102, and MATH 120 or equivalent.
Basic statistical concepts applied to psychological problems, percentiles, central tendency measures, variability, inferential statistics including parametric and nonparametric statistics.

PSYCH 211 Women and Society 3(3-0)
Statistical overview of the current status of women, followed by examination of theories concerning equality of the sexes. GEN. ED. IIA.

PSYCH 212 Sexism and Racism in America 3(3-0)
Dynamics of prejudice and discrimination in terms of sex and race; special attention to analysis of strategies for improving relations. GEN. ED. IIA.

PSYCH 221 Psychology of Creativity 2(2-0)
Creative behavior from a variety of approaches. Criteria for identifying creative processes and methods for fostering and developing creative behaviors. GEN. ED. IIA.

PSYCH 240 Practicum in Individualized Instruction 2(0-4) Prerequisite PSYCH 101, 102, permission of instructor.
Individualized systematic learning techniques by serving as learning assistant to professional staff members.

PSYCH 241 Human Sexuality 2(2-0) Prerequisite Sophomore standing, permission of instructor.
Psychological and biological aspects of human sexual behavior.

PSYCH 242 Applied Human Learning 2(2-0) Prerequisite PSYCH 101, 102.
Contemporary learning theories including social, behavioral, cognitive, gestalt and hemispheric processing. Application to home, school, business and industry.

PSYCH 251 Psychology of Infancy and Childhood 3(3-0) Prerequisite PSYCH 101, 102, sophomore standing.
Physical, mental, social and emotional growth of the individual from conception through childhood.

PSYCH 252 Pre-Adolescent and Adolescent Psychology 3(3-0) Prerequisite PSYCH 101, 102, sophomore standing.
Physical, mental, social and emotional growth of the individual during transition from childhood to adulthood.

PSYCH 253 Psychology of Adulthood and Old Age 3(3-0) Prerequisite PSYCH 101, 102, sophomore standing.
Topics include physical, intellectual, social and emotional development, marriage, family and emerging changes in sex roles and special problems associated with old age.

PSYCH 291 Special Topics 2(2-0) Prerequisite Permission of instructor.
Selected aspects of psychology with high interdisciplinary interest in response to specific service requests.

PSYCH 295 Independent Study (1-3 VAR) Prerequisite Psychology major or minor, prior written permission of instructor of record.
Student creates and carries out experimental design under instructor's directions. Team projects may be undertaken.

PSYCH 296 Cooperative Education Placement (1-4 VAR) Prerequisite Permission of instructor and cooperative education office.
Arrangements between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study.

PSYCH 311 Theories of Personality 3(3-0) Prerequisite PSYCH 101, 102.
Major theories of personality and the methods of personality investigation.

PSYCH 313 Social Psychology 3(3-0) Prerequisite PSYCH 101, 102 or permission of instructor.
General and applied psychological principles of the person's interaction with the group.

PSYCH 315 Organizational and Administrative Psychology 3(3-0) Prerequisite PSYCH 101, 102.
Application of psychological principles and methods of selection, placement, evaluation, and motivation of personnel to work and to problems of human relations in business and industry.

PSYCH 331 Physiological Psychology 3(3-0) Prerequisite PSYCH 101, or BIOL 203, 204, or permission of instructor. Corequisite PSYCH 331L.
Structure and function of the brain, nervous and endocrine systems; biological basis of sensation, perception, sleep and arousal, motivation, learning and memory, and drug action.

PSYCH 331L Physiological Psychology Lab 1(0-2) Corequisite PSYCH 331.
Laboratory course to accompany PSYCH 331.

PSYCH 333 Experimental Psychology 3(3-0) Prerequisite PSYCH 101, 102, and 202. Corequisite PSYCH 333L.
Introduction to methods of data collection, behavioral measurement method. Relation between theory and data, research design, statistical analysis and experimental procedures.

PSYCH 333L Experimental Psychology Lab 1(0-2) Corequisite PSYCH 333.
Laboratory course to accompany PSYCH 333.

PSYCH 334 Perception 3(3-0) Prerequisite PSYCH 101, 102, or permission of instructor. Corequisite PSYCH 334L.
The senses and how they cooperate with the brain to provide awareness and knowledge of the world about us. Empirical findings and theoretical analyses of the processes of seeing, hearing, tasting, smelling and touching. Role of learning in normal and illusory perception is considered.

PSYCH 334L Perception Lab 1(0-2) Corequisite PSYCH 334.
Laboratory course to accompany PSYCH 334.

PSYCH 335 Motivation 3(3-0) Prerequisite PSYCH 101, 102. Corequisite PSYCH 335L or permission of instructor.
Goal-directed behavior, survey of biosocial approaches to motivation. Behavioral, cognitive and biological perspectives applied to eating, sexual behavior, aggression, affection and affiliation, obedience, achievement and cooperation.

PSYCH 335L Motivation Lab 1(0-2) Corequisite PSYCH 335.
Laboratory course to accompany PSYCH 335.

PSYCH 336 Learning 3(3-0) Prerequisite PSYCH 101, 102. Corequisite PSYCH 336L or permission of instructor.
Principles of learning and memory. Empirical findings and theoretical analyses of diverse topics: conditioning, reinforcement, punishment, short and long-term memory, recognition and forgetting. Laboratory research and application.

PSYCH 336L Learning Lab 1(0-2) Corequisite PSYCH 336.
Laboratory course to accompany PSYCH 336.

PSYCH 351 Psychology of the Exceptional Individual 3(3-0) Prerequisite PSYCH 101, 102.
Survey of characteristics of those individuals considered significantly above or below the norm of the population. Emphasis on behavioral identification and modification of the home, school and social environment.

PSYCH 362 Introduction to Psychopathology 3(3-0)
Etiology, diagnosis and therapy of maladaptive or abnormal behaviors and mental functioning.

PSYCH 381 Principles of Psychological Testing I 4(3-2) Prerequisite PSYCH 101, 102, 201.
Theories and principles of psychological testing are applied to the selection, use and evaluation of available tests.

PSYCH 401 History and Systems of Psychology 3(3-0) Prerequisite PSYCH 101, 102.
Influences that made contemporary psychology possible.

PSYCH 440 Practicum in Individualized Instruction 2(0-4) Prerequisite PSYCH 101, 102, permission of instructor.
Individualized systematic learning techniques by serving as learning assistant to professional staff members.

PSYCH 463 Psychopathology of Childhood 3(3-0) Prerequisite PSYCH 101, 102, 362 or equivalent.
A survey of the unique conceptual models of etiology, assessment, and therapy appropriate to the study of the psychological disorders of childhood.

PSYCH 464 Systems of Counseling and Psychotherapy 3(3-0) Prerequisite PSYCH 101, 102, 311. Corequisite PSYCH 464L, or permission of instructor.
Traditional and contemporary theories of counseling and psychotherapy through use of case studies and other selected materials.

PSYCH 464L Systems of Counseling and Psychotherapy Lab 1(0-2) Corequisite PSYCH 464.
Laboratory course to accompany PSYCH 464.

PSYCH 465 Behavior Modification 3(3-0) Prerequisite PSYCH 101, 102.
Advanced methods and techniques of behavior modification in clinical psychology as practiced in various agencies and institutions.

PSYCH 466 Psychology of Biofeedback 3(2-2) Prerequisite PSYCH 101, 102.
Psychophysiological aspects in biofeedback. Theoretical and applied instrumentation and clinical use. Project and field work required.

PSYCH 471 Clinical Psychology 3(3-0) Prerequisite PSYCH 311, 331, 362, 381, 464.
Survey of clinical psychology as a profession. Training requirements, opportunities, future directions, current research and ethical problems.

PSYCH 484 Principles of Psychological Testing II 3(3-0) Prerequisite PSYCH 101, 102, 381, permission of instructor.
Continuation of PSYCH 381. Field experience.

PSYCH 491 Special Topics 2(2-0) Prerequisite Permission of instructor.
Selected aspects of psychology in response to specific service requests.

PSYCH 493 Seminar 2(2-0) Prerequisite PSYCH 101, 102, senior standing, psychology major or permission of instructor.
Discussion and synthesis of psychological issues important to psychology majors including graduate education and cross-discipline application.

PSYCH 494 Field Experience (4-12 VAR) Prerequisite PSYCH 101, 102, prior written permission of instructor of record
In depth, on-the-job experience in psychology, individually designed. Ability to use psychological tests recommended.

PSYCH 495 Independent Study (1-3 VAR) Prerequisite PSYCH 101, 102, psychology major, prior written permission of instructor of record.
Student creates and carries out experimental design under instructor's directions. Team projects may be undertaken.

PSYCH 496 Cooperative Education Placement (1-4 VAR) Prerequisite PSYCH 101, 102, permission of instructor.
Arrangement between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study. Two placements must occur in academic semesters and one in a summer session for the equivalent of at least 12 months employment. The student must re-enroll each placement term. 12 credits maximum allowed toward graduation.

GRADUATE

PSYCH 563 Psychopathology of Childhood 3(3-0) Prerequisite Graduate standing, permission of instructor and PSYCH 362 or equivalent.
Unique conceptual models of etiology, assessment, and therapy appropriate to psychological disorders of childhood. Graduate students complete an independent project and consider treatment and management techniques.

READING

Faculty: Chinn, Lipp, F. Romero, Ryan, Serena

The reading program offers instruction in college reading to meet the educational needs of students and to meet the institutional basic competencies requirements of two credit hours in college reading. (Certain AA and AAS degree programs have different requirements. Students should consult their major advisers for appropriate course sequences.) Courses marked with an asterisk are designed to meet special student interest and needs; they cannot be used to fulfill the university's basic competencies requirements.

Other courses are available to meet students' needs in improving particular skills in reading. An open laboratory with professional staffing supplements coursework.

RDG COURSES

***RDG 119 Fundamentals for College Reading 3(3-0)**
Foundation course stressing study skills, vocabulary and comprehension for students whose placement test scores indicate need for special instruction. Intended for students having an ACT Social Science score below 16 or SAT Verbal score below 336. (S/U grades).

RDG 120 College Reading 2(2-0)
Course to develop vocabulary, comprehension, critical reading and flexibility of rate at college level. Intended for students having an ACT Social Science score below 16 or SAT Verbal score below 336.

RDG 121 Speed Reading 3(3-0) Prerequisite RDG 120 and/or permission of instructor.
Specialized course in reading improvement designed for students who wish to improve their skills beyond that which is required in RDG 120. Can be adapted to the needs of students who plan to pursue graduate study. May be substituted for RDG 120 with program approval.

***RDG 122 College Reading Lab and Study Skills 1(1-0)**
Laboratory course normally taken in conjunction with RDG 120; emphasis on advanced study skills.

***RDG 151 Vocabulary 1(1-0) Prerequisite RDG 120, or permission of instructor.**
Five-week module of vocabulary awareness such as connotations, jargon, concreteness, and specialized vocabulary.

***RDG 159 Reading in Content Areas 1(1-0) Prerequisite RDG 120 or permission of instructor.**
Five-week module emphasizing reading techniques used in special disciplines such as sciences and/or humanities.

RDG 291 Special Topics (1-3 VAR) Prerequisite RDG 120 or 121 and/or permission of instructor.
Explores a variety of subjects including reading techniques, cognitive development or linguistic functioning, and vision/auditory diagnosis.

RECREATION

Faculty: Aguilar, Barnes

The program of study leading to the bachelor of science (BS) degree in recreation prepares the student for positions of leadership in a variety of recreation services agencies. Prospective employers include parks and recreation departments at the city, county, district and state levels as well as voluntary youth agencies such as Y's, Boys and Girls Clubs and scouting. Additional areas of employment include military recreation (formerly Special Services), hospital recreation, commercial, industrial or employee recreation or outdoor recreation and camping.

Many recreation majors use extensive interdisciplinary studies to prepare for work in specialty areas such as human services and recreation for the physically or mentally disabled, youth/adolescents and the elderly. Others prepare for program areas such as sports and athletics, social and cultural recreation programming, arts and crafts or other emphases.

MAJOR

A minimum of 54 hours of study is required for the BS in recreation, 32 of which are included in the recreation core below. In addition to the core, each student must select a minimum of six hours from among allied courses and eight hours from among the methods courses. These courses are used to direct the student toward the area of specialization selected, and may be taken only upon approval of the recreation education director.

The **required** professional core courses (32 hours) are:

			Credits
PE	233	Introduction and History of HPER	3
PE	461	Organization and Administration of HPE and R	3
REC	340	Principles of Community Recreation Programming	2
REC	350	Leadership and Supervision in Recreation	2
REC	389	Practicum in Recreation	3
REC	480	Recreation for Special Populations	3
REC	481	Outdoor Recreation	3
REC	482	Recreation Management	3
REC	493	Seminar	1
REC	498	Internship	9
			32

Allied courses are:

A minimum of six hours of credit must be completed from among the following courses. Approval of the director of recreation education is required prior to enrollment in any of the following:

ACCTG 201, 202; BIOL 101, 121; BEHSC 101, 102; ED 324, 325; GEOL 105; MGMT 310, 318; MACOM 201; MH 141, 142; POLSCI 330; PSYCH 251, 252, 253, 313, 351; SOC 160, 180; SPCOM 211, 221.

Methods courses are:

A minimum of eight hours of credit must be completed from among the following courses. Approval of the director of recreation education is required prior to enrollment in any of the following:

ART 118; BIOL 101; IED 200; MUS 118, 251; PE 116, 117, 173, 232, 243, 244, 245, 246, 247, 248, 249, 250, 322, 378, 451, 465, 471-483; SPCOM 111, 131, 312.

The following schedule is typical for the recreation major:

Freshman Year			**Credits**
ENG	110, 211	Composition I and II	6
RDG	120	Developmental Reading	2
PE	100	Physical Education Orientation	2
SPCOM	101	Expository Speaking	2
		General Education	20
			32

Sophomore Year			**Credits**
PE	233	Introduction and History of HPE and R	3
REC	340	Principles of Community Recreation Programming	2
REC	350	Leadership and Supervision in Recreation	2
		Allieds and Methods	12
		General Education	10
		Electives	3
			32

Junior Year			**Credits**
PE	461	Organization and Administration of HPE and R	3
REC	389	Practicum in Recreation	3
REC	480	Recreation for Special Populations	3
REC	481	Outdoor Recreation	3
		Allieds and Methods	2
		Electives	18
			32

Senior Year			**Credits**
REC	482	Recreation Management	3
REC	493	Seminar	1
REC	498	Internship	9
		Electives	19
			32

REC COURSES

REC 340 Principles of Community Recreation Programming 2(2-0)
Rationale supporting and methods of conducting recreation programs in a wide variety of public, private, voluntary and commercial recreation agencies.

REC 350 Leadership and Supervision in Recreation 2(2-0)
Leadership and supervisory functions in professional recreation service, including program leadership techniques, facility use, safety and maintenance, in-service training, staffing, publicity and other considerations relating to various populations and agencies.

REC 389 Practicum in Recreation 3(0-3) Prerequisite Permission of director of recreation program.
Minimum of 150 hours of practical experience in a selected recreation agency.

REC 480 Recreation for Special Populations 3(3-0)
Community recreation and leisure services for the physically or mentally disabled and the elderly.

REC 481 Outdoor Recreation 3(2-1)
Lecture and practical outdoor experience relating to problems, trends in outdoor recreation and camping.

REC 482 Recreation Management 3(3-0)
Administration and management considerations in public and voluntary recreation and leisure-oriented agencies. Contemporary issues in budget and personnel management, employee relations, management style and theory, public relations and government legislation impacting on the leisure field.

REC 493 Seminar 1(1-0)
Student-led discussions on contemporary problems and issues in leisure/recreation. Preparation for entry into the profession; interview preparation and resume construction.

REC 498 Internship 9(0-9) Prerequisite Permission of director of recreation program.
400 hours of supervised, full-time experience in a selected recreation agency. Management/supervision level experience expected. (S/U grades.)

SOCIAL SCIENCE

Faculty: Eagan

An interdisciplinary program in social science which offers the bachelor of science (BS) degree.

Social scientists study people and social institutions, especially the relationships and impacts they have with and on each other. They investigate all aspects of human society. Their research provides insights that help in understanding the many ways in which individuals and groups make decisions, exercise power or respond to change. Their function is to gather and analyze data, interpret it and make it meaningful and useful for application in dealing with human problems.

Employment has traditionally been in the academic area; however, as the economy changes to a service (from an industrial) oriented system, greater need for "people-oriented" specialists is occurring. Thus, job opportunities in applied fields are increasing. These include areas such as program administration, evaluation and research in both the public and private sectors. Related careers are: teaching, planning, law, archives, museology and mass communications.

MAJOR

The major in social science requires 50 semester credits. The student has a choice of five optional tracks within the major: general major; international relations; public administration; urban studies; middle-secondary teaching. Within each track the requirements differ, making close consultation with the adviser necessary.

Each track in the major has a social science core which is supplemented by a specialty core. These cores vary in course and credit hour requirements within each track. Subject areas within the major include: anthropology, economics, geography, history, political science, social science, sociology and/or psychology.

The student must contact the adviser for all tracks within the major. No grade below C is acceptable; either the course must be repeated or additional hours assigned by the faculty adviser in consultation with the student must be taken.

A 2.50 grade point average in the major is required for student teaching. Program guidance in the selection of general education courses will be available to the student.

An example of requirements for a general major in broad area social science is:

Freshman Year			**Credits**
ENG	110, 211	Composition I and II	6
GEOG	103	World Geography	3
HIST	102	World Civilization Since 1500	5
PE	100	PE Orientation	2
POLSC	101	American National Politics	3
RDG	120	College Reading	3
SPCOM	100	Intro to Speech Communication	1
SPCOM	101	Expository Speaking	2
Group	I	Humanities	3
Group	III	Natural Sciences	4
			32

Sophomore Year			**Credits**
ANTHR	100	Study of Mankind	3
or			
ANTHR	101	Physical Anthropology	3
or			
ANTHR	102	Cultural Anthropology	3
ECON	101	Introduction to Economics	3
or			
ECON	201	Principles of Economics	3
HIST	202	The United States Since 1865	3
SOC	101	General Sociology I	3
SOCSC	151	Society and Technology	3
Group	I	Humanities	6
Group	II	Natural Sciences	3
		Electives	9
			33

Junior Year		**Credits**
Upper Division	GEOG, HIST, POLSC	15
	Electives	18
		33

Senior Year		Credits
Upper Division	GEOG, HIST, POLSC	12
Upper Division	Electives	19
		31

SOCSC COURSES

UNDERGRADUATE

SOCSC 111 Career Orientation 1(1-0)
Current trends and developments in professional career fields. Provides students with a knowledge of job opportunities in modern occupational categories.

SOCSC 151 Society and Technology 3(3-0)
Role of technology as prime factor in changing social and political institutions. Addresses technology as the systematic application of organized knowledge and material tools to the extension of human faculties. GEN. ED. IIB.

SOCSC 208 Afro-American Heritage 3(3-0)
Analysis of black cultural experiences from African origins and civilization to the present. GEN. ED. IIB.

SOCSC 209 Blacks in America Today 2(2-0)
Analysis of blacks in today's milieu including problem areas and contemporary issues. GEN. ED. IIB.

SOCSC 231 Contemporary Affairs 2(2-0)
Current problems in world and national affairs for the purpose of developing habits in, and perspectives on, current events. GEN. ED. IIB.

SOCSC 377 Teaching Social Studies in Secondary Schools 2(2-0)
Curriculum, materials, and techniques for teaching social studies in junior and senior high schools.

SOCSC 493 Seminar 2(2-0)
Various problems within the realm of social science, utilizing an integrated approach. For majors in broad area social science disciplines.

GRADUATE

SOCSC 593 Seminar 2(2-0) Prerequisite Graduate standing.
Various problems within the realm of social science, utilizing an integrated approach. For majors in broad area social science disciplines.

SOCIAL WORK

Faculty: Baca, Smith, Solis

The social work program offers courses leading to the degree of bachelor of social work (BSW). The BSW provides a learning experience for students preparing them for entrance-level social work practice, for graduate study and for responsible, effective involvement in their communities and society.

The program is built on and integrated with a liberal arts foundation. Students are encouraged to include courses in history, philosophy, anthropology, economics, political science, psychology, Chicano studies and foreign language in their courses of study. The social work program is a fully accredited program of the Council on Social Work Education (CSWE) for undergraduate social work programs. Students receive instruction in all areas of social work theory and practice, and an educationally directed field experience is required.

MAJOR

The bachelor's degree program in social work is designed to prepare students either to enter the workplace or to continue their studies at the graduate level. A variety of employment opportunities exist with the bachelor's degree. Students who wish to function as professional social workers should consider further graduate training. The master of social work degree is considered the appropriate terminal degree in social work.

The social work major consists of a minimum of 63 semester credit hours of which 51 are social work courses and 12 are non-social work course requirements. The social work major is designed to provide an education for the beginning social worker. Specific areas of social work — psychiatric, medical, poverty, — are not focused on during undergraduate course work. Students are expected to complete elective courses to prepare themselves for these specialties. A total of 23 hours of elective credit may be taken in a special area.

All majors must work with a social work faculty adviser when deciding what required and elective courses to take since the social work curriculum is offered in a sequential manner. The required core for all social work majors consists of the following: SW 100, 101, 102, 200, 210, 320, 322, 323, 324, 401, 420, 460, 494 and 495.

No grade below C is accepted toward a major. No grade below a C is accepted toward BCOM requirements.

A typical social work schedule is:

Freshman Year			Credits
CS	101	Intro to Chicano Studies	3
ENG	110, 211	Composition I and II	6
PE	100	PE Orientation	2
PSYCH	101, 102	General Psychology I and II	6
RDG	120	College Reading	2
SW	100	Introduction to Social Welfare	3
SW	101, 102	Human Behavior and Social Env I and II	6
SOC	101	General Sociology I	3
SPCOM	101	Expository Speaking	2
			33

Sophomore Year			Credits
ANTHR	101	Physical Anthropology	3
BIOL	221/221L	Prin. of Human Anatomy and Phys	4
MACOM	101	The Mass Media	3
MATH	105	Introductory Algebra	3
PHIL	103	Civilization	1
POLSC	102	State and Local Government	3
PSYCH	211	Women and Society	3
SW	205	Social Welfare in the U.S.	3
SW	210	Techniques of Analysis	3
		Electives	8
			34

Junior Year			Credits
FL	181	Beginning Spanish I	5
FL	182	Beginning Spanish II	5
PSYCH	313	Social Psychology	3
SW	320	Emergence and Counseling of Minorities	3
SW	322, 323, 324	Social Work Intervention I, II and III	9
SW	350	Social Welfare Policy and Program Evaluation	3
		Electives	9
			37

Senior Year			Credits
SW	401	Human Foundations of Social Work	3
SW	420	Social Work Theory	3
SW	460	Social Work Seminar	3
SW	494	Field Experience	3
SW	495	Independent Study	9
		Electives	12
			33

SW COURSES

SW 100 Introduction to Social Welfare 3(3-0)
The field of social work; what a social worker does and to a limited degree how he/she does it. Role of social worker, professional skills and philosophy of social work practice. GEN. ED. IIC.

SW 101 Human Behavior and Social Environment I 3(3-0)
Man in relation to environment; working knowledge of individual patterns of development during each maturational phase; physical, emotional and environmental forces which affect potential for social functioning. GEN. ED. IIC.

SW 102 Human Behavior and Social Environment II 3(3-0)
Individual and family patterns of behavior. Selected number of maladaptive responses. Inter-relatedness of physical, psychological, and social systems in diagnosis and treatment planning.

SW 205 Social Welfare in the United States 3(3-0) Prerequisite SW 100.
Where social work has come from and where it is going. Terminology, history, structure and scientific basis of social work.

SW 210 Techniques of Analysis 3(3-0)
Introduction to the methods of scientific investigation in the social sciences.

SW 290 Special Projects (1-5 VAR) Prerequisite Social work major, prior written permission of instructor of record.
Student develops and carries out social work project under instructor's guidance. Team projects may be undertaken.

SW 296 Cooperative Education Placement (1-4 VAR) Prerequisite Program approval and placement.
Arrangements between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study. Two placements must occur in academic semesters and one in a summer session for the equivalent of at least 12 months employment. The student must re-enroll each placement term.

SW 320 Emergence and Counseling of Minorities 3(3-0) Prerequisite SW 100, 101, 102.
Process of emergence of ethnic and minority groups in the United States. The traditional counseling role, which is presently being criticized by minority authors, suggestion of new directions for the student when dealing with minorities.

SW 322 Social Work Intervention I 3(3-0) Prerequisite SW 100, 101, 102.
Elements of social casework methodology, social study, diagnosis and treatment; relationships of the casework to the community, the social agency, and the individual seeking help.

SW 323 Social Work Intervention II 3(3-0) Prerequisite SW 322.
Practice methods of social group work in various fields and settings; relationship to small group structures and processes, leadership functions, interpersonal relationships.

SW 324 Social Work Intervention III 3(3-0) Prerequisite SW 322.
Nature and scope of social work intervention at the community level; distinctive characteristics of the community as a social system and implications for practice.

SW 350 Social Welfare Policy and Program Evaluation 3(3-0) Prerequisite SW 100, 205.
Nature of social policy; process of policy formulation; factors influencing choice of social objectives within goals and values of social work profession.

SW 401 Human Foundations of Social Work 3(3-0) Prerequisite Program permission
Specialized study related to human behavior. Attention to interaction of individual role performances with social institutional structure and to common-role disruptive threats or stresses.

SW 420 Social Work Theory 3(3-0) Prerequisite Program permission.
Sociobehavioral approaches relevant to interpersonal helping in social work and methods of behavioral change as reinforcement and shaping, extinction, discrimination punishment and imitative modeling.

SW 460 Social Work Seminar 3(3-0) Prerequisite Program permission.
Selected topics in social work developed for in-depth study.

SW 490 Special Projects (1-5 VAR) Prerequisite SW 101, 102; social work major, prior written permission of instructor of record.
Student develops and carries out social work project under instructor's guidance. Team projects may be undertaken.

SW 493 Seminar (1-3 VAR)
Seminar taken by students in field placement to support the practical experiences gained in that placement.

SW 494 Field Experience (3-9 VAR) Prerequisite Program permission and placement.
Controlled educational experience in social work practice supervised by qualified professional in established agency and supervised directly by social work faculty member.

SW 495 Independent Study (1-3 VAR) Prerequisite Permission of instructor.
Experience in planning and outlining a course of study through student's own initiative; topics not covered in a regular course or in-depth exploration and analysis of subject matter presented in a regular course.

SW 496 Cooperative Education Placement (1-4 VAR) Prerequisite Program permission and placement.
Arrangement between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study. Two placements must occur in academic semesters and one in a summer session for the equivalent of at least 12 months employment. The student must re-enroll each placement term. 12 credits maximum allowed toward graduation.

SOCIOLOGY

Faculty: Green, Hughes, Keller

The program in sociology, a part of the center for social and cultural studies, offers programs leading to the degrees of bachelor of arts (BA) and bachelor of science (BS). The student interested in a general sociology major with the possible goal of entering graduate school is encouraged to pursue the BA degree. The student interested in applied sociology with the objective of entry into the world of work should pursue the BS program and may choose a program option in one of the following areas: criminology, community resources or medical sociology. As each of the options has particular requirements, the student should consult a faculty adviser early in his or her coursework.

Sociology is a social science which studies group behavior of all kinds. It analyzes such topics as crime, delinquency, health, aging, family prejudice,

revolution and poverty. It prepares students to work in a wide variety of occupations including social service at the federal, state and local level, personnel work, administration and management, the military, health-care, teaching, youth services, drug rehabilitation, law enforcement, and counseling.

The program offers a minor which may be combined with a number of other majors, and also offers a number of courses on sociological topics which are open to all students.

MAJOR

Requirements for a sociology major include a minimum of 36 semester hours in sociology, of which 18 semester hours must be in SOC 101, 102, 210, 301, 302 and 350. For the student pursuing the BA degree in general sociology an additional 18 semester hours of sociology are required beyond these core required courses. Those 18 semester hours should be selected in consultation with the student's sociology adviser. Likewise, for the student pursuing the BS degree in one of the applied areas, 18 semester hours beyond the core requirements are also required. Those 18 semester hours must be selected from among those courses approved for a particular career track. Those courses are listed under each track heading. SOC 101 and 102 are general prerequisites for all courses at or above 250 level. No grades below C in sociology are accepted toward a degree.

A typical four year course schedule in sociology appears below. Sociology courses taken beyond the 18 semester hours of core requirements will depend on whether the student is pursuing the BA degree or the BS degree.

Freshman Year			**Credits**
ENG	110, 211	Composition I and II	6
PE	100	PE Orientation	2
RDG	120	College Reading	2
*SOC	101, 102	General Sociology I, II	6
		General Education	15
			31

Sophomore Year			**Credits**
*SOC	210	Techniques of Analysis	3
SPCOM	100	Intro to Speech Communications	1
SPCOM	101	Expository Speaking	2
		General Education	12
		Sociology Electives and Minor Electives	15
			33

Junior Year			**Credits**
*SOC	301, 302	Theory I, II	6
		General Education	4
		Approved Sociology Track Electives	6
		Minor and Upper Division Electives	16
			32

Senior Year			**Credits**
*SOC	350	Research Methods	3
		Approved Sociology Track Electives	10
		Minor and Upper Division Electives	20
			33

For those students pursuing the BS degree the following options or "career tracks" are available. Within each option the student must take 9 semester hours of required track courses and 9 semester hours of track electives.

Approved Sociology Track in Criminology includes:

Required Courses: 9 cr. hrs. required

SOC	150	Introduction to Criminology	3
SOC	160	Juvenile Delinquency	3
SOC	450	Law and Society	3

Electives: 9 cr. hrs. required, choose from among **these** courses:

ANTHR	312	Forensic Anthropology	3
SOC	170	Crime and Women	3
SOC	240	Criminal Justice System	3
SOC	312	Social Deviance	3
SOC	332	Social Stratification	3
SOC	460	Criminological Theory	3

Approved Sociology Track in Community/Family includes:

Required Courses: 9 cr. hrs. required

SOC	130	Marriage and Family	3
SOC	313	Social Psychology	3
SOC	332	Social Stratification	3

Electives: 9 cr. hrs. required, choose from among **these** courses:

SOC	103, 104, 105	Social Problems I, II, and III	3
SOC	180	Minority and Ethnic Relations	3
SOC	280	Sociology of Gender	3
SOC	312	Social Deviance	3
SOC	340	Community Development	3
SOC	440	Poverty	3

Approved Sociology Track in Medical Sociology includes:

Required Courses: 9 cr. hrs. required

SOC	313	Social Psychology	3
SOC	410	Sociology of Health	3
SOC	433	Sociology of Aging	3

Electives: 9 cr. hrs. required, choose from among **these** courses:

ANTHR	305	Medical Anthropology	3
SOC	130	Marriage and Family	3
SOC	280	Sociology of Gender	3
SOC	312	Social Deviance	3
SOC	332	Social Stratification	3
SOC	435	Human Sexuality and Social Behavior	3
SOC	440	Poverty	3

MINOR

The sociology minor is available to support a major in various areas. Twenty hours of sociology, including SOC 101 and 102, are required for a minor. Other courses should be selected with the approval of an adviser.

SOC COURSES

SOC 101 General Sociology I 3(3-0)
Introduction to the field of sociology; emphasis on basic principles and concepts. GEN. ED. IIB.

SOC 102 General Sociology II 3(3-0)
Continuation of 101; emphasis on social institutions. GEN. ED. IIB.

SOC 103 Social Problems I: Capitalism in Crisis 1(1-0)
Sociological interpretation of contemporary social problems. GEN. ED. IIB.

SOC 104 Social Problems II: The American Energy Crisis 1(1-0)
Sociological interpretation of contemporary social problems. GEN. ED. IIB.

SOC 105 Social Problems III: The American Crisis of Crime 1(1-0)
Sociological interpretation of contemporary social problems. GEN. ED. IIB.

SOC 130 Marriage and Family 3(3-0)
Historical, cross cultural, and intra-cultural comparisons of family formation, interaction, and dissolution. GEN. ED. IIB.

SOC 150 Introduction to Criminology 3(3-0)
Nature and extent of crime in American society. GEN. ED. IIB.

SOC 160 Juvenile Delinquency 3(3-0)
Nature and extent of juvenile delinquency in American society.

SOC 170 Crime and Women 3(3-0)
Exploration of social, cultural and political variables that create both women victims and women criminals.

SOC 180 Minority and Ethnic Relations 3(3-0)
Sociological theories, studies, and findings concerning group maintenance and interaction in contemporary society.

SOC 210 Techniques of Analysis 3(3-0)
Introduction to the methods of scientific investigation in the social sciences.

SOC 221 Introduction to Population Study 3(3-0)
Analysis of population distribution, composition, and change as they relate to other social factors. GEN. ED. IIB.

SOC 240 The Criminal Justice System 3(3-0)
Organizational features of police, courts, and corrections as subsystems of the American criminal justice system. GEN. ED. IIB.

SOC 250 Sociology of Law Enforcement 3(3-0)
Sociological analysis of law enforcement as an agency of social control; emphasis on historical development and current controversies.

SOC 260 Community Corrections 3(3-0)
Examination of correctional alternatives to incarceration.

SOC 280 Sociology of Gender 3(3-0)
Examination and evaluation of relationships between sex roles and societal institutions and processes. Includes an analysis of sexual stratification.

SOC 301 Theory I 3(3-0)
Sociological theory I: classical theory.

SOC 302 Theory II 3(3-0)
Sociological theory II: contemporary theory.

SOC 312 Social Deviance 3(3-0)
Sociological perspective on behavior defined as deviant, abnormal or socially unacceptable.

SOC 313 Social Psychology 3(3-0) Prerequisite PSYCH 101, 102, or permission of instructor.
General and applied psychological principles of the person's interaction with the group.

SOC 314 Penology 3(3-0)
Prisons in historical perspective; treatment models as they affect the incarcerated individual.

SOC 320 Urban Sociology 3(3-0)
Development of urban places; analysis of socio-economic organization, urban social forces and the consequences for individuals, groups and social institutions.

SOC 330 Political Sociology 3(3-0)
Analysis of the major sociological variables associated with political decision-making and other political processes.

SOC 332 Social Stratification 3(3-0)
Inquiry into inequalities of wealth, power, and the consequence for individuals and society.

SOC 340 Sociology of Community Development 3(3-0)
Current issues and concerns of the community: leadership, conflict, change, neighboring, community or organization, planning and service.

SOC 350 Research Methods 3(3-0)
Analysis of the research process.

SOC 391 Special Topics (2-4 VAR)
Special areas of faculty/student interest within the discipline.

SOC 410 Sociology of Health 3(3-0)
Sociological analysis of how social, cultural, and psychological factors influence health and health care.

SOC 430 Industrial Organization 3(3-0)
Modern industrial society; emphasis on industry as a type of social organization including roles of management and labor.

SOC 432 Organization Theory 3(3-0)
Prevailing theoretical model of large organizations and suggested alternatives.

SOC 433 Sociology of Aging 3(3-0)
Demographic, sociological and socio-psychological dimensions of aging.

SOC 435 Human Sexuality and Social Behavior 3(3-0)
Sexuality and sexual conduct from a sociological and developmental perspective.

SOC 440 Poverty 3(3-0)
Poverty in the U.S., its measurement and extent, perpetuating conditions, lifestyle and anti-poverty programs.

SOC 450 Law and Society 3(3-0)
Sociological analysis of law creation and implementation. Emphasis on the history of law in Western society.

SOC 460 Criminological Theory 3(3-0)
Theories of crime and criminality from the classical period to the present. Emphasis on social context of theory and its policy implications.

SOC 470 Sociology of Small Groups 3(3-0)
Microsociological analysis of group structure, interaction and dynamics in institutional settings in modern society.

SOC 480 Family Violence 3(3-0)
Family violence explores the extent, seriousness, and impact of the major forms of domestic violence. This includes an overview of such types of family violence as wife battering, courtship, violence, and child abuse. A sociological analysis provides clues as to why family violence exists, what can be done to prevent it and how its victims can be helped.

SOC 493 Seminar (2-4 VAR)
Major principles, propositions and concepts which establish sociological understanding.

SOC 494 Field Experience (3-12 VAR)
Practical on-the-job experience in an agency setting.

SOC 495 Independent Study 3(3-0)
Course is designed for the student wishing to pursue some sociological topic in depth.

SOC 496 Cooperative Education Placement (1-4 VAR) Prerequisite Permission of instructor.
Arrangement between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study. Two placements must occur in academic semesters and one in a summer session for the equivalent of at least 12 months employment. The student must re-enroll each placement term. 12 credits maximum allowed toward graduation.

SPEECH COMMUNICATION AND THEATRE

Faculty: Benton, Bradley, Fouts, O'Leary, Plonkey, Sherman, Swanson, Threlkeld

The program in speech communication and theatre offers the bachelor of arts (BA) in general speech communication, the BA in theatre, the bachelor of science (BS) degree in speech correction, and cooperates with the program of English in offering a program leading to the bachelor of arts degree and certification in the language arts. The program also offers minor programs in general speech communication, theatre and dance which may be combined with other areas within the program or in other disciplines.

The program participates actively in extracurricular activities closely integrated with the academic curriculum. Open to all students, regardless of their majors, the department's SPCOM 115 and 315 and SPCOM 168 and 368 provide experience both in intercollegiate competition and in community service. In the nationally acclaimed forensic program, students may participate in debate, dramatic reading, interpretation of literature and other individual and group events. The highly successful theatre program seeks to provide public performances of the highest quality to the university, the community and the region. Performances include one-act plays, major dramatic productions, musical comedies, children's plays and a summer stock theatre, providing experience in both technical theatre, production and performance.

MAJORS

Each of the major programs offered by speech communication and theatre requires the following core courses:

			Credits
SPCOM	211	Public Speaking	3
SPCOM	231	Oral Interpretation	3
SPCOM	261	Voice and Diction	3
SPCOM	331	Directing	3
SPCOM	493	Seminar	3
			15

No grade below C is accepted toward a major or minor.

A maximum of two credits in SPCOM 115 and 1 credit in SPCOM 315 may be included in credit toward any speech communication major or minor. SPCOM 101 or its equivalent, or permission of the program is prerequisite for all courses above the one-hundred level. Requirements for each of the major programs are:

General speech communication: (32 hours) Core courses (15 hours), plus an additional 17 elective SPCOM hours of which a minimum of eight must be upper level.

Speech communication education: (33 hours) Core courses (15 hours), plus SPCOM 100, 115, 212, 221, 241, 242, 312, 315, 360, 375, 376, and 377. A coordinate course, MACOM 101 (3 hours) is required. In addition, the full teacher education program for certification is required, which includes BBE 283 (2 hours).

Speech correction: (48 hours) Core courses (15 hours), plus 3 elective SPCOM hours, plus 250, 324, 351, 352, 353, 360, 361, 365, 451, 452, 462, 463, and 469. In addition, coordinate required courses (25 hours) are: PSYCH 101, 102, 251, 252, 351, and 362 as well as BIOL 221 and PHYS 361.

The language arts major, a cross-disciplinary program shared with the program of English, does not include the speech communication core, but does **require** all of the following in addition to the teacher education program for secondary education certification.

Language arts: (70 hours) SPCOM 100, 115, 211 (2 hrs.), 212, 231 (2 hrs.), 131, 135, 168, 241, 242, 261, 331, 332, 360, 368, 376; MACOM 101, ENG 341, 342, 304, 212, 222, 232, 241, 315, 316. Additionally, the full teacher education program for certification is required which includes the speech methods course, SPCOM 377.

Theatre: (50 hours) Core courses (15 hours), plus 131, 135, two of the following four: 216, 217, 416, 417; plus 232, 236, 332, 335, 431, plus a minimum of 8 credits in 168 and/or 368.

While the specific courses scheduled for each student are mutually determined by the student and a program adviser who strives to tailor individual programs to prepare students to attain their career objectives and goals, a typical four-year schedule for a major in general speech communication might be:

Freshman Year			**Credits**
ENG	110, 211	Composition I and II	6
RDG	120	College Reading	2
SPCOM	100	Introduction to Speech Communication	1
SPCOM	101	Expository Speaking	2
SPCOM	103	Effective Listening	2
SPCOM	211	Public Speaking	3
Group	I	Humanities	6
Group	III	Natural Sciences	9
			31

Sophomore Year			**Credits**
SPCOM	212	Argumentation	2
SPCOM	214	Parliamentary Practice	1
SPCOM	222	Group Discussion	3
SPCOM	221	Interpersonal Communication	3
SPCOM	231	Oral Interpretation	3
SPCOM	241	Organizational Communication	3
SPCOM	261	Voice and Diction	3
Group	I	Humanities	9
Group	II	Social Sciences	4
		Electives	2
			33

Junior Year			**Credits**
SPCOM	312	Persuasion	2
SPCOM	360	Language Acquisition and Linguistics	3
SPCOM	361	Phonetics	2
Group	I	Humanities	1
Group	III	Natural Sciences	1
		SPCOM Electives	4
		Electives	18
			31

Senior Year			**Credits**
SPCOM	401	Nature of Discourse	3
SPCOM	409	Communication Arts Research Methods	2
		Electives	26
			31

The other degree programs offered by the program would require modification of the above schedule.

MINORS

The minor in speech communication and theatre consists of a minimum of 20 semester hours from program offerings, six of which must be upper division. Minor programs are designed to meet the specific needs of the student. A minor program must be planned with the assistant of an adviser and approved by the head of the speech communication and theatre program.

			Credit
DN	110	Ballet Technique I	4
DN	120	Modern Dance	4
DN	210	Ballet Technique II	4
DN	220	Dance Composition	1
		Electives in Theatre and Dance	7
			20

UNDERGRADUATE

SPCOM 100 Introduction to Speech Communication 1(1-0)
Five-week course scheduled prior to SPCOM 101. Builds self-confidence and introduces communication principles. GEN. ED. IG.

SPCOM 101 Expository Speaking 2(2-0)
Institutional requirement in speech. Basic principles of exposition and their application to public speaking.

SPCOM 102 Basic Speech Communication 3(3-0)
Integrated combination of SPCOM 100 and 101. Available only through the continuing education program.

SPCOM 103 Effective Listening 2(2-0)
Principles of good listening introduced and applied through demonstrations and exercises.

SPCOM 105 Responsibility and Freedom of Speech 3(3-0)
Examination of the problem of freedom embodied in the First Amendment, emphasizing both the individual and collective dangers and benefits. GEN. ED. IG.

SPCOM 111 Introduction to Theatre 3(3-0)
A course for non-majors emphasizing understanding and appreciation of the theatre. GEN. ED. IH.

SPCOM 112 Understanding Motion Pictures 3(3-0)
A study of the function of the screenwriter, actor, director, producer, technician, designer and critic in the film entertainment industry.

SPCOM 115 Speech Activity I 1(0-4)
On- and off-campus activities including intercollegiate forensic competition, programs for students and public. Communication skill and experience development. May repeat twice for credit.

SPCOM 131 Introduction to Theatre Technology 3(3-0)
Beginning techniques of stagecraft. GEN. ED. IH.

SPCOM 135 Introduction to Theatrical Performance 3(3-0)
Beginning techniques of acting. GEN. ED. IH.

SPCOM 168 Company Class (1-6 VAR)
Theatre production for the beginning student. Credit is given for rehearsal and performance in productions, and/or participation in technical theatre crews. May be repeated for credit.

SPCOM 200 Beginning Sign Language 2(2-0)
Introduction to the fundamentals of communicative interaction with and among the deaf by means of hand symbolization.

SPCOM 211 Public Speaking (2-3 VAR)
Emphasis is placed upon audience analysis, proof, and speaker credibility in order to persuade audiences. Application made through classroom presentations and analysis of models. GEN. ED. IG.

SPCOM 212 Argumentation 2(2-0)
Argumentation focuses on the methods an advocate employs to make rational decisions and to win assent to his statements. Particular emphasis on the nature and skills of reasoned discourse. GEN. ED. IG.

SPCOM 214 Parliamentary Practice 1(1-0)
Laboratory and discussion course, providing practical experience in a variety of parliamentary situations. Students become familiar with rules of order and appropriate usage. GEN. ED. IG.

SPCOM 216 Theatre Survey I 3(3-0)
Survey of theatre history from primitive origins to 1800. GEN. ED. IH.

SPCOM 217 Theatre Survey II 3(3-0)
Survey of theatre history from 1800 to present. GEN. ED. IH.

SPCOM 221 Interpersonal Communication 3(3-0)
The principles and skills of speaking applied to informal speaking situations. Topics covered include openness, genuineness, and talking appropriately to people. GEN. ED. IG.

SPCOM 222 Group Discussion 3(3-0)
Emphasis is on cooperative speaking within a small group in order to improve understanding, solve problems and stimulate thought. GEN. ED. IG.

SPCOM 224 Broadcast Announcing 3(3-0) Prerequisite MACOM 102.
Study and application of the principles of oral communication to radio and television announcing.

SPCOM 231 Oral Interpretation (2-3 VAR)
Basic principles and techniques of oral reading, designed to aid the student in discovering and sharing with an audience the meanings and feelings in literature. GEN. ED. IG.

SPCOM 232 Intermediate Theatre Technology 3(3-0) Prerequisite SPCOM 131.
Intermediate principles of scenic and lighting design and theatre technology.

SPCOM 235 Film and T.V. Acting 3(3-0)
A beginning course in acting before the camera. Principles of dramatic and commercial acting are introduced. Monologues, scenes and commercials are prepared and then recorded on video tape for evaluation.

SPCOM 236 Character Workshop 3(3-0)
Instruction in characterization techniques for actors and directors. Emphasis on dialects.

SPCOM 237 Stage Makeup 2(2-0)
Instruction in the application of makeup for the stage.

SPCOM 241 Organizational Communication 3(3-0)
Study of the dynamics of communication within the context of complex human organizational systems. Understanding how theories of organization, leadership, information flow, and interpersonal communication contribute to solving communication problems in the organization. GEN. ED. IG.

SPCOM 242 Interview and Conference Techniques 3(3-0)
Principles and techniques of interviewing in a variety of situations and concepts of participation and leadership in task-oriented groups. GEN. ED. IG.

SPCOM 249 Communication and the Law 1(1-0)
Role that persuasive communication plays in the application of law and the establishment of justice in the courtroom and communication roles of roles of the lawyer, juror, witness and judge. GEN. ED. IG.

SPCOM 250 Introduction to Speech Correction 2(2-0)
Survey course about major communicative disorders. Emphasis on classification and descriptions. Treats certification requirements, licensure and professional opportunities.

SPCOM 261 Voice and Diction 3(3-0)
Voice improvement course for teachers, actors, broadcasters, professional speakers. Emphasis on breath support, phonation, resonation, articulation and pronunciation. Individual attention stressed.

SPCOM 291 Special Topics (1-3 VAR)
Directed study not contained within content of a regular course. Class activity supervised by the department, with credit specified in accord with academic value.

SPCOM 295 Independent Study (1-3 VAR) Prerequisite Permission of instructor.
Designed to permit flexibility in exploration of areas of speech communication or theatre not otherwise available. The student works individually, with advisement, on project of own design.

SPCOM 304 Language Awareness and Human Behaviors I 3(3-0)
Uses incidents and patterns of personal language in participants' lives to explore humans as semantic reactors who can deceive, coerce or nurture with their forms of language.

SPCOM 312 Persuasion 2(2-0) Prerequisite SPCOM 211, 212 or permission of instructor.
Examination of the principles and theories of persuasion and their application to persuasive settings. Emphasis on using language to secure belief and action.

SPCOM 315 Speech Activity II 1(0-4)
On- and off-campus activities including intercollegiate forensic competition, programs for students and public. Continuation of SPCOM 115. May repeat twice for credit.

SPCOM 323 Interpersonal Dialogue 2(2-0) Prerequisite SPCOM 222 or permission of instructor.
Performance course emphasizing the principles and skills of dialectical discourse. Practices the cooperative production and utilization of discourse in human affairs.

SPCOM 324 Anatomy of the Head, Neck and Chest 2(2-0) Prerequisite BIOL 221 or BIOL 321. Corequisite SPCOM 324L.
Anatomical structures of the head, neck and chest with analysis of development and function.

SPCOM 324L Anatomy of the Head, Neck and Chest, Dissection 1(0-2) Corequisite SPCOM 324.
Dissection and examination of the anatomical structure of the head, neck and chest.

SPCOM 331 Directing 3(3-0) Prerequisite SPCOM 135 and SPCOM 131.
Directing theory and practice. Students choose and analyze scripts and direct one-act plays.

SPCOM 332 Advanced Theatre Technology 3(2-2) Prerequisite SPCOM 131.
Advanced techniques of scenic design and stage lighting.

SPCOM 335 Advanced Acting 3(3-0)
Instruction in acting for verse plays. Emphasis on Shakespeare.

SPCOM 351 Articulation Disorders 2(2-0) Prerequisite SPCOM 250 or permission of instructor.
Causation, diagnosis and clinical management of articulation disorders.

SPCOM 352 Voice Disorders 2(2-0) Prerequisite SPCOM 250 or permission of instructor.
Causation, diagnosis and clinical management of voice disorders.

SPCOM 353 Stuttering 2(2-0) Prerequisite SPCOM 250 or permission of instructor.
Nature and theories of stuttering with an introduction to therapeutic and counseling procedures utilized in clinical management.

SPCOM 360 Language Acquisition and Linguistics 3(3-0)
Normal processes of development of language in children, growth of language, including structure, comprehension, use of oral and written language; other symbolic behavior.

SPCOM 361 Phonetics 2(2-0)
Designed to teach the student to identify speech sounds and to transcribe them according to the International Phonetic Alphabet (IPA).

SPCOM 365 Basic Audiology 3(3-0) Prerequisite SPCOM 250 or permission of instructor.
Introduction to the field of audiology: the ears and hearing. Emphasis on initial battery testing and interpretation of test results. Overview of selected clinical diagnostic tests. Practice in hearing testing is required.

SPCOM 368 Company Class (1-6 VAR)
Theatre production for advanced students. Credit is offered in the areas of rehearsal, performance and technical crews. May be repeated for credit.

SPCOM 370 Creative Dramatics 2(2-0)
Classroom techniques in dramatics for the teacher.

SPCOM 376 Directing Speech Activities 2(2-0)
Methods of coaching competitive and non-competitive speech activities, management of speech tournaments, administration of secondary school forensic programs and recreational speech activities programs.

SPCOM 377 Speech Education Methods 2(2-0) Prerequisite Junior standing and permission of instructor.
Provides instruction and practice in the principles of teaching speech. Geared to foster a thoroughly professional teacher.

SPCOM 401 The Nature of Discourse 3(3-0) Prerequisite SPCOM 323.
Theory course; stresses the process of articulate sequential thought, verbally manifested in human life. Focuses on man, the being capable of replying in kind.

SPCOM 409 Communications Arts Research Methods 2(2-0) Prerequisite Junior or senior standing and permission of instructor.
Principles, procedures and requirements of formal research in the field.

SPCOM 411 Interpretation and Evaluation of Discourse 3(3-0) Prerequisite SPCOM 323.
Focuses on the principles of interpretation and criticism as practiced in speech; stresses theory, but involves some practice.

SPCOM 412 Speech Composition 2(2-0) Prerequisite SPCOM 211, 312 or permission of instructor.
Writing of speeches. Manuscript models are studied to reveal how speeches are written for aural qualities.

SPCOM 416 Theatre Survey III 3(3-0)
Survey of dramatic literature from the classic period through the 18th century.

SPCOM 417 Theatre Survey IV 3(3-0)
Survey of dramatic literature from the 19th century to the present.

SPCOM 418 Theatre Criticism 3(3-0)
Survey of the current professional season with emphasis on writing play reviews.

SPCOM 431 Advanced Directing 3(3-0)
Production laboratory for fourth-year students. Credit offered in all areas of theatre production.

SPCOM 443 Conflict Management 3(3-0) Prerequisite SPCOM 241 or permission of instructor.
The nature of conflict and its resolution in organizations. The communication attitudes, strategies and tactics that are useful in managing conflict and the principles of bargaining and negotiation.

SPCOM 451 Aural Rehabilitation 3(3-0) Prerequisite SPCOM 365 or permission of instructor.
Detailed study of auditory training procedures and speech reading methods. Discussion of hearing aids included.

SPCOM 452 Diagnosis and Methods in Speech Pathology 2(2-0) Prerequisite Six semester hours in speech pathology or permission of instructor.
Clinical principles and methods with emphasis on diagnosis and evaluation. Discussion of Federal Law PL 94-142 and the Individualized Education Program (IEP) for the communicatively handicapped in the public schools. Experience with clinical tests, therapy materials and diagnostic equipment.

SPCOM 462 Organic Disorders of Speech 3(3-0) Prerequisite Six semester hours in speech pathology or permission of instructor.
Nature and causes of aphasia, cerebral palsy, cleft palate, and neurological disabilities. Introduction to clinical management of these disorders.

SPCOM 463 Language Disorders in Children 2(2-0) Prerequisite SPCOM 360 or permission of instructor.
Study of the cause, nature, diagnosis of language disorders in children. Introduction to clinical management.

SPCOM 469 Clinical Practicum in Speech and Hearing 1(0-1) Prerequisite Permission of instructor.
Supervised clinical practice. Fifty clock hours must be completed to earn one semester hour of credit. May be repeated three times for credit. (S/U grades.)

SPCOM 475 Speech Correction in the Classroom 2(2-0)
Identification and classification of common communication disorders found in the classroom. Speech improvement techniques and referral procedures are included. Recommended for all teachers.

SPCOM 491 Special Topics (1-3 VAR) (When appropriate) Prerequisite Permission of instructor.
Advanced study not touched upon in regular courses. Academic value consistent with senior level requirements.

SPCOM 493 Seminar (1-3 VAR) Prerequisite Junior or senior standing and permission of instructor.
Class activity supervised by the department, centering around an advanced level of some aspect of discourse. Credit value assigned according to course objectives.

SPCOM 495 Independent Study (1-3 VAR) Prerequisite Permission of instructor.
Designed to permit flexibility in exploration of areas of speech communication or theatre not otherwise available. Student works individually with advisement on project of own design.

SPCOM 496 Cooperative Education Placement (1-4 VAR) Prerequisite Permission of instructor.
Arrangment between employers and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for on-the-job training in their field of study. Two placements must occur in academic semesters and one in a summer session for the equivalent of at least 12 months employment. The student must re-enroll each placement term. 12 credits maximum allowed toward graduation.

GRADUATE

SPCOM 568 Company Class (1-6 VAR) Prerequisite Graduate standing.
Theatre production for graduate students. Credit is offered for directing, design, rehearsal, performance and technical crews. May be repeated for credit.

SPCOM 570 Creative Dramatics 2(2-0) Prerequisite Graduate standing.
Graduate-level creative dramatics for the classroom teacher.

SPCOM 575 Speech Correction in the Classroom 2(2-0) Prerequisite Graduate standing, permission of instructor.
Identical with SPCOM 375, but with additional requirement for individual activity and research reports.

SPCOM 576 Directing Speech Activity 2(2-0) Prerequisite Graduate standing, permission of instructor.
Identical in content with SPCOM 376 but higher quality of work and greater understanding of course objectives must be attained. Research report is required.

SPCOM 591 Special Topics (1-3 VAR) Prerequisite Graduate standing.
Similar to SPCOM 491 above, but with more demanding requirements of quality and significance. A research report is required.

SPCOM 595 Independent Study (1-3 VAR) Prerequisite Graduate standing.
Similar to SPCOM 495 above, but with more demanding requirements of quality and significance. A research report is required.

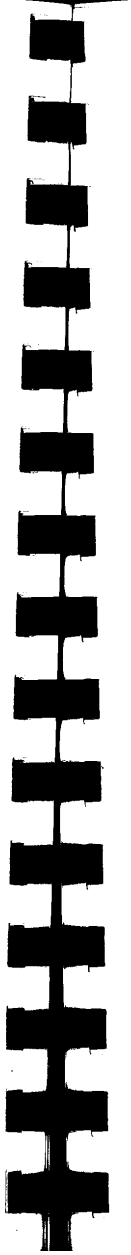
WOMEN'S STUDIES

Program Advisers: Bassein, Hearn

The women's studies program is designed to acquaint students with the current scholarship on women particularly in the humanities and the social and behavioral sciences. Courses are taught with a positive approach toward correcting conditions for women and raising their awareness of possibilities for advancement in all fields. Students may take these courses for a minor in women's studies, as electives, or to fulfill school requirements. Community involvement is strongly encouraged.

MINOR

A multi-disciplinary program, women's studies offers a minor of 20 semester hours. **Required** courses include PSYCH 211 and 212 and six semester hours in individual projects. Courses in art, literature, sociology, mass communications, nursing, and other subjects also count toward the minor. Students should contact one of the coordinators for advisement.



GRADUATE STUDIES PROGRAM

The University of Southern Colorado offers selected graduate programming for degree and non-degree seeking students and participates in a consortial arrangement with Adams State College for a master of arts (MA) in elementary education. At the present time the following degrees are available.

Business Administration	MBA
Industrial Education	MA
Elementary Education (Consortium)	MA

The Graduate Studies Program is administered by the director of Research and Graduate Studies with the assistance of the Graduate Council, a representative body of faculty.

Members of the Graduate Council are:

Jack A. Seilheimer, Ph.D.	J. B. Morgan, Ed.D.
Teshome Abebe, Ph.D.	Richard Krisky, Ph.D.
Roy McCanne, Ed.D.	Barbara J. Sabo, MS
Derol A. Anderson, Ph.D.	Donald W. Janes, Ph.D.
Beverly Moore, MA	Carl G. Jensen, MFA

Graduate admissions procedure. Applicants seeking admission to the Graduate Studies Program should submit the following items to the director of Graduate Studies, University of Southern Colorado, Pueblo, CO 81001:

1) A completed application for admission to graduate studies and a $10 application fee. The fee is non-refundable and is not applicable toward tuition;

2) An official transcript of all college and university work attempted and completed (graduates from the University of Southern Colorado are exempted; the records will be obtained directly from the Office of Registration and Records).

3) The score from the aptitude portion of the Graduate Record Examination (GRE) or the score from the Graduate Management Aptitude Test (GMAT) for students in business;

4) A copy of current teacher certification for students in education;

5) The score from an English language proficiency test (TOEFL or Michigan) for students whose native language is not English. A minimum score of 500 (TOEFL) or 80 (Michigan), level 109 ELS, or level five from the American Language Academy level is required for admission.

6) International students must also show proof of financial responsibility. Additional details are available from the Office of Research and Graduate Studies.

CLASSIFICATION OF GRADUATE STUDENTS

A student who has completed a baccalaureate degree and is enrolled for additional courses, either at the undergraduate or graduate level. The following categories are recognized:

Regular Status: A student who is seeking a degree, and whose grade point is 2.7 or better and who has met all admission requirements.

Conditional Status: A student who is degree-seeking and whose grade point is less than 2.7 but above 2.25 but have otherwise met all admission requirements.

Non-degree: A student who wishes to pursue a graduate degree but whose grade point is below 2.25 or who have in some other manner not satisfied admission requirements. Such students may petition acceptance into a degree granting program after demonstrating that the lack of qualifications has been removed. No more than 12 graduate hours taken in non-degree status may subsequently be applied towards a graduate degree.

Non-degree for Professional Improvement: A student who wishes to take additional undergraduate or graduate courses without being considered for a graduate degree.

Auditor: Same as undergraduate auditor. See page 65.

ACADEMIC POLICIES

1) Students may transfer a maximum of nine semester hours of graduate credit into a degree program, with approval of the student's graduate counselor and the director of Graduate Studies. That credit must be directly applicable toward the degree, must be in courses in which grades of A or B were received, and must be from an accredited institution where the students' graduate GPA was 3.0 or better.

2) To remain in good graduate standing a graduate student's GPA must remain at 3.0 or better. If the graduate GPA falls below 3.0, a student will be placed on probation. If the graduate GPA falls below 2.25 or if a graduate student on probation is not making progress toward good standing, a graduate student can be suspended.

3) Students may apply a maximum of six hours of graduate work with a grade of C toward a graduate degree. Courses in which grades of D or F were earned shall not apply toward a graduate degree.

4) All degree seeking students are required to submit a degree plan. This plan is usually submitted during the first semester of graduate study.

5) All degree-seeking students shall be assigned a graduate adviser and a graduate committee. The committee consists of three members of the faculty, one of whom shall be the graduate adviser.

6) All graduate programs require a comprehensive examination and some may require a thesis or directed research project. If a thesis or directed research project is required, the student must schedule an oral defense. The report on the outcome of the oral examination must be submitted at least 10 working days prior to commencement.

DEGREE REQUIREMENTS

Graduate students must fulfill the specific requirements of their program and the following university requirements:

1) A minimum of 30 semester hours of graduate work. Some programs may require additional work. At least 24 of these hours must be earned on the Pueblo campus of the university.

2) The cumulative graduate GPA must be 3.0 or better.

3) Notification of acceptable performance on the comprehensive examination.

4) If a thesis or directed research project is required, filing of the final written document with the graduate office. Directions for preparation of the thesis are available in the adviser's office and in the Office of Research and Graduate Studies.

5) A request for graduation must be submitted during the semester prior to graduation.

Limitation on older credit. Courses completed six (6) or more years before the date of graduation will not be accepted as satisfying the requirements for a graduate degree. This limitation applies to transfer credit as well as credit earned at USC.

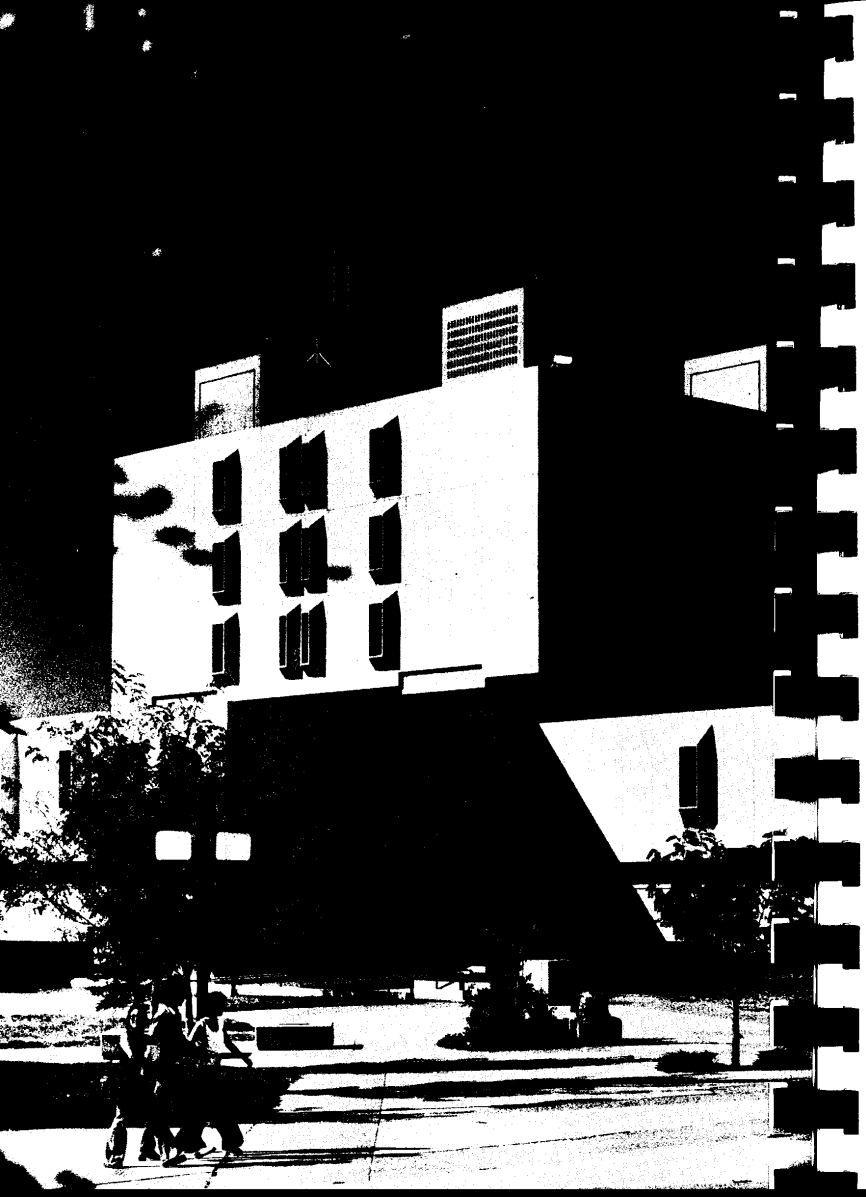
Undergraduates admitted to graduate work. In general undergraduate classes do not apply to a graduate degree and courses taken for graduate credit cannot apply toward an undergraduate degree. Courses taken as an undergraduate cannot be repeated for graduate credit, even if the course is dual numbered.

Senior undergraduate students with approved graduation planning sheets may enroll in graduate classes (for graduate credit) with the approval of the director of Research and Graduate Studies.

Appeals. All graduate policies, procedures, and regulations may be appealed. Appeals should be made in writing to the Graduate Council through the director of Research and Graduate Studies.

Consortium policies. Students in the Adams State College consortium program must meet the admission and graduation requirements of Adams State College.

Program requirements. A complete listing of the requirements for each graduate program is available in a **Graduate Handbook** available from the adviser or the Office of Research and Graduate Studies.



UNIVERSITY PERSONNEL

STATE BOARD OF AGRICULTURE

Name	Address
Shireen Arensmeier[1]	Durango
Patrick J. Conley	Ignacio
Jim DeFede[2]	Fort Collins
Thomas T. Farley	Pueblo
Susan Furniss	Fort Collins
Beverly J. Haddon	Denver
Charles W. Henning	Denver
James Mills[1]	Durango
Harold Palmer[3]	Pueblo
Richard Robinson	Denver
Harry Rosenberg[2]	Fort Collins
Paul S. Salas	Fort Collins

David Sandoval[3] ..... Pueblo
John Stencel, III ..... Denver

[1]Representative from Fort Lewis College
[2]Representative from Colorado State University
[3]Representative from the University of Southern Colorado

PRESIDENT

Shirley, Robert C., interim president

ADMINISTRATIVE STAFF

Karstens, Linda K., director of University Computing
Montoya, Ronald R., director of Affirmative Action
Mullen, Robert W., director of Athletics
Vunovich, Bogdan, executive assistant to the president

ACADEMIC AFFAIRS

Sanchez, Gilbert, vice president for Academic Affairs
Abebe, Teshome, interim assistant dean, division of business
Garcia, Nasario, interim dean of the College of Liberal and Fine Arts
Kashner, James B., assistant vice president for Academic Affairs
Moffeit, Tony, assistant director of Library Services
Moore, Beverly, director, The University Library
Muhic, Thomas J., interim dean of the College of Professional Studies
Payne, John Jr., assistant director of Educational Media Services
Sczekan, Marjorie, assistant dean for Nursing
Sisson, Ray L., interim dean of the College of Engineering and Science
Sublette, James E., director of Research and Graduate Studies
Valerio, Luis G., dean of Extended Programs

PLANNING AND DEVELOPMENT

Walsh, John E., vice president for Planning and Development
Daniel, Lark O., director of Telecommunications Division
Dowling, Adrienne, executive director, KTSC-TV
McGill-Eagan, Mary L. (Sally), director of University Communications
Rosales, John, assistant vice president for Planning and Development
Smith, Greg, Sports Information director
Trujillo, Henry E., executive secretary for Alumni Affairs

BUSINESS AND FINANCE

Murdoch, George W., vice president for Business and Finance
Bennett, Earle, director of Support Services
Engber, Micah, director of Resident Hall
Genty, Don, manager of Sponsored Programs
Huddin, Ralph W., controller
Johnson, Cheryl D., director of Auxiliary Services
Kendall, Anita L., director of Personnel
Neari, John J., purchasing director
Tising, James R., chief of University Police
Quinlan, James, director of Physical Plant
Quirk, Thomas J., coordinator Safety/Environmental Health

STUDENT AFFAIRS

Martinez, Wilfred O., vice president for Student Affairs
Axelrath, Joyce, coordinator of Student Development Center
Amella, Gary, assistant director, Upward Bound/Special Programs
DiPrince, Linda S., financial aid counselor
Gerber, Gerald I., director of Career Planning and Placement
Hill, Richard, assistant vice president for Student Affairs
Kidd, Frederick L., acting assistant director of Financial Aid
Lovell, Catherine M., financial aid counselor
Maldonado, Carlos, director of High School Equivalency Program
Mestas, Gina, director of Financial Aid
Padilla, Jose A. (Rudy), director of Admissions/School Relations

Pineda, Juan N., director of Upward Bound/Special Programs
Pobst, Alice, acting registrar
Pope, Harold, assistant director of Admissions/School Relations
Wells, Elmer E., director of International Students
Zeleny, Richard D., coordinator of Resource Center/Veteran's Affairs

EMERITUS FACULTY

Anderson, Norris D., 1965; BA, MA, Ed.D., professor emeritus of education
Bartlett, Thomas J., 1967; BS, MA, professor emeritus of mathematics
Binfield, Ann L., 1946; BA, MA, BSLS, professor emeritus librarian
Blake, Marvin, 1949; BE, professor emeritus of manufacturing engineering technology
Blasing, James A., 1956; AA, professor emeritus of physical education
Bond, John A., 1967; BS, MA, Ph.D., professor emeritus of political science
Boss, Marion L., 1964; BSBA, MSBE, Ed.D., professor emeritus of business administration
Cotner, Jane, 1960; AB, BSLS, professor emeritus of library sciences
Davison, Earle, 1950; BS, professor emeritus of industrial technology
Dudley, Lloyd P., 1956; BA, MA, professor emeritus of speech
Griffith, Gerald V., 1947; BS, MA, professor emeritus of agriculture
Hobson, Henry, 1948; BE, professor emeritus of air conditioning/refrigeration
Howard, Maurice L., 1962; Th.B., AB, MA, Ed.D., professor emeritus of psychology
Ihrig, Paul R., 1946; BS, MA, professor emeritus of fine arts
Jurie, Carl A., 1956; BA, MA, professor emeritus of geology
Kahn, Theodore C., 1965; BA, MA, Ph.D., Sc.D., professor emeritus of behavioral science
Kenyon, Gordon R., 1960; BA, MA, Ph.D., professor emeritus of history
Kurtin, Alfred D., 1945; BA, MA, emeritus registrar
Levy, Ralph W., 1957; BA, MA, professor emeritus of music
Lund, Carl, 1957; professor emeritus of welding
McClary, William B., 1946; BA, MA, professor emeritus of economics
McCown, Dean A., 1963, BS, MS, Ph.D., professor emeritus of physics
Middleton, Donald S., 1948; BA, M.Ed., professor emeritus of electronics

Mikkelsen, Harry E., 1958; BA, M.Basic Science, professor emeritus of physics
Miller, Robert E., 1952; BS, MS, professor emeritus of chemistry
Orman, Leonard M., 1970; BS, MA, professor emeritus of mathematics
Pardun, Horace M., 1947; BA, MA, professor emeritus, dean of Student Services
Pope, Gerald, H., 1955; BS, M.Ed., professor emeritus of mechanical engineering technology
Rudd, John P., 1965; BA, MA, Ed.D., professor emeritus of psychology
Sanderson, James M., 1947; BS, MA, professor emeritus of history
Shih, Tsang Yu (Tom), 1964; BSM, professor emeritus of metallurgical engineering technology
Simmons, Harry H., 1946; BABE, M.Ed., professor emeritus of physical education
Simms, Houston, C., 1947; BA, MA, professor emeritus of biology
Singer, Olive, 1943; BA, MS, professor emeritus of English and developmental reading
Taussig, Anna, 1960; AB, MA, professor emeritus of foreign language
Townley, Rodney D., 1945; B.Mus.Ed., M.Mus.Ed., professor emeritus of music
Wack, Dunstan J., 1969; BS, MA, Ph.D., professor emeritus of psychology

FACULTY AND STAFF FOR 1984-85

Abebe, Teshome, 1983; BA, MA, Illinois State University; Ph.D., Northern Illinois University; interim assistant dean, division of business

Adams, Robert M., 1981; BA, George Washington University; development director, Telecommunications Division

Aguilar, M. Kay, 1964; BS, Lock Haven State College; MA, Adams State College; Ed.D., University of Northern Colorado; professor of physical education

Ahmadieh, Aziz A., 1981; BS, University of Tehran; BS, University of Idaho; MS, University of Kansas; Ph.D., University of California, Berkley; professor of metallurgical engineering technology

Aichele, Ronald G., 1972; BA, MA, Ph.D., University of Missouri; associate professor of philosophy

Allen, Ernest E., 1963; BS, Wayne State University; BS, MA, Michigan State University; MATM, University of Detroit; Ed.D., University of Northern Colorado; professor of mathematics

Amella, Gary, 1980; BA, University of Colorado; MA, Colorado State University; assistant director, Upward Bound/Special Programs

Anderson, Deyrol E., 1983; BA, Washington State University; MA, San Francisco State University; Ph.D., University of Denver; associate professor of mass communications

Angelotti, Stephen, 1984; BA, University of Southern Colorado; development assistant, Telecommunications Division

Angus, Charles, 1984; BBA, University of Minnesota; MBA, Case Western Reserve University; Ph.D., University of Arkansas, professor of marketing

Antista, James V., 1980; master control switcher, Telecommunications Division

Askwig, William J., 1962; BSBA, MBA, University of Denver; DBA, Texas Technological University; professor of economics

Atteberry, Sarah, 1975; BS, University of Southern Colorado; MS, University of Northern Colorado; instructor of nursing

Atterberry, John, 1984; master control operator, Telecommunications Division

Aube, Thomas R., 1980; chief engineer, Telecommunications Division

Axelrath, Joyce, 1983; BA, Colorado State University; MA, University of South Carolina; coordinator of Student Development Center

Baca, Judy M., 1981; BS, University of Southern Colorado; MSW, ACSW, Arizona State University; assistant professor of social work

Baldauf, Boyd J., 1964; BS, Nebraska State College; MA, Ed.D., University of Northern Colorado; professor of computer science technology

Banks, Jessie F., 1966; BS, Central State University; MA, Adams State College; assistant professor of physical education, assistant director of Athletics, women's basketball coach

Bard, Eugene D., 1965; BS, MS, Oklahoma State University; Ed.D., University of Northern Colorado; professor of physics

Barker, Charles, 1984; continuity coordinator of Telecommunications Division

Barnes, John, 1976; BA, MA, University of Northern Colorado; assistant professor of physical education, head baseball coach

Bassein, Beth Ann, 1966; BA, Tarkio College; MA, Ph.D., University of Missouri; professor of English

Beck, J. Michael, 1970; BA, Southern Colorado State College; MA, Western State College; assistant professor of music

Bennett, Earle L., 1968; director of Support Services

Benton, Johnny, 1968; BA, Panhandle A&M; MA, University of Arkansas; Ph.D., University of Oklahoma; professor of speech communication

Berumen, Kathleen, 1984; BSN, University of Southern Colorado, clinical instructor and director, auto tutorial nursing laboratory

Blandford, Robert D., 1965; BS, Eastern New Mexico University; MA, Bowling Green State University; DA, University of Northern Colorado; professor of mathematics

Borton, John M., 1983; BA, Purdue University; MS, University of Northern Colorado; assistant professor of computer science technology

Bottini, Patrick W., 1968; BS, Southern Colorado State College; MA, Adams State College; associate professor of industrial education

Bradley, Lawrence B., 1966; BA, University of Northern Colorado; MA, San Jose State College; associate professor of theatre

Bramlett, Lindsey L., 1982; BA, University of California; MA, California State University; instructor of mathematics

Brassill, Joann A., 1967; BA, Notre Dame College; MA, Western Reserve University; MFA, University of Notre Dame; professor of art

Bright, A. Leon, 1963; BS, Central Missouri State College; MA, University of Kansas; Ph.D., University of New Mexico; professor of Spanish

Bronn, Stephen D., 1971; BS, University of Nebraska; MS, Ph.D., Northwestern University; professor of mathematics

Brooks, DuWayne, 1983; BA, Milton College; MA, Western Illinois University; director, Student Activities

Buckles, William G., 1965; BA, MA, Ph.D., University of Colorado; professor of anthropology

Cain, Robert L., 1970; BA, Baylor University; MS, Louisiana State University; assistant professor of library science, documents librarian, University Library

Cameron, James T., 1970; BA, The Colorado College; MA, Ph.D., University of Colorado; professor of psychology

Cedrone, Frank J., 1969; artist diploma in piano, Boston Conservatory; artist-in-residence

Chandler, William D., 1979; BS, Massachusetts Institute of Technology; MBA, University of San Francisco; assistant professor of computer science technology

Chen, Frank T., 1982; BSME, Chung Cheng College of Science and Engineering, Taiwan; MSME, Clemson University; Ph.D., North Carolina State University; associate professor of mechanical engineering technology

Cheng, Joseph K., 1973; BS, Taiwan Christian College; MS, University of Massachusetts; Ph.D., University of Oklahoma; professor of engineering

Chinn, Jacqueline, 1970; BBA, The Colorado College; MA, University of Colorado; assistant professor of Reading

Clay, Samuel O., Jr., 1971; BA, University of Southern Colorado; MA, University of Denver; assistant professor of behavioral science

Connelly, Jerald L., 1979; BS, Ph.D., University of Rochester; professor of chemistry

Cook, Robert N., 1981; BEE, General Motors Institute; MSE, University of Michigan; M.Sc., Ph.D., University of Western Ontario; associate professor of computer science technology

Cottrell, Donald E., 1970; BSEE, University of Denver; MSEE, University of Colorado; Ph.D.EE, University of Denver; professor of electronics engineering technology

Cranmer, Joseph W., 1965; BS, Brigham Young University; MA, University of Wyoming; Ed.D., University of Utah; professor of physical education

Croxton, Carol I., 1978; BA, MA, Ed.D., Ball State University; associate professor of English

Daniel, Lark O., 1975; BA, MA, Southern Methodist University; Ph.D., Purdue University; director, Telecommunications Division

Daxton, Lawrence E., 1966; BA, MA, University of Northern Colorado; Ph.D., University of Colorado; professor of history, director, Center for Humanistic Policy Studies

Dawson, Roseanne, 1984; BA, Drake University; MA, University of Iowa; MLS, University of Denver; assistant reference librarian, University Library

Derr, James B., 1984; BA, College of St. Thomas; Ph.D., Michigan State University; associate professor of mathematics

DeFore, Richard A., 1981; BA, University of Wisconsin; MA, University of Northern Colorado; learning resources specialist, Instructional/Media Services

Dhatt, Yashwant S., 1983; MA, University of Delhi; MBA, McGill University; Ph.D., Georgia State University; assistant professor of management, marketing and finance

Dille, Ralph G., 1976; BA, BS, MA, Bowling Green State University; Ph.D., Ball State University; professor of English

DiPrince, Linda S., 1970; BS, University of Southern Colorado; financial aid counselor

Dorsch, John A., 1965; BA, Willamette University; MS, Ph.D., Oregon State University; professor of biology

Dowling, Adrienne, 1982; BA, Emmanuel College; MA, University of Connecticut; executive director, KTSC-TV

Dragmeister, Richard W., 1984; BA, MA, Western New Mexico University; head basketball coach

Driscoll, Donald J., 1965; BA, Sophia University; MA, Ph.D., New School for Social Research; professor of philosophy

Duncan, James L., 1958; BM, Central College; MM, Eastman School of Music; professor of music

Eagan, William T., 1962; BA, University of Denver; MA, Claremont Graduate School; professor of history

Eberling, Kathleen G., 1981; BS, University of Southern Colorado; JD, University of Colorado; assistant professor of political science

Enderud, Lorretta, 1984; BA, University of Northern Colorado; MA, University of Washington; assistant to periodicals librarian, University Library

Engber, Micah, 1984; BA, M.Ed., Ohio University; director of residence hall

Engelbrecht, Kenneth W., 1967; BS, University of Wisconsin; MA, Northern Michigan University; associate professor of geology

Farris, Gerald C., 1967; BA, Dakota Wesleyan University; MS, University of Utah; Ph.D., Colorado State University; professor of biology

Farwell, Hermon W., 1966; AB, Columbia University; MA, The Pennsylvania State University; associate professor of speech communication

Flynn, Patrick J., 1982; Captain U.S. Army; BS, Virginia Military Institute; assistant professor of military science

Forsyth, Dan W., 1983; BA, University of California; MA, University of Chicago; Ph.D., University of California; assistant professor of anthropology

Fouts, Kenneth B., 1962; AA, Lamar Junior College; BFA, University of Texas; MA, University of Colorado; Ph.D., Southern Illinois University; professor of speech communication

Freark, Dorman G., 1982; ME, MS, Stevens Institute of Technology; Ph.D., University of Cincinnati; professor of engineering

vonFriederichs-Fitzwater, Marlene, 1983; BS, Westminster College; MA, University of Nebraska at Omaha; assistant professor of mass communications

Gabaldon, Frank, 1981; BS, University of Southern Colorado; admissions/placement counselor, High School Equivalency Program

Garcia, Nasario, 1973; BA, MA, University of New Mexico; Ph.D., University of Pittsburgh; professor of Spanish, and interim dean, College of Liberal and Fine Arts

Gardner, Rick M., 1969; BA, Humboldt State University; MA, Ph.D., University of Nevada; professor of psychology

Genty, Don A., 1970; BSBA, Carroll College; MBA, University of Denver; manager of sponsored programs, accounting

Gerber, Gerald I., 1969; BA, Buena Vista College; M.Ed., Colorado State University; director of Career Planning and Placement

Gerig, Robert C., 1983; BS, University of Missouri; MA, Central Missouri State University; assistant director and program manager, Telecommunications Division

Gilbert, Gail L., 1980; BS, Texas Women's University; ADN Texarkana Community College; BSN Metropolitan State College; MSN, University of Texas at Arlington; assistant professor of nursing

Gill, John P., Jr., 1971; BS, University of Georgia; MA, University of Alabama; Ph.D., Colorado State University; professor of mathematics

Gloe, Esther M., 1981; BA, University of Missouri at Kansas City; MA, M.Ed., University of Oklahoma; Ph.D., Oklahoma State University; assistant professor of English

Grabiec, Andrzej, 1980; master's, Poland Music Conservatory; artist-in-residence

Graham, Robert E., 1980; BS, University of Tulsa; MS, Ph.D., University of Arkansas; associate professor of physics

Gray, Mary M., 1980; BSN, University of Northern Colorado; MSN, University of Colorado; assistant professor of nursing

Green, Pearl (Penny) A., 1982; BA, City College of New York; MA, Ph.D., Southern Illinois University; assistant professor of sociology

Greet, Richard J., 1983; BEE, Rensselaer Polytechnic Institute; MS, Ph.D., Harvard University; professor of mechanical engineering technology

Griffin, John R., 1963; BS, MA, Xavier University; Ph.D., Ottawa University; Ph.D., Trinity College; professor of English

Gutierrez, James M., 1978; BA, University of Southern Colorado; MA, New Mexico Highlands University; assistant professor of education

Haering, Charles L., 1971; BA, The Colorado College; MA, Western State College; assistant professor of physical education, head track coach

Hamidzadeh-Eraghi, Hamid Reza, 1983; BSc, Ayra Mehr University; MSc, Ph.D., Imperial College of Science and Technology (University of London); assistant professor of mechanical engineering technology

Hammer, Charles R., 1964; BA, Ph.D., University of Utah; associate professor of chemistry

Hammond, William A., 1957; BSBA, MBA, University of Denver; professor of accounting

Hearn, June L., 1967; BA, Rice University; MS, Iowa State University; assistant professor of psychology

Hench, Robert W., 1965; BFA, University of Denver; MA, The Colorado College; associate professor of art

Herrmann, Scott J., 1968; BS, Northern Illinois University; Ph.D., University of Colorado; professor of biology

Hill, Richard H., 1982; BA, University of Northern Colorado; M.Ed., Colorado State University; Ph.D., University of Wyoming; assistant vice president for Student Services

Hill, Warren R., 1981; BSE, University of Nebraska; MSEE, Wayne State University; Dr. Engr., University of Detroit; associate professor of electronics engineering technology

Hirth, Alan, 1975; BA, University of Colorado; assistant professor of civil engineering technology

Holderness, Ward L., 1969; AAS, BS, Southern Colorado State College; assistant professor of civil engineering

Hollis, Glenn D., 1982; Lt. Col. U.S. Army; BA, Ouachita Baptist University; MS, Kansas State University; MA, Webster University; professor and head of department of military science

Hostetler, Charles E., 1964; BA, MA, University of Northern Colorado; Ed.D., University of Denver; professor of education

Howard, John R., 1967; BA, MA, University of Washington; associate professor of geography

Huddin, Ralph W., 1973; BSBA, University of Denver; controller

Hughes, Cornelius G., 1976; BA, Belmont College; MA, California State University at Northridge; Ph.D., The Pennsylvania State University; associate professor of sociology

Hutchison, Scott, 1984; master control operator of Telecommunications Division

Illick, Peter M., 1971; BA, University of Vermont; MA, University of Wyoming; assistant professor of English

Jacobs, William L., II, 1975; BA, Wittenberg University; M.Ed., Kent State University; instructor of physical education

Janes, Donald W., 1963; BA, Baker University; MA, University of Kansas; Ph.D., Kansas State University; professor of biology

Jenkins, Robert B., 1972; BS, University of Washington; ME, The Pennsylvania State University; associate professor of electronics engineering technology

Jensen, Carl G., 1970; BA, Indiana Central University; MAT, Indiana University; MFA, University of New Mexico; professor of art

Johnson, Cheryl D., 1983; BA, Dakota Wesleyan University; M.Ed., University of Wisconsin at Superior; director of Auxiliary Services

Johnson, Roger W., 1977; BA, Fort Lewis College; MS, DA, Idaho State University; associate professor of mathematics

Jones, Scott, 1984; master control operator of Telecommunications Division

Jorgenson, Avis E., 1972; BS, University of Colorado; M.Ed., University of Illinois; Ed.D., University of Northern Colorado; assistant professor of education

Kamnikar, Edward G., 1976; BS, MS, Northern Illinois University; CPA; associate professor of accounting

Karstens, Linda K., 1962; BS, University of Southern Colorado; manager of Administrative Computing

Kashner, James B., 1969; BA, Ashland College; MA, Ph.D., The Pennsylvania State University; professor of sociology, assistant vice president for Academic Affairs

Keller, Robert L., 1974; BA, University of Colorado; MS, Colorado State University; Ph.D., University of Montana; associate professor of sociology

Kellogg, William L., 1969; BA, MS, Omaha University; MM, Nebraska University; associate professor of music

Kendall, Anita L., 1981; BA, MA, Western State College; director of Personnel

Kerchof, Kathryn K., 1984; BA, University of Virginia; MS, Drexel University; assistant to reference librarian, University Library

Kidd, Frederick, 1980; AAS, BS, University of Southern Colorado; acting assistant director of Financial Aid

King, Karmyn M., 1979; ADN, Community College of Denver; BSN, MS, University of Colorado; assistant professor of nursing

Knight, Douglas W., 1980; BS, MS, Ph.D., Arizona State University; assistant professor of computer science technology

Krinsky, Richard, 1968; BA, MA, Michigan State University; Ph.D., University of Washington; professor of psychology

Krinsky, Suzanne, G., 1968; BA, Wayne State University; MA, Michigan State University; associate professor of mental health

Kulkosky, Paul J., 1982; BA, Columbia College; MA, Columbia University; Ph.D., University of Washington; assistant professor of psychology

Latka, Nicholas, 1983; BS, University of Southern Colorado; MFA, University of Colorado; artist-in-residence

LaVelle, James W., 1956; BS, Abilene Christian College; MA, University of Texas; Ph.D., University of Colorado; professor of biology

Li, Hung Chiang, 1969; BA, University of Chekiang; MS, Michigan State University; Ph.D., Purdue University; professor of mathematics

Linam, Jay H., 1965; BS, University of Idaho; MS, Ph.D., University of Utah; professor of biology

Lipp, Richard, 1962; BS, Moorhead State College; MA, Ed.D., University of Northern Colorado; professor of reading

Love, Alan P., 1961; BA, University of Colorado; doctor rerum politicarum, University of Vienna, Austria; professor of political science

Lovell, Catherine M., 1976; BA, St. Joseph's College; BSN, Columbia Presbyterian Medical College; M.Ed., Pepperdine University; financial aid counselor

Madrid, L. Dennis, 1976; BA, University of Southern Colorado; MS, New Mexico Highlands University; Ph.D., University of California at Santa Barbara; associate professor of mental health

Mahan, Kent I., 1969; BS, Southwest Missouri State University; Ph.D., University of Missouri; professor of chemistry

Maldonado, Carlos, 1980; BS, University of San Luis Potosi; director of High School Equivalency Program

Marino, Charles J., 1966; BA, St. John's College; BFA, Pratt Institute; MA, Columbia University Teachers College; associate professor of art

Markowski, Victoria, 1969; BM, Boston Conservatory; artist-in-residence

Martinet, Anthony, 1969; BS, University of Southern Colorado; M.Ed., Colorado State University; associate professor of automotive parts and service management

Martinez, Wilfred O., 1968; BSBA, University of Denver; MA, University of Northern Colorado; Ph.D., University of New Mexico; vice president for Student Affairs

Mason, Charles E., 1983; BS, Ferris State College; assistant professor of automotive parts and service management

Mason, Robert, 1981; BS, MS, Ph.D., Southern Illinois University; director of University Computing

Massey, Frank A., Jr., 1963; BSIE, BBA, MS, University of Minnesota; Ph.D., University of Wisconsin; associate professor of engineering

May, Alan M., 1982; BS, Wilmington College; Ph.D., University of Cincinnati; associate professor of computer science technology

McCanne, Roy, 1969; BA, Oberlin College; MA, Ed.D., University of Denver; professor of education

McGill-Eagan, Mary L. (Sally), 1974; BS, University of Southern Colorado; director of University Communications

McIntosh, Donald V., 1967; BS, MS, Brigham Young University; assistant professor of physical education

McKinnon, Sara, 1981; AA, BA, MA, University of Illinois; High School Equivalency Program

Megenity, Donald D., 1957; BA, University of Colorado; MA, Ed.D., University of Northern Colorado; professor of psychology

Mestas, Gina, 1979; AA, Trinidad State Junior College; BA, Adams State College; director of Financial Aid

Mettler, Marilynn V., 1980; RN, William Newton Memorial Hospital School of Nursing; BSN, University of Missouri; MS, University of Colorado; associate professor of nursing, ADN coordinator

Miller, Glenn W., 1974; BA, University of Southern Colorado; MA, University of Denver; assistant professor of mass communications

Miller, Margaret G., 1976; BA, Indiana University; MS, Butler University; Ph.D., Purdue University; associate professor of education

Miller, Wilbur C., 1967; BA, University of Washington; MBS, University of Colorado; Ph.D., Colorado State University; professor of mathematics

Milne, Donald C., 1965; BA, MA, University of Utah; Ph.D., Brigham Young University; associate professor of Spanish

Mo, Suchoon S., 1973; BS, Idaho State College; MA, Indiana University; Ph.D., University of Pennsylvania; professor of psychology

Moffeit, Tony A., 1976; BS, Oklahoma State University; MLS, University of Oklahoma; assistant director of Library Services, University Library

Monteverde, Mildred A., 1972; BA, MA, Ph.D., University of California at Los Angeles; associate professor of art

Montoya, Carol, 1981; BA, MA, Adams State College; coordinator of Counseling Services, High School Equivalency Program

Montoya, Ronald R., 1984; AA, Trinidad State Junior College; BS, University of Southern Colorado; MS, Adams State College; director of Affirmative Action

Moore, Beverly A., 1970; AA, Hutchinson Junior College; BA, University of Northern Colorado; MA, University of Denver; director, The University Library

Morgan, J.B., 1964; BSEd, Central Missouri State College; MSEd, University of Missouri; Ed.D., University of Northern Colorado; professor of industrial education

Muhic, Thomas J., 1967; BS, MA, Western State College; Ph.D., University of Utah; professor of physical education, and interim dean, College of Professional Studies

Mullen, Robert W., 1981; BS, MS, Northern Illinois University; director of Athletics

Muller, Doyle K., 1963; BM, BA, Huron College; MM, University of Colorado; associate professor of music

Murdoch, George W., 1981; BS Shippensburg State College; M.Ed., University of Pittsburgh; Ed.D., George Washington University; vice president for Business and Finance

Murphy, John H., 1966; BA, University of Oklahoma; MA, University of California; Ed.D., University of Northern Colorado; associate professor of German

Murray, Hallard T. Jr., 1969; BA, MS, University of Arizona; Ph.D., Purdue University; associate professor of biology

Mutzebaugh, Carole A., 1981; BS, MS, Ed.D., University of Colorado; associate professor of nursing

Navarro, Rogelio, Jr., 1983; captain U.S. Army; BA, Eastern Michigan University; assistant professor of military science

Neari, John J., 1969; BS, St. Cloud State Teachers College; purchasing director

Nicholl, Larimore R., 1968; BA, The Colorado College; MA, Claremont Graduate School; assistant professor of philosophy

Nichols, Janet, 1977; BA, Adelphi University; MS, Lehigh University; assistant professor of mathematics

Noreiko, Gary, 1984; BA, MA, California State University, L.A.; Ph.D., University of Southern California; associate professor of finance

O'Leary, Emmett L., 1972; BA, Adams State College; MA, Central Michigan University; Ph.D., University of Nebraska; associate professor of speech communication

Olin, Carol M., 1971; BA, MA, University of Colorado; assistant professor of English

Orman, Patricia, 1978; BA, University of New Hampshire; MA, University of Northern Colorado; assistant professor of mass communications

Orr, Gilbert F., 1977; BA, St. Johns University; MS, Ph.D., University of Miami; associate professor of mathematics

Osborn, Neal L., 1965; BA, Baldwin-Wallace College; MS, Ph.D., University of New Mexico; professor of biology

Padgett, John H., 1969; BS, University of Southern Colorado; MBA, University of Colorado; assistant professor of computer science technology

Padilla, José A. (Rudy), 1973; BA, BS, University of Southern Colorado; director of Admissions and School Relations

Pavlik, Richard E., 1963; BS, MA, Ohio State University; professor of mass communications

Payne, John F., Jr., 1956; BA, MSE, Drake University; Ed.D., University of Northern Colorado; assistant director, Educational Media Services

Perez, Cynthia M., 1977; BA, University of Southern Colorado; Special Services

Perkins, David M., 1978; BSEE, The Pennsylvania State University; MSEE, Princeton University; professor of electronics engineering technology

Peterlin, Edward L., 1963; BS, University of Colorado; MA, University of Northern Colorado, CPA; associate professor of accounting

Phillips, David L., 1971; BS, Ball State University; MS, Ph.D., Purdue University; professor of mathematics

Phillips, Nancy, 1984; BA, University of Southern Colorado; High School Equivalency Program

Pineda, Juan N.,1974; BS, University of Albuquerque; MA, University of Northern Colorado; director of Upward Bound/Special Programs

Plonkey, Kenneth D., 1968; BA, Colorado State College; MA, Ph.D., Southern Illinois University; professor of theatre

Pobst, Alice, 1955; acting registrar

Pook, Laszlo A., 1981, BSEE, MSEE, DBA, University of Colorado; assistant professor of management

Pope, Harold J., 1974; AA, Sinclair Community College; BA, University of Southern Colorado; assistant director of Admissions and School Relations

Post-Gordan, Joan C., 1970; BS, Manchester College; MS, Ph.D., University of Georgia; professor of psychology

Powell, Mildred A., 1982; AB, Carleton College; MA, Ph.D., Harvard University; assistant professor of geology

Prater, Joseph C., Jr., 1956; BS, MS, University of Arkansas; associate professor of mathematics

Quinlan, James, 1984; BS, New Mexico State; M.Ed., Colorado State University; director of Physcial Plant

Quirk, Thomas J., 1983; BS, University of Hartford; coordinator Safety/ Environment Health

Rael, Robert J., 1975; BS, University of Southern Colorado; High School Equivalency Program

Rao, Gujar N.S., 1981; BS, BE, University of Mysore, India; MS, Ph.D., University of Oklahoma; associate professor of civil engineering technology

Redman, Ralph J., 1965; BA, MA, Western State College; MAT, The Colorado College; associate professor of mathematics

Reiff, Glen A., 1978; BS, U.S. Naval Academy; MS, U.S. Naval Postgraduate School; professor of electronics engineering technology

Reinier, R. Edward, 1964; BS, MA, University of Iowa; associate professor of management

Rice, Linda M., 1982; BA, University of Southern California; BSN, Washington State University; MN, University of Washington; assistant professor of nursing

Roach, George F., 1966; AB, MM, University of Michigan; professor of music

Robertson, J. Reese, 1965; BA, MA, University of Utah; associate professor of French

Robinson, Peggy, 1984; BA, Loretta Hieghts College; MLS, University of Denver; periodicals librarian, University Library

Rodriguez, R. David, 1980; master control switcher, Telecommunications Division

Romero, Frank S., 1968; AA, Pueblo College; BA, Adams State College; MA, University of Northern Colorado; assistant professor of reading

Rosales, John A., 1983; BA, Colorado State College; MA, The Colorado College; Ed.D., University of Northern Colorado; assistant vice president for Planning and Development

Ryan, John E., 1980; BA, University of California at Los Angeles; MA, California State University, Northridge; MA, Ph.D., Claremont Graduate School; associate professor of reading

Sabo, Barbara J., 1974; RN, St. Mary Corwin Hospital School of Nursing; AA, Pueblo College; BS, MS, University of Colorado; associate professor of nursing

Sadler, George, 1965; BS, MS, Columbia University; Ph.D., Texas Tech University; associate professor of economics

Sajbel, Edward R., 1955; AA, Pueblo College; BA, MA, University of Northern Colorado; professor of art

Sanchez, Gilbert, 1983; BS, New Mexico State University; Ph.D., University of Kansas; profesor of biology, vice president for Academic Affairs

Sandoval, David A., 1980; BS, Eastern New Mexico University; MA, Southern Methodist University; Ph.D., University of Utah; associate professor of Chicano studies

Sarver, P. Merle, 1965; AA, Lamar State College; BA, MA, University of Texas; Ph.D., University of Nebraska; professor of economics

Sathi, Harbans L., 1984; DIC, Imperial College of Science and Technology, (University of London); MA, Punjab University; Ph.D., Indian Institute of Technology; professor of computer science technology

Saul, Roger E., 1983; BS, MS, Michigan Technological University; DA, University of Northern Colorado; assistant professor of chemistry

Schaeffer, Frederick E., 1963; BSGE, AM, Washington University; Ph.D., University of Utah; professor of geology

Schlegel, Walter L., 1984; AAS, Pikes Peak Community College; BS, Brigham Young University; MA, Ed.D., University of Northern Colorado, assistant professor of computer science technology

Schnur, Paul, 1978; BA, Queens College; MA, North Carolina State University; Ph.D., Indiana University; professor of psychology

Scholze, M. Randall, 1983; Major U.S. Army; AA, BA, Missouri Southern College; M. Ed., University of Oklahoma; assistant professor of military science

Sczekan, Marjorie, 1982; RN, BS, MS, University of Colorado; MA, Ph.D., University of Tennessee, Knoxville; professor and assistant dean for nursing

Seilheimer, Jack A., 1963; BS, Western Michigan University; Ph.D., University of Louisville; professor of biology

Senatore, John J., 1958; BA, MA, Ed.D., University of Northern Colorado; professor of English

Senatore, Margaret L., 1964; BA, The Colorado College; MA, University of Colorado; assistant professor of English

Serena, Raymond E., 1970; BA, University of Southern Colorado; MA, University of Colorado; assistant professor of reading

Sherman, John R., 1971; BA, Hunter College; MA, Ph.D., Southern Illinois University; associate professor of speech communication

Shirley, Robert C., 1984; BBA, MBA, University of Houston; Ph.D., Northwestern University; interim president

Simons, Susan J., 1982; BS, Iowa State University; developmental assistant, Telecommunications Division

Simpson, James H., 1983; sergeant major U.S. Army; chief instructor of military science

Sisson, Ray L., 1960; AA, Pueblo College; BSEE, University of Colorado; MS, Colorado State University; Ed.D., University of Northern Colorado; professor of engineering, and interim dean, College of Engineering and Science

Smith, Eleanor, J., 1983; BA, San Diego State University; MA, California State University; High School Equivalency Program

Smith, Gregory C., 1982; BS, Bowling Green State University; Sports Information director

Smith, John E., 1962; BA, Ph.D., University of Colorado; professor of chemistry

Smith, Marie Pina, 1977; BS, University of Southern Colorado; couselor, Upward Bound Program

Smith, Robert L., 1974; BS, University of Southern Colorado; assistant professor of computer science technology

Smith, Wallace E., 1977; BS, Brigham Young University; MSW, University of Utah; Ph.D., Brigham Young University; associate professor of social work

Snowden, Robert P., Jr., 1968; AB, St. Benedict's College; MA, University of Denver; assistant professor of psychology

Solis, José J., 1973; BS, University of Southern Colorado; MSW, University of Denver; associate professor of social work

Spenny, David L., 1980; BS, Wittenberg University; Ph.D., University of Colorado; associate professor of physics

Stanton, George, 1984; BA, MA, California State University at Chico; associate professor of mechanical engineering technology

Stephens, Charles T., 1983; BSCE, University of New Mexico; MS, Arizona State University; EN, Stanford University; Ph.D., Oregon State University; assistant professor of civil engineering technology

Stjernholm, Kirstine J., 1967; BA, Augustana College; MA, University of Denver; reference librarian, University Library

Strader, Robert L., 1969; AA, Pueblo College; BA, MA, University of Northern Colorado; Ed.D., University of Idaho; professor of education

Strobel, John D., 1960; BME, Fort Hays State College; MM, DMA, University of Michigan; professor of music

Stutters, Donald G., 1960; BA, MA, Southwestern Oklahoma State Collge; Ed.D., University of Colorado; professor of physical education

Sublette, James E., 1984; BS, MS, University of Arkansas; Ph.D., University of Oklahoma, professor of biology, director of Research and Graduate Studies

Sullivan, Daniel R., 1970; BA, University of Kentucky; MLS, University of Oregon; catalog librarian, University Library

Swanson, Donald R., 1966; BA, Augustana College; MA, University of Montana; Ed.D., University of Northern Colorado; assistant professor of speech communication

Sweet, Jerry L., 1976; AAS, Pueblo College; BS, University of Southern Colorado; assistant professor of mechanical engineering technology

Tappen, John B., 1982; BA, Wesleyan University; BS, University of Utah; MS University of Arizona; assistant professor of computer science technology

Taylor, Kenneth B., 1969; BA, University of Southern Colorado; MA, University of Texas at El Paso; assistant professor of English

Tedrow, Charles E., 1968; AB, MA, University of Northern Colorado; associate professor of industrial education

Thomas, Larry G., 1968; BS, Oklahoma State University; M.Ed., Ph.D., Colorado State University; associate professor of agriculture, rodeo coach

Threlkeld, Budge, 1964; AA, Trinidad State Junior College; BA, Western State College; MA, University of Denver; Ph.D., Ohio State University; professor of speech communication/theatre

Tilley, Lewis L., 1965; BFA, University of Georgia; MFA, Institute Allende; professor of art

Tising, James R., 1974; AA, BS, Southern Colorado State College; MS, Eastern Kentucky University; chief of University Police

Track, Gerhard, 1969; certificate, State Teacher Training College Vienna; diploma, Institute of Pedagogy, University of Vienna; diploma in music performing arts, Vienna; Thatcher Chair of Music

Trujillo, Henry E., 1972; AA, Santa Monica City College; BA, MA, Adams State College; Ed. D., University of Northern Colorado; executive secretary for Alumni Affairs

Tuason, Josefina P., 1983; BA, University of Philippines; MA, University of New York at Geneseo; head of learning services, Telecommunications Division

Valerio, Luis G., 1975; BA, University of Southern Colorado; MA, Highlands University; Ph.D., University of Northern Colorado; dean of Extended Programs

Vincent, Gary L., 1968; BA, MAT, Northwestern Oklahoma State College; Ed.D., University of Northern Colorado; associate professor of English

Vorcé, Armand E., 1977; BS, Ithaca College; MA, University of Iowa; Ed.D., Boston University School of Education; professor of music

Vunovich, Bogdan, 1967; AB, MA, University of Northern Colorado; associate professor of mathematics, executive assistant to the president

Wade, Robert A., 1970; AA, Treasure Valley Community College; BS, M.Ed., Colorado State University; associate professor of automotive parts and service management

Walsh, John E., 1982; BA, MA, University of Notre Dame; Ph.D., Yale University; vice president for Planning and Development

Wands, Robert J., 1963; BFA, MA, University of Denver; associate professor of art

Ward, Donna, 1981; special events coordinator, Telecommunications Division

Warfield, Dale E., 1971; AA, Austin Junior College; BEE, University of Minnesota; MSEE, Southern Methodist University; professor of electronics engineering technology

Watkins, Sallie A., 1966; BS, Notre Dame College; MS, Ph.D., The Catholic University of America; professor of physics

Wayne, Donald, 1968; AA, Pueblo College; BA, The Colorado College; MA, University of Denver; associate professor of mass communications

Weeks, Ronald, 1984; production supervisor, Telecommunication Division

Wells, Elmer E., 1974; BA, Iowa Wesleyan College; M.Ed., University of Alaska; Ph.D., University of New Mexico; director, International Student Services, Campus Hearing Officer

Wermers, Mary Ann, 1982; BSN, MSN, St. Louis University; assistant professor of nursing

Whitmer, Jean E., 1970; BA, University of Southern Colorado; MA, Ph.D., University of Colorado; associate professor of education

Whitsitt, Ronald G., 1959; BA, MA, University of Northern Colorado; associate professor of English

Wilkes, Linda M., 1983; BA, California State University; Ph.D., University of Nevada at Reno; assistant professor of chemistry

Wilkin, Ted S., 1967; BA, MA, University of Colorado; assistant professor of history

Withnell, Melvin C., 1967; BS, Valley City State College; MS, University of North Dakota; MA, University of Illinois; Ph.D., University of Michigan; professor of mathematics

Womack, Larry O., 1972; AA, University of Southern Colorado; BSCE, Colorado State University; MSCE, University of Missouri; associate professor of civil engineering technology

Yoder, Ronald E., 1977; AA, Lamar Junior College; BS, University of Southern Colorado; High School Equivalency Program

Zeleny, Richard D., 1964; BA, MA, University of Northern Colorado; Ed.D., University of Wyoming; coordinator, Career Resources Center/Veteran's Affairs, Career Development and Counseling

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