

THE UNIVERSITY OF SOUTHERN COLORADO



BULLETIN

1982-83 CATALOG ISSUE

Affirmations

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 Higher Institutions of the North Central Association of Colleges and Secondary Schools.

Respective individual programs are approved by the following accrediting bodies:

Technology	
Engineering	Accreditation Board for Engineering and Technology
Accounting	Colorado State Board of Accounting
Education	National Association for Accreditation in Teacher Education
	Colorado State Board of Education
Nursing	National League for Nursing
Music	National Association of Schools of Music

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 the 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 academic community. The office is in Room 309A of the Administration Building.

Terms of this Catalog Issue

Students graduate under the requirements of the Catalog noted on page 16 of this issue. The 1982-83 issue becomes effective Fall Semester, 1982. Information contained within the Catalog is current as of April 1, 1982, but subject to change without notice and therefore is not to be regarded as irrevocable contractual commitments. 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.

The Bulletin

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University of Southern Colorado

Pueblo, Colorado 81001

Bulletin

Announcements for the Year 1982-83

Catalog Issue

Vol. XVIII

April, 1982

No. 3

UNIVERSITY
OF SOUTHERN
COLORADO

Academic Calendar 1982-83

Fall Semester 1982

August 25, 26, 27..... New student orientation.
 August 30..... Registration.
 August 31..... First day of classes.
 September 15..... End of drop/add period. After this date stu-
 dents are legally liable for tuition and fees if
 they are registered.
 November 24, 25, 26..... Thanksgiving vacation.
 November 29..... Classes resume.
 December 13, 14, 15, 16... Final examinations.
 December 16..... Last day of the fall semester.

Spring semester

January 14..... New student orientation.
 January 17..... Registration.
 January 18..... First day of classes.
 February 1..... End of drop/add period. After this date stu-
 dents are legally liable for tuition and fees if
 they are registered.
 March 28-April 1..... Spring vacation.
 May 9, 10, 11, 12..... Final examinations.
 May 12..... Last day of spring semester.
 May 14..... Commencement.

Summer Session 1983

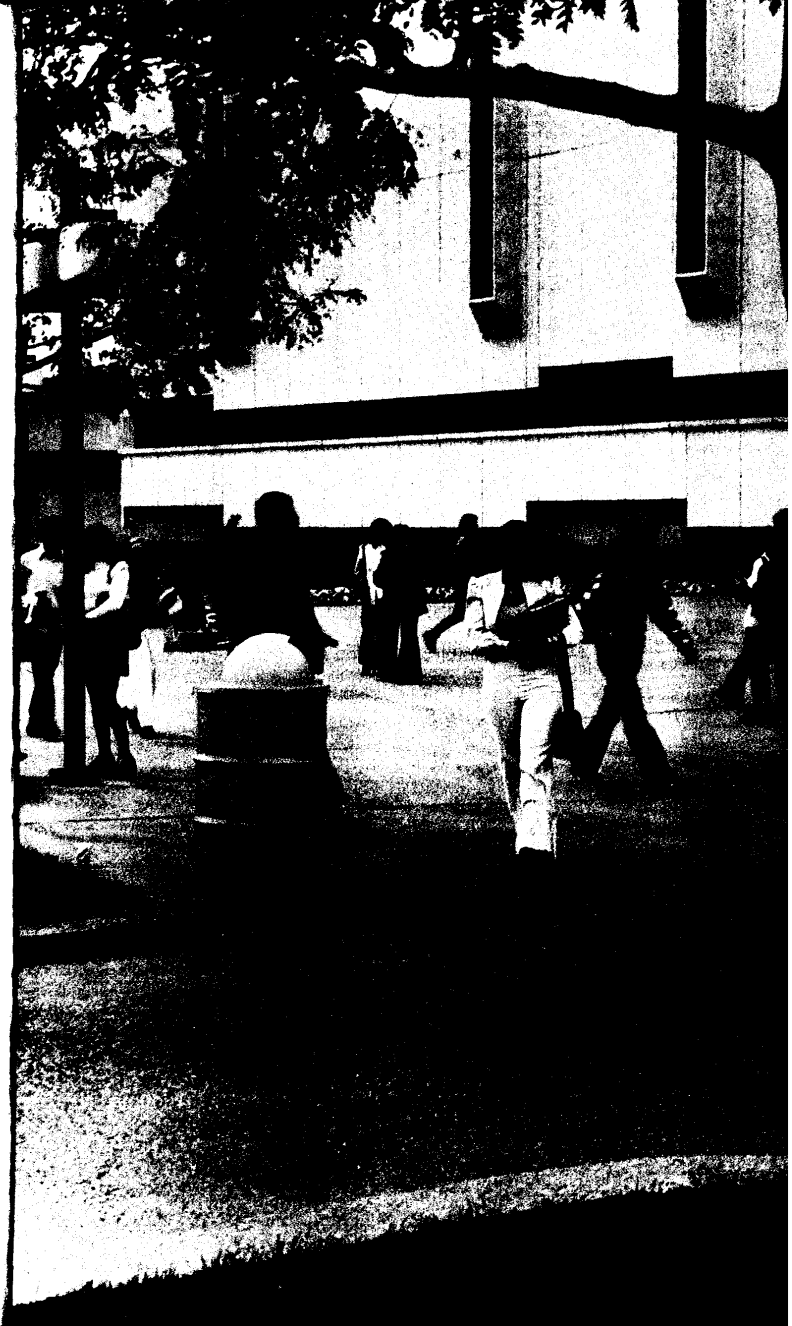
June 13..... Registration.
 June 14..... 5 and 8-week sessions begin.
 July 4..... Independence Day holiday.
 July 15..... 5-week session ends.
 August 1..... Colorado Day holiday.
 August 5..... 8-week session ends.

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



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General Information

The University

Role

The State Master Plan of the Colorado Commission on Higher Education, endorsed by the 1978 Legislature, defines the University of Southern Colorado as an institution which is to:

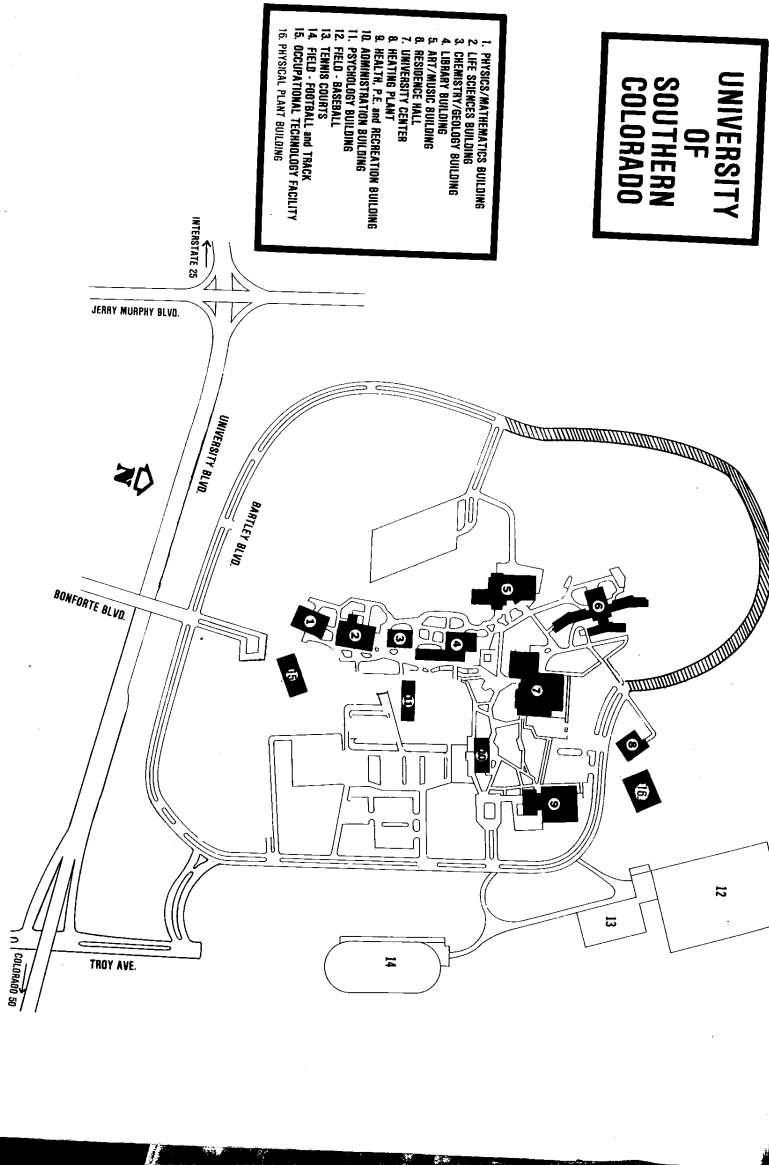
- Develop generally into a polytechnic university.
- Increasingly serve the educational needs of the entire state, particularly with its technological programs, but respond primarily to the educational needs of Pueblo and southeastern Colorado with its comprehensive programs in the liberal and fine arts, the sciences, and business.
- Show an increasing dedication to occupationally oriented four-year programs in preprofessional/health areas, applied sciences, engineering technologies, and business.
- Introduce selected master's programs based on unique curricular strengths and established need.
- Continue providing a broad-based baccalaureate curriculum.
- Maintain open admissions for undergraduate applicants possessing a high school diploma or the equivalent.

Mission

In accordance with the role outlined by the Colorado Commission on Higher Education, the University of Southern Colorado will continue as a primary focus in its commitment to offering high-quality undergraduate instruction. In the next decade, institutional development will be directed toward providing a unique contribution to higher education in Colorado as a polytechnic university emphasizing certain career-oriented, technological, and applied subjects and selected master's degree programs, along with selected programs in the sciences, liberal arts, and education.

As the principal intellectual and cultural resources in southeastern Colorado, the University of Southern Colorado pledges to continue to foster programs in support of cultural pluralism and to provide equal access to all persons. In addition to the educational services, the University will help encourage cultural and industrial development and promote regional economic growth. The University will increase its involvement in applied research and community services appropriate to the region, the state, and the nation.

The University 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. The University remains committed to the policy that its faculty reflect the multicultural character of its student body.



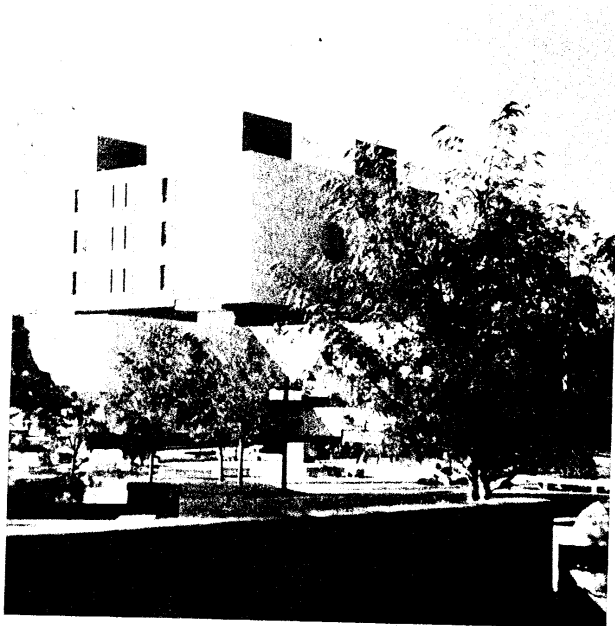
UNIVERSITY
OF
SOUTHERN
COLORADO

History

Located on the northeastern edge of Pueblo, the University of Southern Colorado provides the most modern in educational facilities with a campus complex developed since 1962. Pueblo, a city of approximately 100,000, enjoys a mild, dry southwestern climate and an impressive view of the Rocky Mountains from Pikes Peak to the Spanish Peaks.

In 1933, the University began as The Southern Colorado Junior College and evolved into Southern Colorado State College in 1961. University status was granted in 1975. 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; Miss Lulu L. Cuthbertson, 1942; 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 E. Pesqueira, 1977-79; Dr. Alan P. Love, Acting 1979-80. Dr. Lyle C. Wilcox assumed the presidency in August, 1980.

The campus includes the Library Building, Art/Music Hall, Chemistry/Geophysics Building, Life Sciences Building, Physics/Mathematics Building, Psychology Building, Massari Gymnasium, University Center, Belmont Residence Hall, Administration Building, and the new Applied Science and Engineering Technology and Physical Plant Buildings.



The Academic Program

Degrees Offered

The University is approved to grant the following degrees: Associate in Arts (AA), Associate in Applied Science (AAS), 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 Metallurgical Engineering Technology (BSMLET), Bachelor of Science in Manufacturing Engineering Technology (BSMFET), Master of Arts (MA) in Industrial Education.

Schools of the University

Following is an outline of the current organization of the Schools and departments. The degree designations are those approved by the Colorado Commission on Higher Education.

School of Applied Science and Engineering Technology

Automotive Parts and Service Management: BS
 Civil Engineering Technology: AAS, BSCET
 Computer Science Technology: AAS, BS
 Electronics Engineering Technology: AAS, BSEET
 Engineering: AA
 Industrial Education: BS, MA
 Industrial Engineering: BSIEN
 Manufacturing Engineering Technology: AAS, BSMFET
 Mechanical Engineering Technology: AAS, BSMET
 Metallurgical Engineering Technology: AAS, BSMLET

School of Business

Accounting: BSBA
 Economics: BSBA
 Management: BSBA
 Marketing: BSBA

School of Education

Early Childhood Education: AA
 Elementary Education: BS
 Physical Education: BS
 Recreation: BS

School of Liberal Arts

Center for Social and Cultural Studies:

Anthropology: BA
 Behavioral Science: BA, BS
 Sociology: BA, BS

Center for Humanistic Policy Studies:

History: BA, BS
 Political Science: BA, BS
 Social Science, Broad Area: BA, BS

Center for Psychology and Mental Health:

Mental Health: AA
 Psychology: BA, BS
 Art: BA, BS
 Broad Area Emphasis: BA
 English: BA, BS
 Foreign Language: BA
 Mass Communications: BA, BS
 Music: BA
 Philosophy: BA
 Speech Communication/Theatre: BA, BS

School of Science and Mathematics

Agriculture: AS
 Biology: BA, BS
 Chemistry: BA, BS
 Geology: BS
 Mathematics: BA, BS
 Medical Technology: BS
 Nursing: AA, BSN
 Physics: BS

Learning Resources Center

An academic unit of the University, the Learning Resources Center comprises both instructional support divisions and one instructional division as follows:

Instructional Support Divisions

Educational Media Division. The Educational Media Division contains the Audiovisual Department and the Instructional Technology Facilities Department. The Audiovisual Department supplies non-print media aids which support curricular programs. The Instructional Technology Facilities Department includes the Dial Access and Information Retrieval Systems (DAIRS), the audio learning facility, and the audiovisual collection area.

DAIRS provides students and faculty with facilities for audio production, classroom video playback, individualized audio and visual playback, sound-slide production, and on-location production.

The audio learning facility, in Room 226 of the Library Wing, offers a special setting in which students may practice foreign languages and enhance their classroom experiences with the help of audio and video aids.

The audiovisual collection area in Room 310 of the Library Building 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. All of these items, plus 16 mm films, are available to faculty members for their curricular programs.

Library Division. The library provides books, periodicals, pamphlets and documents. Library personnel help students and faculty learn how to find and use such materials; instruction in library use is available for individuals and small groups as well as formal classes. Library personnel also prepare subject bibliographies for classes and arrange inter-library loans.

Approximately 210,000 volumes are now on the shelves of the library, as well as more than 3300 titles in the serials and periodicals collection, and suitable microform holdings.

The library is a designated selective depository of Federal documents and U.S. Geological Survey maps. It has a special Colorado documents section and special collections including the Slavic Heritage Collection and the personal papers of Sen. Vincent Massari and the Alva Adams family.

The University Library building has received national recognition through a joint award for design from the American Institute of Architects and the U.S. Office of Education.

Telecommunications Division. Instructional and public television are provided by the Telecommunications Division.

The instructional television service produces and obtains instructional television materials; supplies television equipment to faculty for academic use; advises University personnel in the ways that television can serve education; and supports the Mass Communications Department program by furnishing personnel and facilities to train students for broadcasting careers.

KTSC/TV, Channel 8 is a noncommercial public television station licensed to the University, and operates as a public service of the Learning Resources Center. The station broadcasts seven days a week at full power over a coverage area encompassing Pueblo, Colorado Springs, Canon City, Walsenburg, and the Arkansas Valley. Its daytime schedule includes instructional programs for public schools; its nightly schedule consists of cultural, public affairs, and educational programming for viewers of all ages.

KSTC/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.

LRC Instructional Division

The Learning Resources Center's Basic Communications Department offers instruction in college reading and written communication. For further information, students should consult the basic communications course listings in this catalog.

Military Science (Army ROTC)

In cooperation with the Federal government, the University makes courses in military science available 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 that qualities of patriotism, loyalty, discipline, leadership, and respect for authority, instilled by proper military training, are valuable character assets.

The Army four-year program complements the traditional four years of college and includes one summer encampment. Students completing Army ROTC will be commissioned as Second Lieutenants in the Army Reserve and the regular Army, at the time the University confers their bachelor's degrees.

In addition, a two-year program through which a student may earn a commission after completing only two years of ROTC training during his or her junior and senior years is available. The 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 both a commission and, at the same time, a baccalaureate degree in the academic field of their choice.

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

Degree Requirements

Bachelor's Degree Requirements

Candidates for bachelor's degrees, whether B.A., B.S., or a specialized B.S., such as B.S.B.A., must satisfy the Institutional Requirements and General Education Requirements described below. They must also file an approved Graduation Planning Sheet with the Registrar's Office before mid-term 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 (2.00) average. The 128 hours credit must include at least eight hours of basic communications, two of speech communication, 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. At least 30 hours of the 128 must be earned in residence at USC.**
2. Students must fulfill the requirements for Demonstration of Basic Competencies described under General Academic Regulations, p. 42.
3. Students must complete the requirements for an approved degree program, or major, with at least 40 semester hours within the School of the major for a Bachelor of Arts degree or a minimum of 48 hours in the School of the major for a Bachelor of Science degree.

Foreign Language Requirement for Bachelor of Arts Degree

In order to ensure a well prepared graduate, more capable of understanding today's culturally pluralistic society, the University requires the successful completion of six semester hours of approved foreign language or linguistics courses for graduation with a Bachelor of Arts degree in addition to the institutional requirements listed above.

Bachelor of Arts degree candidates must complete two semesters 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 as well as other languages such as Arabic, Chinese, Farsi, Japanese and Portuguese which are taught when enrollment permits.

If a student has an adequate background in a language, credit may be earned by successfully completing an achievement test during the first week of classes.

Those not desiring to study a foreign language have the alternative of completing 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.

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 within at least two sub-groups within each group.

Credits earned within the student's declared major will 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 sub-groups. For example, psychology majors may not count Psychology 101, 102, 211, or 212 toward general education requirements, and must take 10 hours of courses other than psychology in at least two sub-groups in Group II.

Group I	
Sub-group	
A ART	100, 101, 102, 103
B FL	100, 101, 102, 110, 111, 112, 115, 121, 122, 125, 126, 146, 147, 156, 157, 161, 162, 181, 182, 183, 191, 192, 281, 282
C ENGLISH	131, 211, 212, 221, 222, 231, 232, 252, 254, 260
D MACOM	101, 102, 215
E MUSIC	101, 118, 119, 120, 121, 122
F PHIL	100, 101, 103, 105, 108, 109, 110, 121, 122, 123, 205, 220
G SPCOM	100, 105, 211, 212, 214, 221, 222, 231, 241, 242, 243, 249
H SPCOM	111, 131, 135, 216, 217
DN	165
I IE	130, 135
HUM	100
J CS	220, 240
K HUM	150, 151
IDH	201
Group II	
Sub-group	
A BEHSC	101, 102
MH	115, 151, 200, 231
PSYCH	101, 101L, 102, 102L, 110, 211, 212, 221
B ANTHRO	100, 102, 103, 202, 206, 207, 208
SOCSC	208, 209, 231, 151
SOC	101, 102, 150, 200, 210, 221, 230, 231
NSG	117
MACOM	290
C GEOG	113, 200, 201
HIST	101, 102, 150, 200, 201, 202, 203, 210, 211
POLSC	100, 101, 102, 150, 200, 201, 202, 250
MILSC	210
SW	100, 101
D BUSAD	100
ECON	101, 201, 202, 205, 225
ACCTG	210
E CS	101, 102, 201, 202, 210, 230
BBE	293
F IDH	101, 102

Group III	
Sub-group	
A BIOL	101, 102, 112, 121, 132, 141, 162, 191, 191L, 201, 201L, 202, 202L, 221, 221L, 262, 262L
ANTHRO	101
B CHEM	101, 111, 111L, 121, 121L, 122, 122L, 225
C CST	100, 101, 107
MET	111
EET	108, 109
MFET	104, 201
EN	100, 101, 103, 105, 106
D GEOL	101, 105, 122, 123, 205, 220
GEOG	102, 103, 291
E MATH	105, 109, 120, 121, 122, 124, 126, 155, 156, 221, 240, 241, 244, 281
F PHYS	100, 110, 121, 121L, 130, 201, 201L, 202, 202L, 221, 221L, 222, 222L
G IDH	202

Major Requirements

Every degree-seeking student must elect a major, an area of academic concentration. A minimum of 30 semester hours in a department or program is required for a single major within the bachelor's degree. In addition, 10 more semester hours must be taken outside the major department but within the same School. Associate degrees require a minimum of 20 semester hours. The titles and degree levels of these single majors are subject to the approval of the State Board of Agriculture and the Colorado Commission on Higher Education.

Emphasis areas. Departments may specify emphasis areas within majors at the bachelor's degree level and should record the titles with the Registrar's Office. Students may decide to select one emphasis area within a major (for example, news-editorial within mass communications) and, if it is approved by the department, may have it recorded on their transcripts.

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 and do not carry emphasis areas.

Minors. Minors, like majors, are selections of courses in a specific area of concentration. However, the number of credit hours required for a minor is less than that for a major — usually 20 semester hours or more, depending on the department. Minors are usually taken outside the student's major department. Students are encouraged to consider selecting one or more minors to accompany a single major. **Double major students, however, may not take minors.**

After a degree has been awarded, the Registrar's Office will not change the academic record to add emphasis areas, minors, or double majors. Students planning to complete requirements for more than one major should plan for a double major under one degree rather than ask for a change of records.

Second Bachelor's Degree

Students may work toward a second bachelor's degree if they have the approval of the department from which they plan to earn the second degree. 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 the University toward the second degree.

Candidates for second degrees are eligible for the Dean's List and for Graduation with Distinction.

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, 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 they obtain and keep a copy of the catalog under which they enter.

Teacher Certification Programs

Elementary. The elementary teacher certification major provides a broad course of study designed specifically to prepare teachers for grades K-6. The program is approved by the Colorado State Department of Education. 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.

Early Childhood Education. The early childhood education program is a two-year degree program designed to qualify the student to work as a teacher or caregiver 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.

Associate Degree Requirements

The University offers a few associate degree programs. Students should consult the curriculum descriptions in this catalog for such programs or contact the department responsible for the curriculum.

Associate in Arts Degree Requirements

The Associate in Arts (AA) degree program provides a sequence of courses for students who wish to complete two years of study before making a final commitment toward a bachelor's degree. AA degree programs also provide students with two years of preparation in specialized areas and qualify them for entry into selected careers.

Instructional requirements for the AA degree include a minimum of 60 semester hours of work, including eight hours of basic communications, 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, (3) at least 14 semester hours earned in residence at this University. Students who hold bachelors 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 of Science Degree Requirements

Institutional requirements include: 1) a minimum of 63 semester hours of work including seven hours of basic communications and physical education, 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, (3) at least 14 semester hours earned in residence at this University.

Associate in Applied Science Degree Requirements

Institutional requirements include: 1) a minimum of 60 semester hours of work including eight hours of basic communications and physical education, 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.

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 will be awarded undergraduate degrees **with distinction** or **with special distinction**. A minimum of 60 hours must be earned at this University 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.

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 session or fall semester as well as those who completed requirements in the spring semester.

Graduate Work

Admission Procedures

Applicants for degree-seeking status should submit the following to the Graduate Office at least 30 days before the semester in which they plan to register:

- (1) A complete degree-seeking application form.
- (2) A \$10 application fee, non-refundable and not applicable toward tuition.
- (3) One official current transcript of all previous college and university work, to be sent directly from the institutions.
- (4) A score on the Aptitude Test of the Graduate Record Examination (or another examination acceptable to the graduate director). Students may apply without having taken the Examination, but their admission to a degree program is contingent upon the University's receiving scores before students have completed 20 semester hours of graduate credit.
- (5) A reproduction copy of teacher certification.

Applications will be processed by the Graduate Office, which will send copies to the department in which the student intends to major. Inquiries should be addressed to the Graduate Office.

Students seeking admission to graduate studies at this University must hold a bachelor's degree from an accredited institution of higher education. Based on students' post-high school academic records, results on the Graduate Record Examination Aptitude Test, and application information, applicants will be classified in one of the two categories below.

Unconditional Admission is granted to applicants whose grade point average (all post-high school) is 2.50 or higher. **Conditional Admission** is granted to those with a grade point average between 2.25 and 2.49 whose records indicate probable success in graduate work. Those admitted conditionally will be given additional course work.

Non-degree-seeking status may be granted to persons not interested in or qualified for a master's degree. Non-degree-seeking students may take graduate course work but are not eligible to obtain a graduate degree.

Changes of Program after Admission

Admission to graduate work in one department is not considered an automatic letter of admission to another department. Students may have to meet new qualifications to transfer from one department to another. Transfers must be approved by the graduate director.

Undergraduates Admitted to Graduate Work

Undergraduate students may not enroll in graduate courses, except seniors who have submitted approved graduation planning sheets. Courses taken for graduate credit cannot be applied toward undergraduate degree requirements. Also, students may not repeat for graduate credit any courses previously taken for undergraduate credit.

Course Repeats

Graduate courses may not be repeated for degree credit, except as specifically stated in catalog course descriptions.

Admission of Faculty to Graduate Status

Full-time University faculty members at the University, including those on leave, cannot be admitted to a degree program. However, those with instructor rank or below (assistant professor or below in the School of Applied Science and Engineering Technology) may register as non-degree-seeking students to earn graduate credit for transfer to another institution. They may also register as auditors. ROTC faculty are exempt from this regulation since they are on temporary assignment at the University. Faculty members may not take work in the department in which they are teaching.

Renewal of Applications for Admission

The admission credentials of applicants who do not register for the semester for which they were admitted will be kept in the Graduate Office for one year after the date of application. At the end of this period, the credentials will be discarded unless the applicant has notified the graduate director of his intention to register. Students who want to renew their application after the one-year period must submit a new application and credentials.

Former USC students who have been away from the University for one semester or longer (summer excluded) must submit an application for readmission at least 30 days before registration. Students who have attended other institutions during their absence from this University must also submit one copy of official transcripts of any academic work taken during their absence.

Adviser Assignment

Degree-seeking graduate students will be assigned a faculty adviser from their major department. Advisers will develop a degree plan with the students. Any deviations from the plan should be made only with the written permission of the adviser.

Transfer Credit

Candidates for the master's degree at the University may apply no more than six semester hours of graduate credit taken at other accredited graduate institutions toward a degree. Transfer courses must be directly applicable to the student's program as determined by the adviser. Only courses in which a grade of A or B was received will be accepted for transfer credit, and then only if the student's graduate average is 3.00 or higher at the institution granting transfer credit. Only hours of credit are acceptable in a transfer — not grades or grade points. Correspondence courses will not be accepted for graduate credit.

Course Loads and Full-Time Study

The normal course load for full-time graduate students is 12 credits per semester. It is not recommended that students take more than 15 credits per semester. Employed students should register for fewer hours.

Academic Standards for Graduate Students

Students are expected to maintain a graduate cumulative grade point average of 3.00 (a B average) or higher. Students whose graduate cumulative grade point average falls below 3.00 will be sent a warning letter. If the average stays below 3.00 for three consecutive semesters, the student's program will be terminated for academic reasons.

Courses in which grades of A, B, or C were earned may be applied toward degree requirements and may serve as course prerequisites. Courses in which D or F were earned may not be used to satisfy these requirements.

Grading System

An alphabetical grading system is used for course work as follows:

- A — Excellent performance at graduate level
- B — Good performance at graduate level
- C — Passing, but below expected graduate-level performance
- D — Unsatisfactory
- F — Failing
- I — Incomplete

Degree Requirements

1. The student must earn a minimum of 30 semester hours of graduate credit with a cumulative grade point average of 3.00 or higher.
2. The student must be competent in the use of the English language, both written and spoken. Academic departments may certify students as competent, or may require students to pass an examination in the University's department of basic communications to satisfy writing competencies, and the speech department for oral competency.

3. Some major departments may require the student to have a reading knowledge of one modern foreign language. Such departments may set standards for proficiency and procedures for testing.
4. The student may be required to pass a final comprehensive examination (written and/or oral) in his major subject and related subject. Major departments set the standards and procedures and must file copies of exam questions with the Graduate Office. Students may take the examination a second time after additional academic work but may not take it a third time.
5. A master's thesis or seminar paper may be required by the student's major department. An oral defense of such papers is required. Major departments determine the constituency of the oral board and standards for evaluation. Three copies of the thesis or seminar papers should be filed with the Graduate Office; two of these will be deposited at the University Library.
6. A minimum of 20 hours must be earned on the Pueblo campus of this University.
7. A minimum of 20 hours must be in courses numbered 500 or above.
8. Graduate courses completed six years or more before the date the student is to receive the master's degree at this University usually will not be accepted as satisfying degree requirements. The time limit may be extended by making a written petition to the Graduate Council for each course.
9. Students must apply for graduation at least 30 days before the beginning of the semester in which they plan to graduate.

Appeals

All policies, procedures, and regulations presented here may be appealed in writing to the Graduate Council. Appeals should be made as early as possible.

Summer Session

The summer session 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 and teacher education courses and special workshops and programs not necessarily offered during the academic year are available in the summer.

The size of a full-time load in summer session is smaller 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 spring each year. Bulletins are available in the Registrar's Office and Office of Academic Affairs.

Academic Extension and Continuing Education

The University of Southern Colorado believes the acquisition of knowledge is a lifetime undertaking for persons motivated to advance themselves personally or professionally in a continually altering society.

Many adults look forward to college-level study while some anticipate returning to conclude a long-interrupted undergraduate degree. Others might be interested in renewing a professional certificate, pursuing graduate work or merely discovering and developing new facets of themselves by exploring the fields of business science, liberal arts, education or engineering.

These and more choices await the high school-aged student to the senior citizen who has discovered varied and excellent reasons for returning to the classroom.

Both degree and non-degree students are encouraged to participate in the Continuing Education credit program. However, persons desiring a classification as a degree-seeking student must apply for admission to the University.

A primary aim of Continuing Education is to provide credit courses to part-time adult students. A variety of educational methods—classroom instruction, televised courses, correspondence study, conferences, workshops and seminars—are utilized in an attempt to meet the needs of students at times and in settings convenient for them.

Through these courses individuals may earn academic credit toward a degree, study for career advancement or pursue cultural and avocational interests.

To assure quality education, Continuing Education courses are primarily taught by University faculty members. When this is not feasible, equally qualified instructors are recruited from the neighboring communities.

Continuing Education students may choose from a wide spectrum of courses which are normally scheduled in eight-week sessions as well as several special programs of varied lengths. Intensive classes are usually held in the evening or on weekends for the convenience of the working student.

Off-campus instruction sites include: Peterson Air Force Base and the Air Force Academy in Colorado Springs; the Fremont Education Center and the Colorado State Penitentiary in Canon City; and community college campuses throughout Central and Southeastern Colorado.

Although the majority of Continuing Education course offerings are initiated by the University itself, many originate through requests which are introduced by individuals and interested groups.

The University is increasing its Outreach services, particularly through television, workshops and seminars geared toward Colorado public agencies, businesses, and industries.



Admissions and Registration

The Admissions Office is in Room 202 of the Administration Building. All correspondence about undergraduate admissions and campus visits should be addressed to the Admissions Office, 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.

Fall Semester 1982 July 21, 1982
Spring Semester 1983 December 1, 1982
Summer Session 1983 May 6, 1983
Fall Semester 1983 July 21, 1983

Criteria for Admission to Specific Programs

Because the university receives more applications than it can honor in certain programs, it is necessary that an admissions evaluation program be implemented in these areas.

The USC admissions evaluation program 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.

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

Beginning Freshmen

Admission requirements. Colorado residents who are high school graduates or 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 any time after their 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 Educational Development (GED) tests in place of high school graduation



must have the agency issuing the GED tests forward the test scores (not the certificate) to the Admissions Office.

Applicants for admission must submit:

- (1) a completed USC application;
- (2) a \$10 application fee (non-refundable);
- (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 will not be 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, 6.5 semester credits will be awarded. Questions about Advanced Placement credit should be addressed to the Admissions Office.

Residence hall: All freshman, single, non-veteran, out-of-town students under 21 years of age who are not living with immediate relatives in Pueblo or commuting from out of town, are required to live in the Belmont Residence Hall.

Transferring Students

Admissions procedures: Students who have attended other colleges or universities and are seeking admission for the first time must file with the Admissions Office an application for admission and a \$10 application fee. They must also make certain that each institution they have attended sends an official transcript of their 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 they are not, their records will be reviewed and a decision on their admission will be made by the Director of Admissions.

Students enrolled at another institution at the same time they apply for admission should arrange to have one transcript of their work at that institution sent with their 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 Admissions Office fully of previous college work may be subject to disciplinary action, including dismissal.

Transfer of credit. Credit will be accepted by USC from accredited institutions recommended by the American Association of Collegiate Registrars and Admission Officers. USC will accept a maximum of 64 semester hours from junior colleges and a maximum of 96 semester hours from senior

colleges for credit toward degree requirements. Grades of D and F will not be accepted.

Credit from a non-accredited 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 will accept up to eight semester hours 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 a specific department will accept the same credit toward its major requirements. Each department will evaluate 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. (See General Academic Regulations.)

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 will be 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 will be accepted. If a student has taken humanities or social science classes before taking CLEP tests, those credits will be deducted from the CLEP credits.

A maximum of 30 hours of correspondence and/or extension work may be 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 can be accepted. Credit will not be given for servicemen's 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

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. Degree-seeking students who, while absent from USC, have attended other collegiate institutions or 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 entering regular degree-seeking status. Applicants who wish to register as unclassified are required to file an application with the Admissions Office.

Unclassified status is intended for students who have already received a college degree and want to take a course of particular interest; who want to take a course or two for career updating; who are curious about an academic subject not previously studied; or who are contemplating a return to school and want to take a course or two to become familiar with college-level work. Some students may register as unclassified at the beginning of their USC program because of incomplete admission files. 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 his or her 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 Admissions Office.

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 college (or their 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 Admissions Office. An explanation of all transcript terminology must be included.
- (3) Results of an English language proficiency test. A score of 500 or better on the Test of English as a Foreign Language (TOEFL), or a score of 80 or better on the Michigan Test, is required. Students can also fulfill this requirement by completing the advanced level of an intensive English language program. Transfer students must have a cumulative grade point average of 2.00 or above which includes a minimum of nine semester hours of English (speech, writing, reading, literature). English language proficiency tests are not required of students from countries where English is the native language.
- (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.
- (5) The Student Health Statement. This statement must be completed and returned to USC before the University issues an I-20 form.
- (6) The Office of Admissions and School Relations reserves the right to consider policy changes.

Deadlines for filing all application material and supporting documents are:

For fall semester 1982 — July 21, 1982

For spring semester 1983 — December 1, 1982

For summer session 1983 — May 6, 1983
For fall session 1983 — July 21, 1983

No international student applications for admission can be considered until all required materials are complete and received by the admissions office.

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 requirements and procedures outlined in the Admissions section of this catalog in seeking admission. For certification of eligibility for educational benefits under one of the public laws, students can apply for Veterans Administration benefits through the Veterans Affairs Office, Room 317C in the Administration Building.

High School University Program

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

Students interested in participating in this 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.

Delayed Admissions

Delayed admissions are available for students who desire not to enroll for the term for which they were granted admission. A request for delayed admission must be made before the beginning of the term for which the student was originally admitted. If the request for delayed admission is not made at that time, the student must reapply for admission. All application materials are kept in the Admissions Office for one year before they are destroyed.

Registration

Advisement. All students are required to consult an adviser before registering for classes. Advisers are assigned by the major departments. Degree-seeking students who have not selected a major and unclassified students should contact the Counseling Office, 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 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 address. Any change in address should be reported immediately to the Registrar's Office.

Completion of student courses. The University will hold students responsible for completing all courses for which they have enrolled unless they obtain approval for a change in their registration, or file an official withdrawal. Students not following proper course or University withdrawal procedures will receive a failing grade.

Student Expenses

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

Colorado In-State Classification for Tuition Purposes

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 or she can qualify as a resident may obtain a petition and a copy of the statutes governing tuition classification from the Admissions Office. The petition will be 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.

A person moving to Colorado must be domiciled in the state for 12 months before he or she is eligible for a change in residence classification. 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 Admissions Office if their status changes from resident to nonresident. Any student who wilfully gives wrong information to avoid paying nonresident tuition is subject to legal and disciplinary action.

Schedule of 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 any semester.

Estimated Undergraduate Tuition and Fee Rates per Semester

No. of Hours	Resident		Total
	Tuition	Fees	
1	\$ 38.00	\$ 8.50	\$ 46.50
2	76.00	17.00	93.00
3	114.00	25.50	139.50
4	152.00	34.00	186.00
5	190.00	42.50	232.50
6	228.00	51.00	279.00
7	266.00	100.00	366.00
8	304.00	100.00	404.00
9	342.00	100.00	442.00
10-18	380.00	100.00	480.00
Tuition surcharge for each hour over 18			\$25.00

No. of Hours	NonResident		Total
	Tuition	Fees	
1	\$ 140.00	\$ 8.50	\$ 148.50
2	280.00	17.00	297.00
3	420.00	25.50	445.50
4	560.00	34.00	594.00
5	700.00	42.50	742.50
6	840.00	51.00	891.00
7	980.00	100.00	1080.00
8	1120.00	100.00	1220.00
9	1260.00	100.00	1360.00
10-18	1675.00	100.00	1775.00
Tuition surcharge for each hour over 18			\$112.00

Other Special Fees

Original Student Identification Card	\$ 1.50
Student Identification Card Replacement	\$ 5.00
Fee to Activate Placement File — per packet	\$ 2.00
General Education Development Tests — Battery	\$15.00
Parking Sticker Replacement	\$ 2.00
Return Check Charge — \$100 or less	\$ 5.00
Return Check Charge — Over \$100	\$10.00
Physical Education Fee-designated classes	\$ 3.00

Room and Board Rates

(Subject to change by governing board action)

Occupancy and Security Deposit	\$100.00
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	\$550.00
Double	\$415.00
Board (per semester)	
19 Plan	\$695.00
14 Plan	\$670.00
10 Plan	\$645.00
Room (Summer Session)	
Single	\$250.00
Double	\$190.00

Payment of Student Accounts

Tuition and fees charges will be calculated according to the number of hours for which a student is officially registered at the end of the drop/add period. Students will be billed by mail at their local address. **It is imperative that the address on file with the registrar's office be correct**, since the billing will be 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 will be charged, as follows:

Amount Owed	Late Payment Fee
\$ 25.00-\$ 99.99	\$10.00
\$100.00-\$299.99	\$15.00
\$300.00-\$499.99	\$20.00
\$500.00-\$699.99	\$30.00
\$700.00-\$899.99	\$40.00
\$900.00 and over	\$50.00

Note: A student is subject to withdrawal and will receive no credit if financial obligations are not satisfied in accordance with University policies.

Additional Payment Procedures

Additional payment procedures will be publicized before the beginning of each semester. The procedures described will include the distribution of financial aid, payment due date, administrative withdrawal for nonpayment, refund policies, etc. This information will be contained in the class schedule or class schedule supplement.

Administrative Withdrawal Policy

The University sends a notice of pending withdrawal to any student who has not made timely payment. The notice is mailed to the student's local address on file with the Records Office 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 will be officially withdrawn and will not be permitted to take final examinations or receive

grades. The student will still be obligated to pay the University for the balance of the account even if withdrawn.

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

In order to receive consideration, this petition should be filed with the Accounting Office as soon as possible after receipt of notification of withdrawal but no later than the last day of class of the twelfth week of class.

Housing

The University's Residence Hall is a modern, multi-storied student residence hall. It is a coeducational facility which can accommodate 525 students in double-occupancy rooms. Dining facilities are in the University Center.

Housing Policies

All out-of-town, single freshman students under 21, except those living with immediate relatives in Pueblo or commuting from their home towns, are required to live in the residence hall. Students who cannot be accommodated in the hall will be allowed to live in privately owned rooming houses and apartments off campus only after they have made full housing application.

Deviations from the above policies must be cleared with the director of the residence hall. Only freshmen who are accepted for admission or upperclassmen who have been admitted and are in good standing will be eligible to live in the residence hall.

A \$100 security 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. Security deposits are not deferred by University housing.

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 will be considered by University Food Service.

Off-Campus Housing

The University Center information desk maintains a current listing of off-campus, privately owned rooming houses and apartments. A new listing is available each month. Since listings change rapidly, prepared housing lists are not furnished by mail. Students living off campus should notify the Registrar's Office of any change in their address.

Housing for Married Students

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

Residence Hall Staff

Belmont Hall is staffed by a resident director, a professional staff member responsible for creating an environmental conducive to learning and growth. The director and staff are assisted by wing directors and resident assistants. Generally upper-division students, these staff members live in the hall and help students directly with programs, questions, problems, and referrals to appropriate University services.

Facilities and Services

A "quiet floor" is available for students who prefer an extended quiet period and an atmosphere suited specifically to studying. Residents of quiet floors enjoy the same services and programs as other hall residents.

All rooms are designed for two people and contain beds, mattresses, desks, book shelves, study lamps, closets, dressers, chairs, and a waste-basket. Linen service is available for a nominal charge.

The residence hall is arranged so that approximately 48 students reside on one floor, forming an integrated social group. In the center of the building are the main lounge, recreation area (which includes courts for handball, volleyball and basketball), television lounge (with a large-screen TV), quiet room, sewing room, music, and weight rooms, and an administrative area that includes the resident director's office, mailroom and vending machines.

Programming

The Residence Hall Association, hall staff members, and residents work together to provide activities, programs and facilities for out-of-classroom learning.

The Educational Programming Team, composed of staff members and a resident from each hall, works to provide lectures and programs for residents on a wide range of subjects.

Residence Hall Council

The Residence Hall Council encourages good citizenship and helps maintain a desirable atmosphere for study and recreation.

Further information may be obtained by writing the director of the Belmont Residence Hall.

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. Student may obtain applications and other necessary forms from the Office of Student Financial Aid.

Philosophy of Aid

Financial aid at USC is based on two factors: documental financial need and academic success, either predicted or achieved.

Students may establish financial need by completing the forms required by the Financial Aid Office.

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 used.

Continuing and/or transfer students — The cumulative grade-point average is computed by the Registrar's or Admissions Office is used.

The primary responsibility for paying for education rests with students and their families; the aid offered the University is intended only to supplement these funds. Because the requests for funds always exceed the money available, and because Federal monies are always related to documented financial need, The University requires students to follow the directions for applying for aid outlined in the Student Financial Aid Handbook available in the Financial Aid Office, Room 319 of the Administration Building.

When to Apply — Priority Dates

All applicants for financial aid for the 1982 summer session and for the 1982-83 school year should have applied by March 15, 1982. Applicants for aid for the 1982 spring semester only should apply by November 1, 1981.

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) by the established priority dates will be considered on a funds-available basis when their applications are complete. Funds will be 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 be considered for financial assistance, the student must:

- (1) be admitted to USC.
- (2) have a completed application.

(3) be in good standing and 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 credits hours (12 or more).
- (2) is not in good standing making satisfactory progress toward a degree.
- (3) is on financial aid or academic suspension.
- (4) is in default on loans or grants previously received to attend USC or another institution.
- (5) is not a citizen or permanent resident of the United States.

Good Standing and Satisfactory Academic Progress

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

Satisfactory academic progress. Students are considered to be making satisfactory academic progress in an approved program of study if they:

- (1) are scholastically eligible to remain at USC.
- (2) are enrolled and have been assessed full tuition and fees.
- (3) meet the number of hours and grade point average requirements of the Financial Aid Office.

Both of the following are necessary for continued financial assistance:

1. The student must earn at least 12 credit hours each semester.
2. The student must have a minimum cumulative grade point average as listed below:

Hours Attempted	Cumulative GPA
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 policies stated above must be adhered to in order for the University to continue receiving Federal and state funds for its financial aid programs. Failure to comply with satisfactory academic criteria will result in the student's being placed on financial aid probation or financial aid suspension. Students who have failed to meet the criteria for good standing and satisfactory progress due to suspension may re-establish their eligibility for aid by re-establishing their good standing and satisfactory academic progress. Students may appeal denials of financial aid to the Student Financial Aid Advisory Committee.

Continued Eligibility

Financial aid will not be renewed automatically from one aid period to the next. Students must reapply annually before the established priority dates to ensure themselves of continued consideration. Students receiving aid must re-establish their eligibility annually by submitting new finan-

cial aid applications and meeting the criteria for good standing and satisfactory academic progress. New awards will be based on documented financial need and the availability of funds.

Financial Assistance Programs

Pell Grant (formerly BEOG). This is a Federal program which entitles the student to receive a grant up to a maximum of \$1670 minus the family contribution, but not more than 50 percent of the actual cost of attendance, for a full academic year. The amount of the grant, however, will depend upon 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 a full Pell Grant, students must be enrolled for at least 12 credits per semester. Students enrolled for fewer than 12 credits but at least 6 credit hours will have their awards prorated according to their current loan. 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 Financial Aid Office, 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 all copies of the Student Aid Report (SAR) to the Financial Aid Office whether qualified or not.

Colorado Student Grant (CSG). These awards are granted to undergraduate residents on the basis of financial need. Stipends attached to these awards are usually not greater than \$1500 and generally will not exceed one-half the documented financial need.

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

State Student Incentive Grant (SSIG). These grants are awarded to undergraduate residents 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 primarily designed to provide jobs to students who, without the earnings from the employment, could not attend the University. The program is funded both by the Federal government and by the State of Colorado. The University annually employs some 300-500 students in the work-study program. When possible, employment is arranged in the student's major area of interest. The normal work-study award for freshmen and sophomores is \$1000, for juniors and seniors, \$1500. The average wage rate for work-study students is approximately \$3.50 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.

Full-time College 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 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.
- (2) document financial need for the next academic year.
- (3) complete a separate full-time work-study application and an academic year application by the specified priority dates.
- (4) save a major portion of their earnings to assist with next year's educational expenses.

No-Need Work-Study. The No-Need Work-Study program is funded by the State of Colorado. To be eligible, students must be undergraduate 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 would be of use in a specific University position, or demonstrate financial need which cannot be documented in the normal fashion. Students will be 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 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. The possibility of being eligible for need-based financial aid should always be investigated before a student limits himself to a no-need work opportunity.

National Direct Student Loan (NDSL). The NDSL program makes loans available to students with documented financial need. Undergraduate students who have not completed their first two years may borrow \$3000, or approximately \$1500 per year. The maximum loan is \$6000 for an undergraduate degree. Students may borrow an aggregate total of \$12,000 for graduate study. At this University, the average NDSL is approximately \$1000 per year. Interest does not accrue and no payment is necessary while the borrower is engaged in at least half-time study in an accredited institution of post-secondary education. Normally the repayment period begins six months after the borrower ends his or her student status. However, no payments are made for up to three years for students who enter the Armed Forces, Peace Corps, or VISTA.

Deferral of repayment is extended to four additional categories of borrowers as follows:

- (1) Officers in the commissioned Corps of the Public Service;
- (2) Volunteers for non-profit organizations doing work similar to VISTA or the Peace Corps;
- (3) Full-time volunteers for organizations which are exempt from taxation under Section 501(c)(3) of the Internal Revenue Code of 1954;
- (4) Persons serving internships which are required to begin professional practice or service;
- (5) Persons temporarily totally disabled or unable to secure employment because of care required by a spouse who is so disabled.

The annual interest rate on the loans is 5 percent of the unpaid balance. The minimum repayment is \$30 per month and may extend up to 10 years depending on the amount of funds originally borrowed. A percentage of the loan will be cancelled for borrowers who have entered teaching of the handicapped or teaching in a designated low-income area.

President's Achievement Scholarship. This scholarship is designed to provide recognition for outstanding academic performance and talent (art, music, drama, speech, special skill) and is awarded to undergraduate Colorado residents who are either graduates of Colorado high schools, junior college transfer students, or continuing students at the University. The stipend for this scholarship is \$400 per academic year. Freshman 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 will be selected on the basis of their cumulative GPA. These parameters may vary from year to year and will be dependent on the availability of funds. Approximately 50 percent of the funds available for this program will be awarded to freshmen and approximately 50 percent to students who have achieved the sophomore level and above. Recipients of the scholarships will be selected by a special selection committee. Currently enrolled USC students must complete 24 semester credits per year (pass/fail courses are not included). Renewal of the PAS 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 has been awarded.

Private Scholarship Program. The University administers many designated scholarships which are awarded directly to students by a foundation or agency providing the funds. Examples of such scholarships are the Boettcher, Gates, National Merit, and Centennial Turf awards. A variety of awards is also given by local PTA groups, service clubs, churches, and similar organizations. Applications for such awards should be submitted directly to the sponsoring agencies. Information about such award possibilities can be obtained from high school counselors or by writing to the agencies involved. Funds for these scholarships are administered by the Office of University Relations. A separate brochure describing the scholarships is available from the University Relations Office, Room 325 of the Administration Building.

Guaranteed Student Loan (GSL-FISL). The GSL program is designed to enable students to secure long-term, low-interest loans from private lending institutions within their home state and/or the Colorado Guarantee Loan Program. Loan programs vary from state to state, but are essentially similar.

Students should check with their local lending institution to determine which application forms are required. Under this program, undergraduate dependent students may borrow up to \$2500 per academic year for an aggregate total of \$12,500. Graduate students may borrow up to \$5000 per year for an aggregate total of \$15,000 (graduate and undergraduate combined). At no time, however, can a loan exceed the cost of attendance less other financial aid received or committed to include the family contribution, veterans, and social security benefits.

The interest rate on these loans is 9 percent per year on the unpaid balance. In most cases, no interest is paid by the student until he or she has completed the course of study. Repayment generally begins six months after the student graduates, withdraws from school, or fails to enroll on at least a half-time basis. The minimum repayment is \$50 per month and may be extended up to 10 years, depending on the amount of funds borrowed. All lending institutions are eligible to participate in the GSL program. However, it is the lending institution's option whether it wishes to partici-

pate. Therefore, these loans may not be available through all institutions. Students must reapply for these loans annually. Students unable to obtain forms from private lenders should contact the Financial Aid Office. Recent legislation has placed an income ceiling on this program of \$30,000, that is, all families with an adjusted gross income (AGI) above \$30,000 must submit to a needs test. The AGI must be verified by providing the 1981 federal income tax return to the Financial Aid Office regardless of income level.

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 the summer session if enrolled. The University does participate 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 their original copy of the DD 214 to the Office of Veterans Affairs, Room 317 of the Administration Building, for determination of eligibility.

Short-term Loan. Short-term loans are intended only for financial emergencies that present extreme hardship which could not reasonably be foreseen and which seriously threaten the continuation of a student's education. The maximum loan a student may have at one time is \$100. Normally, students may have only one short-term loan in effect at any one time. International students and students attending summer sessions are also eligible to borrow a maximum of \$100. Loans will be made only to students who have completed at least one term at any institution of higher education, are currently enrolled for at least 12 semester hours, and are in good disciplinary and financial standing with the University. No short-term loans will be made when school is not in session or during the first two weeks of any semester. These loans are to be repaid within a short period (normally 60 days). The student and financial aid counselor will determine a definite due date acceptable to both. If the loan is not repaid, or arrangements are not 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 Financial Aid Office. International students are also eligible to apply.

Other Types of Assistance

There are a variety of financial assistance programs that require separate applications.

Student Employment Services. The Financial Aid Office provides a Job Locator 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 their 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 picked up in the Financial Aid Office.

No-Need Work-Study. This program provides a limited amount of funds for jobs for undergraduate resident students who do not demonstrate financial need in the normal fashion. For further information, see the No-Need Work-Study listing on a previous page.

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.

Educational Benefits (Social Security). If a student's parents receive Social Security retirement or disability benefits or if the student's parents were eligible for such benefits but are deceased, the student may apply for monthly educational benefits. Payments continue until the student reaches age 22, as long as he or she is an unmarried, full-time student. Applications and more information are available through the local Social Security Office. This program is in the process of being terminated by the Federal Government.

Disabled/Handicapped Students. Contact the Student Development Center, ext. 2762.

Refunds and Repayments

Should a financial aid recipient become eligible for a refund of tuition, fees, or housing payment as a result of withdrawal, reclassification of tuition status, or any other reason, refund monies will be used to reduce the student's financial aid awards before any payment is made to the student. This policy will apply 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.

Regulations

Academic

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

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, and receive academic advising. The university calendar in this catalog and the semester bulletin, published by the Registrar's Office, list dates and times for orientation. All new students are urged to attend.

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 in these areas. With regard to communications skills, all students are required to:

(1) enroll in the appropriate basic communications¹ course in their first semester of enrollment and to continue enrolling in such courses until all basic communications requirements have been met;

(2) satisfy the university's speech communication requirement² as soon as possible, preferably in their first year.

¹Students who have achieved a ACT score of 16 or above on the American College Testing Program's English test, or a Scholastic Aptitude Test verbal score of 322 will be allowed to enroll in Basic Communications 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, will qualify a student to participate in BCOM 120. Students scoring 15 or below on the ACT English scale, or 321 or below on the SAT verbal section, will be required to take BCOM 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, will be required to take BCOM 119 during their first semester.

²Speech Communication 101, "Basic Speech Communication," satisfies this requirement.

All incoming students are required to take the Mathematics Test Battery (MTB). Students who have low MTB and ACT (or SAT) test scores will be required to enroll in and satisfactorily complete with a grade of C or better a mathematics basic skills course. The student who wishes to take a mathematics course, or is required to do so in his or her program and who demonstrates a minimal level of competency in mathematics, will be advised to enroll in an initial course compatible with his or her major area of emphasis.

For most programs in the sciences, business, or technology, the required mathematics component starts at or near the level of college algebra or calculus. Students with a traditional college preparatory high school background are encouraged to begin with the calculus sequence.

Course Numbering System

Courses are numbered to indicate 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. The student is required to have satisfied these prerequisites before registering for a course. Students will be dropped by the instructor from courses for which they do not have the prerequisites unless special permission is granted by the head of the department 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 worth is usually 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, then consult the appropriate faculty member, department head and school dean. A successfully challenged course counts in the overload limits.

Overload requests are approved by the student's faculty adviser, department head, and school dean. All three signatures may be required. Appeals may be made to the Vice President for Academic Affairs.

Classification of Students

Classification of 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: A student who has been admitted into a graduate degree program.

Degree-plus Student: A student with a baccalaureate degree who is taking additional undergraduate or graduate courses.

Non-degree Student: A student who has made no commitment to earning a degree, although 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. However, they pay the same fees 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, the students receive the symbol NC ("no credit") on their transcript.

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

Students wishing to register for a course as auditors must declare their intention at registration or at the first class session. Courses are taken for credit unless the Registrar's Office is notified prior to the deadline for schedule changes. The notification may be in the form of a registration label or may be made to the instructor.

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 not used to compute grade point average and not counted toward graduation.

**Credit not used to compute grade point average but 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 require 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.

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 and must complete the work during that term. When the work is completed, students will be 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 will be sent to the student, one to the Registrar's Office, one to the department office, and one will be kept by the instructor. A grade of IN may satisfactorily be changed by the instructor to an A,B,C,D, or F. If incompletes are not completed by the end of the second semester (excluding summer) after they are received, a grade of A,B,C,D, or F will be assigned. That permanent grade will be given by the instructor to the Registrar's Office 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. To calculate a grade point average (GPA), total the number of grade points earned, based on the scale above, and total 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.

Grade Changes Final Examinations

Final examinations are not to be scheduled at times other than those listed in the Class Schedule Bulletin.

Final grades entered in the Registrar's Office are unalterable unless a grade change card is completed and signed by the instructor, the department chairperson, 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. This policy does not apply to grades of IN or IP.

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 school 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.

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. These records are in addition to the final grade reports which are submitted to the Registrar's Office at the end of each term. These student progress records are retained by the faculty member's department for one year. Such records are treated in confidence by the faculty member and department head or director.

Repeated Courses

Students may repeat courses. When a course is repeated, only the higher grade and credit earned will be computed into the student's grade point average. The previously attempted courses and grades will remain in the academic record, but will not be computed in the overall average.

Transcripts will 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 will be computed into the grade point average.

Students must initiate the recomputation of their grade point average by applying at the Registrar's Office.

Changes in Enrollment

Changes of major. All changes of major must be made through the Registrar's Office with approval of appropriate department heads and deans.

Adding courses. Courses may be added to a student's schedule through the 11th class day of the semester, with the permission of the instructor. Course additions are processed through the Registrar's Office.

The student is responsible for processing his or her drop/add card period under no circumstances should the instructor assume this responsibility on behalf of the student.

Dropping courses. Courses may be dropped from a student's schedule through the 11th class day of the semester without any record of the dropped course appearing on the student's permanent record. Courses are officially dropped through the Registrar's Office. 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 will give a grade of W to students currently passing the course, and a WF to students not doing passing work. After 40 percent of the course duration has transpired, all drops will 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 school. A W grade 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. A student is responsible for processing his or her drop/add card. Under no circumstances should the instructor assume this responsibility.

Withdrawal. To withdraw officially from the University the student must file a withdrawal form with the Registrar's Office. **TIMING IS CRITICAL.** If the student withdraws after the end of the drop/add period, he or she will not be refunded full tuition and fees. Students who withdraw after the sixth week of the semester may also suffer academic loss; a grade of F may be assigned by instructors if they are not notified officially of the student's withdrawal.

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 is 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 department head and school 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 maximum course load allowable and only after permission has been given by the dean of the appropriate School.

Audited Courses

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

Persons 65 years of age or older, or 62 and retired, may audit courses without paying tuition as long as space is available. Permission of the instructor is still 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 such experiential credit courses occur under the direction of an academic instructor and are 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. These 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 "life 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 6. Any amount over 6 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 department chairman and the dean of the School in which credit is requested.

Scholastic Regulations

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 placed on probation or suspended, according to the following regulations.

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

Suspension. Students on probation are subject to suspension if their 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

Students may appeal their suspension to the Student Academic Standings Committee. The committee may be contacted through the Admissions Office. 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 their return to the University. Such students remain under the Bulletin in effect at the time they entered the University for the term of their suspension. If they exceed the term of their suspension in returning to student status, they then re-enter the University under the Bulletin in effect at the time of readmission.

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 any students, regardless of the location of their home. 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 his or her 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 will be asked to leave. If a person refuses such a request, he or she may be removed by the university police and will be 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 department chairman, then to the dean of the School involved. If a satisfactory resolution cannot be reached, a final appeal may be made to the Vice President for Academic Affairs.

Transcripts of Credit

Official transcripts are issued by the Registrar's Office at the request of the student. The first transcript is free; for extra copies, a fee may be assessed.

Three days should ordinarily be allowed for transcripts to be supplied. 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 will not be issued transcripts until they have arranged to clear their financial obligations.

Time Limitation on Credit Earned Toward a Bachelor's Degree

Any college work earned more than 12 years before the time the bachelor's degree is granted is not applicable toward the degree unless it is approved by the head of the major department and the dean of the appropriate school.

Student Rights and Responsibilities

Educational Records

The University informs students annually of their rights accorded by the Family Educational Rights and Privacy Act of 1974 (P.L. 93-380;513).

Students may inspect their educational records and receive copies of any part of their records except financial aid statements which reflect the financial status of their parents.

Academic records include records and documents pertaining to the student's academic standing and progress, such as the admissions application, high school and college transcripts, test scores, and grades. Official academic records are kept by the Registrar's Office.

Educational records are also kept by college offices, academic departments, faculty members, and some administrative offices in the Student Affairs division.

All enrolled and former USC students may have access to their educational records maintained within the University. Other individuals and agencies who have access to a student's records include University faculty and staff performing job responsibilities related to University academic and educational programs; parents claiming a student under 21 as a dependent on their federal income tax; scholarship and financial aid organizations supporting the student; organizations conducting studies on behalf of educational agencies or institutions for the purpose of developing, validating, or administering predictive tests or student aid programs, or improving instruction; organizations carrying out accrediting functions of USC programs; appropriate persons in an emergency; and

any party designated by judicial order or subpoena (provided the University notifies the student of the subpoena).

Any other individual or organization must have a student's written consent to have access to his or her educational record.

As defined by the University, public information is a student's name, local and permanent addresses, telephone listing, major, class, dates of attendance, participation in officially recognized activities and sports, and honors and degrees awarded.

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 will be 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.

Students have the right to review their educational records kept by colleges and/or departments, and may challenge the record if they feel the information is misleading, inaccurate, or otherwise in violation of their privacy or other rights. Within this context, students may not contest the assignment of a grade, but may contest only whether or not the assigned grade was recorded accurately. Students may provide a written explanation of the contents of such records; the explanation will then be inserted in the record. Any dispute over the contents of the records will be handled through informal meetings or discussion in the office where the records are kept. If informal meetings are not satisfactory, students have the right to a formal hearing. Requests for formal hearings should be made to the vice president for academic affairs. Prior notice of the hearing will be given to all parties concerned.

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.

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 all 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 will not be tolerated nor will they interfere with lawful investigations or prosecutions of the law on campus. No one should assume that USC will be a sanctuary for persons breaking the law. At USC, each individual is responsible for his or her own behavior.

Offenses 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, 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 will 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 of 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, etc., not authorized by a physician, or those made 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 oneself 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, alteration, 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 disruption, or inciting others to obstruct or disrupt teaching, research, administration, disciplinary proceedings, or other University of 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 when asked to do so.
- (20) Failing to meet University financial obligations.

Disciplinary Procedure

The primary responsibility for administering student discipline rests with the Office of Vice President for Student Affairs. The Vice President for Student Affairs may delegate 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.

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.

If the Hearing Officer or Campus Appeals Board determine 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 will provide, upon request, the institution's **Standards of Conduct Handbook** which contains a detailed explanation and description of institutional disciplinary philosophy, rules, and regulations.

Services for Students

The University includes a number of offices, facilities, programs and organizations which exist primarily to enhance and support students' academic life at the University. The procedures of three, The Admissions Office, Financial Aid and University Housing were outlined in earlier section of this Bulletin. All are described in the following paragraphs. Correspondence to any of the units should be directed to the particular office or facility.

Admissions and School Relations

The Admissions and School Relations Office 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 8 a.m. to 5 p.m. Monday through Friday. Advance notice is helpful but not mandatory.

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

Registrar's Office

The Registrar's Office 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, "good student" insurance discounts, etc.; 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, telephone numbers, etc.). The office is in Room 201 of the Administration Building.

Financial Aid

The Financial Aid Office provides financial assistance and financial affairs counseling to USC students. For more detailed information, students should consult the Financial Aid section of this catalog, or contact the office, Room 319 of the Administration Building.

Career Planning and Placement

The Career Planning and Placement Office is responsible for the following Student Affairs functions:

Career Planning. The Career Resource Center 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, a computerized career program, is available for student and community use.

Placement. The Placement Office 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 related work are combined in one program, individualized for each student.

Student Development Center. The center, located in the Psychology Building, provides professional services for students and the community. Such 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, located in the Student Development Center complex, offers a well-rounded support system for disabled students, supplying counseling, tutorial referral, academic resource equipment, and many other services. The USC campus is virtually barrier-free, and the Belmont Residence Hall provides adequate living facilities for handicapped students.

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 Career Planning and Placement offices are responsible for providing academic advisement for undecided and unclassified students each semester.

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 in some of these is based on special qualifications. Students interested in starting a new official campus group must first find a faculty member willing to sponsor the group; then they must submit two copies of their proposed constitution to the coordinator of student activities.

The Student Activities Office 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 the following committees: Concert Crew, Films, Informal Events, Video, Cultural Events, and Coffee Haus.

The office is in the University Center, Room 036.

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, vice president, and a cabinet appointed by the president. The judicial branch is composed of a supreme court and any lower courts deemed necessary by the senate. The senate and cabinet meet weekly.

ASG is funded through the Student Fees Allocation Committee, composed of faculty members and students who hold membership 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 part of each weekday during the afternoon.

Students are encouraged to visit the health facility, Room 004 in the University Center, whenever they need to, with or without an appointment. Referrals to other physicians may be made if necessary or if requested by the student. All records are confidential. No specific information is ever discussed or released except for use in consultation among physicians or when reporting a contagious disease as required by public health authorities.

HELP Center

The Higher Educational Learning Program (HELP) was developed to consolidate three projects: Special Services, Ex-Offender, and Tarascan. The purpose of the HELP Center is to increase educational opportunities for students who demonstrate personal motivation and a high potential of academic success while enrolled in the University.

Special Services offers supportive services to qualified students who meet the criteria established by the U.S. Commissioner of Education, Ex-Offender is a program for ex-offenders who have been rehabilitated, and Tarascan focuses on the problems of the mature and displaced woman.

HELP Center programs provide tutoring, personal and financial aid counseling, and admissions assistance. The central office is in Room 320 of the Library Wing.

Veterans Affairs

The Veterans Affairs program provides information services related to programs and benefits available to veterans. These services include veterans advisory services, educational benefits and programs, tutorial services, and general information. For further details, persons should write to the Director of Veterans Affairs, or visit the office, Room 317 in the Administration Building.

Field experience courses. Certain courses listed in this Bulletin involve University-supervised, on-the-job experiences, such as BEH SCI 490-497, PSYCH 490-499, and ED 490 (and others in education). In those 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 this 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. All 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 they have decided to attend the University.

High School Equivalency Program

The High School Equivalency Program (HEP), funded by the U.S. Department of Education, offers a program in General Education Development (GED) test preparation. The program serves school dropouts of migrant and/or seasonal farm background. HEP's ultimate goal is to place such students in college, jobs or job-training programs.

HEP students are housed in the University HEP annex. For further information, persons should write to the Director of HEP.

Upward Bound Program

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

Students are recruited from the Southern Colorado area. The office is in the Administration Building, Room 312.

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 clubs and organizations, and housing and subsistence emergencies. It is located in the Administration Building, Room 309H.

The University Center

The friendly place on campus is the University Center. This Center gives enrolled students and their guests an attractive place of relaxation where they can enjoy billiards, ping pong, all the latest in electronic games, and, of course, pinball. Facilities available in the Student Center include the laboratories for KTSC-FM, the student radio station.

Operating Hours

- A. Normal operating hours for the University Center for the Fall and Spring semesters during times when classes are in session (beginning on registration day and ending on the last day of final examinations) are as follows:
 - Monday through Friday — 6:30 a.m. to 8:00 p.m.
 - Saturday and Sunday — 10:00 a.m. to 6:00 p.m.
- B. All other periods (summer and semester breaks) University Center is open during the following hours:
 - Monday through Friday — 7:30 a.m. to 4:30 p.m.

The Games Area is open during the following hours when classes are in session:

 - Monday through Friday — 8:00 a.m. to 8:00 p.m.

University 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.

Food Services

All campus food services are located in the University Center. The main cafeteria is on the ground floor; its serving hours are as follow:

Monday through Thursday	
Breakfast	6:45 a.m.-8:15 a.m.
Continental breakfast	8:15 a.m.-9:15 a.m.
Lunch	11 a.m.-1 p.m.
Dinner	4:30 p.m.-6:00 p.m.
Friday	
Breakfast	6:45 a.m.-8:15 a.m.
Continental breakfast	8:15 a.m.-9:15 a.m.
Lunch	11 a.m.-1 p.m.
Dinner	5 p.m.-6 p.m.
Saturday and Sunday	
Brunch	11 a.m.-12:30 p.m.
Dinner	5 p.m.-6 p.m.

The snack bar and beer pub, La Cantina, is in the University Center basement and is open weekdays from 7:30 a.m. to 9 p.m.

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

Student meal tickets are accepted only at the cafeteria and may be purchased by commuting as well as resident students.

Student Housing

There is one residence hall on campus, the Belmont Residence Hall, a coed facility which houses 525 students. For further information, please consult the Housing Services section of this catalog.

Intramurals

Intramurals is a special program involving students and faculty in organized recreation and sports activities. Coeducational, 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.

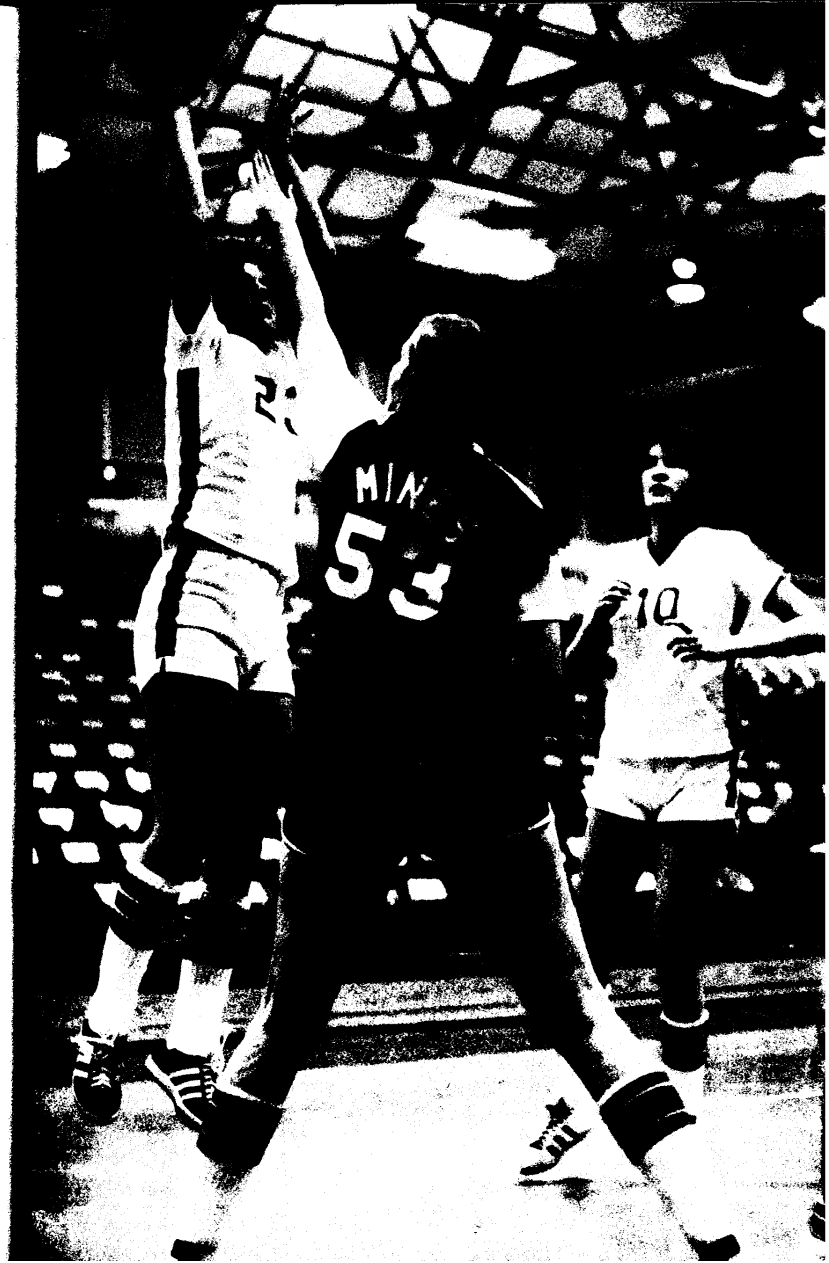
Athletics

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.

As a member of the National Collegiate Athletic Association, National Association of Intercollegiate Athletics, Rocky Mountain Intercollegiate Golf Association, and Rocky Mountain Intercollegiate Athletic Association, USC sponsors the following intercollegiate sports:

Men — football, basketball, cross country, track and field, baseball, golf, and tennis.

Women — volleyball, basketball, gymnastics, track and field, and tennis.





Personal educational and career advising helped successfully place 94% of the 1981 graduating class.

Courses of Instruction

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

Terms

- F —Taught fall semester
- S —Taught spring semester
- SS —Taught summer session

Clock Hour Distribution and Credits

The distribution of credit between lecture and laboratory, lecture-demonstration, or lecture-studio class hours per semester is as follows: In the example 4(2-4) the figure outside the parentheses 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 laboratory, demonstration, or studio experiences per week. Two examples:

CET 311 Advanced Surveying I 4(2-4) F.

This is Civil Engineering Technology 311, which carries four hours of credit and meets two hours per week in a lecture situation and also has a four-hour laboratory requirement. The course is typically offered in fall semester.

HIST 101 World Civilization to 1500 5(5-0) F,S.

This is History 101. It 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 lab hours 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 287 Seminar in Behavioral Science (1-3 VAR) S.

PRQ BEHSC 101, 102 and senior status

This is Behavioral Science 487. It carries a minimum credit of one and maximum credit of three semester hours. Before a student can take this course, he must have taken Behavioral Science 101 and 102 and must be a senior. This course is usually offered spring semester.

Prerequisites

The abbreviation PRQ indicates a prerequisite — a requirement which must be fulfilled before the student can enroll in the 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.

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 equivalents. 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
APS	—Auto Parts Service Management
ART	—Art
BUSAD	—Business Administration
BBE	—Bilingual Bicultural Education
BCOM	—Basic Communications
BEHSC	—Behavioral Science
BIOL	—Biology
CET	—Civil Engineering Technology
COE	—Co-operative Education Placement
CST	—Computer Science Technology
CHEM	—Chemistry
CS	—Chicano Studies
DN	—Dance
DP	—See Computer Science Technology
ECE	—Early Childhood Education
ECON	—Economics
ED	—Education
EET	—Electronics Engineering Technology
EN	—Engineering
ENG	—English
FL	—Foreign Language
GEOG	—Geography
GEOL	—Geology
HIST	—History
HUM	—Humanities
IED	—Industrial Education
IDH	—Interdisciplinary Honors
MACOM	—Mass Communications
MANG	—See Business Administration
MARK	—See Business Administration
MATH	—Mathematics
MEDT	—Medical Technology
MET	—Mechanical Engineering Technology
MFET	—Manufacturing Engineering Technology
MH	—Mental Health
MILSC	—Military Science
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

Departmental Office: L-624 Phone: 549-2129

Professors: Hammond, E. Kamnikar, J. Kamnikar, Peterlin

Accounting offers a four-year program leading to the Bachelor of Science in Business Administration degree with a major in accounting. The primary objective is to educate the students in their development as professional accountants through the highest quality academic program. The programs of study are functional in that they provide the broad base of knowledge required by the accounting profession and yet flexible in allowing the student to identify special interest areas in accounting. This academic program provides the experience for the students to develop the skills which will allow them to pursue careers in the many areas available to the professional accountant.

In addition to the academic program, various opportunities are provided for the students to gain some insight into the practical aspects of the accounting profession. Accounting majors are encouraged to participate in the Society of Student Accountants and the technical sessions scheduled throughout the school year. Student Night programs which are sponsored by the Colorado Society of Certified Public Accountants, the National Association of Accountants, and the American Society of Women Accountants, student membership in the National Association of Accountants, the American Accounting Association, and the American Society of Women Accountants, and active involvement in VITA (Volunteers in Tax 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, and the National Association of Accountants. Scholarships for accounting majors are available from these professional organizations.

The typical accounting schedule:

Freshman Year			Credits
BCOM	110,111	Fresh Comp I&II	6
BCOM	120	College Reading	2
SPCOM	101	Speech	2
PE	100	Physical Education	2
MATH	121	College Algebra	3
BUSAD	160	Computer Information Systems	3
		General Education	15
			33
Sophomore Year			Credits
ACCTG	201,202	Principles of Accounting I&II	6
ECON	201,202	Principles of Economics	6
BUSAD	260-261	Business Statistics I&II	6
		General Education	15
			33
Junior Year			Credits
ACCTG	301,302	Intermediate Accounting I&II	6
ACCTG	311	Federal Income Tax	3
ACCTG	320	Cost Accounting	3
BUSAD	310	Principles of Management	3
BUSAD	330	Corporate Finance	3
BUSAD	300	Business Law I	3
BUSAD	340	Principles of Marketing	3
BUSAD	370	Business Communications	3
ECON	310	Money and Banking	3
		General Education	3
			33
Senior Year			Credits
ACCTG	401	Advanced Financial Accounting	3
ACCTG	403	Accounting Theory	3
ACCTG	450	Auditing	3
BUSAD	301	Business Law II	3
BUSAD	490	Business Policy	3
		Accounting Elective	6
		Business Elective	3
		Unrestricted Elective	8
			29
			128

Minimum Hours for a Degree

128

Policies

The standard semester load for full-time students is 16 hours. Students must have permission to take courses in which they do not meet the required prerequisites, or they will be withdrawn.

Students requesting credit for course work taken at some other institution or for experience are advised that the department has a transfer policy in effect. Students are responsible for having credits approved according to the policy. Accounting majors must earn grades of C or better in accounting courses to be accepted as fulfilling degree requirements. The Accounting Department requires that 18 semester hours of upper division accounting courses be taken on the campus. In addition, the School of

Business requires for a baccalaureate degree that 18 of the last 32 hours just prior to graduation must be taken on campus. All courses applied toward the major must be approved by the student's adviser and the department head.

Courses:

ACCTG 201 Principles of Accounting I 3(3-0) F, S.

Concepts and issues of financial reporting for business entities; includes the accounting cycle and basic procedures.

ACCTG 202 Principles of Accounting II 3(3-0) F, S. PRQ ACCTG 201.

Concepts and issues of management accounting.

ACCTG 210 Taxes for Individuals 3(3-0) F, S.

Coverage of Internal Revenue Code with a perceptive analysis of political, economic and social ramifications of the law with problem material in tax return preparation solutions. GEN.ED.IID.

ACCTG 301 Intermediate Accounting I 3(3-0) F, S. PRQ ACCTG 202.

Accounting theory and practice applicable to working capital items, non current assets, liabilities and compound interest concepts.

ACCTG 302 Intermediate Accounting II 3(3-0) S. PRQ ACCTG 301.

Accounting theory and practice applicable to corporate equities; pensions; leases; bonds; price level; presentation and interpretation of financial statements; accounting changes.

ACCTG 311 Income Tax 3(3-0) F. PRQ 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 3(3-0) S. PRQ ACCTG 202.

Accounting procedures applicable to industries with emphasis on job order, process cost, standard cost, profit planning.

ACCTG 400 Managerial Accounting 3(3-0) S. PRQ ACCTG 202.

Emphasis on the understanding of Managerial Accounting concepts through the evaluation and utilization of accounting information in the management decision-making process.

ACCTG 401 Advanced Accounting 3(3-0) F., PRQ ACCTG 302.

Application of fundamental theory to partnerships, joint ventures, foreign operations, consolidated statements, and business combinations.

ACCTG 403 Accounting Theory 3(3-0) S. PRQ ACCTG 302.

Accounting theory — current concepts and developments as indicated by APB, FASB.

ACCTG 406 Honors Course Accounting 3(3-0).

Admission is limited to distinguish senior accounting majors; emphasizing current accounting thought and research.

ACCTG 408 Financial Reporting for Regulatory Agencies 3(3-0). PRQ Senior standing for accounting majors.

Application of financial analysis and reporting techniques as required by the SEC, IRS, and other regulatory groups.

ACCTG 411 Corporate and Partnership Taxation 3(3-0). S. PRQ ACCTG 311 or equivalent.

This course examines the provisions of Subchapter S of the Internal Revenue Code and the regulations thereunder; also the tax problems arising from the formation, operation, and liquidation of partnerships and corporations.

ACCTG 412 Estates and Trusts 3(3-0). PRQ Senior standing and ACCTG 202.

An interdisciplinary course dealing with estates and trusts from the aspect of accounting, law, and tax regulation.

ACCTG 420 Cost-Based Decision-Making 3(3-0). PRQ ACCTG 320.

Emphasis on special costing principles, including differential costs; internal profit and price policies; and capital budgeting.

ACCTG 421 Controllership 3(3-0). PRQ ACCTG 320.

Characteristics of control systems; budgeting; planning and control in a broad concept.

ACCTG 430 Accounting Information Systems 3(3-0). PRQ ACCTG 202.

An examination of accounting systems as a component of the total business information process. Particular attention will be given to the accountant's role in simplification, internal control, and mechanization.

ACCTG 440 Fund Accounting 3(3-0). PRQ ACCTG 202.

A study of the fund accounting methods employed in not-for-profit institutions, government, and governmental agencies.

ACCTG 450 Auditing 3(3-0). F. PRQ ACCTG 302, 320.

Auditing standards, procedures, programs, working papers, internal control, and its practical application to an audit case.

ACCTG 494 Small Business Studies 3(3-0). PRQ Senior accounting student and permission of department chairperson.

Integrating prior studies in accounting into a realistic approach to solve problems faced by selected firms in the community and/or computer simulation of business cases.

ACCTG 495 Independent Study (1-3 VAR). PRQ Senior accounting student with permission of departmental chairperson.

Individual research or special assignments under the supervision of the department.

ACCTG 496 Internship in Accounting (1-6 VAR).

Open to junior and senior accounting majors with approval of departmental chairperson. Students are placed with firms to receive training in accounting. Research and written reports are required.



Anthropology

Dr. Wallace E. Smith, Acting Director
Center for Social and Cultural Studies
Center Office: P-108 Phone: 549-2103
Professors: Buckles, Trautman

The Anthropology Program offers a four-year course of study leading to the B.A. degree. Anthropology majors must successfully complete Anthropology 101 (3 cr.), 102 (3 cr.), 103 (3 cr.), 108 (3 cr.), 319 (3 cr.), and 401 (3 cr.) and Sociology 103 (4 cr.), or a relevant course in data processing for the B.A. degree. No grades below a C in anthropology will be accepted for degree fulfillment.

Anthropology Major

Requirements for an anthropology major include a minimum of 30 semester hours in anthropology. Required courses include ANTHR 101, 102, 103, 108, and 319 or 401. For specific requirements a faculty adviser should be consulted.

Anthropology Minor

Twenty-five (25) hours of anthropology are required including ANTHR 101, 102, 103, and 319 or 401. The remaining courses are to be chosen by you with the approval of your adviser.

The typical anthropology schedule:

		Credits
Freshman Year		
ANTHRO	101	Physical Anthropology 3
ANTHRO	102	Cultural Anthropology 3
ANTHRO	103	Introduction to Archaeology 3
BCOM	110	Freshman Comp I 3
BCOM	120	College Reading 2
PE	100	PE Orientation 2
		General Education Group I 3
		General Education Group II 6
		General Education Group III 5
		TOTAL 31
Sophomore Year		
BCOM	111	Freshman Comp II 3
SPCOM	101	Speech Communication 2
ANTHRO	108	Language, Thought and Culture 3
		Anthropology electives (200 level) 9
		General Education Group I 7
		General Education Group II 4
		General Education Group III 5
		TOTAL 33
Junior Year		
ANTHRO	319	Doing Anthropology 3
		Anthropology Electives (300 level) 15
		General Electives (300/400 level) 18
		TOTAL 36

Senior Year			
ANTHRO	401	Seminars in Anthropology	3
		Anthropology Electives (400 level)	15
		General Electives (300/400 level)	15
		TOTAL	33
Minor in Anthropology			
ANTHRO	101	Physical Anthropology	3
ANTHRO	102	Cultural Anthropology	3
ANTHRO	103	Introduction to Archaeology	3
ANTHRO 319 or 401		Anthropology Electives	13
		TOTAL	25

Courses:

- ANTHR 100 Study of Mankind 3(3-0) F,S,SS.**
Principles, concepts, methods and results of studying other humans and cultures in time and space. GEN.ED. IIB
- ANTHR 101 Physical Anthropology 3(3-0) F,S,SS.**
The biological natures of humans, with emphasis on how forces of evolution have shaped them in the past and during the present. GEN.ED. IIIA
- ANTHR 102 Cultural Anthropology 3(3-0) F,S,SS.**
Analysis of human cultures, their evolutions, developments, structures and functioning and explanations of similarities and differences. GEN.ED. IIB
- ANTHR 103 Introduction to Archaeology 3(3-0) F,S,SS.**
The evolution of culture as explained through archaeological methods and theories with emphasis upon the preservation and protection of the cultural environment. GEN.ED. IIB
- ANTHR 108 Language, Thought and Culture 3(3-0) F,S,SS.**
A cross-cultural introduction to language processes within human society.
- ANTHR 202 Multiethnic Societies 3(3-0) F,S,SS.**
Survey of multiethnic societies, emphasizing relationships with power structures. GEN.ED. IIB
- ANTHR 203 North American Indians 3(3-0) F,SS.**
Descriptions and analysis of past and present adaptations of American Indians and their societies.
- ANTHR 204 Introduction to Southwestern Studies 3(3-0) S.**
A multidisciplinary approach to an area which includes Colorado and the greater Southwest.
- ANTHR 205 Peoples and Cultures of the Southwest 3(3-0) S.**
Survey of the multiethnic pluralism populations with emphasis on their diverse adaptations to the distinctive natural and cultural environments.
- ANTHR 206 Culture and Personality 3(3-0) F,S,SS.**
Interrelationships of group and individual conceptual frameworks in cross-cultural studies of human behaviors. GEN.ED. IIB
- ANTHR 207 American Culture 3(3-0) F,S,SS.**
Analysis of the major belief and value systems characteristic of the culture of the United States and a survey of contemporary cultural trends as they relate to these value and belief systems. GEN.ED. IIB
- ANTHR 208 Culture, Technology and Environment 3(3-0) F,S,SS.**
Comparative study of human cultures and the ecological principles relating to both subsistence level and complex societies. GEN.ED. IIB

- ANTHR 221 Current Topics in Anthropology (1-3 VAR) F,S.**
Topics identified by subtitles taught. Students may enroll as often as new topics are introduced.
- ANTHR 301 New World Archaeology 3(3-0) S.**
Analysis of the prehistoric evolution of cultures of the Indians of the Americas.
- ANTHR 302 Protection of the Cultural Environment 3(3-0) F,S.**
Methods and theories related to recognitions, evaluations and recommendations concerning cultural resources, particularly our cultural heritage.
- ANTHR 303 Southwestern Archaeology 3(3-0) S.**
Investigations of the prehistories of the diverse peoples and cultures of the Southwest.
- ANTHR 305 Medical Anthropology 3(3-0) F,S.**
Analysis of the interrelationships between human culture, human adaptation and disease.
- ANTHR 309 Magic, Witchcraft and Religion 3(3-0) F,S.**
Concepts of the supernatural viewed cross-culturally and in a sociocultural context.
- ANTHR 311 Law in Cross Cultural Perspective 3(3-0) F,S.**
A study of the norms that define legal and illegal activity with reference to mechanisms of social control.
- ANTHR 312 Forensic Anthropology 3(3-0) F,S.**
Techniques of identification of skeletal remains in connection with forensic medicine and criminal cases.
- ANTHR 317 Human Evolution 3(3-0) F.**
Previous work in anthropology recommended. Detailed descriptions and theoretical explanations of the evolution of the human species and of culture.
- ANTHR 319 Doing Anthropology 3(3-0) S.**
Previous work in anthropology recommended and permission of instructor. Analysis of material culture and information as an experience in the empirical investigation of human behavior.
- ANTHR 401 Seminars in Anthropology (1-3 VAR) F.**
Previous work in anthropology recommended and permission of instructor. Overview of the development of anthropological theories and methods; may be taken as often as new subtitles are introduced.
- ANTHR 421 Current Topics in Anthropology (1-3 VAR) F,S.**
Topics identified by subtitles taught. Students may enroll as often as new topics are introduced.
- ANTHR 450 Field and Laboratory Techniques (1-10 VAR).**
Previous work in anthropology recommended and/or permission of instructor. Training in field and/or laboratory techniques by participation in projects of anthropological concern.
- ANTHR 495 Independent Study (1-10 VAR) F,S.**
Previous work in anthropology and permission of instructor. Directed study of students interested in specific areas of anthropological concern.

Art

Edward R. Sajbel, Head
Departmental Office: AM-140 Phone: 549-2817
Professors: Brassill, Hench, Jensen, Marino, Monteverde, Tilley, Wands

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

The foundation courses are a prerequisite to all other courses in their area offered by the department for the B.S. and B.A. art major. Exceptions to this will be decided by the art staff with consent of the instructor.

Art majors will be assigned an Art Department adviser with whom they will consult each semester before registration.

Bachelor of Arts

The Bachelor of Arts program is designed for students in either studio art or art history and requires a minimum of 40 hours in art courses, 18 of which must be in the foundation courses and at least 6 of which must be in art history. For students seeking an emphasis in art education, with State Department of Education certification as K-12 or 7-12 teaching specialists, an additional 8 hours in art beyond the 40 hour minimum are required.

Bachelor of Science

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

Art Emphasis Areas

The Art Department offers four-year emphasis areas in ceramics, drawing, enameling, graphic design, art history, jewelry, painting, sculpture, K-12 elementary and secondary art specialist and 7-12 secondary art specialist (see Bachelor of Arts program in art education).

The typical art schedule:

Freshman Year			Credits
ART	101 or 103	Art Survey I or III	3
ART	102	Art Survey II	3
ART	115	Design I	3
ART	116	Design II	3
ART	141	Drawing I	2
ART	142	Life Drawing	2
ART	210	Career Art Orientation	1
PE	100	PE Orientation	2
BCOM	110	Freshman Composition I	3
BCOM	111	Freshman Composition II	3
BCOM	120	College Reading	2
SP	101	Basic Speech Communication	2
		GEN ED Electives — Group II	3
			—
			32

Sophomore Year			
ART	281	Introduction to Graphic Design	3
ART	275	Photography	3
ART	272	Lithography	3
ART	271	Intaglio & Relief Printing	3
ART	103	Art Survey III	3
		GEN ED Electives — Group I	6
		GEN ED Electives — Group III	6
		Art Electives	6
			—
			33

Junior Year			
ART	300	Studio (Graphic Design)	6
ART	381	Graphic Design II	3
ART	382	Illustration	2
ART	475	Film Making	3
ART	481	Communication Graphics	3
		GEN ED Electives — Group I	3
		GEN ED Electives — Group II	3
		GEN ED Electives — Group III	3
		Art Electives	8
			—
			34

Senior Year			
ART	495 or 497	Independent Project or Field Experience	6
ART	410	Art Career Orientation	1
		GEN ED Electives — Group I	1
		GEN ED Electives — Group II	4
		GEN ED Electives — Group III	1
		Upper Division Art History	3
		Upper Division Art Electives	16
			—
			32

The above sample schedule reflects a graphic design emphasis. Changes would be required for other sequence areas. Majors should consult the Art Department Office for specific course requirements for each of the emphasis areas.

Art Minors

An art minor may be obtained by completing all the foundation courses with the exception of Art 410. In addition, the art minor must select six elective hours in art.

Courses:

Undergraduate:

- ART 100 Introduction to Art 3 (3-0) F,S.**
Study of art forms, meaning and function across cultures and through time. GEN.ED.IA.
- ART 101 Art History Survey I 3(3-0) F.**
Study 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) S.**
Study of 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) F,S.

Study of development of style, iconography and function of art in non-western cultures. GEN.ED.IA.

ART 115 Design I 3(1-5) F.

A basic course attempting to establish the foundations of visual order.

ART 116 Design II 3(1-5) S.

Continuation of above.

ART 118 Art Non-Major 3(0-6) F,S,SS.

A studio course designed 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) F,S,SS.

An introductory course to develop an individual's perception and technical skills in rendering on a two-dimensional surface.

ART 142 Life Drawing I 2(0-4) S.

A studio class in the study of the human figure.

ART 200 Studio Processes 1(1-1) F,S,SS.

Courses designed to orient the student toward similarities and differences within visual arts. Sections in sculpture, painting, printmaking, photography and criticism and theory.

ART 201 Studio Materials 1(1-1) F,S,SS.

As above, sections in clay, fiber, metal, wood and museum practices.

ART 210 Art Career Orientation 1(1-0) F,S.

Guidance in the development of personal plans toward job objectives.

ART 233 Sculpture I 3(0-6) F,S.

Basic problems in the production of sculpture relating specific concerns of visual form to materials and processes.

ART 234 Painting I 3(0-6) F,S,SS. PRQ Foundation.

A studio course in the application of materials and techniques to the production of a visual idea through the use of color theories, surface awareness and compositional emphasis.

ART 235 Painting II 3(0-6) F,S. PRQ Foundation.

Continuation of above at lower level of technical and visual pursuit.

ART 236 Watercolor Painting 3(0-6) F,S,SS. PRQ Foundation.

A course involving the water media as a specialized approach to painting.

ART 237 Collage 1(0-2) F,SS. PRQ Foundation.

The practice of paper collage and mixed media as an approach to painting.

ART 241 Drawing II 3(0-6) F,S. PRQ ART 141, 142.

An advanced course in pursuit of finished drawings.

ART 242 Advanced Life Drawing 3(0-6) F,S. PRQ ART 142.

Continuation of ART 142 with expanded interpretational and compositional awareness.

ART 245 Ceramics I 3(0-6) F,S,SS. PRQ Foundation.

The essential skills of the total ceramic processes are introduced. Form and function are emphasized as related to students' needs and creative intent.

ART 251 Fundamentals for Wood I 3(0-6) F,S. PRQ Foundation.

Instruction in the techniques of hand and power tools in order that sculpture and useful forms may be accomplished in wood and related materials.

ART 255 Jewelry Techniques I 3(0-6) F,S,SS. PRQ Foundation.

Problems involve fabrication and methods of jewelry construction. Use of a variety of techniques and use of related materials leading to independent studio work.

ART 260 Weaving 3(0-6) F. PRQ Permission of instructor.

A course in the techniques of loom and non-loom weaving.

ART 271 Intaglio/Relief Printmaking 3(0-6) F. PRQ Foundation.

A beginning course in processes of printing from raised and lowered surfaces.

ART 272 Lithography 3(0-6) S. PRQ Foundation.

Processes of planographic printing from drawings made on stone.

ART 273 Serigraphy 3(0-6) F,S. PRQ Foundation.

Processes of screen printing which include the preparation of photographic stencils.

ART 275 Photography 3(1-4) F,S.

An introduction to 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) F. PRQ Foundation.

A course which uses the tools, design elements and processes that concern the advertising and communication designer.

ART 282 Calligraphy (1-3 VAR) F,S.

An applied course dealing with the variety of styles of hand lettering and the layout of calligraphic forms.

ART 291 Special Topics (1-5 VAR).

Any type of study and/or activity designed to increase understanding of a specific subject within an art discipline not covered by regular offerings.

ART 300 Studio Series 3(0-6) F,S,SS. PRQ When appropriate.

Advanced sections of studio offerings for students who have completed all other course offerings in that specific discipline. Scheduled concurrently with lower division studios. Repeatable once.

ART 301 Art History: Southwest Native America 3(3-0) F,S. PRQ Permission of instructor.

Study of development of style, iconography and function of Indian art from Prehistoric to present time.

ART 302 History of Pre-Columbian America 3(3-0) F,S. PRQ Permission of instructor.

Study of 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) F,S. PRQ Permission of instructor.

Study of 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) S. PRQ Foundation.

Techniques of producing three-dimensional form through modeling, mold-making and casting in a variety of materials.

ART 333 Sculpture II 3(0-6) F,S. PRQ ART 233.

Processes for producing sculpture via the subtractive methods.

ART 341 Portrait Painting 1(0-2) F,S. PRQ ART 235.

A class in representational painting using portrait models.

ART 342 Figure Painting 1(0-2) F,S. PRQ ART 235.

A class which stresses composition and environmental additions to the figure.

ART 343 Landscape Painting 1(0-2) F,S. PRQ ART 235.

A class in both the perception and interpretation of nature on location from sketches.

ART 345 Ceramics II 3(0-6) F,S. PRQ ART 245.

An in-depth development of specific techniques concerning the nature of ceramics. The perfection of skills and personalization of style is stressed.

ART 346 Production Potters 3(0-6) F,S. PRQ Permission of instructor.

An intensive experience in the practical problems of production and emphasis on functional ware. Information concerning material, equipment, sales and procedure to establish a studio.

- ART 351 Form in Wood II 3(0-6) S.** PRQ ART 251.
Instruction in more sophisticated methods of working wood and related materials in order that sculpture and useful form may be accomplished.
- ART 355 Jewelry Techniques II 3(0-6) F,S.** PRQ ART 255.
Problems involve various methods of constructing cast jewelry. An in-depth program leading to independent studio work.
- ART 356 Enameling Techniques I 3(0-6) F,S.** PRQ ART 255.
Problems involve developing competence in the handling of such techniques as limoges, champleve, cloisonne, as well as new, innovative approaches leading to independent studio work.
- ART 357 Enameling Techniques II 2(0-2) F,S.** PRQ Permission of instructor.
A sensitive studio workshop in applied jewelry design with emphasis on creativity, innovation. Brief coverage of the history of designing in jewelry and personal adornment.
- ART 375 History of Art Film 3(0-3) F.**
Significant art films will be used to illustrate the development of style, subject matter and techniques of film making from late 19th century to the present.
- ART 377 Principles of Elementary Art Education 2(2-0) F,S.**
Lecture course dealing with the development of visual concepts within the child.
- ART 378 Materials and Techniques in Art for the Elementary Schools 2(2-1) F,S.**
A laboratory experience dealing with the 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) F.**
Lecture course dealing with theories and methods of art education beyond the elementary school.
- ART 381 Graphic Design II 3(1-4) S.** PRQ ART 281.
A course in layout and the preparation of camera-ready mechanicals.
- ART 382 Illustration 2(0-4) F,S.** PRQ ART 381.
A more specialized course in the use of images rendered in varying techniques to express ideas.
- ART 383 Exhibition Design 2(0-4) F,S.** PRQ Permission of instructor.
A course which applies communication and design principles to the display of objects. Museum problems are given special attention.
- ART 400 Studio Series 3(0-6) F,S.** PRQ 300.
Further advanced sections of studio offerings. See Studio Series. Repeatable once.
- ART 401 Art History: Greek, Roman, Byzantine 3(3-0) F,S.** PRQ Permission of instructor.
Study of development of style, iconography and function of art in Aegean and Mediterranean civilizations.
- ART 405 Art History: Modern 3(3-0) F,S.** PRQ Permission of instructor.
Study of 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) F,S.** PRQ Permission of instructor.
Study of development of style and iconography of contemporary art.
- ART 407 Art History: Museum Training 3(3-0) F,S.** PRQ Permission of instructor.
Study of curating, conservation or presentation and interpretation of art from various periods and cultures.
- ART 410 Art Career Orientation 1(1-0) F,S.** PRQ Senior standing. A senior-level evaluation of personal plans toward job objectives.

ART 420 Multi-Media 3(3-0).

A studio course dealing with the creation of images and ideas through combined materials, and its special appropriateness as a techniques in Art.

ART 445 Glaze Calculation 1(0-2) S. PRQ Permission of instructor.

The simple necessities and forming glazes from earth oxides. Studio vesting, firing and practical application. Chemistry not a prerequisite.

ART 446 Kiln Construction 1(0-2) S. PRQ Permission of instructor.

The concepts involved in building and designing all types of kilns. A study of fuel and material sources. Practical experience by constructing a kiln.

ART 447 History of Ceramics 1(1-0) F. PRQ Permission of instructor.

A world view of ceramics as related to the potters' tradition. A study of technical developments, style trends and related historical events.

ART 475 Film Making 3(1-4) F,S. PRQ Permission of instructor.

An exploration of film as a means of personal expression.

ART 478 Art Education Methods Application Laboratory 2 (0-4) F. PRQ ART 377 or ART 379.

A laboratory situation designed to provide ground for the application of theories and methods of art education.

ART 481 Communication Graphics 3(1-4) F,S. PRQ Permission of instructor.

A pursuit of the design of words and images into the world of motion in TV and film.

ART 491 Special Topics (1-5 VAR) (When appropriate.)

Any type of study and/or activity designed to increase understanding of a specific subject within an art discipline not covered by regular offerings. Repeatable.

ART 495 Individual Projects (1-5 VAR) (When appropriate). PRQ Junior or senior standing and permission.

An on-campus individual enrollment experience in which the student works under tutorial arrangement with instructor and has regular conferences.

ART 496 Cooperative Education Placements (1-4 VAR) F,S,SS. PRQ 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.

ART 497 Field Experience (1-5 VAR) (When appropriate.) PRQ Senior standing and permission.

An off-campus individual enrollment experience providing transition from classroom instruction to on-the-job experience. Supervised by professor and job supervisor.

Graduate:**ART 502 Workshop in Elementary Art (1-5 VAR) F,S,SS.** PRQ Permission of instructor and Graduate standing.

An advanced course in new materials and techniques using multi-media sources. Concepts and ideas will be explored as an integral part of the workshop.

ART 513 Production of Non-Print Educational Media 2(2-0) SS. PRQ Graduate standing.

The design construction and utilization of non-print educational media, including transparencies, slides, film loops, film strips, sound recordings, and video tape recordings for school use.

Automotive Parts & Service Management

Anthony Martinet, Head
Departmental Office: T-164C
Professors: Mayse, Wade

The automotive parts and service management program is a Bachelor of Science 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 will emphasize 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 the import industries. There are many opportunities for men and women in this field. The graduating candidate must have a 2.00 cumulative point average in major area of study.

The typical APS schedule:

Freshman Year		Credits
APS	105	Introduction to the Parts & Service Industry ... 3
APS	115	Automotive Engine Design and Operation ... 4
APS	125	Automotive Suspension and Brake Systems ... 4
APS	155	Automotive Jobber and Dealer Parts Operation ... 5
BCOM	120	College Reading ... 2
PE	100	Physical Education ... 2
EN	100	Man & Technology ... 3
		Group I — Humanities ... 3
		Group II — Social Sciences ... 3
SPCOM	101	Basic Speech Communications ... 3
		32
Sophomore Year		
APS	135	Automotive Fuel Systems & Exhaust Emissions ... 4
APS	145	Automotive Electrical Systems ... 4
APS	205	Automotive Jobber Distribution & Merchandising ... 5
APS	225	Industrial Equipment & Heavy Equipment Parts ... 2
BCOM	110	Fresh Comp I ... 3
BCOM	111	Fresh Comp II ... 3
CST	101	Introduction to Data Processing ... 4
ECON	201	Principles of Economics ... 3
CHEM	101	Chemistry & You ... 3
		Group I — Humanities ... 1
		Group II — Social Sciences ... 3
		35
Junior Year		
APS	215	Automotive Power Trains & Drive Lines ... 4
APS	235	Machine Shop Equipment & Operation ... 3
APS	305	Auto Parts and Service Management ... 5
APS	315	Automotive Dealership Dist. & Merchandising ... 3
APS	345	Advanced Automotive Systems ... 5

ACCTG	201,202	Principles of Accounting I & II ... 6
BUSAD	300	Principles of Business Law I ... 3
PHYS	111	Applied Physics ... 3
		Group I — Humanities ... 6
		Group II — Social Sciences ... 1
		39
Senior Year		
APS	325	Fuels & Lubricant Prod. Mkt. & Conservation ... 3
APS	335	Automotive Shop Practices ... 5
APS	404	Automotive Sales Principles & Practices ... 5
APS	415	Automotive Expense Control & Analysis ... 5
BUSAD	310	Principles of Management ... 3
BUSAD	414	Small Business Management ... 3
BUSAD	318	Personnel Management ... 3
BUSAD	410	Industrial Relations ... 3
BUSAD	340	Principles of Marketing ... 3
		33

Courses:

APS 105 Introduction to the Parts and Service Industry 3(3-0) F.S.

An introduction to the automotive parts and service industry from the viewpoint of history, social impact, organization structure, manpower needs and future growth.

APS 115 Automotive Engine Design and Operation 4(2-4) F.S.

A study of design and operation of internal combustion engines, two and four cycle, rotary, diesel, gas, turbine, steam fuel cell and other future automotive power concepts.

APS 125 Automotive Suspension and Brake Systems 4(3-2) S.

A study of design and theory of front and rear automotive suspensions, steering components and brake components.

APS 135 Automotive Fuel Systems and Exhaust Emissions 4(3-2) S.

Study of design and theory of automotive fuel systems, carburetion, fuel injection, turbo charging and supercharging. Also functions and design of automotive emission systems.

APS 155 Automotive Jobbers and Dealer Parts Operation 5(5-0) F.

A study of automotive replacement parts books, inventory control systems, stock control levels and planographing — to improve stock flow.

APS 165 Industrial Equipment and Heavy Equipment Parts 2(2-0) S.

How to select the correct piece of industrial equipment to do the job for the customer will be studied; also the use of parts catalogs and microfilm in heavy equipment.

APS 200 Power Mechanics 3(3-0) F.

Study of power sources to include steam, atomic, internal combustion, turbines, and rocket engines, plus the transmission of power.

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

APS 215 Automotive Power Trains and Drive Lines 4(3-2) F.
Study of design and theory of standard and automatic transmissions, clutches, drivelines and rear differentials.

APS 235 Machine Shop Equipment and Operation 3(2-2) S.
Study of the functions of machine shop equipment and basic shop management.

APS 245 Automotive Electrical Systems 4(3-2) F.
Study of design and theory of operation of automotive electrical circuits, such as ignition, starting, charging and accessory circuits, with a study of diagnostic tools used to trouble-shoot these systems.

APS 296 Co-op Education Placement (1-5 VAR) F,S,SS.
For APS freshmen and sophomores for industrial cooperative education work experience under the direction of a field supervisor and APS faculty member.

APS 305 Auto Parts and Service Management 5(5-0) F.
A study of the automotive parts and service industry from a management standpoint, considering such factors as business operations, personnel management, inventory and expense controls.

APS 315 Automotive Dealership Distribution and Merchandising 3(3-0) F.
Computer printout system being used in dealership parts departments will be analyzed. Decision-making on inventory levels, distribution and merchandising will be a primary factor of this course.

APS 325 Fuels and Lubricant Production, Marketing and Conservation 3(3-0) F.
Study of petroleum industry, covering basic production processes, marketing techniques, alternate fuel sources and conservation techniques.

APS 335 Automotive Shop Practices 5(2-6) S. PRQ APS 115, 125, 135, 145, 345.
Diagnosis of electrical, fuel, engine, brake and transmission systems, plus a study of service management and service writer duties.

APS 345 Advanced Automotive Systems 5(3-4) F. PRQ Junior standing or consent.
Provides current information in automotive electrical, suspensions and fuel systems for students with a diesel background, automotive parts and service management students and transfer students.

APS 405 Automotive Sales Principles and Practices 5(5-0) F. PRQ APS 315.
The study and application of techniques and principles unique to wholesale selling of replacement parts and accessories.

APS 415 Automotive Expense Control and Analysis 5(5-0) S. PRQ ACCTG 201, 202.
Introduction to specialized automotive accounting and inventory control methods. Emphasis will be placed on analyzing expenses and cutting costs in the retail automotive business.

APS 496 Co-op Education Placement (1-5 VAR) F,S,SS.
For APS juniors and seniors for industrial cooperative education work experience under the direction of a field supervisor and APS faculty member.

LRC/Basic Communications

Dr. Gary Vincent, Head

Department Office: LW-230 Phone: 549-2501

Professors: Chinn, Croxton, Gloe, Illick, Lipp, Olin, Romero, Ryan, M. Senatore, Serena, Taylor, Vincent, Whitsitt.

The Learning Resources Center's Basic Communications Department offers instruction in college reading and written communication to meet the educational needs of students and to complete institutional basic competencies requirements of two credit hours in college reading, two credit hours in speech communication, and six credit hours in English composition. (Certain AA and AAS degree programs do not require the 10 credit hours. Students should consult their major advisers for appropriate course sequences.) Courses marked with an asterisk are designed to meet special student interests and needs; they cannot be used to fulfill the University's basic competencies requirements.

Courses:

SPCOM 101 Basic Speech Communication 2(2-0) F,S,SS. (BCOM 101).
Practical applications and demonstrations of basic theory and principles of oral speech communication.

***BCOM 109 Fundamentals for College English 3(3-0) F,S,SS.**
A developmental course for students whose placement test scores indicate a need for instruction in basic language skills. (S/U grades.)

BCOM 110 Freshman Composition I 3(3-0) F,S,SS.
A beginning course in expository writing, emphasizing skills of written expression, organization, and presentation.

BCOM 111 Freshman Composition II 3(3-0) F,S,SS. PRQ BCOM 110 or 115.
A sequential course to provide intensive consideration of paragraph and essay development and to introduce procedures and techniques in preparing the referenced paper.

BCOM 115 Technical Writing I 3(3-0) F,S,SS.
A course for technology students placing emphasis upon vocabulary, grammar, sentence structure, outlining, and written expression. Equivalent to BCOM 110.

BCOM 116 Technical Writing II 3(3-0) F,S,SS. PRQ BCOM 115 or BCOM 110.
A writing course specializing in those composition skills which benefit students in technical and scientific areas.

***BCOM 119 Fundamentals for College Reading. 3(3-0) F,S,SS.**
A basic foundation course stressing study skills, vocabulary, and comprehension for students whose placement test scores indicate need for special instruction. (S/U grades.)

BCOM 120 College Reading 2(2-0) F,S,SS.
A course programmed to develop and define study habits, vocabulary, comprehension, critical reading, and flexibility of rate at college level.

***BCOM 121 Speed Reading 3(3-0) F,S,SS.** PRQ BCOM 120.
A highly individualized course in reading improvement designed for students who wish to improve their skills beyond that which is required in BCOM 120. Can be adapted to the needs of students who plan to pursue graduate study.

***BCOM 122 College Reading Lab & Study Skills 1(1-0) F,S,SS.**
A one-credit-hour laboratory course normally taken in conjunction with BCOM 120, with emphasis on advanced study skills.

- *BCOM 150 Spelling Review 1(3-0) F,S,SS.** PRQ BCOM 111 or BCOM 116.
A five-week module of spelling conventions such as phonetic principles, prefixes, plural forms, and compounds.
- *BCOM 151 Vocabulary 1(3-0) F,S,SS.** PRQ BCOM 120.
A five-week module of vocabulary awareness such as connotations, jargon, concreteness, and specialized vocabulary.
- *BCOM 152 Punctuation Review 1(3-0) F,S,SS.** PRQ BCOM 111 or BCOM 116.
A five-week module of punctuation convention such as comma use, apostrophes, colon, dash, italics, and other signals.
- *BCOM 153 Correct Sentences 1(3-0) F,S,SS.** PRQ BCOM 111 or BCOM 116.
A five-week module of sentence correctness in using clauses and phrases effectively.
- *BCOM 154 Sentence Style for Advanced Students 1(3-0) F,S,SS.** PRQ BCOM 111 or BCOM 116.
A five-week module of sentence styles using coordination, subordination, parallelism, appositives, and other stylistic devices.
- *BCOM 155 Modifiers 1(3-0) F,S,SS.** PRQ BCOM 111 or BCOM 116.
A five-week module of effective use of modifiers in composition.
- *BCOM 156 Coherence 1(3-0) F,S,SS.** PRQ BCOM 111 or BCOM 116.
A five-week module of effective coherence in composition.
- *BCOM 157 Paragraph Development 1(3-0) F,S,SS.** PRQ BCOM 111 or BCOM 116.
A five-week module of methods of paragraph organization and development.
- *BCOM 158 Referenced Papers by Majors 1(3-0) F,S,SS.** PRQ BCOM 111 or BCOM 116.
A five-week module devoted to intensive analysis of references, bibliographies and/or formats used by disciplines.
- *BCOM 159 Reading in Content Areas 1(3-0) F,S,SS.** PRQ BCOM 120.
A five-week module emphasizing reading techniques used in special disciplines such as sciences and/or humanities.
- *BCOM 305 Technical and Scientific Report Writing 3(3-0) F,S,SS.** PRQ BCOM 111 or 116.
Study and application of technical writing in the student's major vocational area. Emphasis is placed upon familiarization with and use of discrete professional formats and styles leading to the writing of publishable articles. Designed for upperclassmen or special students in technical and professional fields. Open only to students who have completed the basic competency requirements of the University of Southern Colorado.

Behavioral Science

Dr. Wallace E. Smith, Acting Director
Center for Social and Cultural Studies
Center Office: P-108
Phone: 549-2103
Professor: Clay, Program Director

The Department of Behavioral Science 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 to 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.

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 and mental health (some of which may be used to fulfill general education requirements). Approval of adviser is required.

The typical behavioral science schedule:

Freshman Year		Credits
BEHSC	101	Intro to Behavioral Science I 3
BEHSC	102	Intro to Behavioral Science II 3
BCOM	110	Freshman Comp I 3
BCOM	111	Freshman Comp II 3
SPCOM	101	Speech Communication 2
BCOM	120	College Reading 2
PE	100	PE Orientation 2
PSYCH	101	General Psychology I 3
SOC	101	General Sociology I 3
		General Education Group I 6
		General Education Group II 3
TOTAL		33
Sophomore Year		Credits
BEHSC	201	The Professions 3
BEHSC	301	Behavioral Science and the Search for Meaning 3
PSYCH	102	General Psychology II 3
SOC	102	General Sociology II 3
ANTHRO	100	Study of Mankind 3
		General Education Group I 4
		General Education Group III 7
		General Education Group II 6
TOTAL		32
Junior Year		Credits
BEHSC	420	Dimensions of Behavioral Science 3
BEHSC	464	Counseling and Psychotherapy 3
BEHSC	481	Challenges of Behavioral Science 3
		Social Science electives (300/400 level) 12
		General Electives 12
TOTAL		33
Senior Year		Credits
BEHSC	487	Seminar in Behavioral Science 3
BEHSC	491	Topics in Behavioral Science 3
BEHSC	495	Field Experience in Behavioral Science 9
BEHSC	494	Pro Seminar for Interns 3
		Social Science electives (300/400 level) 4
		General Electives 3
TOTAL		25

Behavioral Science Minor		Credits	
BEHSC	101	Intro to Behavioral Science I	3
BEHSC	102	Intro to Behavioral Science II	3
BEHSC	420	Dimensions of Behavioral Science	3
BEHSC	481	Challenges of Behavioral Science	3
BEHSC	487	Seminar in Behavioral Science	3
		Social Science Electives	18
TOTAL			33

Courses:

Undergraduate:

BEHSC 101 Introduction to Behavioral Science I 3(3-0) F,S,SS.

An introduction to the holistic study of the individual. The course emphasizes self-development within a context of human development. It is a broad survey course which utilizes information from many disciplines in an attempt to provide student with broad perspectives of human behavior. Such perspectives are, in part, based upon an understanding of Man's past and how it relates to the present and future. Self-evaluation is encouraged in regard to value orientations, decision-making, self-actualization, and social interaction. GEN.ED.IIA

BEHSC 102 Introduction to Behavioral Science II 3(3-0) F,S.

An introduction to the holistic study of Mankind. A multi-disciplinary approach is emphasized to view the development of the family of man and to consider the various determinants and consequences of human behavior. The course will stress integrative methodologies, model development, and problem solving. GEN.ED.IIA

BEHSC 201 The Professions 3(3-0) F,S.

Critical analysis of a variety of professions, preparing the student to project a career or vocational choice, utilizing interest inventories, vocational interest tests, career profiles.

BEHSC 301 Behavioral Science and the Search for Meaning 3(3-0) S. PRQ BEHSC 101, 102 and senior status.

Focus on the process of human emergence and becoming. Perspectives on human development. A search for man's nature and principles of human behavior.

BEHSC 420 Dimensions of Behavioral Science 3(3-0) F,S. PRQ BEHSC 101, 102 and senior status.

Review of therapeutic methodologies. Exploration of principles of treatment. The clinical application of contemporary technologies in the helping services.

BEHSC 464 Systems of Counseling & Psychotherapy 3(2-2) F,S,SS. PRQ BEHSC 101, 102, PSYCH 101, 102.

Traditional and contemporary methods of counseling and psychotherapy are presented utilizing a series of laboratory experiences. 2 hours lecture, 2 hours laboratory.

BEHSC 481 Challenges of Behavioral Science 3(3-0) F,S,SS. PRQ 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 487 Seminar in Behavioral Science (1-3 VAR) S. PRQ BEHSC 101, 102 and senior status.

Investigation of complex and advanced level topics focusing on emotional and relationship problems that affect functioning.

BEHSC 491 Topics in Behavioral Science 3(3-0). PRQ Permission of instructor.

Selected topics that focus on aspects of human behavior. Interdisciplinary content and integrative methodology will be emphasized.

BEHSC 494 Pro-Seminar for Interns (1-3 VAR) F,S,SS.

This seminar 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 495 Field Experience in Behavioral Science (3-9 VAR) F,S,SS. PRQ Department approval and placement.

A supervised internship for field practice in community agencies.

BEHSC 496 Cooperative Education Placements (1-4 VAR) F,S,SS. PRQ 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.

BEHSC 499 Individual Projects (1-3 VAR) F,S,SS. PRQ Senior status and department approval.

Individualized instruction in specialized subjects and related research.

Graduate:

BEHSC 587 Seminar in Behavioral Science (1-3 VAR) F,S. PRQ 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 and Economics

Departmental Office: L-626 Phone: 549-2100

Professors: Adkins, Askwig, Boss, Bowersox, Chandler, Laase, Pook, Reinier, Ridgley, Sadler, Sarver, Vargas

Business Administration

People who understand the business processes are essential and are in demand in our highly organized and dynamic society. Business Administration offers programs designed to provide students with the skills necessary to respond to the challenges of the future and to assume leadership roles in government, industry, education, and business.

The department offers a four-year program leading to a Bachelor of Science in Business Administration with majors in management and marketing.

The **major in management** is designed to permit the selection of emphasis areas in general management, personnel and industrial relations, management science, computers and information systems, finance, public administration and industrial management.

An emphasis in **management** provides the student with an understanding of the manager's role in business organizations. It is for the person who wishes to make things happen by directing the work of others. Students

interested in management will take the following courses in addition to those required in the core curriculum: Personnel Management; Production/Operations Management; Industrial Relations Legislation or Collective Bargaining; Organizational Behavior; Law, Government and Business; Managerial Accounting, Managerial Economics and Small Business Management plus 9 hours of upper division electives in management, marketing, accounting, or economics.

The **personnel and industrial relations** emphasis is designed to provide the student with the technical expertise and generalized knowledge to assume a top management role and aid the organization in becoming more efficient and productive in personnel and industrial relations. Students interested in personnel and industrial relations will take the following courses in addition to those required in the core curriculum: Personnel Management; Industrial Relations Legislation; Collective Bargaining; Economics of Labor; Law, Government and Business; Industrial Sociology, plus 15 hours of upper division electives in management, marketing, accounting, or economics.

The **management science** emphasis is designed to integrate the quantitative and behavioral fields of management as they relate to the design of systems. Students interested in management science will take the following courses in addition to those required in the core curriculum: Production/Operations Management; Organization and Management Systems; Operations Research; Management Information Systems; Introduction to Econometrics; Marketing Research I; Computer Programming (3 hours), Management Economics plus 9 hours of upper division electives in management, marketing, accounting or economics.

An emphasis in **computers and information systems** is designed to prepare students for work in computing centers or data processing departments of business and government and for work as professional personnel utilizing the computer in the analysis and solution of business projects. Students interested in computers and information systems will take the following courses in addition to those required in the core curriculum: Organization and Management Systems; Computer Resource Management; Systems Analysis; Management Information Systems; Accounting Information Systems; Computer Programming (9 hours), plus 9 hours of upper division electives in management, marketing, accounting, or economics.

The **finance** emphasis is specifically designed to provide a program concentrating on the financial aspects of business and government, including financial management, investments, financial institutions, and related areas. Students interested in finance will take the following courses in addition to those required in the core curriculum: Financial Management II; Investments; Intermediate Macro-Economics; Intermediate Accounting I; Public Finance; Financial Policies. Select two of the following: Commercial Banking, Insurance, Real Estate, Intermediate Accounting II and 9 hours of upper division electives in management, marketing, accounting, or economics.

The **industrial management** emphasis is designed to provide the student with the technical expertise and generalized knowledge to develop and apply modern production techniques to the development of industrial and consumer products. Students interested in industrial management will take the following courses in addition to those required in the core curriculum: Production Management; Personnel Management; Methods and

Time Analysis; Management Information Systems or Managerial Economics; Collection Bargaining; Operations Research; Managerial Accounting, and Quality Control and Reliability.

The **public administration** emphasis concentrates on preparing students for careers at the executive and managerial levels in the national, state and local branches of the public service. The program aims at a broad understanding of the goals and programs of public administration, including budget and analysis, planning, organization, management methods, and personnel administration. Students desiring to follow the public administration emphasis will, in addition to completing the business core curriculum, be required to take the following courses: Public Finance; Personnel Management; Economics of Labor; Industrial Relations Legislation; Fund Accounting; Introduction to Public Service, plus 15 hours of upper division elective.

The **marketing major** is designed to provide the student with an in-depth understanding of the thinking and action that go into the many facets of the overall marketing process. Through the use of theory and practical application, a critical analysis is undertaken of the decision-making stage by producers, wholesalers, retailers, industrial users, and consumers. Students completing this major will discover that job opportunities are abundant in the special fields of retail merchandising and management, industrial sales and marketing management, promotion, physical distribution management, and marketing research. Students desiring to follow the marketing major will, in addition to completing the business core curriculum, be required to take the following courses: Marketing Research I, Consumer Behavior; Sales Management; Sales Communications; Marketing Strategies; Managerial Economics, plus 15 hours of upper division electives in marketing.

Minor:

A **minor in business administration for the non-business major may be completed with** the following courses:

ACCTG 201, 202

ECON 201, 202

BUSAD 310

BUSAD 330

BUSAD 340

Policies:

The standard semester load for full-time students is 16 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 in the courses taken within their area of specialization, as well as complete the University and business core requirements.

Students requesting credit for course work taken at some other institution or for experience are advised that the department has a transfer policy in effect. Students are responsible for having credits approved according to the policy.

The School of Business requires for a baccalaureate degree that 18 of the last 32 hours just prior to graduation must be taken on campus.

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

Bachelor of Science in Business Administration Degree

Freshman Year-Fall			Credits
BCOM	110	Fresh. Comp. I	3
BCOM	120	College Reading	2
PE	100	P.E. Orientation	2
		General Education (Note: it may be necessary to include a prerequisite to the math requirement)	9
			16
Spring			Credits
MATH	121	College Algebra (Or equivalent)	3
		Satisfies Group III Requirement	
BCOM	111	Fresh. Comp. II	3
SPCOM	101	Basic Speech Communication	2
BUSAD	160	Computers and Info Systems	3
		General Education	5
			16
Sophomore Year-Fall			Credits
ACCTG	201	Principles of Accounting I	3
ECON	201	Principles of Economics	3
BUSAD	260	Business Statistics I	3
		General Education	7
			16
Spring			Credits
ACCTG	202	Principles of Accounting II	3
ECON	202	Principles of Economics	3
BUSAD	261	Business Statistics II	3
		General Education	7
			16
Junior Year-Fall			Credits
BUSAD	310	Principles of Management	3
BUSAD	340	Principles of Marketing	3
BUSAD	300	Principles of Business Law I	3
BUSAD	330	Corporate Finance	3
ECON	310	Money and Banking	3
			15
Spring			Credits
BUSAD	370	Business Communications	3
		Emphasis Area	6
		General Education	7
			16
Senior Year-Fall			Credits
		Emphasis Area	15
		General Education	3
			18

	Spring		Credits
		Emphasis Area	12
BUSAD	490	Business Policy	3
			15
Minimum Requirements for Graduation			128

Courses:

- BUSAD 100 Introduction to Business 3(3-0) F,S.**
An introduction to the concepts and practices of business in a free enterprise system, including social requirements of business firms. GEN.ED II
- BUSAD 114 Small Business Environment 3(3-0).**
For non-business majors only. A 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) F,S.**
Concepts, technology, and applications of computers and computer-based information systems in business and government.
- BUSAD 260 Business Statistics I 3(3-0) F,S,SS. PRQ BUSAD 160 & 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) F,S. PRQ BUSAD 260.**
Statistical methods used in the solution of modern business and economic problems, including analysis of variance, regression, correlation, non-parametric methods, and sample survey techniques.
- BUSAD 292 Field Study (1-3 VAR) F,S,SS.**
Supervised field work in selected business, social, and governmental organizations that will enhance the student's training in management.
- BUSAD 300 Principles of Business Law I 3(3-0) F,S. PRQ Junior standing.**
A study of law as it relates to business. Coverage includes contracts, sales, bailments, and personal property.
- BUSAD 301 Principles of Business Law II 3(3-0) S. PRQ BUSAD 300.**
Emphasis placed on commercial paper, creditors' rights and secured transactions, agency and employment, partnerships and special ventures, corporations, and real property.
- BUSAD 302 Law, Government and Business 3(3-0) F,S. PRQ Junior standing.**
Government influence on business activities, including legislation affecting the competitive character of our system protecting the consumer and employee.
- BUSAD 305 Planning for Employment 1(1-0) PRQ Junior standing.**
Familiarizes and prepares the student for the employment problems faced upon graduation. Coverage includes the preparation of resumes, job interviewing techniques and researching potential employers. Course graded on a pass-fail basis.

BUSAD 310 Principles of Management 3(3-0) F,S,SS.

Decision-making, communication, and leadership principles in business and non-profit organizations.

BUSAD 311 Production/Operations Management 3(3-0) F,S. PRQ BUSAD 261 & 310.

Techniques and procedures for efficient production and problem-solving.

BUSAD 318 Personnel Management 3(3-0) F,S.

Recruiting, testing, interviewing, training and evaluating workers; planning for personnel needs; establishing personnel functions; employment laws; establishing pay plans.

BUSAD 320 Organizational Behavior 3(3-0) F,S. PRQ BUSAD 310.

Behavior of the individual in the organizational setting. Study of the behavioral determinants, managerial style, social system analysis, motivation, communication, and control processes.

BUSAD 330 Financial Management I 3(3-0) F,S,SS. PRQ ACCTG 202.

Principles of finance involved in problems confronting business organizations; methods of securing and managing funds.

BUSAD 331 Financial Management II 3(3-0) F. PRQ BUSAD 330.

Analytical and decision-making skills in relation to problems confronting managers — financing current operations, long-term capital commitments, management of income, mergers and acquisitions.

BUSAD 333 Investments — Analysis of Securities 3(3-0) F. PRQ BUSAD 330.

Various types of securities, using the process of analysis and evaluation as guidelines for a sound investment policy.

BUSAD 335 Real Estate 3(3-0) F. PRQ ECON 101 or ECON 201.

Stresses principles of real estate with emphasis on residential markets. Coverage includes economics, governmental and locational factors, appraising, financing, and real estate transactions.

BUSAD 337 Insurance 3(3-0) S. PRQ ECON 101 or ECON 201.

Study of life, property, and health insurance from purchaser's point of view, with additional emphasis on the operation and contributions of the insurance industry.

BUSAD 340 Principles of Marketing 3(3-0) F,S,SS. PRQ ECON 101 or ECON 202.

Focuses on the roles of marketing in the fulfillment of the needs of consumers and industrial users. Examines marketing functions and marketing institutions.

BUSAD 341 Sales Management 3(3-0) S. PRQ BUSAD 310 & 340.

Business planning, operating procedures and administration of sales force and its related activities.

BUSAD 342 Advertising 3(3-0) S. PRQ BUSAD 340.

Examines economic and social values of advertising, as well as functions and use of advertising. Coverage also includes selection of media copy and layout.

BUSAD 343 Retailing 3(3-0) F. PRQ BUSAD 340.

Principles and practices of retail store operation, including buying, merchandising, advertising, sales promotion, service, supervision, and control.

BUSAD 344 Marketing Channels 3(3-0). PRQ BUSAD 340.

Analysis of distribution channels used by firms engaged in marketing and manufacturing. Consideration of appropriate strategies for marketing channels management.

BUSAD 346 Sales Communications 3(3-0) S. PRQ 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.

BUSAD 348 Consumer Behavior 3(3-0) F. PRQ BUSAD 340.

Examines individual and group differences in consumer behavior, along with its effect on business strategies. Contemporary behavioral science concepts applied to specific business problems.

BUSAD 362 Systems Analysis 3(3-0) S. PRQ BUSAD 310.

Management process tools and techniques used in the development and evaluation of computer-based systems in business applications. Topics: investigation, analysis, design, implementation and evaluations.

BUSAD 365 Management Information Systems 3(3-0) F. PRQ BUSAD 310 & 340.

Integration and utilization of computerized management information systems to facilitate managerial needs and uses of information.

BUSAD 370 Business Communications 3(3-0) F,S. PRQ BCOM 111.

Provides the student with a means of extending management capabilities through effective internal and external communications, including data organization and presentation.

BUSAD 380 Records Management 3(3-0).

Systematic analysis and scientific control of records from creation through processing, maintenance, protection, and final disposition.

BUSAD 381 Administrative Management 3(3-0). PRQ BUSAD 160.

Management principles applied to the coordination of information, personnel, and equipment in achieving the objectives of an office.

BUSAD 410 Industrial Relations Legislations 3(3-0) F. PRQ BUSAD 318.

Federal and state legislation and execution and executive orders governing the employer-employee relationship; legal rights of organization and bargaining.

BUSAD 411 Collective Bargaining 3(3-0) S. PRQ BUSAD 318.

Strategies and methods involved in bargaining, administration of contracts, handling grievances, and arbitrating; content of contracts; employer-employee rights; costing of proposals.

BUSAD 412 Methods and Time Analysis 3(3-0) PRQ BUSAD 311.

Analysis of methods of performing operations and jobs to determine the most efficient manner and then establishing time standards.

BUSAD 414 Small Business Management 3(3-0) F,S. PRQ ACCTG 202, BUSAD 310 & 340.

The environment, management, marketing, accounting, and legal considerations facing the small business manager and owner.

BUSAD 415 Organization and Management Systems 3(3-0) S. PRQ BUSAD 261 & 310.

Systems theory and analysis applied to management and management decision-making.

BUSAD 430 Commercial Banking 3(3-0) S. ECON 310.

Commercial banking policy in relation to bank organization, regulation, reserves, loans, investments, and capitalization.

BUSAD 431 Financial Policies 3(3-0) S. PRQ BUSAD 331 & 333.

Financial policies of typical concerns in various organizations. Attention is given to methods that can be used to accomplish organizational objectives by means of financial policy.

BUSAD 440 Marketing Research I 3(3-0) F. PRQ BUSAD 260 & 340.

Modern research methods and techniques applied to the problems of collection, interpretation, and presentation of data for marketing management decisions.

BUSAD 441 Marketing Strategies 3(3-0) S. PRQ BUSAD 340.

Marketing policy formulation and implementation. Emphasis on developing student's ability to analyze and solve marketing problems.

BUSAD 445 Marketing Research II 3(3-0). PRQ BUSAD 440.

Actual marketing research project carried out by class members for business client. Emphasis placed on use of concepts and tools presented in BUSAD 440.

BUSAD 460 Computer Resource Management 3(3-0) F. PRQ BUSAD 160 & 310.

Selected reading topics on computer trends and applications in large and small businesses. Managerial implications of need evaluations, financing, utilization, and resource management.

BUSAD 465 Operations Research 3(3-0) S. PRQ BUSAD 261 & 310.

Application of quantitative techniques including simplex method of linear programming, inventory models, games and strategies, and simulation.

BUSAD 467 Computer Simulation 3(3-0) S. PRQ Programming.

The decision to use and the analysis of decision models in businesses using computer simulation.

BUSAD 469 Advanced Computer Concepts 3(3-0) F. PRQ BUSAD 362, Programming.

Application and development of computer programming capabilities in the solution of assigned business application areas.

BUSAD 490 Business Policy 3(3-0) F,S,SS. PRQ Senior status and completion of all CORE courses.

Integrating prior studies in business into a realistic approach to solve business cases.

BUSAD 492 Special Topics in Management (1-3 VAR).

Selected topics which respond to specific needs and requests.

BUSAD 494 Small Business Studies 3(3-0) F,S. PRQ Senior status and permission of instructor.

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.

BUSAD 495 Independent Study (1-3 VAR) F,S,SS. PRQ Senior status and permission of department head.

Individual research, directed readings, and/or special assignments.

BUSAD 496 Internship in Business. (1-6 VAR) F,S,SS.

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.

This student in the School of Business, like many others, participates in a field-experience program helping an area businesswoman solve typical problems of business ownership. In return, he received both academic credit and valuable applied experience in his prospective career.



Economics

Today, more than ever, the professional stature of the economist is recognized by leaders in industry, government, and education. The economics area recognizes the need for well-trained economists in today's society and offers a four-year program in economics leading to the Bachelor of Science in Business Administration degree.

Students choosing the Economics program will be qualified in economics and business management for careers in industry and government. The BSBA in Economics is excellent preparation for graduate training in economics, business or law.

Bachelor of Science in Business Administration with a Major in Economics

Freshman Year			Credits
BCOM	110,111	Fresh. Comp. I & II	6
BCOM	120	College Reading	2
SPCOM	101	Speech	2
PE	101	Physical Education	2
MATH	121	College Algebra	3
BUSAD	160	Computer Information Systems	3
		General Education Requirements	15
			33
Sophomore Year			Credits
ECON	201,202	Principles of Economics	6
ACCTG	201,202	Principles of Accounting I & II	6
BUSAD	260,261	Business Statistics I & II	6
BUSAD	370	Business Communications	3
		General Education Requirements	12
			33
Junior Year			Credits
ECON	310	Money and Banking	3
BUSAD	310	Principles of Management	3
BUSAD	330	Corporate Finance	3
BUSAD	300	Business Law I	3
BUSAD	340	Principles of Marketing	3
ECON	301	Intermediate Microeconomics	3
ECON	302	Intermediate Macroeconomics	3
		Economics Electives	6
		Electives	6
			33
Senior Year			Credits
BUSAD	490	Business Policy	3
		Economics Electives	12
		Electives	14
			29
Minimum Requirements for Graduation			128

Minor in Economics:

A baccalaureate degree student may minor in economics by completing 21 hours of approved economics courses. A minor in economics enhances degree programs in many areas such as accounting, business, history, political science, the social sciences, and mathematics. Economics 201 and 202 are required. (With adviser approval, Economics 101 may be substituted for Economics 201.) The remaining 12 hours must include either Economics 301 or 302.

Courses:

Undergraduate:

ECON 101 Introduction to Economics 3(3-0) F,S.

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 Economics 3(3-0) F,S,SS.

Study of fundamental principles with emphasis on macroeconomics. GEN.ED.IID.

ECON 202 Principles of Economics 3(3-0) F,S,SS.

Study of fundamental principles with emphasis on microeconomics. GEN.ED.IID.

ECON 205 American Economic Development 3(3-0).

Economic development from colonial times with the economic impact on society, government, labor, business, and technology being stressed. GEN.ED.IID.

ECON 225 Consumer Economics 3(3-0).

The study of personal economic problems related to how to spend, save, invest wisely. GEN.ED.IID.

ECON 292 Special Topics (1-3 VAR). PRQ Permission of instructor.

Selected topics dealing with current economic affairs will be treated.

ECON 301 Intermediate Microeconomics 3(3-0) S. PRQ ECON 202.

Study of price system and theory of the firm under varying market structures.

ECON 302 Intermediate Macroeconomics 3(3-0) F. PRQ ECON 202.

Economic theory and policy using the national income approach to explain income, employment, and growth.

ECON 307 Current Economic Issues 3(3-0). PRQ ECON 101 or 202.

An analytical survey of significant problems of current economic policy and the application of economic analysis to important social issues.

ECON 310 Money and Banking 3(3-0) F,S,SS. PRQ ECON 202.

Studies and relationships of banks to the Federal Reserve system, Treasury Department, and to money.

ECON 330 Public Finance 3(3-0) S. PRQ ECON 202.

Study of the principles and issues of government revenue and expenditure policies.

ECON 340 Comparative Economic Systems 3(3-0). PRQ ECON 202.

Contending ideologies which shape economic systems in determining what, how, for whom, and the rate of economic growth.

ECON 350 Introduction to Econometrics 3(3-0). PRQ ECON 202.

Studies the ideas, principles and techniques involved in the quantitative analysis of economic phenomena.

ECON 360 Business Cycles Analysis and Forecasting 3(3-0). PRQ ECON 202.

Examines the market economy in a systematic way to reveal the nature of economic instability.

ECON 392 Special Topics (1-3 VAR). PRQ Permission of instructor.

Selected topics of economic issues and economic analysis will be treated.

ECON 400 Managerial Economics 3(3-0) F,S. PRQ ECON 201, 202 and senior status.

The study of the practical application of well-known principles to economic problems of managers.

ECON 402 Economics of Labor 3(3-0) F. PRQ 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). PRQ ECON 202.

Theories and methods of economic analysis of urban problems.

ECON 420 History of Economic Thought 3(3-0). PRQ ECON 202.

Study of economic thought of important contributors from the past to the present.

ECON 494 Small Business Studies 3(3-0) F,S. PRQ Senior status and permission of department head.

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.

ECON 495 Independent Study (1-3 VAR) F,S,SS.

Individual research, directed readings, and/or special assignments.

ECON 496 Internship in Economics (1-6 VAR) F,S. PRQ Permission of department head.

Open to qualified upper-division students. Supervised field work in selected business and governmental organizations. The students' field work relating to economics is supplemented by periodic seminars and written reports.

Graduate:

ECON 501 Economics for Teachers 3(3-0). PRQ Permission of instructor. Emphasizes the broad aspects that are of general interest in today's economy. Designed for K-12 teachers of economics and related courses.

Chemistry

Dr. John E. Smith, Head
Departmental Office: C-409
Phone: 549-2421 or 549-2574

Professors: Austin, Connelly, Hammer, Mahan, Miller

The Department of Chemistry offers programs for students majoring in the preprofessional programs, medical technology and the sciences and technologies. Additionally, all course offerings of the department are acceptable for (1) meeting the requirements in the various teacher education programs, (2) establishing a minor in chemistry, and (3) serving as elective courses for students majoring in other areas. Flexible programming for the major in chemistry is also offered.

Every student has access to individual consultation to ensure that he is getting the program best suited to his professional goals. All major and minor programs must be approved by the department, and it is through such consultation that personalized programs are developed.

Bachelor of Arts Degree

The minimum requirements for the B.A. degree are 34 hours distributed among General Chemistry and Qualitative Analysis, Organic Chemistry, Analytical Chemistry, and Physical Chemistry. One B.A. program is in teacher education. In addition to the foregoing courses, the student will take a one-semester course in Methods and Techniques which is offered

by the Chemistry Department, but which is not to be credited toward the 34 hour minimum. A number of courses in education are also required as determined through consultation with the Department of Education, as well as courses in general physics and mathematics.

The other B.A. program is designed for those students who seek training in chemistry apart from teacher education but who do not seek the level of professional training as a chemist achieved in the B.S. program (see below). Such students might wish to work in areas not generally classified as one of the core physical sciences and not customarily set apart as a separate discipline in the average undergraduate curriculum. Examples of such possible areas are oceanography, biochemistry, pollution control, environmental science, agricultural science, foreign service with the U.S. government, sales, business, technical writing, intelligence work, etc. In particular, students in certain preprofessional programs such as premedicine and predentistry will find a science-oriented degree advantageous in meeting requirements for admission to the professional school.

Bachelor of Science Degree

For the student who expects to enter graduate school in chemistry, or who anticipates going directly into industrial or governmental employment, the B.S. degree is the advised choice. The minimum requirement for the B.S. in chemistry is 40 hours of chemistry. In addition to the same courses noted above under the B.A. program, the student must take Experimental Physical Chemistry and sufficient advanced work to satisfy the 40-hour minimum. The Methods and Techniques course is not required, nor can it be taken in partial fulfillment of the 40-hour requirement. Mathematics through the calculus and general physics complete the requirements.

The typical chemistry schedule:

Freshman Year		Credits
CHEM	121,121L	General Chemistry I and Lab 5
CHEM	122,122L	General Chemistry II and Lab 5
MATH	121	College Algebra 3
MATH	122	College Trigonometry 2
MATH	126	Calculus & Analytic Geometry I 5
BCOM	110	Freshman Composition I 3
BCOM	111	Freshman Composition II 3
BCOM	120	College Reading 2
PE	100	PE Orientation 2
		GEN ED Electives — Group I 3
		—
		34
Sophomore Year		Credits
CHEM	301,301L	Organic Chemistry I and Lab 5
CHEM	302,302L	Organic Chemistry II and Lab 5
MATH	224	Calculus & Analytical Geometry II 4
MATH	240	Introduction to Computer Programming 1
PHYS	221	General Physics I 5
SPCOM	101	Basic Speech Communication 2
		GEN ED Electives — Group I 3
		GEN ED Electives — Group II 4
		GEN ED Electives — Group III 5
		—
		34

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
PHYS	222	General Physics II	5
FL	121,122	Introduction to German I and II (Recommended)	6
		GEN ED Electives — Group I	8
			—
			33
Senior Year			Credits
CHEM	323	Experimental Physical Chemistry	2
CHEM	495	Independent Study, Research (Recommended)	2
		Chemistry Electives	4-10
		GEN ED Electives — Group II	6
		GEN ED Electives — Group III	5
		Electives	10
			—
			29-35

Chemistry Minor

A minimum of 18 hours is required for a minor in chemistry, among which must be included General Chemistry and Qualitative Analysis. At least 6 hours must be obtained in courses numbered 200 and above. All minor programs require approval of the department.

CHEM	121,121L	General Chemistry I and Lab	5
CHEM	122,122L	General Chemistry II and Lab	5
		AND	
CHEM	301,301L	Organic Chemistry I and Lab	5
CHEM	302,302L	Organic Chemistry II and Lab	5
		OR	
CHEM	317,317L	Quantitative Analysis I and Lab	4
CHEM	318,381L	Quantitative Analysis II and Lab	4
		OR	
CHEM	301,301L	Organic Chemistry I and Lab	5
CHEM	317,317L	Quantitative Analysis I and Lab	4

Courses:

Undergraduate:

CHEM 101 Chemistry and You 3(3-0) F.S.

Chemistry related to your everyday world. Drugs, food, pollution, pesticides, consumer products, energy, home health, etc. For nonscience majors but open to all. GEN.ED.IIIB

CHEM 111 Principles of Chemistry 3(3-0) F,S. PRQ none. CORQ CHEM III.L

The 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. GEN.ED.IIIB

CHEM 111L Principles of Chemistry Lab 1(0-2) F,S. CORQ 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 121 General Chemistry I 4(4-0) F,S. PRQ One year high school algebra or equivalent, and one year high school chemistry or equivalent. CORQ CHEM 121L.

For science and preprofessional curricula. Atomic theory, chemical bonding, periodic table, states of matter, oxidation-reduction, solutions, colligative properties, electrolytic dissociation. GEN.ED.IIIB

CHEM 121L General Chemistry Lab 1(0-2) F,S. CORQ 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) F,S. PRQ CHEM 121, CORQ CHEM 122L.

A continuation of CHEM 121. Thermodynamics, kinetics, equilibria, nuclear chemistry. GEN.ED.IIIB

CHEM 122L Qualitative Analysis Lab 1(0-2) F,S. CORQ CHEM 122.

Techniques and application of semimicro qualitative analysis. GEN.ED.IIIB

CHEM 205 Intro to Organic & Biochemistry 3(3-0) S. PRQ CHEM 111 or permission of instructor.

Organic chemistry. Molecular structure, functional groups, carbohydrates, lipids, proteins, biochemistry.

CHEM 205L Intro to Organic & Biochemistry Lab 1(0-2) S. PRQ CHEM 111L, CORQ CHEM 205.

Organic laboratory techniques. Synthesis, purification and uses of organic compounds. Identification of functional groups, etc.

CHEM 213 Survey of Organic Chemistry 3(3-0) F. PRQ CHEM 111, CORQ CHEM 213L.

Properties, reactions, and uses of carbon compounds. For liberal arts students, specified science majors and certain preprofessional curricula. Not open to chemistry majors.

CHEM 213L Survey of Organic Chemistry Lab 1(0-2) F. CORQ CHEM 213.

Experiments involving the techniques of the organic chemist and syntheses of organic compounds.

CHEM 214 Survey of Organic Chemistry and Biochemistry 4(4-0) S. PRQ CHEM 111 or 121.

Overall view of properties, reactions and uses of carbon compounds, including carbohydrates, proteins, lipids, enzymes, vitamins, hormones; study of life processes. For PVCC students only.

CHEM 219 Introduction to Chemical Instrumentation 1(1-0) S. PRQ or CORQ CHEM 122.

Principle of operations, applications, and utility of instruments. Application to problems of current interest.

CHEM 221 Engineering Chemistry 4(4-0) F. PRQ High school chemistry or permission of instructor. CORQ CHEM 221L.

For engineering students. Structure and bonding, quantum theory, equilibrium, thermodynamics, kinetics and phase studies.

CHEM 221L Engineering Chemistry Lab 1(0-2) F. CORQ CHEM 221.

Laboratory to accompany CHEM 221.

CHEM 225 Environmental Chemistry 2(2-0) F,SS. PRQ CHEM 121.

Chemical processes in air, water, and soil. Air, water analysis, and treatment, pollution, etc. GEN.ED.IIIB

CHEM 291 Special Topics (1-5 VAR) F,S. PRQ Permission of instructor.

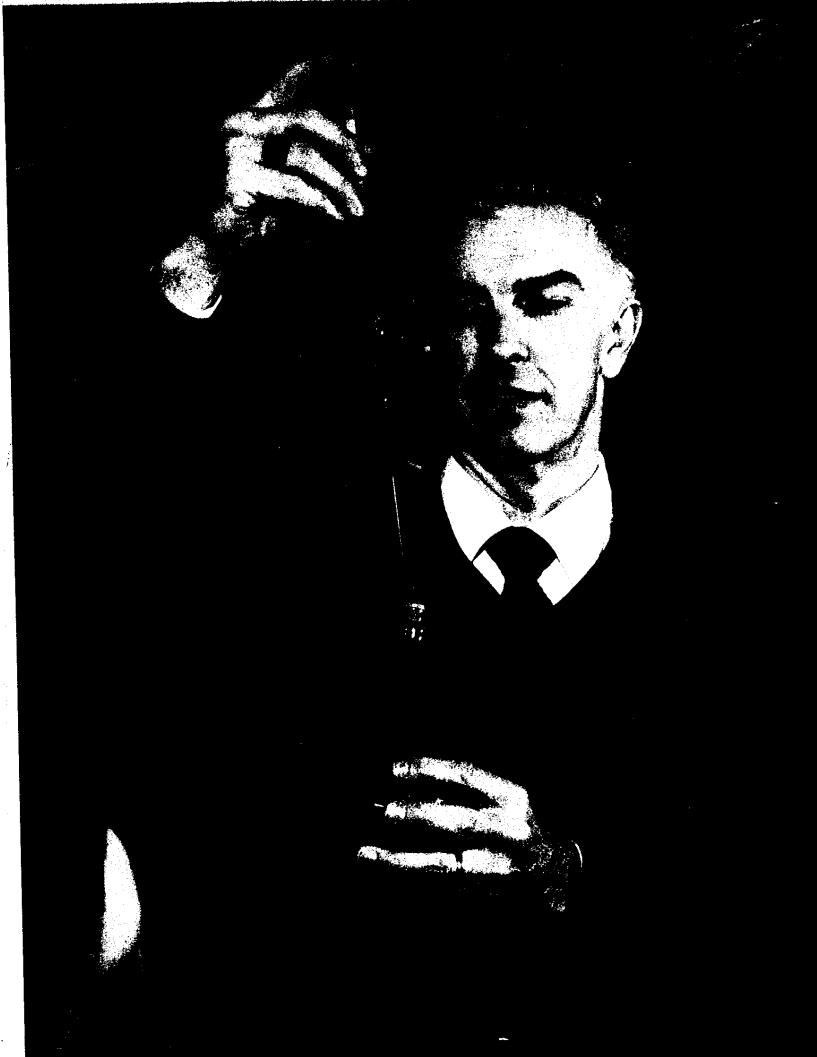
Topics will be considered which serve the interests of 10 or more students.

CHEM 301 Organic Chemistry I 3(3-0) F. PRQ CHEM 122, CORQ 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) F. CORQ CHEM 301.

A laboratory course to accompany CHEM 301.



Dr. Jerald Connelly, a talented Professor of Chemistry, works with his research assistant. He is one of a number of nationally prominent members of USC's faculty who are on the cutting edge of expanding knowledge, yet who always have time for their students.

CHEM 302 Organic Chemistry II 3(3-0) S. PRQ CHEM 301, CORQ CHEM 302L.

A continuation of CHEM 301.

CHEM 302L Organic Chemistry Lab II 2(0-4) S. PRQ CHEM 301L. CORQ CHEM 302.

A laboratory course to accompany CHEM 302.

CHEM 311 Biochemistry I 3(3-0) F. PRQ 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 312 Biochemistry II 2(2-0) S. PRQ CHEM 311, CORQ CHEM 312L. A continuation of CHEM 311. Intermediary metabolism of carbohydrates, lipids, and amino acids. Bioenergetics.

CHEM 312L Biochemistry Laboratory 1(0-2) S. CORQ CHEM 312.

A laboratory course to accompany CHEM 312.

CHEM 317 Quantitative Analysis I 2(2-0) F. PRQ CHEM 122, CORQ CHEM 317L.

Volumetric and gravimetric analysis integrated with instrumental analysis, both optical and electrometric methods.

CHEM 317L Quantitative Analysis I Lab 2(0-4) F. CORQ CHEM 317.

Laboratory component to CHEM 317.

CHEM 318 Quantitative Analysis II 2(2-0) S. PRQ CHEM 317 or permission of instructor. CORQ CHEM 318L.

A continuation of CHEM 317.

CHEM 318L Quantitative Analysis II Lab 2(0-4) S. CORQ CHEM 318.

Laboratory component to CHEM 318.

CHEM 321 Physical Chemistry I 3(3-0) F. PRQ CHEM 122, PRQ or CORQ 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) S. PRQ CHEM 321.

A continuation of CHEM 321.

CHEM 323 Experimental Physical Chemistry 2(0-4) F. PRQ CHEM 321, or permission of instructor.

Thermodynamics, equilibrium, phase phenomena, kinetics, spectroscopy.

CHEM 377 Methods and Techniques of High School Teaching 2(2-0) F.

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) F. PRQ CHEM 302, or permission of instructor. CORQ CHEM 401L.

Topics in advanced organic chemistry, including organic reactions, mechanisms, natural products, and spectroscopy.

CHEM 401L Advanced Organic Chemistry Lab 1(0-2) F. CORQ CHEM 401.

A laboratory course to accompany CHEM 401. Molecular structure determination by chemical and instrumental methods.

CHEM 419 Instrumental Analysis 1(1-0) S. PRQ CHEM 318, 322 or permission of instructor. CORQ CHEM 419L.

Emission spectrography, atomic absorption, gas chromatography spectrophotometry, etc.

CHEM 419L Instrumental Analysis Lab 2(0-5) S. PRQ CHEM 318, 322, or permission of instructor. CORQ CHEM 419.

Laboratory component to CHEM 419.

CHEM 421 Inorganic Chemistry 3(3-0) S. PRQ CHEM 121, or permission of instructor.

Structure and bonding, coordination theory, periodic relations, equilibrium, kinetics, thermodynamics, descriptive chemistry.

CHEM 431 Radiochemistry 2(2-0) F. PRQ CHEM 322, or permission of instructor. Nuclear properties, interaction and detection of radiation, application to chemistry.

CHEM 291, 491 Special Topics (1-5 VAR) F,S. PRQ permission of instructor. Topics will be considered which serve the interests of 10 or more students.

CHEM 491 Special Topics (1-5 VAR) F,S. PRQ Permission of instructor. Topics will be considered which serve the interests of 10 or more students.

CHEM 495 Independent Study (1-7 VAR) F,S. PRQ 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) F,S. PRQ Permission of instructor. Topics will be considered which serve the interests of 10 or more students.

Chicano Studies

Dr. Wallace E. Smith, Acting Director
Center for Social and Cultural Studies
Center Office: P-108 Phone: 549-2103
Professor: Sandoval

The Chicano studies program is a community-oriented program designed to orient the student to an in-depth knowledge of the Chicano community. The areas of history, culture, language, psychology, and socio-economic influences in the community are offered.

The problem of determining a career has become much more difficult for students during the last 10 years, especially for those who pursue a liberal arts education. A minor in Chicano studies does suggest careers in law, social work, multi-cultural 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 would be vitally 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.

Chicano Studies Minor:

A minimum of 21 semester hours is required. Required courses include CS 101, CS 201, CS 202, CS 210, CS 220, and CS 401.

		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
		TOTAL 21

Courses:

- CS 101 Introduction to Chicano Studies 3(3-0) F,S,SS.**
An 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) S.**
A survey of Meso-American history, culture, and political experience with emphasis on significance to the Chicano. GEN.ED.IIE
- CS 201 Aztlan: The Southwest and Its People 3(3-0) F.**
A study of the historical, political, and socio-cultural experience of the Chicano after 1848. GEN.ED.IIE
- CS 202 Contemporary Chicano Movement 3(3-0) S.**
An 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) F,S.**
A social, cultural and historical overview of the Chicana experience and contributions. GEN.ED.IIE
- CS 220 Survey of Chicano Literature 3(3-0) F.**
A survey of outstanding contemporary Chicano works. Literature will deal with Chicano themes including analysis of folklore and myth. GEN.ED.IJ.
- CS 230 Chicano: Social and Psychological Study 3(3-0).**
A study of the social and psychological forces faced in the Chicano community. GEN.ED.IIE.
- CS 240 Contemporary Chicano Art and Music 3(3-0).**
A study of the role, symbolism and message in contemporary Chicano art and music. Emphasis will be placed on mural art and contemporary music. GEN.ED.IJ.
- CS 293 Topics in Chicano Studies (1-3 VAR) S.**
Topics of interest to those involved in the area of Chicano studies, identified by student/faculty interest. Prior work in Chicano studies desirable.
- CS 302 European Influence on Meso-America 1519-1821 3(3-0).**
An analysis of European influence in Mexico. Emphasis on Spanish institutions that shaped the Mexican republic.
- CS 303 Chicano Labor History in the United States 3(3-0).**
A study of the Chicano experience in the American labor market beginning 1848 to the present.
- CS 316 Minorities and the Law 3(3-0) S.**
The purpose of the course is to offer a broad survey into the legal systems in relation to the Chicano.
- CS 333 The Media and the Minority 3(3-0) F.**
An examination of the Chicano experience with media. Also discussion on methods and techniques of various media.
- CS 335 Health in the Chicano Community 3(3-0).**
A study of health care traditions in the barrio. Also examination of current health care systems in the barrio.
- CS 401 Seminar in Chicano Studies (1-3 VAR). PRQ CS 101.**
Various problems within the realm of Chicano studies. An in-depth integrated approach.
- CS 433 Community Service and La Raza 3(3-0). PRQ CS 101.**
To assist the student in the development and implementation of a plan to provide some type of community service.
- CS 499 Independent Study (1-3 VAR). PRQ CS 101.**
Devoted to special topics dealing with the Chicano and society.

Civil Engineering Technology

Ward Holderness, Head
Departmental Office: T-164a
Professors: Hirth, Rao, Womack

The civil engineering technology program offers a Bachelor of Science degree. This degree program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. This 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 and design. The lower-division course work consists of surveying, drafting, 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, geology, architectural drafting and civil design. Managerial and supervisory capabilities are developed in courses such as estimating, business law, and construction contracting and supervision.

Students seeking a degree in this program should have a mathematics-science background. This should include algebra, geometry and trigonometry. Students that have an AAS degree in a similar program from an accredited institution may transfer to this program and earn the baccalaureate degree with two additional years of study.

The civil engineering technology program also offers an Associate in Applied Science degree. This program is designed to prepare students for high-level technician positions in surveying, construction and drafting. This is accomplished by keeping the general requirements to a minimum with a heavy concentration in technical courses. The curriculum places emphasis on practical surveying techniques, construction procedures and drafting related to civil areas.

A student entering this program should have a background in applied mathematics and science. If a student is deficient in algebra and geometry, he/she can take courses that the University offers to up-grade the deficiency.

The BS degree candidate must complete a minimum of 134 semester hours, with a 2.00 cumulative grade point average in major area of study.

The AAS degree candidate must complete a minimum of 68 hours, with a 2.00 cumulative grade point average in major area of study.

AAS candidates see adviser for two-year degree options.

The typical CET schedule:

Freshman Year		Credits
MATH	131/132 Math for Engineering Technology	8
BCOM	115/116 Technical Writing I & II	6
MET	111 Mechanical Drawing	3
CET	101 Introduction to Civil Technology	2
CET	102/103 Surveying I and II	8
CET	104 Map Drafting	3
CET	105 Construction Materials	3
PE	100 PE Orientation	2
		35

Sophomore Year		Credits
MATH	233 Math for Engineering Technology	4
PHYS	201 Principles of Physics I	4
EN	105 Fortran	2
CET	210/205 Soil Mechanics Technology/Lab	3
CET	202 Statics	3
CET	203/204 Strength of Materials/Lab	3
CET	311/312 Advanced Surveying I and II	8
	General Education	6
		33

Junior Year		Credits
PHYS	202 Principles of Physics II	4
BCOM	101 Basic Speech Communication	2
BCOM	120 Developmental Reading	2
BUSAD	310 Principles of Management	3
CET	301 Fundamental Structural Design	3
CET	302 Reinforced Concrete Design	3
CET	303 Construction Contracting and Supervision	3
CET	304 Construction Cost Estimating I	3
	General Education	9
		32

Senior Year		Credits
CET	305 Construction Cost Estimating II	3
CET	401 Land Surveying	3
CET	402 Civil Design Projects	3
BUSAD	318 Personnel Management	3
GEOL	101 Earth Science	(4)
or		—
CHEM	111 Principles of Chemistry	(4)
	General Education	6
	Approved CET Electives	12
		34

Courses:

- CET 101 Introduction to Civil Engineering Technology 2(2-0) F.**
 To acquaint CET students with USC and the engineering profession. A mathematics laboratory for practical applications of algebra, geometry and trigonometry as used in civil engineering technology.
- CET 102 Surveying I 4(2-4) F.**
 A 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) S.** PRQ CET 102 or approval of instructor.
 An introduction to land, topographic and construction surveying.
- CET 104 Map Drafting 3(0-6) S.** PRQ CET 102, MET 111 or approval of instructor.
 An introductory course in plotting traverses, planimetric maps, topographic maps, profiles and highway design.
- CET 105 Construction Materials 3(3-0) S.**
 A study of the properties and use of soil, concrete, wood masonry, steel, etc., as they apply to building construction.
- CET 108 Concrete Lab 1(0-2) S.** Taught concurrently with CET 105.
 Testing concrete materials using the ASTM concrete specification as a guide line.

CET 201 Soil Mechanics Technology 2(2-0) S. PRQ MATH 132 or approval of instructor.

Basic principles of soil mechanics and foundation design as they apply to design and construction.

CET 202 Statics 3(3-0) F. PRQ MATH 132 or approval of instructor.

Theory and application of action and reaction forces, moments as applied to structures.

CET 203 Strength of Materials 3(3-0) S. PRQ CET 202.

Basic stress-strain relationships resulting from compression, tensile, shear, bending loads, center of gravity and moments of inertia.

CET 204 Strength of Materials/Lab 1(0-2) S. Taught concurrently with CET 203.

Lab experiments relating to stress-strain relationships and strengths of various materials or conditions.

CET 205 Soil Mechanics Technology/Lab 1(0-2) S. PRQ 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) F. PRQ MET 111.

An introduction to the detailing of steel, wood & concrete structural drawings for fabrication.

CET 212 Subdivision Design 3(0-6) S. PRQ CET 102, CET 103.

Basics of subdivision design, preliminary and final plat preparation and horizontal coordinate geometry.

CET 296 Co-op Education Placement (1-5 VAR) F,S,SS.

For freshmen and sophomores for industrial cooperative education work experience under the direction of a field supervisor and faculty member.

CET 301 Fundamental Structural Design 3(3-0) F. PRQ CET 203.

Structural steel design of beams, columns, girders and trusses to AISC standards.

CET 302 Reinforced Concrete Design 3(3-0) S. PRQ CET 203.

Design of reinforced concrete beams, columns, girders and floor systems to conform to current ACI code.

CET 303 Construction Contracting and Supervision 3(3-0) S. PRQ Junior standing or approval of instructor.

The study of job specifications, organization, bonding, contracts, insurance, labor relations and planning and scheduling.

CET 304 Construction Cost Estimating I 3(3-0) F. PRQ CET 105 or approval of instructor.

Estimating related to building construction industry. Quantity take-off, labor and materials costs, records and assembling a general contractors bid.

CET 305 Construction Cost Estimating II 3(3-0) F. PRQ Junior standing or approval 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) F. PRQ CET 103.

Develops professional skill in surveying, triangulation, state plane coordinates and engineering astronomy.

CET 312 Advanced Surveying II 4(2-4) S. PRQ CET 103.

Highway and route surveys, horizontal and vertical curves, grades, slope staking and earthwork.

CET 313 Architectural Drafting I 3(0-6) F. PRQ MET 111.

The preparation of a complete set of working drawings for a modern residential building.

CET 314 Architectural Drafting II 3(0-6) S. PRQ CET 313.

An introduction to architectural design, design sketches and working drawings for a light commercial building.

CET 315 Advanced Architectural Drafting 3(0-6) F. PRQ CET 314.

An individual study course to develop skill in drafting and design of further selected topics.

CET 401 Land Surveying 3(3-0) F. PRQ CET 103 or approval of instructor.

Boundary control, property descriptions, deeds, subdivisions, etc. Emphasizes the legal aspects of land lay and surveying.

CET 402 Civil Design Projects 3(0-6) S. PRQ Senior CET or approval of instructor.

A practical, realistic project, relating to civil engineering technology is selected, developed, designed and reported on. This is an independent study course.

CET 411 Hydraulics 3(3-0) F. PRQ CET 202.

An 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) F. PRQ CET 411.

A study of the hydrologic cycle including precipitation, streamflow, groundwater, runoff and the preparation of hydrographs and frequency analysis.

CET 413 Indeterminate Structures 3(3-0) F. PRQ CET 203.

An introductory course in the 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) F, S. PRQ Junior standing.

Passive and active solar heating of building spaces and water.

CET 491 Special Topics in Civil Technology (1-6 VAR) F,S,SS. PRQ Consent of instructor.

Special interest topics or projects not covered in existing technology courses.

CET 496 Co-op Education Placement (1-5 VAR) F,S,SS.

For juniors and seniors for industrial cooperative education work experience under the direction of a field supervisor and faculty member.



Computer Science Technology

Dr. Douglas W. Knight-Acting Head
Departmental Office: T-274
Professors: Knight, Padgett, Smith, Cook

The computer science technology program offers two degree programs, the Associate of Applied Science degree (AAS) and the Bachelor of Science (BS) degree in computer science technology. The AAS degree program is designed to meet the needs of those students seeking to be generally employable in the computer field as computer operators, data processing technicians and entry-level programmers.

The BS degree program is designed to meet a variety of student needs, and the rapidly increasing demand for computer science technologists — computer applications programmers, systems programmers and specialists in computer hardware architecture and software design.

The objectives of this department 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 a C in Computer Science Technology will be accepted for a degree fulfillment.**

Associate in Applied Science Degree

Students entering the two-year AAS degree program will pursue a program designed to provide employable graduates in the computer industry in areas of general computer technology: data entry, data control, computer operation, entry-level programming.

Entering students select an area of emphasis which will become their 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 can exercise the option of seeking employment or continuing to pursue a higher degree in computer science technology.

Typical AAS degree schedule:

Freshman Year		Credits
CST	101	Introduction to CS I 3
CST	102	Introduction to CS II 3
CST	115	Operating Systems I 3
CST		Elective (Language) 3
BCOM	110	Freshman Comp. I 3
BCOM	120	College Reading 2
MATH	120	Intermediate Algebra 4
MATH	156	Intro. to Statistics 3
PE	100	Physical Education Orient. 2
		General Education 6
		(Groups I & II)
		—
		32
Sophomore Year		Credits
CST	210	Intro. to Assembler Lang 4
CST	220	COBOL I 4
CST	240	Sys. Design of Analysis I 3
		Elective (Topics, Project, or Language) 1-3
ACCTG	201-202	Principles of Acctg I & II 6
		Electives (Supports Possible Minor) 15
		—
		33-36

Bachelor of Science (BS) Degree

Students will enter the four-year BS program as either new freshmen, continuing AAS degree students or transfer students from other colleges, universities or community colleges. All students will follow a curriculum program in one of three option areas and upon successful completion they will be awarded the Bachelor of Science degree. Each option includes specific base 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 advised minor of 20 hours. Option 2 requires a minor of 22 hours of specialized mathematics, and Option 3 requires a minimum of 30 hours of specific electrical engineering technology coursework.

Successful completion of this 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 and software design skills.

Applications programming (Option 1)

A typical schedule of coursework:

Freshman Year		Credits
CST	101	Introduction to CS I 3
CST	102	Introduction to CS II 3
CST	115	Operating Systems I 3
CST		Elective (Language) 3
BCOM	110/111	Freshman Comp. I & II 6
BCOM	120	College Reading 2
PE	100	Physical Ed. Orient 2
MATH	121	College Algebra 4
		General Education 7
		—
		33
Sophomore Year		Credits
CST	210	Intro. to Assembler Lang 4
CST	220	COBOL I 4
CST	240	Systems Analysis I 3
CST		Elective 3
ACCTG	201-202	Principles of Acctg. I & II 6
MATH	156	Intro. to Statistics 3
SPCOM	101	Basic Speech Communications 2
		General Education 7
		—
		32
Junior Year		Credits
CST	310	PL/ 1 Programming 3
CST	341	Systems Analysis and Des. II 3
CST	350	Data Base Management Systems 3
CST		Upper Division Elective 3
		Coursework in Approved Minor 12
		General Education 9
		—
		33

Senior Year		Credits
CST	410	Data Communications Systems..... 3
CST	420	Data Structures 3
CST		Upper Division Electives 4
		Coursework in Approved Minor 8
		General Education 7
		Free Electives (suggest — Math 245) 6
		31
Total Credit Hours		129

Systems Programming (Option 2)

A typical schedule of coursework:

Freshman Year		Credits
CST	101	Introduction to CS I..... 3
CST	102	Introduction to CS II 3
CST	115	Operating Systems I 3
CST	105	FORTRAN 3
BCOM	110/111	Freshman Comp I & II 6
BCOM	120	College Reading 2
PE	100	Physical Ed. Orientation 2
MATH	126	Calculus & Analytic Geometry I..... 5
		General Education 6
		33

Sophomore Year		Credits
CST	210	Intro. to Assembler Language 4
CST	240	Systems Anal. I 3
CST		Elective 4
MATH	224	Calculus & Analytic Geometry II 4
MATH	281	Intro. to Linear Algebra 3
SPCOM	101	Basic Speech Communication 2
		General Education 12
		32

Junior Year		Credits
CST	321	Assembly Lang. II 3
CST	420	Data Structures 3
CST		Upper Div. Electives..... 6
MATH	325	Intermediate Calculus 4
MATH	342	Intro. to Numerical Anal..... 3
ACCTG	201-202	Principles of Acctg. I & II 6
		General Education 8
		33

Senior Year		Credits
CST	416	Operating Systems II..... 3
CST	460	Computer Systems Arch. I 3
CST	464	Computer Systems Fund. I..... 4
CST		Upper Div. Electives..... 3
MATH	445	Topics in Discrete Math 3
		General Education 4
		Free Electives..... 11
		31



The new computer laboratory of the School of Applied Science and Engineering Technology is typical of USC's up-to-date computer installations and is kept busy by student users virtually day and night.

Computer (Hardware/Software) Systems (Option 3)

Freshman Year			Credits
CST	101	Introduction to CS I	3
CST	102	Introduction to CS II	3
CST	105	Introduction to FORTRAN	3
MATH	131/132	Math Eng. Tech I & II	8
EET	121	DC Circuits	5
EET	161	Circuits Lab 1	1
EET	122	AC Circuits	3
EET	162	Circuits Lab 2	1
EET	143	Electronics I	5
BCOM	110	Freshman Comp I	3
			34
Sophomore Year			Credits
CST	115	Operating System I	3
CST	210	Intro to Assembler Lang.	4
CST	240	Sys. Anal. I	3
MATH	233	Math. Eng. Tech. III	4
EET	254	Intro. to Dig. System	4
EET	255	Intro. to Microcomputers	2
BCOM	111	Freshman Comp II	3
PE	100	Physical Ed. Orientation	2
		General Education	9
			34
Junior Year			Credits
CST	321	Assembly Lang. Prog. II	3
CST	420	Data Structures	3
CST		Upper Division Electives	3
MATH	443 or 445	Optimization or Finite Math	3
EET	451	Computers I	3
PHYS	201/202	Principles of Physics — I & II (Am. Ed. III)	8
SPCOM	101	Basic Speech Communications	2
BCOM	120	College Reading	2
		General Education	7
			33
Senior Year			Credits
CST	416	Operating Systems II	3
CST		Upper Division Elective	6
EET	452/453	Computers II & III	6
		General Education	6
		Upper Division Free Electives	10
			31
Total Credit Hours			131

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 be counseled by 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 so general education courses and electives supporting the minor can be planned.

Courses:

- CST 100 will receive credit only if effective fall 80. gyp III - (see policy)*
- CST 100 Introduction to Interactive Computing 3(3-0) F,S,SS.**
Introduction to computer languages will provide computer awareness and fundamental skills with the use and expression of computer languages. Course will have a focus on interactive person-machine exchanges, a programming language (BASIC), and the operating system commands (JCL) will be studied and practiced. The course will emphasize grammar and meaning. **GEN.ED.#F-III**
- CST 101 Computer Science I 3(3-0) F,S,SS. CORQ (majors only) CST 105 or CST 110.**
Presents fundamentals of data processing, peripheral equipment, survey of history, mainframe concepts, programmer organization, sociological issues, career paths. Specific topics include disks, tapes, comparison of programming languages, systems analysis, hardware and software models. **GEN.ED.III-C**
- CST 102 Computer Science II 3(3-0) F,S,SS. PRQ CST 101. CORQ MATH 105.**
Analytical tools are provided in the concepts of algorithmic processes and problem solving. Language implementation is via PASCAL. Topics include pseudocode, computation, character manipulation, top-down structured programming, sequential and random access files, subroutines, functions, sorting, and searching.
- CST 103 Computers in Society 3(3-0) F,S.**
Discusses computers, information, and technological change. Defines the information revolution and its impacts. Provides an orientation to computer systems and their objectives. Other topics include organizations, influences on society, individuals, positive and negative impacts, uses in society, and tomorrows outlook.
- CST 105 FORTRAN 3(3-0) F,S,SS. CORQ (majors only) CST 101 optional, PRQ MATH 120 or equivalent.**
Principles of FORTRAN-IV programming with problem-solving for science and business. Topics include language specifications, functions, arrays and subroutine subprograms.
- CST 107 Elementary Computer Problem Solving 1(1-0) F,S,SS.**
An approach is developed for computer problem solving using common techniques for synthesis. Topics include modeling solutions through flow-charting, pseudo-code, and systems diagrams. Not to be taken by B.S. degree majors. **GEN.ED.III-C, MINI-COURSE.**
- CST 110 RPG-II Programming 3(3-0) F,S,SS. CORQ (majors only) CST 101 optional.**
Computer programming using the IBM Report Program Generator II, concentrating on the 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) F,S. PRQ CST 101 or equivalent.**
Covers concepts of the IBM disk operating system (DOS) including supervisor functions, job control, linkage editing, libraries and virtual storage. Systems service software such as utilities and the sort/merge function are included.
- CST 210 Introduction to Assembler Language 4(4-0) F,S. PRQ CST 105 or CST 110 or equivalent and CST 102.**
Introductory concepts of assembler programming for the IBM system 370, including instruction formats, I/O definition, arithmetic operations and output editing as well as integer and packed decimal data handling.
- CST 220 COBOL Programming I 4(4-0) F,S. PRQ CST 102.**
ANSI COBOL programming principles for basic business applications. Topics include general program development, coding, execution and debugging.
- CST 221 COBOL Programming II 3(3-0) F,S. PRQ CST 220.**
ANSI COBOL programming for business applications. Advanced topics including 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) F,S. PRQ CST 105, 210, 220, or EN 106.

Topics include systems analysis and design process, actual systems design layout work and integrated business systems analysis.

CST 280 Special Topics in Computer Science 3(3-0) F,S. PRQ CST 102 and one programming language.

Selected topics in computer science technology, minimicro computer systems, industrial standards of excellence. Topics selected based on demonstrated need and student interest.

CST 290 Special Projects (1-5 VAR) F,S. PRQ Sophomore standing, AAS-degree-seeking.

Selected projects in computer programming will be assigned in cooperation and interaction with local business and industry. Maintaining industrial standards in programming and documentation will be mandatory.

CST 296 Co-op Education Placement (1-5 VAR) F,S,SS.

For freshmen and sophomores for industrial cooperative education work experience under the direction of a field supervisor and faculty member.

CST 305 Advanced Programming with FORTRAN IV 3(3-0) S. PRQ MATH 122, CST 105, MATH 281.

Advanced programming techniques in scientific programming utilizing FORTRAN IV (ANSI 1978). Principles of graphics solutions to problems using printers and plotters. Development of technical skills with files and the creation/update problem.

CST 310 PL/1 Programming 3(3-0) S. PRQ CST 102 and CST 220.

Features and characteristics of PL/1, including comparisons between PL/1, COBOL AND FORTRAN. Also covers functions and subroutines.

CST 321 Assembly Language Programming II 3(3-0) F. PRQ CST 210.

Advanced topics of the assembler language for the IBM System 370, including concepts of systems programming.

CST 330 Programming Languages 3(3-0) F. PRQ CST 210.

Syntax and semantics of selected computer programming languages not taught in other CST courses. Course includes discussion of lexical analysis, grammatical constructs, structured programming, and problem orientations.

CST 341 Systems Design and Analysis II 3(3-0) F. PRQ CST 240.

Major projects applying the principles of design and analysis as developed in CST 240. Emphasis on design and implementation of computer-based systems.

CST 350 Data Base Management Systems 3(3-0) S. PRQ CST 221 or equivalent.

The design, implementation and use of data base management systems; analysis of the CODASYL report, comparison of available software package. Included will be concepts of Query Languages and security considerations.

CST 410 Data Communications Systems 3(3-0) S. PRQ CST 210.

Telecommunication, teleprocessing monitor systems and their practical applications will be included as software and hardware considerations, including real time and time-sharing systems. Terminal usage and access methods will also be included.

CST 416 Operating Systems II 3(3-0) F. PRQ CST 115, CST 210 and MATH 224 or MATH 132.

The theory and design of supervisors, concepts of job task and data management, scheduling, queueing, multi-programming.

CST 420 Data Structures 3(3-0) S. PRQ CST 210 and MATH 121 or 131.

File handling, the processing of data through the use of arrays, strings, linked lists, chains, queues: the concept of trees.

CST 460 Computer Systems Architecture I 3(3-0) S. PRQ CST 210, Senior standing.

Architecture of modern computers. Topics include arithmetic and logic units, mi-

croprogrammable control units, architecture of micro, mini, commercial, and maxi computers, parallel and pipeline processing.

CST 464 Computer Systems Fundamentals I 4(3-2)F. PRQ 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 480 Topics in Computer Science 3(3-0) F,S. PRQ Junior or senior standing.

Timely or important concepts in computer science. The topic will normally be announced in the schedule of classes. May be repeated for credit.

CST 490 Special Projects in Computer Science (1-5 VAR) F,S. PRQ Consent of department head.

Allows students to earn credit independently under the guidance of a faculty member.

CST 496 Co-op Education Placement (1-5 VAR) F,S,SS.

For juniors and seniors for industrial cooperative education work experience under the direction of a field supervisor and faculty member.



Education

Dr. Robert Strader, Head
 Departmental Office: LW-331 Phone: 549-2681
 Professors: Anderson, Baldauf, Gutierrez, Hostetler, Jorgenson, McCanne, Miller, Whitmer

The Department of Education is dedicated to the purpose of developing academically and professionally qualified personnel for early childhood, elementary, and secondary education programs.

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.

Subject matter majors are required of all secondary education candidates. The interdisciplinary major for elementary teachers or its Bilingual Education equivalent is required of those at the elementary level.

Departmental Objectives

1. To select and retain capable students for the teacher education program who exhibit the personal and academic qualities necessary to become effective teachers.
2. To provide teacher certification programs which are in full compliance with the rules and regulations of the Colorado State Department of Education and other accrediting agencies.
3. To provide coursework and other professional experiences leading to an Associate Arts degree in Early Childhood Education, a Bachelor of Science degree in Elementary Education, minors in reading, bilingual-bicultural education, learning disabilities, and teacher certification in elementary and secondary education.
4. To provide coursework in support of graduate degree programs offered by the University and through cooperative arrangements with other state institutions of higher education.
5. To design, administer and evaluate new and existing programs in teacher education.
6. To render professional service to local school districts in the form of consulting services, in-service education and graduate coursework for certified teachers.

Associate of Arts Degree in Early Childhood Education

A two year A.A. degree program is available to students seeking a position as a caregiver of young children in preschool, day care, Head Start, etc. The student successfully completing this program meets the course requirements for certification from the Colorado Department of Social Services.

The following is a typical schedule for students enrolled in the ECE program. However, since certain courses are offered only on alternate years (designated by asterisk), students should seek advisement from the director of the program before enrolling in classes.

First Year		Credits
ECE	101	Introduction to Early Childhood Education 2
*ECE	170	Observing and Recording the Behavior of Young Children 2
*ECE	252	Infants and Toddlers 3
BCOM	110	Freshman Composition I 3
PSYCH	101	General Psychology I 3
PE	100	Orientation 2
SPCOM	101	Speech Communication 2
*ECE	216	Curriculum Methods in Early Childhood Education 4
ECE	218	Building a Creative Environment for Young Children 2
BCOM	111	Freshman Composition II 3
PSYCH	102	General Psychology II 3
		Humanities elective 4
		Mathematics/Science elective 4
Total First year credits		37
Second Year		
*ECE	220	Nutrition for Young Children 2
*ECE	280	Working with Parents of Young Children 2
ECE	298	Practicum in Day Care (minimum 160 clock hours) 3
PSYCH	251	Psychology of Infancy and Childhood 3
BBE	293	Hist & Cult of the Hispanic People 3
SOC	230	Marriage and the Family 3
*ECE	215	Materials and Techniques in Early Childhood Education 4
ECE	297	Practicum in Preschool (minimum 120 hours) 2
PE	232	First Aid 2
BCOM	120	College Reading 2
		Humanities electives 6
		Math/Science electives 6
Total second year credits		38

Bachelor of Science Degree in Elementary Education

This program requires the completion of an interdisciplinary major which includes coursework from many departments throughout the University. Specialized programs leading to certification as elementary teachers of art, music, and physical education are also available. For the specialized programs, please refer to sections of this catalog describing art, music and physical education programs.

The interdisciplinary major for elementary teachers is extensive. In addition to the major, a concentration of at least sixteen hours is required in an appropriate subject matter field of specialization such as reading, math, bilingual/bicultural education, social or physical science, psychology, etc. Because the major and the area of concentration require four academic years of work, students are urged to contact the education department for advisement as early as possible in their program.

Each course listed is required unless your Dean waives it in writing or accepts a substitute course and writes it in. The following courses are suggested:

Freshman Year		Credits
SPCOM	101	Basic Speech Communication 2
BCOM	110	Freshman Composition I 3
BCOM	111	Freshman Composition II 3
BCOM	120	College Reading 2
PE	100	Physical Education 2
PSYCH	101	General Psychology 3
PSYCH	102	General Psychology 3
ED	102	Teaching as a Career 1
ECON	101	Introduction to Economics 3
BIOL	121	Environmental Conservation 4

or

BIOL 101, 102, 132, 141, 162	(total of 4 credits)	
MUS	118	Introduction to Music 3
GEOG	103	World Geography 3
		32

Sophomore Year		Credits
HIST	101	The Human Experience 3 (You may take the U.S. History, Hist 201-202 or World Civilization, Hist 101-102 sequence instead for a stronger social science background)
POLSC	101	American National Politics 3
SPCOM	231	Oral Interpretation 2
TH	370	Creative Dramatics 2
PHYS	100	Physical Science 3
GEOG	101	Earth Science 4
		31 or 32
PHYS	110	Astronomy 3
PE	232	First Aid 2
ED	210	Human Growth & Development for Educators . . . 3
RDG	201	Reading & Language Arts Instruction in Elementary School 4
BBE	293	Introduction to the History & Culture of the Hispanic People 3
ED	202	Foundations of Education 3

Junior Year		Credits
MUS	251	Music in the Elementary School 2
ARTED	300	Principles of Elementary Art 2
ARTED	310	Materials & Techniques of Elementary School Art 2
MATH	360	Math for Elementary Teachers I 3
MATH	361	Math for Elementary Teachers II 3
PE	322	Elementary School Physical Education 2
PSYCH	351	Psychology of the Exceptional Individual 3
ENG	342	English Syntax and Usage 2
ENG	351	Children's Literature 2
RDG	310	Analysis of Methods & Technology of Reading Instruction 3
		24

Additional courses should be chosen toward an area of concentration or minor, in consultation with an adviser in the department involved (total of 16 credits or more in area of concentration, counting courses in that area contained in interdisciplinary major).

The following courses are recommended for the senior year. These courses are taken in a coordinated Field Experience Block in which the student spends half days in designated elementary schools (full days for student teaching the final ten weeks):

Senior Year: Semester I		Credit
BBE	333	Program Functions of Bilingual Ed. 1
RDG	450	Diagnosis and Remediation of Reading Problems 3
IED	345	Career Education 2
SPCOM	375	Speech Correction 2
ED	412	Teaching the Special Child in the Regular Classroom 3
ED	413	Teaching Social Studies 2
ED	414	Teaching Science, Health & Math 2
ED	415	Kindergarten Education (optional) 2
		31 or 33
Semester II		Credit
ED	416	Elementary Education Laboratory 3
ED	419	Field Experience in Classroom Management . . . 3
ED	497	Student Teaching — Elementary 10

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 equivalent courses which have a bilingual/bicultural emphasis. 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, Language Arts, Mathematics, Music, Physical Education, Science, Social Studies and Speech. Refer to the sections of this catalog describing these academic majors. 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
PSYCH	101	General Psychology 3
PSYCH	102	General Psychology II 3
ED	102	Teaching as a Career 1
SPCOM	101	Speech Communication 2
BCOM	110	Freshman Composition I 3
BCOM	111	Freshman Composition II 3
BCOM	120	College Reading 2

Although not required, it is highly recommended that students take SPCOM 100 Intro to Speech Communication, 1 credit, in conjunction with SPCOM 101.

Sophomore Year		Credits
ED	202	Foundations of Education 3
ED	210	Human Growth & Development 3

Junior Year		Credits
PSYCH	351	Psychology of the Exceptional Individual 3
BBE	405	Education Across Cultures 2
IED	345	Career Education 2

Senior Year		
*ED	461	Working With Individual Differences..... 2
RDG	425	Reading in the Content Areas..... 2
*Materials and Techniques (in major)..... variable		
*ED	435	The Middle/Jr. and Sr. High School..... 4
*ED	460	Secondary Education Lab..... 3
*ED	498	Student Teaching..... 10

ED 435, ED 460 and ED 498 constitute the professional semester. ED 435 and ED 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 course-work prior to student teaching as they must student teach for fifteen weeks.

*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.

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 must meet the following additional program requirements:

- A. Formal admission to the teacher education program
 - Applications are available in the office of the Department of Teacher Education.
 - The screening of applicants occurs early in each semester. Applications must be accompanied by a complete set of college transcripts.
 - Criteria for Admission:
 1. Completion of Education 102 or its equivalent.
 2. Health clearance from Student Health Service.
 3. 2.5 grade point average in Basic Communications 110, 111, 120 and Sp Com 101.
 4. Submission of application for admission into USC teacher education program.
 5. 2.5 cumulative grade point average for the last 60 semester hours.
 6. Advisement sheet signed by student and education adviser.
 7. Positive recommendations of four professors (including advisers) plus one from USC Student Services Office.
 8. Majority approval by the Teacher Education Committee.
- B. Formal Approval for Student Teaching
 - Applications are available in the office of the Department of Teacher Education.
 - Applications for student teaching must be submitted one semester prior to enrollment in student teaching.
 - Criteria for approval:
 1. Admission to the USC teacher education program.
 2. Maintenance of the 2.5 grade point average for the last 60 semester hours.
 3. Submission of student teaching application before posted deadline.
 4. 2.5 grade point average in the major (teaching endorsement area).
 5. Recommendation of the major adviser and the education department adviser.
 6. Completion of all course work required for certification.
 7. Majority approval by members of the Teacher Education Committee.

Course requirements in teacher education programs should be considered minimal requirements. The Department of Teacher Education reserves the right to prescribe remedial activities for students who are considered to lack essential teaching competencies necessary for certification. These remedial activities may take the form of additional course requirements, field experiences or special assignments.

Minors

Three teaching minors are offered by the Department of Teacher Education: 1) Bilingual-bicultural education, 2) Learning disabilities and 3) Reading. The bilingual-bicultural and learning disabilities minors are designed specifically for students seeking certification in elementary teaching, while the reading minor is appropriate for both elementary and secondary teachers. Contact the department for a detailed description of requirements.

Master of Arts Degree: Industrial Education

The University offers a Master of Arts degree program for secondary industrial arts teachers. For details of this program, consult the Graduate Work section and the Industrial Education Department 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.

Courses:

Undergraduate:

ED 102 Teaching as a Career 1(1-1) F,S.

Orientation to teaching and teacher education. Class sessions and classroom observation required.

ED 110 Teacher Aide Field Experience 1(0-2) F,S. PRQ Permission of an education department instructor.

Students are assigned to work in a public school as teacher aides under the supervision of a classroom teacher and an education department instructor.

ED 202 Foundations of Education 3(3-0) F,S. PRQ ED 102.

Historical, philosophical and sociological dimensions of education including legal and financial challenges associated with the institution of education. (Includes submission of Teacher Education Program Application.)

ED 210 Human Growth and Development for Educators 3(3-0) F,S. PRQ 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) F. PRQ PSYCH 351 or concurrent enrollment.

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) S. PRQ ED 324.

Development and implementation of principles introduced in ED 324 with a tutorial situation.

ED 349 Child Advocacy 3(2-2) SS.

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 412 Teaching the Special Child in the Regular Classroom 3(2-2) F,S. PRQ PSYCH 351.

Establishing baseline skills, identifying behaviors, planning, adapting materials, and measuring progress for the atypical learner in the mainstream.

ED 413 Teaching Social Studies 2(1-3) F,S. PRQ Admission to teacher education program.

Methods of teaching social studies in elementary school. Part of elementary field experience block.

ED 414 Teaching Science, Health and Mathematics 2(1-3) F,S. PRQ Admission to teacher education program.

Methods of teaching science, health, and mathematics in elementary school. Part of elementary field experience block.

ED 415 Kindergarten Education 2(1-3) F,S. PRQ Admission to teacher education program.

Philosophy and methods of teaching in kindergarten. Required for student teaching in kindergarten or first grade. Part of elementary field experience block.

ED 416 Elementary Education Laboratory 3(6-6) F,S. PRQ Admission to teacher education program.

Five (5) week course to be taken during student teaching semester by all except K-12 students. Selection, preparation, and use of audio-visual materials and equipment; interpretation of standardized tests.

ED 419 Field Experience in Classroom Management (2-4 VAR) F,S. PRQ Admission to teacher education program, concurrent enrollment in all Semester II Field Block courses.

Five (5) week course to be taken during student teaching semester by all except K-12 students. Field experience in designated elementary schools for half days, coordinated with Semester II Field Block courses.

ED 435 The Middle/Junior and Senior High School 4(9-6) F,S. PRQ Admission to teacher education program.

Five (5) week course to be taken during student teaching semester by all except K-12 students. Instruction includes general teaching methods and strategies; learning theories applied to teaching; secondary curriculum; school organization, school law and finance applicable to classroom teachers. Field experience required.

ED 460 Secondary Education Laboratory 3(6-6) F,S. PRQ Admission to teacher education program.

Five (5) week course to be taken during student teacher semester by all except K-12 students. Preparation and use of audiovisual materials and equipment, concepts in educational measurement and evaluation, preparation of evaluation instruments, and facilitation of interpersonal communication are included. Field Experience required.

ED 461 Working With Individual Differences in the Secondary School 2(2-2) F,S. PRQ PSYCH 351 and admission to the teacher education program.

Individual differences as they affect the learning process and instructional alternatives for meeting individual needs are explored. Emphasis is on mainstreamed students.

ED 470 Workshop (1-3 VAR) SS.

Designed for special activity-oriented experiences to be conducted in short sessions. Each workshop will have a sub-title and no sub-title may be repeated for credit.

ED 491 Topics (1-3 VAR) SS.

Designed to meet expressed needs of students. Each topics course will have a sub-title and no sub-title may be repeated for credit.

ED 495 Independent Work in Education (1-3 VAR) F,S,FF. PRQ Advance approval of education professor.

Individual educational projects and problem-solving experiences designed to meet a student's special needs.

ED 497 Student Teaching Elementary (1-10 VAR) F,S. PRQ Admission to teacher education program.

Elementary level. Application must be submitted one full semester prior to the semester in which student teaching will commence.

ED 498 Student Teaching Secondary (1-10 VAR) F,S. PRQ Admission to teacher education program.

Secondary level. Application must be submitted one full semester prior to the semester in which student teaching will commence.

ED 499 Student Teaching K-12 (1-15 VAR) F,S. PRQ Admission to teacher education program.

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.

Graduate:**ED 500 Educational Research 2(2-0) SS. PRQ Graduate standing.**

Skills and techniques for locating, analyzing and evaluating educational research.

ED 505 Education Across Cultures 2(2-0) F,SS. PRQ Graduate standing.

An analysis of multiculturalism and how the educational process can be adapted to children of diverse cultural backgrounds.

ED 522 Issues in Education 2(2-0) SS. PRQ Graduate standing.

A study of contemporary problems in education, their historical development and philosophical implications.

ED 523 Comparative Education 2(2-0) F. PRQ Graduate standing.

Examination of selected national systems of education, their underlying philosophies and practices and comparison with the American educational systems.

ED 524 Advanced Techniques of Teaching Elementary Social Studies 2(2-0) SS. PRQ 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) SS. PRQ Graduate standing.

Emphasis on the newest concepts, techniques and materials for teaching elementary school science and health.

ED 530 Curriculum Construction 2(2-0) SS. PRQ Graduate standing.

Principles of curriculum design, educational goals, instructional objectives, developing long, middle, and short range plans. For elementary and secondary teachers.

ED 532 School Finance 2(2-0) SS. PRQ Graduate standing.

Financial sources, distribution practices, and budgeting procedures for education — Federal, state and local.

ED 533 School Law 2(2-0) F. PRQ Graduate standing.

Organization of state school systems with emphasis on Colorado legal provisions for teachers, administrators and other school personnel.

ED 535 Supervision of Instruction 2(2-0) SS. PRQ Graduate standing.

Techniques for observing, assisting and evaluating teachers, aides and other school personnel.

ED 540 Diagnostic Teaching I 2(2-0) SS. PRQ Graduate standing.

Employs a teaching model to help teachers develop the skills required for diagnostic teaching.

ED 549 Child Advocacy 3(2-2) S. PRQ 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 552 Interpersonal Relations for Educators 2(2-0) SS. PRQ Graduate standing.

Designed for teachers to develop effective interpersonal relations with their students, colleagues, administrators and the public.

ED 555 Foundations of Learning Disorders 3(3-0) F. PRQ Graduate standing.

Handicapping conditions, with emphasis on high incidence handicaps. Includes recent legislation and identification, referral, staffing and placement procedures. Major intervention strategies are examined.

ED 556 Classroom Management of Learning Problems 3(2-2) S. PRQ Graduate standing plus PSYCH 351 or ED 555.

Meeting atypical learners' needs through classroom assessments, curriculum analysis, and organization of time and space. Basic principles of behavior modification and contingency contracting are included.

ED 558 Teaching the Atypical Learner in the Regular Classroom 3(3-0) S. PRQ Graduate standing and ED 556.

Establishing baseline skills, identifying behaviors, planning, adapting materials, and measuring atypical pupil progress.

ED 560 Teacher Effectiveness Training (2-3 VAR) PRQ Graduate standing. Stresses skill-building in classroom interaction between the teacher and students. Skills include active listening, I messages and problem solving.

ED 570 Workshop (1-3 VAR) SS. PRQ Graduate standing.

Designed for activity-oriented experiences to be conducted in short summer sessions. Each workshop will have a sub-title and no sub-title may be repeated for credit.

ED 591 Topics (1-3 VAR) SS. PRQ Graduate standing.

Designed to meet the expressed needs of students. Each topics course will have a sub-title and no sub-title may be repeated for credit.

ED 595 Independent Study (1-2 VAR) F,S,SS. PRQ 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.

ED 598 Field Research (1-3 VAR) F,S. PRQ 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.

Bilingual/Bicultural Education

BBE 121 Mexican Folk Dance 1(1-1) F.

Introduction to basic steps of Mexican folk dance.

BBE 251 Music in the Bilingual Bicultural Elementary School 2(2-0) S.

An introduction to Mexican-American folk song. This course provides an awareness to the varieties of Mexican folk song typical to the Southwest, Mexico and Spain. Techniques are introduced as adaptive to the elementary school classroom.

BBE 265 Vocal Principles of Mexican Folk Song I 1(1-0) F.

Designed to introduce Mexican folk song lyrics and rhythm.

BBE 293 Introduction to the History and Culture of the Hispanic People of the Southwest 3(3-0) F,S.

Review of significant historical events, sociocultural characteristics, and value orientations of Hispanic people of the Southwest.

BBE 333 Precepts and Program Functions of Bilingual Education (1-0) F,S.

Background to the history, philosophy and principles of bilingual/bicultural education.

BBE 360 Constructs in Reading and Language Arts for Bilingual Teachers 2(2-0) F. PRQ Spanish language proficiency.

The analysis and application of techniques used for teaching reading and language arts to children with dual language proficiencies. English/Spanish.

BBE 361 Children's Literature in Bilingual Education 2(2-0) F.

Evaluates literature for the elementary level students in bilingual education programs. Involves reading books and learning of bilingual/bicultural children's interests.

BBE 365 Vocal Principles of Mexican Folk Song II 1(1-0) S. PRQ BBE 265.

Continuation of Mexican folk song lyric rhythm, principles.

BBE 401 Methods and Techniques of Teaching English as a Second Language 2(2-0) F,S. PRQ Bilingual language skills, Spanish/English.

Introduces the teacher to methods and techniques of teaching English to children of linguistically and culturally different backgrounds.

BBE 403 Teaching Elementary Subjects in Bilingual Education 3(3-0) F,S.

Designed for the student to practice teaching principles of subject matter in bilingual education.

BBE 405 Education Across Cultures 2(2-0) F,S.

An analysis and awareness of multi-culturalism in education and how the education process can be adapted to children of diverse cultural backgrounds.

BBE 410 Literature of the Southwest 2(2-0) S.

The verse, fiction, travels, social inheritance, and memories of the American Southwest.

BBE 412 Cultural Insights of the Spanish Child in the Elementary School 2(2-0) S.

A study of the Mexican-American child and his social and academic adjustment in the public school.

BBE 435 Oral Interpretation of Children's Literature in Bilingual/Bicultural Education 1(1-0) F. PRQ BBE 251.

Designed to give language laboratory practice in story telling and interpretation of children's literature in Spanish/English.

BBE 441 Survey of Research in Bilingual Education 2(2-0) S. PRQ 333, 412.

Review of research related to bilingual education.

BBE 454 Workshop in Bilingual Education (1-3 VAR) S.

The development of classroom materials/curriculum in bilingual education.

BBE 465 Vocal Principles of Mexican Folk Song III 1(1-0) F. PRQ BBE 265, 365.

Continuation of advanced Mexican folk song performance function.

BBE 490 Survey of Language/Cultural Tests in Bilingual Education 2(2-0) S.

Designed to introduce current language/cultural instruments to the prospective bilingual education teacher of the elementary school.

BBE 497 Student Teaching Bilingual (5-10 VAR) F,S. PRQ 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.

BBE 499 Independent Study in Bilingual Education (1-2 VAR) F,S.

Designed to meet special research study needs for the student specializing in bilingual education.

Graduate:

BBE 505 Education Across Cultures 2(2-0) F,SS. PRQ Graduate standing. An analysis and awareness of multi-culturalism 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) SS. PRQ Graduate standing and BBE 333, 412. Review of research related to bilingual education.

BBE 554 Workshop in Bilingual Education (1-3 VAR) SS. PRQ Graduate standing. In-depth practicums in the development of classroom materials/curriculum in bilingual education.

BBE 599 Independent Study in Bilingual Education (1-2 VAR). PRQ Graduate standing. Designed to meet special research study needs for the student specializing in bilingual education.

Early Childhood Education

ECE 101 Introduction to Early Childhood Education 2(2-0) F,S. Designed to acquaint the student with the field of early childhood, education, history of the movement, influencing theories and pertinent legislation.

ECE 115 Home Parenting 2(2-0) SS. 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 (1-2) F. PRQ 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) S. PRQ 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) S. PRQ ECE 101, 215.

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) S. PRQ ECE 101, 215, 216.

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) F. 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(2-2) F. PRQ ECE 101, 170, 215, 216, 220, 200.

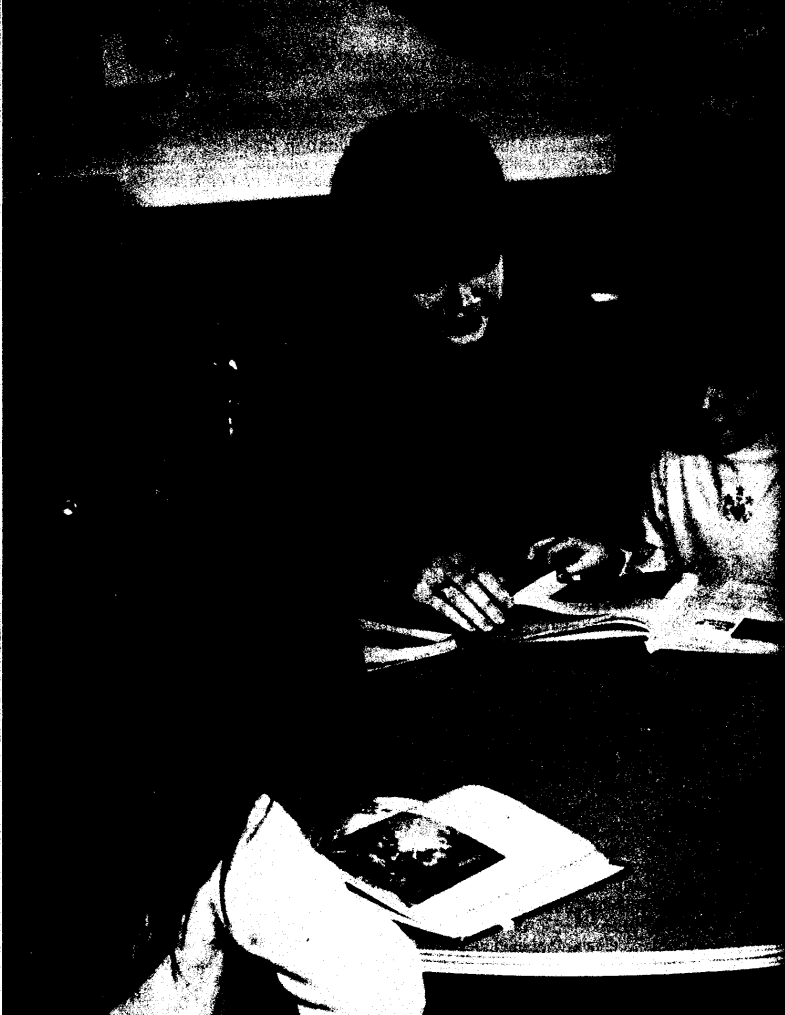
Course designed as longitudinal study of child. Active intervention in overall welfare of small child and family is stressed.

ECE 280 Working with Parents of Young Children 2(2-0) F. Study of the different levels of parent involvement, parenting problems, community resources available to parents and interpreting stages of child development to parents.

ECE 281 Administration for Child Care Centers 4(4-0) S. PRQ ECE 101, 215, 216, 218, 280, 297.

Designed to cover incorporation procedures, tax exemption, licensing, legislation, budgeting, proposal writing, menu preparation, hiring practices, staffing patterns, procedures and program development.

ECE 295 Independent Study (1-3 VAR) F,S. PRQ ECE 101, 215, 216, 218. Student designs and implements a special project concerning young children. Project approval of early childhood education program director required.



Teaching as a Career, the unique program of early direct exposure of prospective education majors to the world of teaching, helps many decide if education as a field is their career interest. USC's education programs, at all levels, recently received strong endorsement from the National Council on Accrediting in Teacher Education—an enviable achievement.

ECE 297 Practicum in Day Care 3(0-8) F,S. PRQ ECE 101, 215, 216, 218, 280.

Students complete a minimum of 160 clock hours working with young children in a day care center supervised by a certified teacher.

ECE 298 Practicum in Preschool 2(0-6) F,S. PRQ ECE 101, 215, 216, 218, 280.

Students complete a minimum of 120 clock hours working with young children in a preschool setting supervised by a certified teacher.

Reading

RDG 201 Reading and Language Arts Instruction in the Elementary School 4(3-3) F,S.

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 Analysis of Methods and Technology of Reading Instruction 3(2-2) F,S. PRQ RDG 201 or 202 or concurrent enrollment.

Various approaches and materials including machines used in reading instruction are analyzed in addition to planning skills and classroom organization of reading instruction.

RDG 360 Practicum (2-0) PRQ RDG 201 or 425.

Students work under a reading teacher in the public schools 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 412 Literature for Adolescents 2(2-0) S.

Survey of literature for adolescents including classical and contemporary authors. Also issues in selection and evaluation.

RDG 425 Reading in Content Areas 2(2-0) F,S.

Reading skills, strategies, and activities to improve comprehension of textual material in math, science, literature, social sciences, industrial arts, and other subjects.

RDG 442 Reading Across Cultures 2(2-0) F. PRQ RDG 201 or 202 or concurrent enrollment.

Techniques of adapting reading instruction for the linguistically and culturally different child are presented. Problems of many minority groups are analyzed.

RDG 450 Diagnosis and Remediation of Reading Problems 3(2-2) F,S. PRQ RDG 201 or 202.

Course includes diagnostic and evaluation procedures used in reading techniques for remediation of problems and how to individualize instruction. Appropriate for elementary and secondary teachers.

RDG 491 Topics (1-2 VAR) PRQ RDG 201, 310, or 425.

Innovations and current concerns in reading. Designed to meet expressed needs of students. Each topics course will have a sub-title and no sub-title may be repeated for credit.

RDG 495 Independent Study (1-2 VAR) PRQ Advanced permission of the instructor.

Individual projects and problem solving experiences designed to meet the students special needs. With instructor's permission, certain program requirements may be completed through independent study.

Graduate:

RDG 510 Foundations of Reading Instruction 3(2-2) F.

A basic course for other graduate reading courses. Content includes reading skills, sequence, materials, psychology of reading, and relationship to other language arts.

RDG 512 Literature for Adolescents 2(2-0) S.

Survey of literature for adolescents including classical and contemporary authors. Also issues in selection and evaluation.

RDG 515 Organizing Reading Programs 3(3-0) F.

Theoretical, physical, and psychological aspects of developmental reading programs; procedures for administering and evaluating the developmental reading program.

RDG 525 Reading in the Content Area 2(2-0) F,S.

Reading skills specifically used in mathematics, science, social studies and literature are covered including specific techniques for teaching.

RDG 531 Developing Creative Centers 1(1-1) S,S. PRQ RDG 510, 511 or 525.

Students will investigate various types of learning centers and means of successful implementation in the classroom. Includes development of materials, lesson plans, and record-keeping systems which will result in a complete reading center. Theme or content area to be selected by student.

RDG 542 Reading Across Cultures 2(2-0) F. PRQ RDG 510 or RDG 511.

Problems and solutions in reading instruction for the linguistically or culturally different child. (Blacks, Spanish American, Indians, Appalachian, East Asians, Puerto Rican, etc.)

RDG 550 Diagnosis and Remediation of Reading Problems 3(2-2) F,S. PRQ A beginning reading course.

Formal and informal diagnostic procedures used by the classroom teacher including standardized testing, informal inventories, cloze, criterion-referenced testing, and Reading Miscue Inventory. Student will write prescriptions based on diagnosis. Remediation strategies will be modeled and applied by students.

RDG 552 Reading Miscue Analysis 2(1-2) PRQ Beginning course in reading.

An introduction to psycholinguistic perspectives of the reading process through analysis of oral reading errors. The Reading Miscue Manual will be used as an instrument for investigating the reader's strengths and weaknesses. Strategies for remediating poor-quality miscues will be developed.

RDG 560 Practicum 2(2-0) PRQ RDG 201 or 425

Students 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 upon the instruction assignment.

RDG 591 Topics (1-2 VAR) PRQ Graduate standing.

Innovations and current concerns in reading. Designed to meet expressed needs of students. Each topics course will have a sub-title and no sub-title may be repeated for credit.

RDG 595 Individual Study in Reading 1(0-2) PRQ Beginning course in reading.

Opportunity to investigate or develop special projects in reading relative to the particular needs of advanced students. Research special topics, curriculum development under close supervision.

Electronics Engineering Technology

Dr. Donald Cottrell, Head

Departmental Office: T-266

Profs: Hill, Jenkins, Perkins, Reiff, Warfield

Both two- and four-year degree programs (AAS & BS) are offered in electronics engineering technology. The graduate is prepared to function as an integral member of a team of engineers, scientists, and technicians in areas of electronics development, manufacturing, testing, research, installation and maintenance. It should be realized by the prospective entrant that this is a rigorous, demanding and problem-solving oriented program. The prospective student should have at least a two-year high school

sequence in mathematics, including algebra, and a one-year sequence in the physical sciences such as physics or chemistry.

Job opportunities in electronics have been numerous over recent years, and according to the Bureau of Labor Statistics, a large number of technologists will be sought by industry, government and other employers through the 1980's.

Associate in Applied Science in Electronics Engineering Technology

This degree program in electronics engineering technology is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

The goal of the electronics engineering technology curriculum is to provide training for entry level positions in the electronics industry. The program reflects current needs by covering basic theory and applications as related to routine engineering design. Other areas covered include construction, testing, analysis, and modification of conventional or state-of-the-art circuits and systems. Electronic equipment maintenance, testing, troubleshooting, and installation usually performed by the technician are included.

The AAS degree candidate must complete with not less than a 2.0 cumulative grade point average in the major area of study a minimum of 69 semester hours credit or instructional work, as determined by departmental requirements.

Bachelor of Science in Electronics Engineering Technology

This degree program in electronics engineering technology is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

The student in the program is trained for entry-level positions in industry. Basic areas covered include 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.

The BS degree candidate must complete, with not less than a 2.0 cumulative grade point average in the major area of study a minimum of 133 semester hours credit of instructional work, as determined by departmental requirements.

The student must complete the first two years of the AAS program with a cumulative grade point average of 2.0 in major area of study in the electronics engineering technology program or equivalent before entering the Bachelor of Science program.

Transfer students must have a minimum 2.5 grade point average overall and a 2.0 minimum grade point average in math, physics and the major area of study.

A typical EET schedule:

Freshman Year		Credits
EET	121	DC Circuits 5
EET	122	AC Circuits 3
EET	143	Electronics I 5
EET	153	Manufacturing Techniques 2
EET	161	Circuits Lab I 1
EET	162	Circuits Lab II 1
EET	163	Electronics Lab I 1
MATH	131,132	Math for Engineering Technologists 8
BCOM	115,116	Technical Writing I & II 6
PE	100	Physical Education 2
		34

Sophomore Year		Credits
EET	221	Linear Integrated Circuits 3
EET	231	Electronics II 5
EET	255	Introduction to Microcomputers 2
EET	254	Introduction to Digital Systems 4
EET	261	Electronics Lab II 2
PHY	201,202	Physics 8
MATH	233	Math for Engineering Technologists 4
EN	105	FORTRAN 2
		General Education 5
		35

Junior Year		Credits
EET	311	Transient Circuit Analysis 4
EET	331	Electronic Circuits I 3
EET	332	Electronic Circuits II 4
EET	343	Introduction to Control Systems 4
EET	351	Electronic Circuits Lab I 2
EET	352	Electronic Circuits Lab II 2
EN	341	Engineering Economy 3
EN	342	Principles of Industrial Engineering 3
BCOM	120	College Reading 2
		Approved Math Elective 3
		General Education 2
		32

Senior Year		Credits
EET	451	Computers I (Computer Architecture) 3
EET	452	Computers II (Microcomputer Design) 3
EET	454	Communication Systems (Digital and Analog) 3
SPCOM	101	Basic Speech Communications 2
		Approved EET Elective 3
		Approved Technical Electives 5
		General Education 13
		32

EET Computer Design Option

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 27 S.H. 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. A suggested Computer Design option schedule would be:

Freshman and Sophomore Years same as above

Junior Year			Credits
EET	311	Transient Circuit Analysis.....	4
EET	343	Introduction to Control Systems.....	4
EET	451	Computers I (Computer Architecture).....	3
EET	452	Computers II (Microcomputer Design).....	3
EET	453	Computers III (Microcomputer System Applications).....	3
EET	460	Computer I/O Design.....	3
(or EET 491)			
SPCOM	101	Basic Speech Communication.....	2
BCOM	120	College Reading.....	2
		Approved Math Elective.....	3
		General Education.....	6
			33
Senior Year			Credits
EET	331	Electronic Circuits I.....	3
EET	332	Electronic Circuits II.....	4
EET	351	Electronic Circuits Lab I.....	2
EET	352	Electronic Circuits Lab II.....	2
EET	454	Communication Systems (Digital and Analog).....	3
EET	461	Computer Interface Design.....	3
EET	491	Special Topics (Computer Communications).....	3
(or EET 480)			
CST	416	Operating Systems II.....	3
		General Education.....	9
			32

Courses:

- EET 108 Basic Electronic Principles I 2(0-4) F,S. PRQ MATH 105.**
The fundamentals of electric circuits, batteries, magnetism, motors, generators, transformers and test equipment.
- EET 109 Basic Electronic Principles II 2(0-4) F,S. PRQ EET 108.**
Basic study of diodes, transistors, tubes, basic amplifying circuits, power supplies and oscillators.
- EET 111 Technical Orientation 1(1-0) F,S.**
Provides an insight into curriculum options, job opportunities, duties of the engineering technician and instruction in laboratory report writing.
- EET 121 DC Circuits 5(5-0) F. COREQ MATH 131.**
Study of DC circuits, energy, power, resistance, capacitance, inductance, electro-magnetism, loop and nodal network analysis, Thevenin's and Norton's theorems.
- EET 122 AC Circuits 3(3-0) S. PRQ EET 121, COREQ MATH 132.**
Study of 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) S. COREQ EET 122 and MATH 132.**
Semiconductor physics, diodes, power supplies, analysis and design of transistor circuits, biasing, equivalent circuits, multi-stage amplifiers, frequency response, power stages, vacuum tubes.
- EET 153 Electronic Manufacturing Techniques 2(0-4) F.**
Industrial practices, including schematic and printed circuit drafting, sheet metal fabrication, hand soldering, resistance welding, printed circuit board production, wave soldering.

- EET 161 Circuits Lab I 1(0-2) F. COREQ 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) S. PRQ EET 161 and COREQ EET 122.**
Investigation of effects of AC on RLC circuits, impedances, inductance, resonance, transformers and bridges.
- EET 163 Electronics Laboratory I 1(0-2) S. COREQ 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 221 Linear Integrated Circuits 3(3-0) F,S. PRQ EET 231.**
Emphasizes applications of linear integrated circuits such as operational amplifiers, power supply regulators and active filters. Includes special semiconductor devices such as SCR's, FET's, etc.
- EET 225 FCC Theory I 2(0-4) F,S. PRQ Instructor's permission.**
Designed to prepare student for FCC examination. Uses self-paced study method.
- EET 226 FCC Theory II 2(0-4) F,S. PRQ Instructor's permission.**
Designed to prepare student for FCC examination. Uses self-paced study method.
- EET 231 Electronics II 5(5-0) F. PRQ EET 122 and 143, COREQ MATH 233.**
Analysis of feedback principles in amplifiers and oscillators, operational amplifier compensation. Pulse circuitry, RC and RL network shaping, repetitive signal response of RC networks, multivibrators.
- EET 254 Introduction to Digital Systems 4(3-2) F,S. PRQ EET 143.**
Digital techniques, including binary codes, Boolean Algebra, gates, flip-flops, counters, shift registers and arithmetic operations.
- EET 255 Introduction to Microcomputers 2(1-2) F,S. PRQ EET 254.**
Analysis of microcomputer systems including both hardware and software considerations, with emphasis on machine language programming.
- EET 261 Electronics II Laboratory 2(0-4) F,S. PRQ EET 163 and 231, COREQ EET 221.**
Design, construction, and analysis of feedback amplifiers, operational amplifiers, and oscillators. Investigation of linear integrated circuits, pulse circuits, multivibrators and special semiconductor devices.
- EET 296 Co-op Education Placement (1-5 VAR) F,S,SS.**
For freshmen and sophomores for industrial cooperative education work experience under the direction of a field supervisor and faculty member.
- EET 310 Electric Motors and Controls 3(2-2) S. PRQ Consent of instructor.**
A study of commercial and industrial applications of electric motors, control circuits, maintenance and testing.
- EET 311 Transient Circuit Analysis 4(4-0) F. PRQ EET 122 and MATH 233.**
Both the classical and Laplace Transform methods of solving differential equations with circuit analysis applications.
- EET 331 Electronic Circuits I 3(3-0) F. PRQ EET 231 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 332 Electronic Circuits II 4(4-0) S. PRQ EET 331.**
Applied design of field effect transistor circuits, frequency response of multistage amplifiers, transistor switches, tuned amplifiers, use of linear integrated circuits in systems.
- EET 343 Introduction to Control Systems 4(3-2) S. PRQ EET 311.**
Block diagrams, transfer functions, practical systems, the Z transform, digital systems, signal flow graphs, frequency response techniques, Bode plots as applied to control systems.
- EET 351 Electronic Circuits Laboratory I 2(0-4) F. COREQ EET 331.**
A laboratory to verify and expand upon the design principles presented in Electronic Circuits I theory course.

EET 352 Electronic Circuits Laboratory II 2(0-4) S. COREQ EET 332.

A course to augment design principles presented in Electronic Circuits II theory course. Includes ECAP computer analysis, and special instrumentation such as the wave analyzer.

EET 413 Integrated Circuit Systems 3(2-2) F,S. PRQ EET 143 and EET 311. Analysis of the inter-connection of integrated circuits into systems. Also covers design principles of systems.

EET 451 Computers I 3(2-2) F. PRQ EET 254 and EET 255. Digital computer systems with emphasis on design and integration of the arithmetic, memory, control, input and output units of a modern digital computer and computer architecture.

EET 452 Computers II 3(2-2) F,S. PRQ EET 451. Introduction to microcomputer systems design including both hardware and software functions, with hands-on experience in the lab.

EET 453 Computers III 3(2-2) F,S. PRQ EET 255.

Microcomputer-based-design, applications, and software.

EET 454 Communication Systems 3(3-0) F. PRQ EET 311.

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 456 Design Projects 3(1-4) F,S. PRQ 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 project.

EET 460 Computer I/O Design 3(2-2) F,S. COREQ EET 453.

A study of computer input-output devices including applications such as computer graphics.

EET 461 Computer Interface Design 3(2-2) F,S. COREQ EET 451.

Design and implementation of computer interfaces to input-output devices and other systems.

EET 491 Special Topics (1-5 VAR) F,S. PRQ Consent of department head. Designed to accommodate those students desiring to broaden their knowledge of topics in electronics not now included in other courses.

EET 493 Seminar (1-5 VAR) F,S. PRQ Qualified junior or senior students. Participation by electronics students and presentation of recent developments in the electronics field.

EET 495 Independent Study (1-5 VAR) F,S. PRQ Permission of department head.

Individual assignments under the supervision of a staff member of the department.

EET 496 Co-op Education Placement (1-5 VAR) F,S,SS.

For juniors and seniors for industrial cooperative education work experience under the direction of a field supervisor and faculty member.

EET 497 Field Experience (1-5 VAR) F,S. PRQ Consent of department head.

Designed to allow off-campus practical work experience in the electronics area supervised by a member of the department and an on-the-job supervisor.

Engineering

Dr. Donald Cottrell, Head
Departmental Office: T-266
Profs: Cheng, Massey, Reiff

The Engineering Department offers the Bachelor of Science Industrial Engineering Degree, 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, and, provides upper-division support courses for the the BS degree in physics for the Engineering Physics Option.

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 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, human factors, materials handling, production planning and control, quality control, manufacturing and management consulting. The computer has significant applications among the techniques utilized by the industrial engineer.

Additional Transfer Requirements: Students transferring to Industrial Engineering must have earned a minimum 2.0 grade point average in all mathematics and science courses attempted, a minimum of 2.0 grade point average in all engineering courses attempted, and, an overall 2.0 grade point average. Transfer students may be subject to examination at the discretion of the department.

Additional Graduation Requirements: A minimum 2.0 grade point average in all engineering courses attempted is required for graduation in addition to those requirements specified for all USC degrees.

Physics (Engineering Physics Option) and Geology (Hydrology and Engineering Geology Option)

These programs, cooperatively designed by the Engineering and Physics/Geology Departments, include upper-division engineering coursework for the Physics/Geology major who wishes to gain a broad background in science and engineering to enter industry or graduate school. For degree requirements please refer to the Physics or Geology department sections.

Industrial Engineering		Credits
Freshman Year		
BCOM	110	Freshman Composition I 3
BCOM	111	Freshman Composition II 3
BCOM	120	College Reading 2
PE	100	Physical Education Orientation 2
EN	106	Computer Programming 3
EN	107	Engineering Graphics 2
MATH	126	Calculus & Analytic Geometry I 5
MATH	224	Calculus & Analytic Geometry II 5
CHEM	121	General Chemistry I 4
CHEM	121L	General Chemistry Lab I 1
PHYS	221	General Physics I 5
		—
		35
Sophomore Year		
		Credits
General Education Group I and/or Group II 6		
SPCOM	101	Basic Speech Communication 2
EN	211	Engineering Mechanics I 3
EN	212	Engineering Mechanics II 3
EN	231	Circuit Analysis I 4
EN	240	Systems Analysis & Design 3
EN	251	Electrical Engineering Lab I 1
MATH	325	Intermediate Calculus 4
MATH	337	Differential Equations I 3
PHYS	222	General Physics II 5
		—
		34
Junior Year		
		Credits
General Education Group I and/or Group II 7		
EN	301	Fluid Mechanics 4
EN	312	Material Science 2
EN	313	Material Science Lab 1
		or
EN	331	Electronics I 3
EN	321	Thermodynamics 3
EN	324	Strength of Materials 3
EN	325	Strength of Materials Lab 1
EN	341	Engineering Economy 3
EN	342	Principles of Industrial Engineering 3
MATH	456	Applied Statistics I 3
ACCTG	201	Principles of Accounting I 3
BUSAD	310	Principles of Management 3
		—
		39
Senior Year		
		Credits
General Education Group I and/or Group II 7		
EN	420	Management Systems Analysis & Design 3
EN	441	Manufacturing Processes 3
EN	442	Manufacturing Processes II 3
EN	443	Quality Control & Reliability 3
EN	460	Operations Planning and Control 3
EN	490	Indust. Engineering Design Project 3
		—
		6
		31

*a.	MATH	281	Intro to Linear Algebra 3
b.	EN	465	Engineering Operations Research 3
c.	EN	435	Microcomputer Control Systems 3
d.	EN	311	Production Engineering 3
e.	EN	415	Organization & Management Systems 3
		or	
	EN	430	Industrial Organization 3
		or	
	EN	432	Organization Theory 3

Engineering Transfer Program Requirements

Students planning to transfer to CSU, Ft. Collins, will adhere to the following program. Students planning to transfer to CU, Boulder, Denver or Colorado Springs; or CSM, Golden, should consult an engineering advisor for program variations.

Engineering Transfer Program Requirements for CSU^{1,2,3,4}

Freshman Year		Credits
EN	106	Computer Programming 3
EN	107	Engineering Graphics 2
MATH	126,224	Calculus and Analytic Geometry 10
PHYS	221	General Physics I 5
CHEM	121,121L	General Chemistry I and Lab 5
BCOM	110	Freshman Composition I 3
PE	100 to 188	Physical Education 2
		—
		33
Sophomore Year		
		Credits
EN	221,212	Engineering Mechanics I and II 6
EN	231,232	Circuit Analysis I and II 8
EN	251	Electrical Engineering Lab 1
EN	321	Thermodynamics 3
MATH	325	Intermediate Calculus 4
MATH	337	Differential Equations I 3
PHYS	222	General Physics II 5
		—
		3
		33

1. Students should consult an engineering advisor 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.

Courses:**EN 100 Man and Technology (1-3 VAR) F,S.**

Introduction and a survey of sociotechnological issues including health care, populations and energy. Exploration of systems engineering approaches to decisions and problem solving.

EN 103 Fundamentals of Engineering 2(2-0) F.

An introduction to the solution of engineering problems. The application of algebraic, trigonometric and calculus techniques to the solution of engineering problems.

EN 105 FORTRAN 2(2-0) F,S.

An introduction to Fortran IV computer programming.

EN 106 Computer Programming 3(3-0) F,S.

An introduction to digital computers and Fortran programming.

EN 107 Engineering Graphics 2(0-4) F.

Orthographic and pictorial drawing, auxiliary and oblique views, sections, descriptive geometry and graphical mathematics.

EN 211 Engineering Mechanics I 3(3-0) F. PRQ MATH 126, PHY 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) S. PRQ EN 211.

Motion of a particle, dynamics of rigid bodies, and the work-energy principle.

EN 223 Engineering Surveying I 3(2-2) S. PRQ MATH 122.

A basic course in surveying including the use of tape, compass, transit and level in plane and geodetic surveying and introduction to triangulation and trilateration.

EN 231 Circuit Analysis 4(4-0) F. PRQ MATH 126 or MATH 224.

Circuit concepts, conventions and network equations. Initial conditions and classical method of obtaining transient and steady-state solutions.

EN 232 Circuit Analysis II 4(4-0) S. PRQ EN 231.

Continuation of EN 231 including waveform synthesis, network theorems. Fourier series, pole-zero diagrams and two-port network theory. Introduction to Laplace Transform.

EN 240 Systems Analysis and Design I 3(3-0) F,S. PRQ EN 106 or CST 105.

Topics include systems analysis and design process, actual systems design layout work and integrated business systems analysis.

EN 242 Computer Engineering 3(2-2) F,S. PRQ EN 106 or Equivalent, and MATH 121.

Computer architecture, logic design, microprocessors, microcomputers, assembly language programming, and applications.

EN 245 Pascal Computer Programming 3(2-2) F,S. PRQ EN 106.

Computer programming using Pascal Language, applications in engineering and science areas, practical programming exercises.

EN 251 Electrical Engineering Lab I 1(0-2) F. COREQ EN 231.

Observation and analysis of electrical circuits and transients involving resistance, inductance and capacitance.

EN 252 Electrical Engineering Lab II 1(0-2) S. PRQ EN 231.

A continuation of EN 251 Lab.

EN 270 Material and Energy Balances 3(2-0) F,S. PRQ CHEM 121 or 221, PHYS 221 and MATH 126.

Material and energy balances with or without chemical reactions in chemical engineering applications.

EN 291 Topics (1-5 VAR) F,S.

Designed for students who have a special interest in some area of engineering not covered by existing courses.

EN 296 Co-op Education Placement (1-5 VAR) F,S,SS.

For freshmen and sophomores for industrial cooperative education work experience under the direction of a field supervisor and faculty member.

EN 301 Fluid Mechanics 4(4-0) S. PRQ EN 212.

Introduction to the properties of gases and liquids, the equations relating forces on fluids to their motion, and energy flows to changes in temperature and other fluid properties.

EN 311 Production Engineering 3(3-0) F,S. PRQ EN 106 & 107.

Analytical study of measuring, gaging, cutting, grinding, forming, welding, molding processes pertaining to various machines and materials.

EN 312 Materials Science 2(2-0) S. PRQ PHYS 221.

Study of the nature of engineering materials, emphasizing the relationship between macroscopic and atomic and microscopic structures.

EN 313 Materials Science Lab 1(0-2) COREQ EN 312.

Testing of mechanical and electrical properties of materials.

EN 321 Thermodynamics 3(3-0) F. PRQ PHYS 221.

Introduction to energy equations and flows, entropy, kinetic theory and statistical mechanics.

EN 323 Engineering Surveying II 3(2-2) F. PRQ 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) PRQ EN 211.

Stress-strain relationships, fundamentals of elasticity, torsional loading, flexural loading, combined stresses.

EN 325 Strength of Materials Lab 1(0-2) COREQ EN 324.

Measurements of stress-strain, and other non destructive testing.

EN 331 Electronics I 3(2-2) F. PRQ EN 231 and EET 143.

Analysis, design and applications of semiconductor diodes, transistors, amplifiers, feedback, and integrated circuits.

EN 332 Electronics II 4(4-0) S. PRQ EN 331.

A continuation of EN 331.

EN 340 Principle of Industrial Engineering 3(3-0) F. PRQ Junior standing.

Principles and techniques of work measurement and production standards; human performance in man-machine systems.

EN 341 Engineering Economy 3(3-0) F. PRQ Junior standing.

Economic and financial aspects of investments in engineering projects.

EN 351 Electronics Lab I 2(0-4) S. COREQ EN 331.

A laboratory to verify experimentally the theories presented in Electronics I.

EN 352 Electronics Lab II 2(0-4) S. COREQ EN 332.

A laboratory to verify experimentally the theories presented in Electronics II.

EN 420 Management Systems Analysis and Design 3(2-0) PRQ Industrial Engineering senior standing.

Solution of case studies relating to production management, and organization in business and industry. Emphasis is on utilizing industrial engineering techniques covered in all previous course work.

EN 421 Structural Analysis 3(3-0) F. PRQ EN 332.

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) F. PRQ 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 430 Industrial Organization 3(3-0) F. PRQ Senior standing.

Modern industrial society with emphasis on industry as a type of social organization including roles of management and labor.

EN 432 Organization Theory 3(3-0) S. PRQ Senior standing.

Analysis of prevailing theoretical models of large organizations and suggested alternatives.

EN 435 Microprocessor Control Systems 3(2-2) PRQ EN 331.

Components of a microprocessor control system, digital processing, survey of state-of-the-art microprocessor control systems.

EN 441 Manufacturing Processes I 3(2-2) PRQ EN 322.

Fundamentals of materials and processes for manufacturing including casting, welding, forming and machining processes: fundamentals of metrology for manufacturing: economies of processing.

EN 442 Manufacturing Processes II 3(2-2) PRQ EN 441.

Advanced manufacturing processes such as numerical control machining, electric discharge machining, powder metallurgy.

EN 443 Quality Control and Reliability 3(3-0) PRQ MATH 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) F. PRQ EN 301 or consent of instructor.

A study of the occurrence and distribution of water, precipitation, evaporation, transpiration, infiltration, streamflow, groundwater and well flows, runoff and drainage, and the hydrography analysis.

EN 460 Operations Planning and Control 3(3-0) F. PRQ EN 340, MATH 325, 456.

The design, installation and operation of production and inventory planning and control systems. The role of data processing and computers.

EN 461 Engineering Hydraulics 3(3-0) S. PRQ EN 301 or consent of instructor.

Steady and unsteady flow in pipes, open-channel flow, hydraulic measurements, critical depth and hydraulic jump, and design of spillways.

EN 465 Engineering Operations Research 3(3-0) S. PRQ MATH 325, 456.

The application of mathematical models to industrial problems. Linear programming, queuing theory, inventory models, dynamic programming and simulation models to solve actual problems.

EN 490 Industrial Engineering Design Projects (1-5 VAR) PRQ Senior Industrial Engineering standing.

Application of Industrial Engineering principles to a design project.

EN 491 Topics (1-5 VAR) F,S. PRQ Junior standing.

Independent study for engineering students. Special interest topics not covered in existing engineering courses.

EN 496 Co-op Education Placement (1-5 VAR) F,S,SS.

For juniors and seniors for industrial cooperative education work experience under the direction of a field supervisor and faculty member.

English

Dr. John Senatore, Head

Department of English/Philosophy

Departmental Office: P-230 Phone: 549-2173

Profs. Bassein, Griffin, Peabody

The English Department's offerings in literature, the English language and writing prepare professional and pre-professional majors for all careers. For those seeking certification as secondary teachers, the Department's offerings combine with those provided by the Department of Education to insure Secondary Teacher Certification. Many courses are open to students wanting general education credit or simply to enjoy and become familiar with more well-known literature and to improve their writing. One degree is conferred: Bachelor of Arts.

An English major is required to complete 36 semester credit hours of courses in English, 14 of which must be those numbered 300 or above. To earn a minor in English, a student is required to complete 20 semester hours. For both the major and the minor, the student should verify choice of courses with an adviser in English.

A typical English schedule:

Freshman Year		Credits
BCOM	110	Freshman Composition I 3
BCOM	111	Freshman Composition II 3
BCOM	120	College Reading 2
SPCOM	101	Basic Speech Communication 2
PE	100	PE Orientation 2
ENG	211*	American Literature I 3
ENG	212*	American Literature II 3
		GEN ED Electives — Group I 4
		GEN ED Electives — Group II 5
		GEN ED Electives — Group III 5
		Foreign Language or Linguistics 3
		35

(*Three hours of ENG 131, Introduction to Literature, may be substituted for either ENG 211 or 212.)

Sophomore Year		Credits
ENG	231	Literature of England I 3
ENG	232	Literature of England II 3
ENG	221	Western World Literature I 3
ENG	222	Western World Literature II 3
ENG	363	17th Century British Literature or
ENG	364	18th Century British Literature or
ENG	365	19th Century British Literature
		GEN ED Electives — Group I 6
		GEN ED Electives — Group II 5
		GEN ED Electives — Group III 5
		Foreign Language or Linguistics 3
		34

Junior Year		Credits
ENG	313	American Novel I 3
ENG	331 or 332	Development of Novel I or II (as offered) 3
ENG	381 or 382	Drama of Shakespeare I or II (as offered) 3
ENG	460	Autobiography 3
		Electives 21
		33

Senior Year			Credits
ENG	411	Seminar in American English or World Literature (as offered)	3
ENG	421 or 426	History of the English Language or Chaucer and His Age	3
ENG	441	Electives	26
			32
Secondary Teacher Certification: English Endorsement			Credits
ENG	241	Advanced Composition	3
ENG	315 or 316	Creative Writing I or II	3
ENG	341	History of English	2
ENG	342	Syntax and Usage	2
ENG	304	Language Awareness	3
ENG	412	Literature for Adolescents	2
ENG	377	Materials and Techniques	3
			16
			34

Required Education courses (See Education: Secondary Teacher Certification) Adjustments will be required for the B.A. in Language Arts.

Courses:

- ENG 131 Introduction to Literature 3(3-0) F,S,SS.**
Treats all kinds of literature from varying times and places with emphasis on artistry; is especially desirable for the student who has not been exposed to much literature. GEN ED IC.
- ENG 211 American Literature I 3(3-0) F,S,SS.**
Studies 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 212 American Literature II 3(3-0) F,S,SS.**
Treats literature from Whitman to the present and includes emphasis on the influence of westward expansion, growth of regionalism, literature of social protest, and post-World War II writing. GEN.ED.IC.
- ENG 221 Western World Literature I 3(3-0) F.**
Concentrates on the 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) S.**
Continues Eng 221 covering literature from the Renaissance to the present. GEN.ED.IC.
- ENG 231 Literature of England I 3(3-0) F.**
Surveys the 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) S.**
Surveys the literature and literary history of England from 1750 to the present. GEN.ED.IC.
- ENG 241 Advanced Composition (1-3 VAR) F.**
Covers advanced forms of non-fiction writing including essays, articles and reports with attention given to needs of students.
- ENG 252 Introduction to Poetry 3(3-0) S.**
Offers experience in reading and evaluating poems by English and American authors of all periods. GEN.ED.IC.
- ENG 254 Science Fiction 3(3-0) F,S.**
Explores imaginative literature of fact and fiction through reading, lectures, movies, and television. GEN.ED.IC.

- ENG 260 Women in Literature 3(3-0) F.**
Examines female stereotypes deeply carved in literature and traces 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) F,S.**
Explores a variety of subjects including individual authors, themes, or areas of language development.
- ENG 304 Language Awareness and Human Behaviors I 3(3-0) F.**
Uses 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 Language Awareness and Human Behaviors II 3(3-0) S. PRQ ENG 304.**
Applies skills acquired in Eng. 304 to create effective communications for satisfactory relationships between persons.
- ENG 311 American Short Story 3(3-0) F.**
Studies short fiction from the early 19th century to the present.
- ENG 312 American Poetry 3(3-0) F.**
Studies development of American poetry from the Puritans to the present.
- ENG 313 American Novel I 3(3-0) F.** Offered alternate years.
Studies development of novelistic forms and styles from the beginnings to the 1900's.
- ENG 314 American Novel II 3(3-0) S.** Offered alternate years.
Continues Eng 313 dealing with the novel from 1900 to the present.
- ENG 315 Creative Writing: Poetry 3(3-0) F.** PRQ BCOM 110 and 111, ENG 241 or 252, or approval of professor.
Introduces student to writing poetry and presents opportunity to write in a self-fulfilling way with some practice on form.
- ENG 316 Creative Writing: Fiction 3(3-0) S.** PRQ BCOM 110 and 111, ENG 241, or approval of professor.
Introduces student to creating character, situation, and overall structure with emphasis on imaginative and real-life portrayal.
- ENG 331 Development of the Novel I 3(3-0) F.** Offered alternate years.
Emphasizes social problems and European influences; focuses on trends coming to full development in the 20th century. Includes recent works.
- ENG 332 Development of the Novel II 3(3-0) S.** Offered alternate years.
Continues ENG 331 with emphasis on later developments.
- ENG 341 History of the English Language 3(3-0) F.**
Examines the English language from Anglo-Saxon period to present, with emphasis on history of linguistic and structural changes.
- ENG 342 English Syntax and Usage 2(2-0) F,S.**
Examines English usage and language systems with emphasis on forms and functions of language analysis.
- ENG 351 Children's Literature 2(2-0) F,S.**
Exposes the person selecting literature for children to options, including the meaningful, the pleasurable, and that which is keyed to a variety of learners.
- ENG 352 Modern Poetry 3(3-0) F.**
Studies in a variety of poets beginning as early as Whitman and Hardy.
- ENG 363 17th Century British Literature 3(3-0) F.**
Treats representative and major authors, and movements.
- ENG 364 18th Century British Literature 3(3-0) S.**
Treats Dryden, Swift, Defoe, Boswell, Johnson, Pope, Fielding, Blake, Austen, Radcliffe, and/or other major writers.
- ENG 365 19th Century British Literature 3(3-0) S.**
Treats 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) F.
Introduces materials and teaching/learning systems for literature, language, composition.

ENG 379 Language Arts Method in High School 5(5-0) F. PRQ Junior standing or permission of professor.

Treats principles and tools needed by high school language arts teachers who will teach composition, literature, speech communication, and drama; includes creating instruction models and learning designs as well as means of evaluation.

ENG 381 Drama of Shakespeare I 3(3-0) F.
Emphasizes Shakespeare's dramaturgy and the developments of Shakespearean criticism; covers major histories and tragedies.

ENG 382 Drama of Shakespeare II 3(3-0) S.
Surveys Shakespeare's development as a playwright and treats early, middle, and late plays selected by the professor.

ENG 411 Seminar in American Literature 3(3-0) F.
Treats either: Faulkner, Melville, James, Hemingway, Fitzgerald, Transcendentalism, Naturalism, Realism, World War II Novels, Southwest literature, folklore, humor, the Puritans, or American thought.

ENG 412 Literature for Adolescents 2(2-0) S.
Surveys literature suitable for adolescents, including classical and contemporary authors, and issues in selection and evaluation.

ENG 415 Individual Instruction: Creative Writing (1-3 VAR) PRQ ENG 315 or 316, or consent of professor.
Provides advanced instruction and criticism.

ENG 421 Seminar in English Literature 3(3-0) S.
Treats either John Milton, George Eliot, Thomas Hardy, James Joyce, Virginia Woolf, or a theme, genre, or chronological period.

ENG 426 Seminar in World Literature 3(3-0) S.
Treats either a topic, a theme, or an image illustrated in the writings of a particular period or periods in Western literature.

ENG 441 Chaucer and His Age 3(3-0) S.
Studies Chaucer and his contemporaries in their cultural setting.

ENG 443 Introduction to Linguistics 3(3-0) S.
Introduces theorists, systems, analyses, and studies of language.

ENG 446 Seminar in Poetry 3(3-0) S.
Treats in detail the works of one or more poets.

ENG 460 Autobiography 2(2-0) S.
Studies and evaluates significant autobiographies from Western literature and makes writing autobiography a meaningful experience for student.

ENG 481 Literary Criticism 3(3-0) F.
Studies the great critics and critical movements from Aristotle to Samuel Johnson.

ENG 482 Literary Criticism 3(3-0) S.
Studies the great critics and critical movements from Coleridge to the modern period.

ENG 491 Special Topics in English I (1-3 VAR) F,S.
Explores a variety of subjects including individual authors, themes, or areas of language development. Plus the work done for ENG 291, student is expected to do an extensive term paper.

ENG 499 Independent Study (1-3 VAR) F,S.
Provides undergraduate directed, intensive study and guidance for studying major literary figures or movements; arranged with department head.

Graduate:

ENG 511 Seminar: American Literature 2(2-0) S. PRQ Graduate standing.
Studies selected American classics, especially those of lasting values for high

school students; emphasizes critical reading skills, basic techniques of evaluation, and practices in writing responses to literature.

ENG 512 Literature for Adolescents 2(2-0) S,SS. PRQ Graduate standing.
Surveys literature suitable for adolescents, including classical and contemporary authors as well as issues in selection and evaluation.

ENG 539 Seminar in Children's Literature 2(2-0) S,SS. PRQ Graduate standing and approval of professor.
Gives in-depth study of children's literature.

ENG 571 Literary Criticism 2(2-0) F. PRQ Graduate standing.
Treats the great and critical movements not covered in ENG 481-482.

ENG 578 Workshop in the Teaching of Writing 2(2-0) SS. PRQ Graduate standing.
Explores theories of composition, methods, sources and resources, for teachers of writing.

ENG 591 Special Topics in English (1-3 VAR) S,SS. PRQ Graduate standing.
Explores a variety of subjects including individual authors, themes, or areas of language development.

ENG 599 Independent Study 2(2-0) F,S. PRQ Graduate standing.
Provides directed, intensive study and guidance for studying major literary figures or movements; arranged with department head.

Foreign Languages

Dr. Leon Bright, Head

Departmental Office: P-156 Phone: 549-2103

Prof: Amerman (on leave), Garcia, Milne, Murphy, Robertson.

The Department of Foreign Languages offers majors in French and Spanish, and minors in French, German, Russian and Spanish. Programs leading to the Bachelor of Arts 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 department offers courses relating to various fields in order to increase vocational opportunities.

Major Programs

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 will reduce the number of credit hours required for majors and minors.

All majors in foreign languages must complete the core curriculum and the additional requirements of their chosen foreign language program.

Core Curriculum

ENG

131 Introduction to Literature

HIST or 101 World Civilization to 1500

HIST 102 World Civilization since 1500

Beginning Courses. 10 hours of beginning language courses or equivalent.

Intermediate Courses. All approved courses numbered 200 not to include FL 200, 291, and 292.

French Major

Core Curriculum plus

FL 301 or 302 Advanced French Conversation I,II
 FL 303 French Phonetics and Diction
 FL 308-309 French Civilization I & II
 plus Approved French elective courses numbered 300 or above.

Spanish Major

Core Curriculum plus

FL 391 Advanced Spanish Grammar
 FL 392 Advanced Spanish Composition
 plus Approved Spanish elective courses numbered 300 or above.

Minor Programs

A minor in a selected language requires satisfactory completion of 32 credit hours, 9 hours of which must be of approved upper-division work.

French Minor

Core Curriculum plus

FL 308-309 French Civilization I & II
 FL 404-405 French Culture Today I & II

German Minor

Core Curriculum plus

FL 321 Advanced German Conversation
 FL 322-323 Advanced German Grammar I & II
 FL 326-327 German Civilization I & II

Spanish Minor

Core Curriculum plus

FL 391 Advanced Spanish Grammar
 FL 392 Advanced Spanish Composition
 plus Approved Spanish elective course numbered 300 or above.

Russian Minor

Core Curriculum plus

FL 361 Advanced Russian Conversation
 FL 371-372 Russian Civilization I & II
 FL 375 Russian Short Story

Teacher Certification

All students planning to teach foreign languages in public schools need:

FL 389 Teaching French, German and Spanish in Elementary Schools

or

FL 390 Teaching French, German and Spanish in Secondary Schools

Courses:

Undergraduate:

FL 100 Introduction to Comparative Linguistics 3(3-0) F,S.

Basic concepts in linguistics. Classification and comparison languages. GEN.ED.IB.

FL 101 Introduction to French I 3(3-1) F.

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 II 3(3-1) S. PRQ FL 101 or equivalent GEN.ED.IB.

FL 110 European Cultures 3(3-0) F,S,SS.

Offered in English. A cultural awareness course covering the Spanish, French, German, Italian and Slavic speaking countries. GEN.ED.IB.

FL 111 Beginning French I 5(5-1) F,S.

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. 1 hour laboratory practice weekly. GEN.ED.IB.

FL 112 Beginning French II 5(5-1) F,S. PRQ FL 111 or equivalent. GEN.ED.IB.

FL 115 Modern Spoken French 5(5-0) F,S,SS.

Emphasis on spontaneous use of the language, designed to develop correct pronunciation, oral fluency and basic communication. GEN.ED.IB.

FL 121 Introduction to German I 3(3-1) F.

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 II 3(3-1) S. PRQ FL 121 or equivalent GEN.ED.IB.

FL 125 Beginning German I 5(5-1) F,S.

Pronunciation and grammar with oral-aural training. Easy reading and conversation. One hour of laboratory practice required. GEN.ED.IB.

FL 126 Beginning German II 5(5-1) F,S. PRQ FL 125 or equivalent. GEN.ED.IB.

FL 137 Foreign Language for Travel 1(1-0) F, S.

Fundamental vocabulary for basic tourist communication.

FL 138 English as a Foreign Language: Reading and Vocabulary 3(3-0) F,S,SS.

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) F,S,SS.

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) F,S,SS.

Pronunciation, intonation, topic reports, dialogues, group discussions, plays, situational improvisations. Colloquial English.

FL 146 Introduction to Italian I 3(3-1) F.

Pronunciation and grammar with oral and aural training. Easy reading and conversation. One hour weekly practice in lab required. GEN.ED.IB.

FL 147 Introduction to Italian II 3(3-1) S. PRQ FL 146 or equivalent. GEN.ED.IB.**FL 156 Introduction to Portuguese I 3(3-1) F.**

Oral-aural training, reading, writing, a minimum of one hour practice every week in lab required. GEN.ED.IB.

FL 157 Introduction to Portuguese II 3(3-1) S. PRQ FL 156 or equivalent. GEN.ED.IB.**FL 161 Introduction to Russian I 3(3-1) F.**

Pronunciation, conversation, grammar. Alphabet, easy reading and writing. Minimum one hour practice in laboratory required. GEN.ED.IB.

FL 162 Introduction to Russian II 3(3-1) S. PRQ FL 161 or equivalent. GEN.ED.IB.**FL 181 Introduction to Spanish I 3(3-1) F.**

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 II 3(3-1) S. PRQ FL 181 or equivalent. GEN.ED.IB.**FL 183 Spanish for Spanish Speakers 5(5-0) F,S,SS.**

For students with an understanding of oral Spanish but no knowledge of grammar or writing. Upon completion students should enroll in FL 192. GEN.ED.IB.

FL 191 Beginning Spanish I 5(5-1) F,S,SS.

Oral-aural training, also some reading and writing, with an introduction to Hispanic culture. One hour practice per week required in laboratory. GEN.ED.IB.

FL 192 Beginning Spanish II 5(5-1) F,S,SS. PRQ FL 191 or equivalent.

Students are placed by the department. Practice in oral, aural, reading and writing exercises. One-half to one hour practice per week required in laboratory. GEN.ED.IB.

FL 200 Foreign Language Field Trip (2-6 VAR) F,S,SS. PRQ Consent of instructor.

Communication, lectures by writers, artists, political leaders and specialists. Visits to museums. Attendance at movies, theatre, and excursions.

FL 201 French Conversation I 2(2-0) F,S,SS. PRQ FL 112 or equivalent.

Practice in small groups to develop vocabulary and rapid speaking skills.

FL 202 French Conversation II 2(2-0) S,SS. PRQ FL 201 or consent of instructor.**FL 209 French Plays 2(2-0) S. PRQ Consent of instructor.**

Study of techniques of stage direction and interpretation of French plays. A survey of some of the different approaches used on the French stage. Production of a play in the language.

212 Intermediate French I 5(5-0) F. PRQ FL 112 or two years of high school French or equivalent.

Grammar review, study of idioms and writing of composition. Selected readings with oral and written exercises.

FL 213 Intermediate French II 5(5-0) S. PRQ FL 212 or equivalent.**FL 221 German Conversation 2(2-0) F,S. PRQ 1 year college German or equivalent.**

Practice in small groups, everyday-type conversation.

FL 222 Intermediate German I 5(5-0) F. PRQ 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) S. PRQ FL 222 or equivalent.**FL 230 German Plays 2(2-0) S.**

Study and production of German plays.

FL 246 Intermediate Italian I 5(5-0) F. PRQ 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) S. PRQ FL 246 or equivalent.**FL 261 Russian Conversation I 5(5-0) F. PRQ FL 162 or equivalent.**

Intensive practice.

FL 271 Intermediate Russian I 5(5-0) F. PRQ FL 162 or its equivalent.

Advanced grammar and vocabulary. Reading of short stories, oral and written reports.

FL 272 Intermediate Russian II 5(5-0) S. PRQ FL 271 or equivalent.**FL 281 Readings in Hispanic Civilizations I 3(3-0) F. PRQ one year college Spanish or equivalent.**

Reading and discussion based on the cultures of Spain. GEN.ED.IB.

FL 282 Readings in Hispanic Civilizations II 3(3-0) S. PRQ one year of college Spanish or equivalent.

Reading and discussion based on Hispanic America. GEN.ED.IB.

FL 286 Intermediate Spanish Conversation I 2(2-0) F. PRQ one year college Spanish or equivalent.

Conversation in small groups divided according to student's fluency.

FL 287 Intermediate Spanish Conversation II 2(2-0) S. PRQ one year college Spanish or equivalent.**FL 291 Special Topics (1-3 VAR) F,SS.**

Study of critical foreign languages not offered regularly. Also study of an aspect of foreign culture not contained in regular courses. Credit related to academic value.

FL 292 Special Topics (1-3 VAR) S,SS. PRQ FL 291 or consent of instructor.**FL 297 Spanish Grammar & Composition I 3(3-0) F. PRQ one year college Spanish or equivalent.**

An intermediate review of grammar plus practice in writing compositions.

FL 298 Spanish Grammar & Composition II 3(3-0) S. PRQ FL 297.

Further study of grammar, increased emphasis on composition.

FL 301 Advanced French Conversation I 2(2-0) F,SS. PRQ 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) S,SS. PRQ FL 301, or consent of instructor.**FL 303 French Phonetics & Diction 2(2-0) S. PRQ Intermediate French or consent of instructor.**

French pronunciation, theory, correction and practice of diction & intonation. Phonetic transcription & remedial exercises. Required of all future teachers of French.

FL 304 French Heritage Throughout the Ages I 3(3-0) F. PRQ Intermediate French or equivalent.

French thought throughout French history with emphasis on social, intellectual and artistic trends.

FL 305 French Heritage Throughout the Ages II 3(3-0) S. PRQ FL 304 or consent of instructor.

FL 308 French Civilization I 3(3-0) F. PRQ Intermediate French or equivalent.

Geography, art, architecture, economics, and social problems, correlated with history from the origin to contemporary French. Required of all future teachers of French.

FL 309 French Civilization II 3(3-0) S. PRQ FL 308 or consent of instructor. Required of all future teachers of French.

FL 312 Advanced French Grammar I 3(3-0) F. PRQ Intermediate French or equivalent.

Required of all future teachers of French. Systematic review of grammar; presentation of the more sophisticated syntactical patterns to enable students to write correctly.

FL 313 Advanced French Grammar II 3(3-0) S. PRQ FL 312. Required of all future teachers of French.

FL 321. Advanced German Conversation 2 (2-0) F,S. PRQ one year of German. Practice in small groups.

FL 322 Advanced German Grammar I 2(2-0) F. PRQ FL 222 or equivalent. Linguistic analysis, vocabulary building and composition.

FL 323 Advanced German Grammar II 2(2-0) S.

FL 326 German Civilization I 3(3-0) F.

Study of German geography, culture and history from the beginning to the present.

FL 327 German Civilization II 3(3-0) S.

FL 361 Advanced Russian Conversation 2(2-0) F,S,SS. PRQ FL 262 or 271 or equivalent. Intensive practice.

FL 371 Russian Civilization I 3(3-0) F. PRQ FL 272 or its equivalent. From early beginnings to middle of 19th century.

FL 372 Russian Civilization II 3(3-0) S. PRQ FL 371 or its equivalent. From the middle of the 19th century up to the present.

FL 375 Russian Short Story 2(2-0) F,S. PRQ FL 271 or its equivalent. Selected short stories. Discussion of ideas, of art and of authors. Stress on both oral and written work.

FL 381 Masterpieces of Spanish Literature 3(3-0) F. PRQ 2 years of college Spanish or equivalent.

The major literary works of Spanish literature from its beginnings to 1680. Study of the essential techniques of literary criticism using a cultural approach.

FL 382 19th Century Spanish Literature 3(3-0) S. PRQ 2 years college Spanish or equivalent.

Deals with the time period between 1808-1898. The study of the emergence of Romanticism in Spain and its gradual development towards Costumbrismo and Realism.

FL 383 The Spanish American Short Story 2(2-0) S. PRQ 2 years of college Spanish or equivalent.

A study of the major works of Spanish Americans with emphasis on the cultural aspects of 20th century literature.

FL 384 Spanish American Novel 2(2-0) F. PRQ 2 years of college Spanish or equivalent.

A detailed study of outstanding Spanish American novels, concentrating on their artistic and social significance.

FL 387 Contemporary Hispanic America 3(3-0) S. PRQ 2 years of college Spanish or equivalent.

A survey of the sociology, geography, internal and external politics, economics, and the role of the U.S. in Spanish America and Brazil.

FL 389 Teaching French, German & Spanish in Elementary Schools 2(2-0) F.

Preparation of materials and techniques of teaching French, German, Spanish in the elementary schools and applied linguistics.

FL 390 Teaching French, German & Spanish in Secondary Schools 2(2-0) F.

Applied linguistics. All modern methods. Teachers aide training.

FL 391 Advanced Spanish Grammar 3(3-0) F. PRQ FL 298 required for Spanish majors.

FL 392 Advanced Spanish Composition 3(3-0) F. PRQ FL 298 required for Spanish majors.

FL 393 Masterpieces of Spanish American Literature 3(3-0) F. PRQ 2 years of college Spanish or equivalent.

A study of the major works of Spanish America with emphasis on the cultural aspects of 20th century literature.

FL 400 Foreign Language Field Trip (2-6 VAR) F,S,SS.

Communication, lectures by writers, artists, political leaders and specialists. Visits to museums. Attendance at movies, theater and excursions.

FL 404 French Culture Today I 3(3-0) F. PRQ consent of instructor.

Study of contemporary ideas, problems, current affairs as seen through the French media and 20th century literature.

FL 405 French Culture Today II 3(3-0) S. PRQ FL 404 or consent of instructor.

FL 406 Masterpieces of French Literature I 2(2-0) F,SS. PRQ Consent of instructor.

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) S,SS. PRQ Consent of instructor.

FL 408 Translation 3(3-0) S,SS. PRQ Advanced grammar course in selected language.

An introduction in the translation of advanced texts of general interest, with work in the theory of translation together with practice.

FL 410 Contemporary French Novel & Drama 3(3-0) F,S

Offered in translation. A study of the great 20th century French masters: Proust, Gide, Malraux, Cocteau, Giraudoux, Anouilh, Sartre, Camus, Genet, Ionesco, Beckett, Robbe-Grillet.

FL 423 19th Century German Literature 3(3-0) F. PRQ Two years of college German or equivalent.

Study of Romanticism and Realism. Emphasis on poetry and the novelle.

FL 426 20th Century German Literature 3(3-0) S. PRQ Two years of college German or equivalent.

Study of the drama and novel.

FL 428 German Culture Today 3(3-0) S. PRQ Two years of college German or equivalent.

Study of current events, and institutions through media.

FL 482 Hispanic Thought 3(3-0) S. PRQ 2 years of college Spanish or equivalent.

The study of essays in Spanish.

FL 483 Studies in Hispanic Culture 1(1-0) F,S,SS. PRQ 2 years of college Spanish or equivalent.

Reading analysis and discussion of essays based on contemporary Hispanic culture. May be repeated for credit as content changes.

FL 484 Mexican Literature 2(2-0) F,S. PRQ 2 years Spanish or equivalent. Main currents of Mexican literature, primarily of the 20th century.

FL 485 Studies in Latin American Literature 1(1-0) F,S. PRQ 2 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) S,SS. PRQ 2 years of college Spanish except no prerequisite when class is conducted in English.

Primarily a study of the novel Don Quixote through literary and cultural analysis of the characters Don Quixote and Sancho Panza and their environment.

FL 487 Studies in Spanish Literature 1(1-0) F,S. PRQ 2 years 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 1(1-0) F. PRQ 2 years of college Spanish or equivalent. Recommended for bilingual education majors.

A study of the sound patterns of Spanish contrasted and compared with English sound patterns.

FL 489 Studies in Spanish Linguistics II 1(1-0) S. PRQ 2 years of college Spanish or equivalent.

A review of the most recent research in linguistics.

FL 490 Problems in Teaching Foreign Language 3(3-0) F,S. PRQ Spanish FL 391.

An analysis of Spanish phonology, morphology and syntax related to cultural patterns for effective teaching of Spanish.

FL 495 Independent Study (1-3 VAR) F,S,SS.

Specific themes will be chosen which will address a particular problem of literature or civilization. The course may be repeated for credit with the approval of the major adviser.

FL 497 Field Experience (1-7 VAR) F,S,SS. PRQ 2 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.

Graduate:

FL 590 Problems in Teaching Foreign Language 3(3-0) SS. PRQ Graduate standing.

A review of modern methods of teaching foreign languages. Ideas to make and maintain interest in the foreign language. Culture as an integral part of language teaching.

Geosciences

Dr. Robert K. Smith, Head

Departmental Office: C-216 Phone: 549-2311

Professors: Englebrecht, Howard, Schaeffer

The programs of the Department are designed for the following groups of students:

(1) professional geology majors, (Options I, II, III, IV, V, VI), (2) geology or earth-space science for teacher majors, (Option V), (3) minors in geology or geography, and (4) those fulfilling a geology or geography general education requirement.

All major and minor programs must be approved by a departmental adviser relevant to the specific area of study in geosciences.

The geology degree is designed to educate students for careers in petroleum, mining, water resources, environmental studies, oceanography, governmental agencies, engineering, geology, geochemistry, natural resources, geophysics and secondary school teaching.

Bachelor of Science Degree in Geology

A Bachelor of Science degree in geology is offered in six different options: (Option I) Mineralogy, Petrology and Geochemistry, (Option II) Geophysics and Structural Geology, (Option III) Sedimentation, Stratigraphy, Oceanography and Paleontology, (Option IV) Hydrology and Engineering Geology, (Option V) Geology or Earth - Space Science for Teachers, and (Option VI) Cartography - Earth Resources/Geodesy.

Completion of Options I, II and III will qualify the graduate for an occupation with the Federal government (Civil Service) in the following fields: Geologist, geophysicist, hydrologist and cartographer. Completion of Option IV will qualify the graduate for an occupation with the Federal government (Civil Service) in the following fields: Basic engineering geologist, geophysicist, hydrologist; and may also qualify the graduate as a land surveyor (an additional course will be needed), and geologist (an additional two courses will be needed). It is assumed that the student will elect to take those specific courses required by the Federal government for these occupational fields in fulfilling the requirements of his/her bachelor of science degree in geology. The student will be able to successfully do this in the 128 semester hours required by the University.

A 2.0 (C) cumulative grade point average in geology courses is required for the B.S. degree in Geology.

Transfer students are required to complete a minimum of 25 semester hours of the required geology courses for the B.S. degree in Geology at the University of Southern Colorado.

All foreign students are required to complete FL 138, 139 and 140, unless waived by the geology advisor.

The typical geology schedule:

Freshman Year			Credits
GEOL	122	Physical Geology	4
GEOL	123	Historical Geology	4
MATH	121	College Algebra	4
MATH	122	College Trigonometry	2
CHEM	121	General Chemistry I	4
CHEM	121L	General Chemistry I Lab	1
CHEM	122	General Chemistry II	4
CHEM	122L	General Chemistry II Lab	1
BCOM	110	Freshman Composition I	3
BCOM	111	Freshman Composition II	3
		GEN ED Electives — Group I	3
			—
			32
Sophomore Year			Credits
GEOL	301	Mineralogy	4
GEOL	302	Petrology — Geochemistry	4
MATH	126	Calculus — Analytic Geometry	5
MATH	240	Introduction to Computer Programming	1
MATH	241	Introduction to Digital Computers	2
BCOM	120	College Reading	2
SPCOM	101	Basic Speech Communication	2
PE	100	PE Orientation	2
		Approved Geology Electives	6
		GEN ED Electives — Group II	6
			—
			34
Junior Year			Credits
GEOL	315	Geologic Field Techniques	2
PHYS	201	Principles of Physics I	4
PHYS	202	Principles of Physics II	4
		Approved Geology Electives	8
		Approved Science or Engineering Electives	8
		GEN ED Electives — Group I	4
		GEN ED Electives — Group II	4
			—
			34
Senior Year			Credits
GEOL	410	Stratigraphy and Sedimentation	5
GEOL	411	Structural Geology	5
		Approved Geology Electives	10
		Approved Science or Engineering Electives	8
		GEN ED Electives — Group I	3
			—
			31

The above sample schedule reflects a typical geology option. Changes would be required for other option areas. Majors should consult the department of geosciences for specific course requirements for each of the option areas.

Minors in Geology or Geography

Twenty credit hours in geology courses are required for a minor in geology, which must include Physical Geology and Historical Geology. Twenty-one credit hours in geoscience courses are required for a minor in geography, which must include Principles of Geography, World Geography, Cultural Geography and Map and Aerial Photo Interpretation.

Courses:

Geology

GEOL 101 Earth Science 4(4-0) F,S,SS.

Classification and origin of rocks and minerals. Weathering, mass-wasting, running water, glaciers, and crustal structure. Elementary oceanography, astrogology, geodesy, and geomagnetism. GEN.ED.IIID.

GEOL 105 Geology of National Parks and Monuments 3(3-0) F,S,SS.

Geologic studies of Yellowstone, Yosemite, Zion, Hawaii, Big Bend, Bryce Canyon, Crater Lake, Mount Rainier, Grand Canyon, Grand Teton, Glacier, Dinosaur, etc. GEN.ED.IIID.

GEOL 122 Physical Geology 4(3-2) F,S.

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) S. PRQ GEOL 101 or 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) F,S. PRQ CHEM 111 or 121.

Formation, properties, and management of soils emphasizing soil conditions that affect plant growth.

GEOL 205 Earth Resources and Energy Conservation 2(2-0) F,S.

World reserves of oil, gas, coal, uranium, and other economic minerals; their distribution, production, and utilization. Geothermal energy sources. GEN.ED.IIID.

GEOL 210 Map and Aerial Photo Interpretation 2(2-0) F,S,SS.

Elements of reading, classifying, evaluating, and interpreting maps and aerial photographs relative to their physical and cultural features. Maps made from aerial photos.

GEOL 220 Gems and Minerals 3(3-0) F,S,SS.

A scientific study of gems and semiprecious minerals, with an emphasis on their identification, occurrences, and history. Lapidary techniques will be excluded. GEN.ED.IIID.

GEOL 300 Environmental Geoscience 3(3-0) F,S. PRQ GEOL 102 or 122.

All geological conditions and influences affecting the life and development of man: mineral, oil, stream erosion, landslides, subsidence, earthquakes.

GEOL 301 Mineralogy 4(2-4) F. PRQ CHEM 121.

Crystallographic, chemical, and physical properties of minerals and their methods of identification.

GEOL 302 Petrology and Geochemistry 4(2-4) S. PRQ 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(2-4) F,S. PRQ GEOL 301.

Elements of crystal optics, determination of minerals with the polarizing microscope. Rock-forming minerals in thin section.

GEOL 308 Invertebrate Paleontology 3(2-2) F,S. PRQ GEOL 123 or BIOL 202.

Identification, classification, morphology, and stratigraphic significance of fossil macroinvertebrates plus micro.

GEOL 310 Meteorology 3(3-0) F,S. PRQ GEOG 102 or 103 or GEOL 101.

A study of meteorological elements emphasizing world climate types and climatic relations to human activities.

GEOL 313 Principles of Geomorphology 3(2-2) F,S. PRQ GEOL 101 or 122.

The classification and genesis of the landforms of the earth's surface. Includes fluvial and glacial processes.

GEOL 314 Physical Oceanography 3(3-0) F,S. PRQ GEOL 101 or 105 or 122, MATH 105.

Physical processes in oceans and estuaries. Geomorphology, sedimentation, geochemistry, geophysics, and tectonics of the oceans and estuaries.

GEOL 315 Geologic Field Techniques 2(0-4) F,S. PRQ Permission of instructor.

Use of Brunton compass, alidade, aerial photographs and geomorphic interpretation. Introduction to geologic mapping.

GEOL 318 Remote Sensing 3(3-0) F,S. PRQ 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(4-0) F,S. PRQ GEOL 101 or 122, MATH 120.

Principles of ground water hydrology. Methods of conducting a ground water survey. Ground water case histories, especially Colorado's.

GEOL 410 Stratigraphy and Sedimentation 5(5-0) F,S. PRQ 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(4-2) F,S. PRQ 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) S. PRQ GEOL 411.

Case histories of the geosynclinal-orogenic cycle of North America. Geotectonics as a function of geologic time.

GEOL 414 Petroleum, Coal and Uranium Exploration 3(3-0) F,S. PRQ Geol 122, 123 and Math 122 or 124.

The course content consists of 70% petroleum, 15% coal and 15% uranium geology. The genesis, occurrence, migration and accumulation of petroleum. Analyses of reservoir rocks and fluids; stratigraphic, structural and hydrodynamic traps; and oil shale strata of the Green River Formation, exploration for coal cyclothem deposits within Cretaceous and Paleocene strata. Application of the sedimentary facies concept to uranium exploration.

GEOL 415 Exploration Geophysics 5(5-0) F,S. PRQ GEOL 101 or 122, PHYS 201, and MATH 123.

Gravimetric, magnetic, seismic, electrical, and gamma neutron methods as applied in the petroleum and mining industries.

GEOL 425 Cartography 4(3-2) F,S. PRQ 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) F,S. PRQ Permission of instructor.

Theory and practice of powder method, x-ray fluorescence, single crystal method, space group symmetry; application to geoscience problems.

GEOL 497 Independent Study (1-2 VAR) F,S,SS. PRQ Permission of the department.

The student will conduct field and/or laboratory research on special geologic problems.

GEOL 498 Special Topics (1-2 VAR) F,S,SS. PRQ Permission of instructor.

Topics will be considered which serve the interest of 12 or more students.

Geography**Undergraduate:****GEOG 102 Principles of Geography 3(3-0) F,S,SS.**

Landforms, climate, agriculture, population, manufacturing, resources, and urbanization. Emphasizing inter-relationships and spatial variations. GEN.ED.IIID.

GEOG 103 World Geography 3(3-0) F,S,SS.

The geographic structure of the major physical and cultural realms of the world. The characteristics and inter-relationships of regional environmental patterns. GEN.ED.IIID.

GEOG 113 Geography of Food and Hunger 2(2-0) F,S.

Analysis of the world's food and consumption patterns; emphasizing increasing production and improving food distribution to meet the requirements of a rapidly growing population. GEN.ED.IIC.

GEOG 200 Cultural Geography 3(3-0) F,S,SS.

The description, distinction, and significance of cultural differentiation based upon language, religion, political organization, urbanization, and population. GEN.ED.IIC.

GEOG 201 Economic Geography 3(3-0) F,S. PRQ GEOG 102 or 103 or Geol 101.

The study of areal variation on the earth's surface in man's activities related to producing, exchanging, and consuming resources. GEN.ED.IIC.

GEOG 291 Geography of the Rocky Mountains 3(3-0) F,S,SS.

An analysis of the cultural and physical environment, the distribution of population and economic activity in the region. GEN.ED.IIID.

GEOG 311 Geography of U.S.-Canada 3(3-0) F,S,SS.

A topical and regional analysis which stresses settlement, urbanization, agricultural, industrial, and social distribution relative to patterns, problems, and trends.

GEOG 321 Geography of Europe 3(3-0) F,S,SS.

Geographic cultural realms and physiography of Europe emphasizing studies of England, Germany, France, Poland, and Scandinavia. National policies and life styles.

GEOG 331 Geography of Latin America 3(3-0) F,S.

Geographic regions of Latin American culture, physiography, economy, political relations with recurring trends with emphasis on Brazil, Argentina, and Venezuela.

GEOG 341 Africa and the Middle East 3(3-0) F,S,SS.

Geographic regions, significance of recent economic and political change, the role of resources, environmental and regional relationships, and physiography.

GEOG 351 Geography of Monsoon Asia 3(3-0) F,S.

A regional analysis of Monsoon Asia based on modernization, resource development, economic patterns, international relationships, and physical barriers.

GEOG 371 Union of Soviet Socialist Republics 3(3-0) F,S.

A systematic and regional analysis of the 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) F,S,SS.

Practices and problems of teaching geography in public schools; stressing concepts, methods, curriculum, techniques, and source materials.

GEOG 411 Urban Geography 3(3-0) F,S. PRQ GEOG 102 or 103.

The distribution, functions, and internal structure of cities. A geographic analysis of urban areas including theoretical models.

GEOG 431 Historical Geography 2(2-0) F,S,SS. PRQ HIST 101 or HIST 201.

The reconstruction of past environments and social systems of the great civilizations; policies, life styles, internal development and national aspirations.

GEOG 450 Field Trip (1-4 Var) F,S,SS. PRQ GEOG 103 and 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) S.

Factors affecting the internal and external affairs of state. The physical basis of power, elements of the state, environmental determiners of national policy.

GEOG 480 Transportation Geography 3(3-0) F,S,SS. PRQ GEOG 201 or 411 or ECON 201.

Transportation networks (railroads, air routes, etc.) as related to regional and urban development, and population and supply flow.

GEOG 497 Independent Study (1-2 VAR) F,S,SS. PRQ Permission of department.

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) F,S,SS. PRQ HIST 101 or HIST 201.

The reconstruction to past environments and social systems of the great civilizations, policies, life styles, internal development and national aspirations.

History

Dr. Lawrence E. Daxton, Director
Center for Humanistic Policy Studies
Center Office: P-118 Phone: 549-2417
Professors: Eagan, Ervin, Wilkin

The history 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 also serve to complement the liberal arts core at USC and prepare students for entry into graduate programs leading toward professional courses in law, teaching or other specialized degrees.

Bachelor's Degree Requirements*

Requirements for a history major include a minimum of 30 semester hours in the area of history. Required courses include HIST 101, 102, 200, 201, and 202.

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.

The typical history schedule:

Freshman Year			Credits
HIST	101,102	World Civilization	10
BCOM	120	College Reading	2
SPCOM	101, 101	Speech Communications	3
BCOM	110	Freshman Comp I	3
BCOM	111	Freshman Comp II	3
		Foreign Language	10
PE	100	Orientation	2
			—
			33

Sophomore Year			Credits
HIST	201,202	History of U.S. and The Americas	6
HIST	200	Research in History	2
		Foreign Language	6
		General Education Group II	10
		General Education Group III	7
			—
			31

Junior Year			Credits
		History Electives (300/400 level)	6
		General Education Group III	3
		General Electives	24
			—
			33

Senior Year			Credits
		History Electives (300/400 level)	6
		General Electives	25
			—
			31

*For a B.S. degree in history an additional six hours must be taken in the social sciences, but no foreign language is required.

Minor			Credits
HIST	102	World Civilization	5
HIST	202	History of U.S. and The Americas	3
		History Elective (300/400 level)	12
			—
			20

Courses:

Undergraduate:

HIST 101 World Civilization to 1500 5(5-0) F,S.

Cultural and political growth of civilizations from prehistoric times to 1500, with emphasis on the unique contributions of independent cultures to world history. GEN.ED.IIC.

HIST 102 World Civilizations Since 1500 5(5-0) F,S,SS.

Cultural and political interaction of civilizations from 1500 to the present, with emphasis on common problems and goals of mankind. GEN.ED.IIC.

HIST 150 The Human Experience 3(3-0) F,S,SS.

Human efforts to organize societal activity and relationships for group development and survival through political, economic, and social institutions. GEN.ED.IIC.

HIST 200 Research in History and Liberal Arts 2(2-0) F.

The content of the course will enhance the general knowledge of all students by obtaining the necessary skills to evaluate historical data. In addition, the emphases on writing and evaluation of evidence will aid students in understanding the complexities of the modern era by comparison with past historic events. GEN.ED.IIC.

HIST 201 History of the Americas 3(3-0) F,S.

The pre-Columbian Indian America, European Colonial systems and the creation of the new nations of the Western Hemisphere. GEN.ED.IIC.

HIST 202 History of U.S. Since 1820 (3-0) F,S,SS.

A survey of the history of the United States from the Jacksonian era to the mid-twentieth century. GEN.ED.IIC.

HIST 203 History of Latin America 3(3-0) F,S.

The nations and cultures of Latin America since independence. GEN.ED.IIC.

HIST 210 Nations at War 3(3-0) F.

Military history, the role of warfare in the development of human society. GEN.ED.IIC.

HIST 211 Colorado History 2(2-0) F,SS.

History, government and economic factors important to the settlement and development of Colorado. GEN.ED.IIC.

HIST 281 Topics (1-3 VAR) F,SS.

Independent study involving research and seminars.

HIST 301 Emergence of the U.S. 3(3-0)

From the beginning of American culture through the movement for independence. Alternate Years.

HIST 303 Early 19th Century America (1790-1846) 3(3-0)

The development of the United States from the Federalist era to the Mexican War.

HIST 304 Mid-19th Century America 3(3-0)

The expansion and turmoil of the United States from the Mexican War to the end of Reconstruction. Alternate Years.

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. Alternate Years.

HIST 306 20th-Century America 3(3-0). S,SS.

The United States from the New Deal to the present.

HIST 311 American Diplomatic History 3(3-0)

United States foreign policy from the founding of the republic to the present. Alternate Years.

HIST 313 American West 3(3-0). PRQ Permission of instructor.

The role of the individual and the group in the development of the frontier into the twentieth century. Taught in Modules. Alternate Years.

HIST 221 American Constitutional Development 3(3-0) F. PRQ 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. Alternate Years.

HIST 341 History of England 3(3-0)

A survey of English History from ancient to modern periods with emphasis on major contributions of this nation to world history. Alternate Years.

HIST 355 Ancient Near East 3(3-0)

Beginnings of history and civilization from Sumer and Egypt. Alternate Years.

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. Alternate Years.

HIST 361 History of Russia I 3(3-0)

Cultural and political development of Russian history from ancient times to 1801, with emphasis on major trends and personalities. Alternate Years.

HIST 362 History of Russia II 3(3-0)

Cultural and political development of Russian and Soviet history from 1801 to the present, with emphasis on the impact of the Bolshevik revolution on history. Alternate Years.

HIST 371 Africa 3(3-0)

Survey history of the continent, its people and its social dynamics from the traditional systems to the contemporary. Alternate Years.

HIST 389 History of the Southwest 3(3-0) F,SS. PRQ HIST 201, 202

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) F. PRQ Permission of instructor.

A study of the origins and development of the armed forces in American society around six themes: the democratic revolution, the industrial revolution, the managerial revolution, the mechanical revolution, the scientific revolution, and the social revolution. All themes will be developed in a 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. Alternate Years.

HIST 416 Revolutions 2(2-0)

A general historic development of revolutions with emphasis on one major revolutionary movement in world history. Alternate Years.

HIST 440 History of Mexico 3(3-0). PRQ HIST 201 or 203.

The political, cultural and economic development of Mexico from the pre-conquest civilizations to the present. Alternate Years.

HIST 441 Chaucer and His Age 3(3-0) S.

A study of Chaucer and his contemporaries in their cultural setting.

HIST 443 History of Argentina, Brazil and Chile 3(3-0)

The ABC nations of South America from their colonial origins to the present. Alternate Years.

HIST 444 Japan 3(3-0)

Modern history of the "Britain of East Asia." Includes examination of Japanese tradition as one foundation of her present society. Alternate Years.

HIST 445 The People's Republic of China 3(3-0) S.

History of modern China from 1911 to the present. Includes examination of Chinese traditions as one foundation of her 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, with emphasis on the unique contribution of each culture in the region. Alternate Years.

HIST 451 History of Greece and Rome 3(3-0)

Greek history from Homeric times to the fall of the Western Roman Empire. Alternate Years.

HIST 453 Middle Ages 3(3-0)

Europe from the fall of Rome to the Renaissance. Alternate Years.

HIST 454 Renaissance and Reformation 3(3-0)

The re-awakening of learning in Europe and the emergence of nationalism and secularization from the Fourth Crusade to the period of Enlightenment. Alternate Years.

HIST 456 18th and 19th-Century Europe 3(3-0)

The historic development of European History from 1688 to 1918, with emphasis on trends and personalities of major importance in these centuries. Alternate Years.

HIST 458 20th-Century Europe 3(3-0)

Emphasis on events from World War I to the present. Alternate Years.

Hist 481 Topics (1-3 VAR) F,S. PRQ Junior or senior status with adequate preparation and approval of instructor. independent study involving seminars and research.

Graduate:

HIST 501 Emergence of the U.S. 3(3-0). PRQ Graduate standing. From the beginning of American culture through the movement for independence. Alternate Years.

HIST 513 American West 3(3-0). PRQ Graduate standing. The role of the individual and the group in the development of the frontier into the twentieth century. Taught in modules. Alternate Years.

HIST 516 Revolutions 2(2-0). PRQ Graduate standing. A general historic development of revolutions with emphasis on one major revolutionary movement in world history. Alternate Years.

HIST 540 History of Mexico 3(3-0). PRQ Graduate standing. The political, cultural and economic development of Mexico from the pre-conquest civilizations to the present. Alternate Years.

HIST 548 History of East Central Europe 3(3-0). PRQ Graduate standing. Development of civilizations in East Central Europe from ancient times to the present, with emphasis on the unique contribution of each culture in the region. Alternate Years.

HIST 551 History of Greece and Rome 3(3-0). PRQ Graduate standing. Greek history from Homeric times to the fall of the Western Roman Empire. Alternate Years.

HIST 555 Ancient Near East 3(3-0). PRQ Graduate standing. Beginnings of history from Homeric times to the fall of the Western Roman Empire. Alternate Years.

HIST 558 Century Europe 3(3-0). PRQ Graduate standing. Emphasis on events from World War I to the present. Alternate Years.

HIST 589 History of the Southwest 3(3-0) F,SS. PRQ Graduate standing. History of the Mexican cession to the United States from its Indian and Hispanic origin to the present.

HIST 599 Historiography 2(2-0). PRQ Graduate standing. Development of the field of history that would include the general approaches used and the influences those attitudes had upon historical presentation. Alternate Years.

Honors Program

The university offers an honors program for gifted students.

To qualify for this 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 inter-disciplinary and non-traditional. Freshman honors courses may be used to satisfy general education requirements under Group II. Any student may enroll in an Honors course.

Graduation with distinction or with special distinction is based on a student's grade point average. Graduation with honors means the student has successfully completed the honors program.

Further information and application materials required to enter the program are available from the assistant vice president for research in Room 303 of the Administration Building.

Courses:

IDH 101 Global Persons 2(2-0)

Introduces the problems of contemporary persons in a technological and developing world society. GEN.ED.IIF.

IDH 102 Technologic Persons 2(2-0)

Traces the historical background of technologic societies, their manifestations and problems, their possible and probable futures. GEN.ED.IIF.

IDH 201 Creative Persons 2(2-0)

Examines why persons create, the creative processes, and known systems for deliberately increasing creativity. GEN.ED.IK.

IDH 202 Inquisitive Persons 2(2-0)

Explores various methodological approaches applied to the human search for knowledge, focusing on the ethical and moral assumptions organized by paradigms. GEN.ED.IIIG.

Humanities

The following interdisciplinary courses are offered for Group I general education credit to students interested in obtaining a broad integrated knowledge of the fine arts and the humanities. Although these are survey courses independent of any particular major requirement, students are encouraged to follow up topics of interest by enrolling in introductory courses to specific academic majors.

HUM 100 Film: Art and Technology 3(3-0) F,S.

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) F,S.

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 2(2-0) F,S.

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.

In addition, a composite major in the humanities has been designed for those students who intend to enter fields for which a general liberal arts degree provides preparation. Please contact Dr. Donald Driscoll, coordinator of the broad area humanities program. Room P-125, 549-2800, for additional information and advising.

Requirements for a Broad Area Humanities Major

45-50 hours of courses within the humanities selected in the following manner:

- I. Required Core of Course Work
 - A. Humanities History Courses
 1. The History of Philosophy (Phil 313, plus either 314 or 315)
 2. Western World Literature (Eng 221, 222)
 3. Plus any two of the following humanities history sequences:
 - a. Art History Survey (Art 101,102)
 - b. Survey of Music History (Mus 121,122)
 - c. Theatre History (SpCom 216-217)

- B. Experience Group
After the student has selected two humanities history sequences in A 3 (above), he is to take 1 to 3 hours in an experience course in one of the two remaining humanities fields. An example would be Art 118 (Art for Non-majors)
- C. Complementary Group
The student will select an introductory course in the one humanities field not yet selected after the choices were made in A 3 and B (above)
- II. Electives from the humanities to complete the major: 17 hours to include at least 6 hours in 300 and 400 courses selected from any courses listed in the humanities. A student may wish to use these electives to study in areas of interest or to explore freely various other disciplines within the humanities. He may also specialize in one of the disciplines that make up the humanities.
- III. Jr.-Sr. Seminar Phil 311, Aesthetics 3 hours
- IV. Strongly Recommended Support Courses. 10 hours of World Civilization (History 101 and 102)

The typical broad area humanities schedule:

Freshman Year			Credits
BCOM	110,111,112	Freshman Composition I and II, College Reading.....	8
SPCOM	101	Basic Speech Communication.....	2
PE	100	P.E. Orientation.....	2
ART	101	Art History Survey I.....	3
ART	102	Art History Survey II.....	3
		GEN.ED. electives in humanities.....	3
Sophomore Year			
ENG	221	Western World Literature.....	3
ENG	222	Western World Literature.....	3
SPCOM	216	Theatre Survey I.....	3
		GEN.ED. electives in natural sciences & math.....	4
		GEN.ED. electives in social sciences.....	4
		Electives in humanities.....	13
			30
Junior Year			
PHIL	313	History of Phil. I.....	3
PHIL	314	History of Phil. II.....	3
SPCOM	217	Theatre Survey II.....	3
		Experience course in music.....	3
		An introductory course in speech.....	3
PHIL	311	Aesthetics.....	3
HIST	101	World Civilization.....	5
		Upper-division electives in humanities.....	9
			32
Senior Year			
HIST	102	World Civilization.....	5
		Electives (of which 22 must be upper- division).....	29
			34

Industrial Education

Dr. J. B. Morgan, Head
Departmental Office: T-278
Prof: Bottini, Tedrow

Master of Arts Degree in Industrial Education

The master's degree with a major in industrial education is designed to meet specific needs of each individual student — the student's background, experience and professional aspirations are important factors in designing each student's course of study. This degree is designed to meet the needs of secondary and post-secondary teachers who are teaching industrial education and vocational educators.

Excellent programs in unit shop facilities are available in many areas. Staff members who are master craftsmen and have had years of successful teaching experience are assigned to teach in each area.

Degree Requirements:

- Professional Education Requirements (six semester hours selected from courses below with approval of adviser).

	Credits
ED 505 Education Across Cultures.....	2
ED 522 Current Issues in Education.....	2
ED 535 Supervision of Instruction.....	2
ED 552 Interpersonal Relations.....	2
ED 555 Foundations of Learning Disorders.....	3
RDG 511 Reading Instruction in the Secondary Schools.....	2

- Required Industrial Education Courses (13 Credits)

IED 586 Seminar in Industrial Education.....	1
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 Ed.....	3
	13

- Minimum requirements and electives (adviser approval)
- All transfer credit must be approved by the graduate dean and the head of the industrial education department (maximum six semester credits).
- 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.
- Departmental examination required. Examination to be taken after the completion of 2/3 or more of degree requirements.

Bachelor of Science Degree

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 Department of Education.

Facilities consist of large laboratories that are exceptionally well equipped. In many cases, facilities and equipment surpass the recom-

mentations of public schools and industry. This provides our students an opportunity for hands-on experience which is very beneficial and very hard to obtain elsewhere.

The professional staff have college and university degrees, broad industrial backgrounds, are specialists in their respective fields and have many years of teaching experience. They are exceptionally well qualified to prepare teachers for today and tomorrow's schools.

Concentration Area: 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. Department head approval required.

Minor

A minor in industrial education may be completed by completing the following courses: Auto 2 cr., Drafting 6 cr., Metals 6 cr., Wood 9 cr., Welding 3 cr., IED 377 3 cr., IED 455 3 cr., (Total 32 credits).

A typical IED schedule:

Freshman Year		Credits
IED	101	Beginning Woodworking 3
MET	111	Technical Drawing 3
IED	120	Philosophy of Industrial Education 3
BCOM	110	Freshman Comp. I or
BCOM	115	Technical Writing I 3
SPCOM	101	Basic Speech Communications 2
PE	100	Physical Education Orientation 2
IED	102	Machine Woodworking 3
MET	112	Technical Drawing 3
MFET	111	Welding Process (Arc and Acetylene) 3
BCOM	111	Freshman Comp. II or
BCOM	116	Technical Writing II 3
BCOM	120	College Reading 2
		Humanities 3
		Social Science 3
		—
		39
Sophomore Year		Credits
APS	200	Power Mechanics 3
MFET	101	Machine Shop 3
IED	221	Sheet Metal 2
IED	200	Crafts 3
		Concentration Elective 6
ED	102	Teaching As A Career 1
ED	202	Foundation of Education 3
ED	210	Human Growth & Development 3
PSYCH	101	General Psychology 3
PSYCH	102	General Psychology 3
		Humanities 3
		Social Science 3
		Natural Science 3
		—
		39

Junior Year		Credits
IED	300	World of Construction & Manufacturing 3
CET	313	Architectural Drawing 3
IED	312	Cabinet & Furniture Making 3
IED	331	Ornamental Iron & Art Metal 2
IED	320	Pattern Making & Foundry 3
PSYCH	351	Psychology of the Exceptional Individual 3
IED	345	Career Education 2
IED	377	Materials & Techniques of Teaching
		Industrial Ed
		Secondary School 3
		Concentration Elective 6
		Humanities 4
		Social Sciences 1
		Natural Science 1
		—
		32
Senior Year		Credits
IED	455	Curriculum Development & Evaluation
		in Industrial Ed 3
IED	457	Organization & Administration in
		Industrial Ed 3
ED	435	Middle/Junior High School 4
BBE	405	Education Across Cultures 2
ED	460	Secondary Education Lab 2
ED	461	Working With Individual Differences 2
ED	498	Student Teaching 10
RDG	202	Reading in the Middle/Junior &
		Senior High School 2
		—
		28

Courses:

Undergraduate:

- IED 101 Beginning Woodworking 3(0-6) F,S.**
Basic skills are developed in designing and layout. Hand and machine woodworking tools and equipment are used.
- IED 102 Machine Woodworking 6(2-8) F,S. PRQ IED 101.**
Students design and construct projects while using selected power woodworking machines. Safety in the use and care of machines is emphasized.
- IED 103 Advanced Woodworking 6(2-8) S. PRQ 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) F,S.**
The tools and types of building materials which are essential in the planning of building houses and furniture are investigated.
- IED 120 Philosophy of Industrial Education 2(2-0) F.**
Philosophical foundations for the development 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) F,S.**
Identification of European and American architectural masterpieces. Particular emphasis placed on the functional aspects of the structure. GEN.ED.II.
- IED 135 Period and Modern Furniture Design 3(3-0) F,S.**
The history and practical application of period and modern styles of furniture. GEN.ED.I.

IED 200 Crafts 3(0-6) F.

This course is designed for students who teach crafts. The selection, composition, design and fabrication of plastics, leather and art metals.

IED 202 Materials of Industry 2(2-0)

A course in the identification and uses of wood and its by-products.

IED 203 Wood Turning 3(0-6) F,S.

To develop basic skills in wood turning and the use of the lathe to supplement bench and machine woodworking.

IED 214 Industrial Finishing 3(0-6) F.

Spraying, brushing and padding finishing techniques are covered. Traditional and new finishing materials are used.

IED 221 Sheet Metals 2(0-4) S.

A basic course involving the use of the sheet metal shear, brake, rolls, etc. The joining of sheet metal by seaming, riveting and soldering is practiced.

IED 296 Co-op Education Placement (1-5 VAR) F,S,SS.

For freshmen and sophomores for industrial cooperative education work experience under the direction of a field supervisor and faculty member.

IED 300 World of Construction and Manufacturing I 3(0-6) F.

Students will plan, organize and use products and procedures as used in the construction industry. Students will simulate these activities in the laboratory.

IED 305 World of Construction and Manufacturing II 2(0-4) F. PRQ IED 106.

Through laboratory and classroom learning experiences, students will develop cognitive and psychomotor skills and attitudes by performing manufacturing practices experiments.

IED 310 Cabinet and Furniture Making I 6(2-8) S. PRQ IED 102.

A laboratory course emphasizing cabinet making and furniture construction.

IED 311 Cabinet and Furniture Making II 6(2-8) S. PRQ IED 310.

Laboratory experience involves advanced cabinet making practices, millwork and furniture making.

IED 312 Cabinet Making and Furniture Making III 3(0-6) S. PRQ IED 311.

Students design and construct individual projects using innovative construction methods and techniques which are accepted in industry.

IED 320 Pattern Making & Foundry 3(0-6) F. PRQ IED 301.

The course includes pattern and core design, draft, shrinkage, finish and operation of basic woodworking tools and machinery.

IED 331 Ornamental Iron & Art Metal 2(0-4) S.

Hot and cold iron will be worked into ornamental objects using various forming tools. Bending, cutting, riveting, welding, layout and design work will be covered.

IED 345 Career Education 2(2-0) F,S,SS. PRQ ED 202.

Students will be taught how to design, implement and conduct career education programs. They will select and prepare teaching materials for career education programs in elementary schools.

IED 346 Problems in Career Education 2(2-0) SS. PRQ ED 202.

Students will develop instructional materials, design teaching aides, and collect occupational information. Review facilities, equipment, and supply needs of career educational programs.

IED 361 Advanced Cabinet and Furniture Making 3(0-6). PRQ IED 300.

Innovative materials, designs, construction techniques, tools, and machines used in school and industry are explored and utilized.

IED 377 Materials and Techniques of Teaching Industrial Education in the Secondary Schools 3(3-0) S. PRQ IED 120.

Practical methods and techniques of teaching industrial education classes are taught.

IED 401 Visual Aids in Industrial Education 2(0-4). PRQ IED 101.

Instructional devices are planned and developed. The student will select, plan and construct various instructional aids.

IED 455 Curriculum Development & Evaluation in Industrial Education 3(3-0) F. PRQ IED 120.

Practical methods and techniques of organizing curriculum and evaluative materials.

IED 457 Organization and Administration in Industrial Education 3(3-0) S. PRQ IED 120.

Laboratory organizational patterns, administrative duties of the teacher, and safety regulations are taught.

IED 494 Seminar: Industrial Education (1-5 VAR) F,S.

Individual and small-group activities. For individual experimentation and expertise development in industrial education.

IED 495 Individual Projects (1-5 VAR) F,S.

For advanced students. Each student will select, outline and pursue a project. Instructor approval and supervision provided.

IED 496 Co-op Education Placement (1-5 VAR) F,S,SS.

For juniors and seniors for industrial cooperative education work experience under the direction of a field supervisor and faculty member.

Graduate:**IED 500 Power Mechanics 2(0-4)**

Principles of operation, nomenclature, and methods of service are taught.

IED 501 Advanced Automotive 2(0-4)

The use of test and diagnostic equipment. All phases of auto covered.

IED 511 Circuit Theory I 3(0-6)

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). PRQ DR 301.

Emphasis will be placed on the problems of technical obsolescence, new drafting standards, and methods of coping with the expanding drafting technology.

IED 521 Drafting Techniques 2(0-4). PRQ DR 301.

A study of graphic methods for solving and displaying algebraic equations, coordinate geometry and empirical equations. A portion of study will be devoted to nomography.

IED 528 Crafts — Leather and Plastics 3(0-6)

Career awareness and occupational information will be an integral part of this course. The basic techniques of working leather and plastics will be taught.

IED 530 Advanced Machine Shop 2(0-4). PRQ MFET 390.

Studies are conducted in relation to the various types of numerically controlled machine tools, their operation and capabilities.

IED 533 Manufacturing Processes 2(0-4). PRQ IED 530.

Investigating current materials of industry and how they affect our industrial society.

IED 535 Crafts — Metals 3(0-6).

Career awareness and occupational information will be an integral part of this course. This course is designed for the elementary teacher to experience the use of the different tools, materials.

IED 542 Fluid Power 2(0-4).

Curriculum, equipment, methods and application of fluid power courses in the secondary and post-secondary schools.

IED 545 Career Education 2(2-0) S.

Students will be taught how to design, implement and conduct career education programs. They will select and prepare teaching materials for career education programs in elementary schools.

IED 546 Problems in Career Education 3(3-0).

Students will develop instructional materials, design teaching aids, and collect occupational information. They will also review facilities, equipment and supply needs of career education programs.

IED 547 Career and Occupational Education 2(2-0). PRQ 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 & Problems in Industrial Education 3(3-0) S,SS. PRQ Graduate standing.

This course involves 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) SS. PRQ IED 357.

The various shop organizational patterns, the administrative duties of the teacher, and the new trends in the selection and arrangement of equipment and facilities.

IED 562 Introductory Physics of Metals 2(0-4). PRQ MLET 303.

The nature of 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) SS. PRQ IED 361.

Experimental work with new tools, equipment, materials and processes for improved program development and teaching techniques in the area of woodworking.

IED 571 Materials and Processes in Teaching Woodworking 3(0-6) SS. PRQ 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) S,SS. PRQ Graduate standing.

This course is designed for the elementary teacher to experience the use of the different tools, materials and supplies available for use in elementary progress.

IED 577 Materials and Techniques of Teaching Industrial Education in the Secondary Schools 3(3-0) SS. PRQ IED 377.

The practical method and techniques in the teaching of industrial education classes.

IED 580 Problems in Industrial Education 3(3-0) F,SS.

An 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) SS. PRQ IED 455.

The derivation of objectives, selection and arrangements of instruction units and materials for industrial education classes.

IED 582 History of Industrial Education 3(3-0) SS. PRQ Graduate standing.

A study of the 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) SS. PRQ Graduate standing.

Instructional sheets, charts, graphs and other instructional devices are planned and developed. The student will select, plan and construct various instructional aids.

IED 584 Philosophy of Industrial Education and Vocational Education 3(3-0) SS. PRQ Graduate standing.

Designed to give an 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) SS. PRQ IED 455 and 457.

Organization and administration of industrial education programs as they relate to Federal, state and local school administration.

IED 586 Seminar in Industrial Education 1 (1-0) SS. PRQ Graduate standing.

Current events, problems, and research in industrial education are examined. May be repeated.

IED 587 Workshop in Industrial Education 2(2-2) F,SS. PRQ Graduate standing.

May be offered in any of the technical areas for special groups of individuals who have similar interests and needs. Designed to investigate special trends and problems. May be repeated.

IED 588 Experimentation in Industrial Education 2(2-2) F,SS. PRQ Graduate standing.

The investigation of the latest materials, tools and techniques used in industry. May be repeated.

IED 591 Topics: Industrial Education (1-5 VAR) S,SS.

Individual and small-group activities. For individual experimentation and expertise development in industrial education. May be repeated.

IED 594 Seminar: Industrial Education (1-5 VAR) F,SS.

Individual and small-group activities. Current topics, issues, resources, and IE practices are investigated.

IED 595 Individual Projects (1-5 VAR) F,SS.

For advanced students. Each student will select, outline and pursue a project. Instructor approval and supervision provided. May be repeated.

IED 596 Research (1-5 VAR) S,SS.

A graduate-level experience in which student is engaged in conducting and reporting original research under professor's supervision. May be repeated.

Life Sciences

Dr. Jack A. Seilheimer, Chairman

Dr. Jay H. Linam, Asst. Chairman

Prof. Dorsch, Farris, Herrmann, Janes, La Velle, Murray, Osborn, Robertson, Thomas

Office: LS 207 Phone: 549-2743

The Department of Life Sciences offers its degree programs to students who wish to earn the two-year Associate in Science (A.S.) degree in agriculture or the four-year Bachelor of Science (B.S.) degree in biology or agricultural biology. In addition to degree programs, the Department of Life Sciences serves students by providing fundamental science courses used to meet major or program requirements and general education requirements. In these roles the Department contributes significantly to the University's polytechnic and liberal arts emphases. Providing the highest quality undergraduate education available to students will continue to be the goal to which the faculty and staff of the Department of Life Sciences is committed.

Facilities

The Department of Life Sciences is housed in the three-story contemporary-styled Life Sciences Building which features modern, pleasant, air-conditioned classrooms and laboratories equipped with research-grade equipment which is available for student use and used in many of the courses offered by the Department. The Water Research Laboratory, Radiation Biology Complex, Controlled-Environment Greenhouse, Regional Museum, Local Herbarium, and student study and social lounges are some of the outstanding features of the Building which contribute to the high quality of the curriculum and experiences available to students.

Bachelor of Science - Biology

A major in biology requires a minimum of 45 semester hours of credit in adviser-approved biology courses and a minimum of 35 semester hours credit in adviser-approved chemistry, physics, mathematics, or geology courses. Students majoring in biology should obtain a written description of specific degree requirements for a B.S. in biology from the Department of Life Sciences office. Please note that specific programs or tracks for biology majors such as preprofessional programs, medical technology, environmental health, agricultural aviation, etc. have prescribed requirements to be followed and such requirements should be obtained from any adviser or the department of life sciences office.

Recommendation: All students who might attend graduate school should take one year of foreign language and take the Graduate Records Examination during their senior year.

Suggested four-year program for Bachelor of Science degree in Biology:

Freshman Year		Credits
BIOL	171	Career Planning I 1
BIOL	191	Aspects of Biology 3
BIOL	191L	Aspects of Biology Lab 1
BIOL	201	Botany 3
BIOL	201L	Botany Lab 2
CHEM	121	Gen. Chem. I 4
CHEM	121L	Gen. Chem. Lab 1
CHEM	122	Gen. Chem. II 4
CHEM	122L	Qual. Anal. Lab. 1
MATH	121	College Algebra 3
MATH	122	College Trig. 2
SPCOM	101	Speech Comm. 2
BCOM	110	Freshman Comp I 3
BCOM	111	Freshman Comp II 3
BCOM	120	College Reading 2
		—
		35

Sophomore Year		Credits
BIOL	202	Zoology 3
BIOL	202L	Zoology Lab 2
CHEM	301	Org. Chem. I 3
CHEM	301L	Org. Chem. Lab I 2
CHEM	302	Org. Chem. II 3
CHEM	302L	Org. Chem. Lab. II 2
MATH	240	Intro. to Computer Program 1
PE	100	Phys. Ed. Orientation 2
PHYS	201	Prin. of Physics I 4
PHYS	202	Prin. of Physics II 4
		Upper Division adviser-approved
		electives in biology 3
		Group I and II general education courses 7
		—
		36

Junior Year		Credits
		Upper Division adviser-approved electives in biology 12
		Group I and II General Education courses 13
		University-wide electives (either lower or upper-division) 8
		—
		33

Senior Year		Credits
BIOL	471	Career Planning IV 1
		Upper Division adviser-approved electives in biology 14
		Additional upper-division or lower-division university-wide
		electives (minimum) 9
		—
		24

Requirements for a Minor in Biology

Dr. James W. La Velle, Adviser
Office: LS-210C Phone: 549-2815

This department of life sciences recognizes two types of minors: (1) The first program 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 for Professional Minor

		Credits
BIOL	191	Aspects of Biology 3
BIOL	191L	Aspects of Biology Lab 1
BIOL	201	Botany 3
BIOL	201L	Botany Lab 2
BIOL	202	Zoology 3
BIOL	202L	Zoology Lab 2

Elective Courses for Professional Minor

9 semester hours, 8 of which must be upper-division biology-prefix courses approved by the minor adviser.

2. General biological minor, 23 hours of biology-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 interests, etc.)

Pre-Professional Programs

Students intending to complete any of the pre-professional programs which follow should see the appropriate adviser for specific course requirements and a detailed suggested schedule.

Pre-Chiropractic Medicine Program

Dr. Hal Murray, Adviser
Office: LS-214 Phone: 549-2749

Students should take two years of basic sciences with emphasis in biology and chemistry in preparation for applying to one of the 14 schools of chiropractic medicine.

Pre-Forestry and Pre-Wildlife Management Program

Dr. Neal O. Osborn, Adviser
Office: LS-213 Phone: 549-2270

This is a two-year program designed to allow the student with a grade point average of 2.50 or above to transfer to Colorado State University School of Forestry or other accredited institutions offering a forestry or wildlife BS degree program. The student is encouraged to complete all general education requirements while at USC.

Through a mutual agreement between the University of Southern Colorado and Colorado State University, pre-forestry majors are guaranteed transfer into the School of Forestry at CSU upon the completion of at least 60 credit hours with at least a 2.5 grade point average. Courses with a grade of F or D will not transfer.

Pre-Optometric Program

Dr. Hal Murray, Adviser
Office: LS-214 Phone: 549-2749

The requirements for admission to the schools and colleges of optometry vary. Most students accepted by a school or college of optometry have completed three years in an undergraduate college and a large percentage of students accepted by the school and colleges of optometry have earned a bachelor's degree. However, all optometric schools and colleges require at least two years, and several require three years, or pre-optometric study.

Pre-Pharmacy Program

R. E. Miller, Adviser
Office: C-110 Phone: 549-2551
Department of Chemistry

Pre-Physical Therapy Program

Dr. Hal Murray, Adviser
Office: LS-214 Phone: 549-2749

Colleges which award a degree in physical therapy require four years for the bachelor's degree and certification. Pre-physical therapy students may complete the first two years at the University of Southern Colorado by taking basic requirements in biology, chemistry, basic communications, mathematics, psychology, physical education, and physics under the guidance of a faculty adviser. The program at USC is accepted by major physical therapy colleges and is specifically designed to prepare for the physical therapy program offered by the University of Colorado.

Students should follow our curriculum guide as closely as possible to avoid loss of credit when transferring to a certified school of physical therapy.

Pre-Podiatric Medicine Program

Dr. John A. Dorsch, Adviser
Office: LS-209D Phone: 549-2420

Doctors of podiatric medicine receive their training in five colleges of podiatric medicine in the United States. Each college is an independent, non-profit institution, accredited by the Council of Podiatry Education of the American Podiatry Association.

To meet the minimum entrance requirements for the colleges, an applicant must have completed at least three years of academic study at an accredited undergraduate institution. Experience shows that over 90 percent of the entering students have obtained the bachelor's degree prior to matriculation.

Pre-Veterinary Medicine Program

Larry Thomas, Ph.D., Adviser
Office: LS 210B Phone: 549-2814

Pre-veterinary medicine is offered to those students interested in applying for admission into a professional program of veterinary medicine which ultimately would lead to entering any of the several branches of veterinary medicine.

Students are urged to select a major that will complement pre-vet course requirements. Suggested majors at USC include chemistry and biology, depending mainly on alternate career plans, should they not be accepted into a professional veterinary medical program.

Minimum requirements for admission to the professional program at CSU are: Biological Sciences - 18 hours; Chemistry - 18 hours; English - 3 hours;

Humanities - 9 hrs; Social Sciences - 9 hrs; Public Speaking - 3 hrs; Physics - 8 hrs. and Math - 3 hrs. These credits may be applied toward a Bachelor of Science degree in many major areas. Courses from which the student is exempted or courses satisfied by examination may not be included in the total.

Correlated Pre-Veterinary Medicine Curriculum

Required Science Courses		Semester Hours
BIOL	201 & 201L	Botany 5
BIOL	202 & 202L	Zoology 5
BIOL	301 & 301L	Microbiology 5
BIOL	332 & 332L	Developmental Biology 4
BIOL	351 & 351L	Genetics 4
BIOL	412 & 412L	Cell Biology 4
CHEM	121 & 121L	Gen. Chem. I 5
CHEM	122 & 122L	Gen. Chem. II 5
CHEM	301 & 301L	Organic Chem. I 5
CHEM	302 & 302L	Organic Chem. II 5
CHEM	311 & 312	Bio-Chem. 5
MATH	126	Calculus 5
PHYS	221	Physics 5
PHYS	222	Physics 5
		67

Other Required Courses		Credit
BCOM	110	3
PE	100	2
SP	211	3
Group I Humanities		9
Group II Social Science		9
		26
Total Hours		93

Pre-Veterinary Medicine

Suggested Schedule at USC

Freshman Year		Credit
BIOL	171	Careers 1
BIOL	191 & 191L	Aspects of Biology 4
BIOL	201 & 201L	Botany 5
or		
BIOL	202 & 202L	Zoology 5
CHEM	121 & 121L	Gen. Chem. I 5
CHEM	122 & 122L	Gen. Chem. II 5
MATH	126	Calculus 5
BCOM	110	Basic Communications 3
PE	100	Physical Education 2
SP	211	Speech 3
GP I		Humanities 3
GP II		Social Sciences 3
		39

Sophomore Year

BIOL	201 & 201L	Botany 5
or		
BIOL	202 & 202L	Zoology 5
CHEM	301 & 301L	Organic Chemistry I 5
CHEM	302 & 302L	Organic Chemistry II 5
PHY	221	Physics I 5
PHY	222	Physics II 5
GP I		Humanities 3
GP II		Social Sciences 3
		31

Junior Year

BIOL	301 & 301L	Microbiology 5
BIOL	332 & 332L	Developmental Biol. 4
BIOL	351 & 351L	Genetics 4
BIOL	412 & 412L	Cell Biology 4
CHEM	311 & 312	BioChem 5
GP I		Humanities 3
GP II		Social Sciences 3
		28

Upon completion of their junior year students may transfer to Colorado State University or complete a bachelor's degree at USC. Minimum requirement for the B.S. degree in biology is 128 credits. The senior-year students would need to complete: BCOM 7 hrs; Biol 11 hrs; Electives 10 hrs; Social Sciences 1 hr; Humanities 1 hr; for a total of 30 credit hours.

Pre-Dental Program

Dr. Gerald C. Farris, Adviser
Office: LS-209B Phone: 549-2850

The specific objective of the pre-dental program is to prepare students for successful entry into dental school. The University provides a program of course work, a dentists' advisory board, and faculty and career counseling for pre/dental students.

Virtually nowhere in Colorado will one find an advisory board more fully committed to serving the pre-dental student. The essential academic advisement and the professional associations afforded by USC are unique. Pre-professional training for dentistry is basically a three-year program, although most of the students being admitted to dental schools have completed a bachelor's degree. It is advisable, therefore, to complete the requirements of admission to dental school in conjunction with fulfilling the requirements for a Bachelor of Science degree. While dental schools accept a wide range of majors today, the degree programs in biology and chemistry seem to offer distinct advantages.

Suggested course sequence:

Freshman Year		Credits
BIOL	171	Career Planning 1
BIOL	191	Aspects of Biology 3
BIOL	191L	Aspects of Biology Lab 1
CHEM	121	General Chemistry I 4
CHEM	121L	General Chemistry Lab 1
BCOM	110	Freshman Comp I 3
BCOM	120	College Reading 2
PE	100	Physical Education Orientation 2
BIOL	202	Zoology 3
BIOL	202L	Zoology Lab 2
CHEM	122	General Chemistry II 4
CHEM	122L	Qualitative Analysis Lab 1
BCOM	111	Freshman Comp II 3
BCOM	101	Basic Speech Comm. 2
PSYCH	101	General Psychology I 3
		—
		35

Sophomore Year		Credits
CHEM	301	Organic Chemistry I 3
CHEM	301L	Organic Chemistry I Lab 2
MATH	121	College Algebra 3
BIOL	201	Botany 3
BIOL	201L	Botany Lab 2
ENG	131	Introduction to Literature 3
		—
		Electives 2
CHEM	302	Organic Chemistry II 3
CHEM	302L	Organic Chemistry Lab II 2
MATH	221	Applied Calculus 5
PSYCH	201	General Psychology II 3
ENG	211	American Literature I 3
		—
		Electives 2
		36

Junior Year		Credits
BIOL	301	Microbiology 3
BIOL	310L	Microbiology Lab 2
PHYS	221	General Physics 5
MATH	240	Intro. to Computer Programming 1
BIOL	341	Vertebrate Physiology 3
BIOL	341L	Vertebrate Physiology Lab 1
GP	I	General Education 3
BIOL	351	Genetics 3
BIOL	351L	Genetics Lab 1
PHYS	222	General Physics 5
BIOL	422	Histology 2
BIOL	422L	Histology Lab 2
GP	II	General Education 3
		—
		Electives 2
		36

Senior Year		Credits
BIOL	321	Comparative Vertebrate Anatomy 3
BIOL	321L	Comparative Vertebrate Anatomy Dissect 2
BIOL	472	Radiation Biology 3
BIOL	472L	Radiation Biology Lab 1
CHEM	311	Biochemistry I 3
GP	I	General Education 3
		—
		Electives 3
BIOL	332	Embryology 2
BIOL	322L	Embryology Lab 2
BIOL	412	Cellular Biology 3
BIOL	412L	Cellular Biology Lab 1
CHEM	312	Biochemistry II 2
CHEM	312L	Biochemistry Lab 1
GP	II	General Education 3
		—
		55

Pre-Medicine and Pre-Osteopathic Medicine Programs

Dr: John A. Dorsch, Adviser
Office: LS-209D Phone: 549-2420

A continuing demand for primary care physicians and other health care personnel is projected for the next decade or more. Medical as well as osteopathic physicians are needed in both rural and inter-city areas. If your career goals are in the area of health care, the first step is to gain the academic background prerequisite for entry into medical school.

Students anticipating admission into medical school are urged to pursue a full four-year program leading to a BS degree in an academic discipline of their choosing. In a very rare exceptional case students may be accepted by a medical school after three years of undergraduate education.

There is no preferred premedical major or minor. We do not attempt to bias your choice of major other than to note that the majority of medical school prerequisites are science-oriented; these courses may be part of a department major's sequence, and as such they could "count" towards a major/minor. This, however, is not the only criterion for a choice of major. Students should study that discipline which most interests them. Consideration might be given to what they can "market" in medical school; but this is not of fundamental importance — suppose they change their mind about medicine before or after entering medical school (it happens). There is more preference among medical schools for specified courses in science than for non-science courses. However, it does not follow from this that the science major is preferable. Students should beware of "snap" courses designed to produce credit hours which do not serve their purposes. Statistical studies of the undergraduate major as related to medical school acceptance show that biology followed some distance by chemistry were the most successful. So-called "premed curriculum" majors stood the lowest among standard undergraduate curricula majors with respect to eventual admission.

For elective courses (those not required by medical schools or by a major) students are encouraged to take courses which will help them understand people. Psychology, philosophy, sociology, anthropology, history and effective communication courses are very useful.

Regardless of the academic area in which a student chooses to major, the premedical program at USC requires the completion of required courses with superior grades.

Many students who are interested in premedicine are often concerned over the mathematics requirement for a minimum of one semester of calculus. Much of this concern arises because their mathematics background in high school does not prepare them to enroll immediately in a college-level calculus course. However, students will be placed first in an appropriate preparatory course (or courses) depending upon their mathematics background and capability. The fact is that most premedical students enroll in Intermediate Algebra and/or College Algebra prior to enrollment in a calculus course. Illustrated below is an example of a semester-by-semester detailed course sequence for a biology major. This sequence takes into account the completion of courses necessary for preparation for the Medical College Admissions Test which normally is taken during the sixth semester. This examination (the New MCAT) is offered twice each year and measures skills and knowledge considered important for successful completion of the medical school curriculum. It reports scores in six categories: Biology, Chemistry, Physics, Science Problems, Skills Analysis/Reading, and Skills Analysis/Quantitative. Pre-med advisers will assist students in structuring similar sequences for any major.

The typical pre-medicine biology schedule:

Freshman Year		Credits
BIOL	171 Career Planning I	1
BIOL	191 Aspects of Biology	3
BIOL	191L Aspects of Biology Lab	1
CHEM	121 General Chemistry I	4
CHEM	121L General Chemistry I Lab	1
BIOL	201 Zoology	3
BIOL	201L Zoology Lab	2
CHEM	122 General Chemistry II	4
CHEM	122L Qualitative Analysis Lab	1
MATH	121 College Algebra	3
	or	
MATH	123 Calculus & Anal. Geometry I	5
	or	
MATH	221 Applied Calculus	5
	General Education	6

29 or 31

Sophomore Year		Credits
BIOL	321 Comparative Vertebrate Anatomy	3
BIOL	321L Comparative Vertebrate Anatomy Lab	2
CHEM	301 Organic Chemistry I	3
CHEM	301L Organic Chemistry I Lab	2
MATH	123 Calculus & Anal. Geometry	5
	or	
MATH	221 Applied Calculus	5
BIOL	201 Zoology	3
BIOL	201L Zoology Lab	2
CHEM	301 Organic Chemistry I	3
CHEM	301L Organic Chemistry I Lab	2
MATH	156 Intro. to Statistics	3
	or	
MATH	256 Probability and Statistics	3
	General Education	8
		36
Junior Year		Credits
BIOL	341 Vertebrate Physiology	3
BIOL	341L Vertebrate Physiology Lab	1
BIOL	422 Histology	2
BIOL	422L Histology Lab	2
PHYS	201 Principles of Physics I	4
ENG	Literature	3
BIOL	351 Genetics	3
BIOL	351L Genetics Lab	1
BIOL	332 Embryology	2
BIOL	332L Embryology Lab	2
PHYS	202 Principles of Physics I	4
ENG	Literature	3
MATH	240 Intro. to Computer Programming	1
	General Education	4
		35
Senior Year		Credits
BIOL	301 Microbiology	3
BIOL	301L Microbiology Lab	2
BIOL	471 Career Planning IV	1
BIOL	472 Radiation Biology	3
BIOL	472L Radiation Biology Lab	1
BIOL	302 Pathobacteriology & Immunology	3
BIOL	302L Pathobacteriology & Immunology	2
BIOL	382 Parasitology	2
BIOL	382L Parasitology Lab	1
	General Education	12
	Electives	3
		33

- BIOL 326 Plant Morphology 2(2-0) S.** PRQ BIOL 201 or permission of instructor. CORQ 326L.
Forms, basic structures, relationships, life histories and evolutionary trends of representatives of the major autotrophic plant groups.
- BIOL 326L Plant Morphology Laboratory 1(0-2) S.** CORQ 326.
- BIOL 332 Embryology 2(2-0) F.** PRQ BIOL 202 or permission of instructor. CORQ 332L.
Development of representative vertebrate and invertebrate animals with particular emphasis on the early embryology of Branchiostoma, frog, chick and pig.
- BIOL 332L Embryology Laboratory 2(0-4) F.** CORQ BIOL 332.
- BIOL 341 Vertebrate Physiology 3(3-0) F.** PRQ BIOL 202, CHEM 205 & 205L or 213 & 213L or 302 & 302L. CORQ BIOL 341L.
Basic general physiology and the functions of animal and human body systems.
- BIOL 341L Vertebrate Physiology Laboratory 1(0-2) F.** CORQ BIOL 341.
- BIOL 342 Pathobiology 3(3-0) S.** PRQ BIOL 341 or permission of instructor. CORQ 342L.
Physiological dysfunction and disease mechanisms in humans and other mammals.
- BIOL 342L Pathobiology Laboratory 1(0-2) S.** CORQ BIOL 342.
- BIOL 344 Human Sexuality II 2(2-0) S.** PRQ Junior standing or permission of instructor.
Biological and psychological aspects of human sexual behavior.
- BIOL 351 Genetics 3(3-0) F.** PRQ BIOL 191, 201, 202 or permission of instructor. CORQ 351L.
Mendelian genetics, cell cycles, molecular genetics, medical genetics and population genetics, with laboratory emphasis on *Drosophila* and man.
- BIOL 351L Genetics Laboratory 1(0-2) F.** CORQ BIOL 351.
- BIOL 352 Evolution 2(2-0) S.**
Two hours lecture. 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 are examined.
- BIOL 377 Methods and Materials in Teaching Biology 2(2-0) F.**
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) F.**
Teaching experience under supervision of instructor.
- BIOL 381 (AG 381) Entomology 2(2-0) F.** PRQ BIOL 191 or permission of instructor. CORQ 381L.
Structure, classification, ecology and control of insects.
- BIOL 381L (AG 381L) Entomology Lab 1(0-2) F.** PRQ BIOL 191, CORQ BIOL 381.
Collection and identification of local insects.
- BIOL 382 Parasitology 2(2-0) S.** PRQ BIOL 191 or permission of instructor. CORQ 382L.
Taxonomy, morphology, life cycles, host relationships of animal parasites.
- BIOL 382L Parasitology Lab 1(0-2) S.** PRQ BIOL 191. CORQ BIOL 382.
Identification of animal parasites.
- BIOL 383 Mammalogy 1(1-0) S.** CORQ BIOL 383L.
Evolution, classification and biology of mammals; practice in identifying and preparing specimens. Offered alternate years.
- BIOL 383L Mammalogy Laboratory 1(0-2) S.** CORQ BIOL 383.
Offered alternate years.

- BIOL 384 Ornithology 1(1-0) S.** CORQ BIOL 384L.
Classification, life history, laboratory and field identification of birds. Offered alternate years.
- BIOL 384L Ornithology Lab 1(0-2) S.** CORQ BIOL 384.
Offered alternate years.
- BIOL 385 Plant Taxonomy 2(2-0) F.** PRQ BIOL 201 or permission of instructor. CORQ 385L.
Identification of the common families of conifers and flowering plants; study of their systematic relationships.
- BIOL 385L Plant Taxonomy Lab 2(0-4) F.** CORQ BIOL 385.
Collection and classification of local flora.
- BIOL 392 Ecology 4(4-0) F.** CORQ BIOL 392L; PRQ BIOL 201 and 202, or permission of instructor.
Interactions and interdependencies between organisms and their environment.
- BIOL 392L Ecology (Field Studies) 1(0-2) F.** CORQ BIOL 392.
Independent and group ecological research in aquatic and terrestrial ecosystems.
- BIOL 394 Urban Ecology 3(3-0) S.**
A course on urban ecology and the problems arising from urban implosion. The course will look at the critical state of energy resources, a discussion of recent changes in legislation concerning the environment as well as case studies on national, regional, and local urban areas.
- BIOL 410 Internship in Environmental Science 15(15-0) F,S.**
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
- BIOL 412 Cellular Biology 3(3-0) S.** PRQ BIOL 201, 202, CHEM 122, 122L, CHEM 213, 213L or permission of instructor. CORQ BIOL 412L.
Structural and functional organization of the cell, life cycles of cells, intracellular digestion, protein synthesis and cell death.
- BIOL 412L Cellular Biology 1(0-2) S.** CORQ BIOL 412.
- BIOL 422 Histology 2(2-0) S.** PRQ BIOL 202 or permission of instructor. CORQ 422L.
Microscopic study of mammalian tissues and organs with attention to development and function. Offered alternate years beginning Fall, 1980.
- BIOL 422L Histology Laboratory 2(0-4) S.** CORQ BIOL 422.
Offered alternate years beginning Fall, 1980.
- BIOL 441 Freshwater Invertebrate Zoology 2(2-0) S.** PRQ BIOL 191, 202, or permission of instructor. CORQ 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) S.** CORQ BIOL 441.
Identification of freshwater invertebrates. Offered alternate years.
- BIOL 443 Limnology 2(2-0) S.** PRQ BIOL 191, 201, 202 or permission of instructor. CORQ BIOL 443L. BIOL 392 & 392L are recommended.
Biology, chemistry and physics of lakes and rivers. Offered alternate years.
- BIOL 443L Limnology Lab 2(0-4) S.** CORQ BIOL 443.
Limnological methods. Offered alternate years.
- BIOL 471 Career Planning IV 1(1-0) F.**
Creating and securing graduate school and employment opportunities.

BIOL 472 Radiation Biology 3(3-0) F. PRQ BIOL 201, 202, CHEM 122, 122L, or permission of instructor. CORQ 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 472L Radiation Biology 1(0-2) F. CORQ BIOL 472.

BIOL 291, 491, 591 Topics 1(1-0) F,S,SS.

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 495, 595 Independent Study 1(1-0) F,S,SS. PRQ 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 Program

Dr. Larry Thomas, Director

Program Office: LS 210B Phone: 549-2814

Prof.: Linam, Osborn, Robertson and Seilheimer

The Agriculture Program at the University of Southern Colorado includes general agriculture, pre-veterinary medicine and agriculture biology (ag aviation). Instruction in general agriculture at USC is primarily oriented toward initial entry employment in agriculture and toward transferring to a university offering professional degrees in agriculture. To attain this aim, the pre-professional program is offered; upon completion, the Associate of Science Degree is awarded. The Agriculture Program is in the Life Sciences Department at USC, consequently, the areas of pre-veterinary medicine and agriculture biology become available options for students with interest in these specialized areas. Instruction in pre-veterinary medicine is oriented towards transfer to a university offering a professional veterinary medicine program. Instruction in agricultural biology is oriented toward specialized training in primarily those areas of agriculture requiring a strong science background. Upon completion of the agricultural biology program the B.S. degree in Biology is awarded.

Agriculture Program Requirements A.S. Degree

Required Agriculture Core Courses		Semester Hours
BIOL	171 Careers	1
AG	101 & 101L Intro. Ani. Sci.	3
AG	103 & 103L Livestock Judging	2
AG	105 Agriculture Economics	3
AG	115 & 115L Basic Horticulture	4
or		
AG	121 & 121L Prin. Crop Production	4
AG	202 Farm & Ranch Manag.	3
AG	204 & 204L Intro. Soil Sci.	4
AG	206 Feeds-Ani. Nutrition	3
		—
		23

Required Related Science Courses

BIOL	191 & 191L	Aspects of Biology	4	4
BIOL	201 & 201L	Botany	5	5
BIOL	202 & 202L	Zoology	5	5
CHEM	111 & 111L	Prin. Chem.	4	4
or				
CHEM	121 & 121L	Gen. Chem. I	5	5
CHEM	122 & 122L	Gen. Chem. II	5	5
MATH 120 or higher		Algebra	3	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 & Ranch Management, Agricultural Education.

**27 Hours Pre-professionals (requiring strong background in Chemistry, i.e., Animal Science, Agronomy, Soils).

Required General Education Courses

BCOM 110	3
BCOM 120	2
PE 100	2
Group I Humanities	6
Group II Social Science Courses	3
ECON 201 Required	3
—	
19	

Degree Requirements (Summary)

Basic Communications	5	5
PE	2	2
Group I Humanities	6	6
Group II Social Sciences	6	6
Related Sciences	21	27
Agriculture	23	23
—		—
63		69 (Pre-Professional)

Agriculture Advisory Board

Larry G. Thomas, Ph.D., Director

Jerry Robbe, S.S.

George Scott, M.S.

J. Reese Robertson, M.A.

Pre-Vet Advisory Board

W. D. Carrol, DVM

W. D. Krause, DVM

Lynn Gerringer, DVM

Jack Gregorich, DVM

Frank Gradishar, DVM

Daryl Jacobs, DVM

Minor in Agriculture

The Agriculture Program offers a minor in agriculture to 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.

General agriculture minor courses, 20 semester hours:

Required Courses		Semester Hours
AG	101 & 101L	Intro. Animal Science..... 3
AG	105	Agriculture Economics..... 3
AG	115 & 115L	Basic Horticulture..... 4
or		
AG	121 & 121L	Principles of Crop Production..... 4
AG	202	Farm & Ranch Management..... 3
AG	204 & 204L	Introductory Soil Science..... 4
AG	206	Feeds & Animal Nutrition..... 3
		20

Ag Aviation Major

Dr. Larry Thomas, Director

Program Office: LS-210B Phone: 549-2814

Prof: Linam, Osborn, Robertson, Seilheimer

The agriculture program in conjunction with the life sciences department offers a BS degree in the ag-biology area. The BS degree program is designed to meet the demands of students interested in the specialized areas of ag aviation and ground chemical application that are involved with the environment, agriculture, and chemicals.

In recent years the use of chemicals in agriculture has become an increasingly important aspect of production. In addition, the use of chemicals in agriculture has brought about a need for those persons involved to possess specialized knowledge and skills to adequately and properly manage the application and use of chemicals.

Students enrolled in the ag-biology degree program would have the option of attaining either aerial applicator or ground applicator instruction. The aerial applicator program involves obtaining the following pilot certification.

A Typical Ag-Aviation Schedule:

Agriculture Courses Required		Semester Hours
AG	105	Ag Economics..... 3
AG	115 & 115L	Basic Horticulture..... 4
AG	121 & 121L	Principles of Crop Production..... 4
AG	202	Farm & Ranch Management..... 3
AG	204 & 204L	Intro. Soil Science..... 4
AG	240	Mixing, Calibrating & Application of Chemicals..... 2
AG	310	Legal Aspects of Pesticide Application..... 3
AG	381 & 381L	Entomology..... 3
AG	385 & 385L	Plant Taxonomy..... 4
AG	410 & 411	Internship (ground-air)..... 6
		36

Biology Courses Required

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	392 & 392L	Ecology..... 5
BIOL	412 & 412L	Cell Biology..... 4
		28

Related Science Courses Required

CHEM	121 & 121L	Gen. Chem. I..... 5
CHEM	122 & 122L	Gen. Chem. II..... 5
CHEM	213 & 213L	Organic Chem..... 4
MATH	121	College Algebra..... 4
PHYSICS	201	Prin. Physics..... 4
		22

Recommended Elective Courses

ECON	201	Prin. Economics
ACCT	201	Prin. Accounting
BUS ED	310	Prin. Management
BUS ED	340	Prin. Marketing

Required University Requirements

Basic Communications and PE.....	12
Group I Humanities.....	10
Group II Social Sciences.....	10
32	

Degree Requirements (Summary)

Agriculture.....	36
Life Sciences.....	28
Related Science.....	22
University Requirements.....	32
Electives.....	10
128 Total Semester Hours	

Agricultural Pilot Training Program

Private and Commercial Pilot Licenses with instrument rating. (Arranged).

The Private Pilot ground and flight curriculum is standardized by the Federal Aviation Administration and varies insignificantly from one Fixed Base Operator to another. One can readily obtain a copy of the requirements and recommended curriculum from the appropriate government agency or from a local fixed base operator. In broad terms this license requires approximately 50 hours of dual and solo flight time, successful completion of a written examination which may be taken after having completed a ground school course or a home study course, and successful completion of a flight check by an appropriate FAA pilot examiner. In addition the student pilot must pass a physical examination by an FAA-approved medical doctor before he is authorized to solo by his flight instructor.

The Commercial certificate requires the applicant to have a private pilot certificate or the appropriate equivalent. He must have passed a written

examination over the subjects outlined in FAR's 61.125 and a flight test on the procedures listed in FAR's 61.127. He must have a minimum flight time of 250 hours.

Although there are specific categories and breakdowns of the 250 hours, the commercial requirements allow more flexibility in the pilot training program so that the curriculum can be oriented toward a pre-ag training goal. This rating, incidentally, may be obtained under Veterans' benefits from an approved school.

With the completion of the preceding the ag student wishing to specialize in aerial application could enroll in the following program.

A. Flight Training

1. Fifty hours minimum dual and solo working experience in at least two types of ag aircraft
 - A. 10 hours take-offs and landings on unimproved strips, roads and fields under varying working and climatic conditions.
 - B. 10 hours low-level agricultural maneuvers and terrain flying.
 - C. 10 hours flying under critical configuration and loading situations
 - D. 10 hours spraying and dusting experience on a variety of field shapes and crop plantings.
 - E. 5 hours high altitude practical spray experience
 - F. 5 hours final flight check.

B. Ground Training.

1. It will include some 75-100 hours of ground instruction in the classroom, on the airport or in the fields learning through lecture, discussion, research and practical experience all phases of the aerial application business.
 - A. 10 hours engine and airframe familiarity care and maintenance.
 - B. 10 hours aircraft dispersal systems and calibration. Ground mixing equipment calibration, care and maintenance.
 - C. 30 hours mixing, loading and flagging
 - D. 5 hours drift and climatic factors aerial application efficiency (humidity, heat, moist ground).
 - E. 20 hours FIFRA, EPA, OSHA and other federal, state and local regulatory agencies (speakers by invitation).
 - F. 5 hours pesticide labeling.
 - G. 5 hours safety practices and protective clothing.
 - H. 5 hours public relations work, ethic and individual initiative.

Agriculture A.S. Degree (Suggested Schedule)

Freshman Year			Credits
BIOL	171	Careers	1
BIOL	191 & 191L	Aspects of Biology	4
BIOL	201 & 201L	Botany	5
	or		
BIOL	202 & 202L	Zoology	5
CHEM	111 & 111L	Prin. of Chem.....	4
	or		
CHEM	121 & 121L	Gen. Chem. I.....	5
CHEM	122 & 122L	Gen. Chem. II	5
AG	101 & 101L	Intro. Ani. Sci.....	3
AG	103 & 103L	Livestock Judging	2
AG	105	Agric. Econ.....	3
MATH	120	Intermediate Algebra	3
	or		
MATH	121	College Algebra	3
PE		Required Physical Education	2
AG	115 & 115L	Basic Horticulture	4
	or		

AG	121 & 121L	Prin. Crop Production	4
BCOM	110, 120	Basic Communications	5
GP I		Humanities	3
GP II		Social Sciences	3
			32
Sophomore Year			
BIOL	201 & 201L	Botany	5
BIOL	202 & 202L	Zoology	5
		(Botany or Zoology; only one needs to be taken)	
CHEM	121 & 121L	Gen. Chem. I.....	5
CHEM	122 & 122L	Gen. Chem. II	5
MATH	121	College Algebra	3
ECON	201	Principles of Econ.....	3
GP I		Humanities	3
GP II		Social Sciences	3
AG	115 & 115L	Basic Horticulture	4
	or		
AG	121 & 121L	Prin. Crop Production	4
AG	202	Farm & Ranch Management.....	3
AG	204 & 204L	Intro. Soil Science	4
AG	206	Feeds & Ani. Nutrition.....	3
			32

The graduating candidate must have a 2.0 cumulative grade point average in major area of study. Upon completion of the A.S. Degree the student is prepared to transfer to Universities offering professional Degree in Agricultural Science.

Agriculture Courses:

- AG 101 Introductory Animal Science 2(2-0) F. CORQ AG 101L.**
Composition, quality of meat, milk, wool; principles of genetics, nutrition, physiology in breeding, feeding livestock.
- AG 101L Introductory Animal Science Lab 1(0-2) F. CORQ AG 101.**
Development of livestock skills associated with animal production.
- AG 103 Livestock Judging 1(1-0) F. CORQ AG 103L.**
Evaluation of beef, sheep, swine and horses for breeding and market purposes. Emphasis on type evaluation.
- AG 103L Livestock Judging Lab 1(0-2) F. CORQ AG 103.**
- AG 105 Agriculture Economics 3(3-0) F.**
The role of agriculture in our economy, relation to economic forces to the farm business and agriculture industry.
- AG 112 Fundamentals of Dairy 2(2-0) S. CORQ 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) S. CORQ AG 112.**
Field experience and skill development related to dairy farming enterprise.
- AG 115 (BIOL 262) Basic Horticulture 3(3-0) S. PRQ BIOL 201 & 201L or permission of instructor. CORQ AG 115L.**
Principles of plant science applied to propagation, improvement, culture and utilization of horticultural plants.
- AG 115L (BIOL 262L) Basic Horticulture Lab 1(0-2) S. PRQ BIOL 201 & 201L or permission of instructor. CORQ AG 115.**
Development of skills related to plant propagation in horticulture.

- AG 121 Principles of Crop Production 3(3-0) F.** PRQ BIOL 201 or permission of instructor. CORQ 121L.
The principles of crop production, cultural practices, botanical characteristics, techniques of production and crop improvement.
- AG 121L Principles of Crop Production Lab 1(0-2) F.** CORQ AG 121.
Skill development field experience related to field crop production.
- AG 200 Sheep Production 2(2-0) F,S,SS.** PRQ AG 101, AG 206.
Commercial and purebred sheep production under farm and range conditions, breeds, breeding, feeding management.
- AG 202 Farm and Ranch Management 3(3-0) S.** PRQ AG 105, or permission of the instructor.
Operational economics of a farm or ranch, size, resource allocation, enterprise combination, labor and equipment efficiencies.
- AG 204 Introductory Soil Science 3(3-0) F.** PRQ CHEM 111, 111L, or CHEM 121 and 121L, or permission of instructor. CORQ AG 204L.
Formation, properties, and management of soils, emphasizing soil conditions that affect plant growth.
- AG 204L Introductory Soil Science Lab 1(0-2) F.** CORQ AG 204.
Chemical and physical properties of soils.
- AG 206 Feeds & Feeding, Applied Animal Nutrition 3(3-0) S.** PRQ AG 101, CHEM 111 and 111L or 121 and 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) F,S,SS.** PRQ AG 101, AG 206, or permission of instructor.
Production of purebred and commercial swine; breeds, breeding, feeding, marketing, and management.
- AG 213 Advanced Livestock Judging 1(1-0) F.** Permission of the instructor required.
Judging, meat animals, breeding animals, beef, sheep, swine and horses.
- AG 220 Beef Production 2(2-0) F,S,SS.** PRQ AG 103, AG 206, or permission of the 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).**
- AG 230L Light Horse Management Lab 1(0-2) S.** CORQ AG 230.
Skill development, field experience related to light horse production.
- AG 240 Calibration, Mixing and Application of Pesticides 2(2-0) S.**
Formulation, mixing and application principles of pesticides with special emphasis on calibration of equipment and safety from a biological physiology standpoint. Practical experience handling pesticides — formulating, mixing and application methods, with emphasis placed on safety and OSHA standards.
- AG 290 Special Topics in Agriculture (1-3 VAR) F,S,SS.**
Courses of study designed to cover areas of current progress in agriculture topics selected to meet group desires.
- AG 310 Legal Aspects of Pesticide Purchase, Handling and Application 3(3-0) F,S.**
Legal aspects of pesticides, laws pertaining to licensing, handling, storing, mixing and application of chemical pesticides with special emphasis placed on environmental protection regulations. Liability and drift insurance requirements and options for the applicator and the farmer.
- AG 381 (BIOL 381) Entomology 2(2-0) F.** PRQ BIOL 191, or permission of instructor. CORQ 381L.
Structure, classification, ecology and control of insects.

- AG 381L (BIOL 381L) Entomology Lab 1(0-2) F.** PRQ BIOL 191. CORQ BIOL 381.
Collection and identification of local insects.
- AG 385 Plant Taxonomy 2(2-0) F.** PRQ BIOL 201 or permission of instructor. CORQ 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) F.** CORQ AG 332.
Collection and classification of local flora.
- AG 410 Internship in Agricultural Aviation 3(3-0) SS.** PRQ AG 240 or permission of instructor.
Internship in ground application of agricultural chemicals (mixing, calibrating equipment, flagging).
- AG 411 Internship in Agricultural Aviation 3(3-0) SS.** PRQ AG 240, AG 410, or permission of instructor.
Internship in aerial application of agricultural chemicals (aerial application, flying)

Medical Technology Program

Dr. Donald W. Janes, Director
Program Office: LS-209C Phone: 549-2813

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 BA 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 BA or BS in biology (or chemistry) at USC and then serve a one-year internship at any accredited hospital laboratory school in the U.S., whether it is 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. We feel that the 4 + 1 program is a stronger major and that the four-year USC-based segment of the program provides the students with an excellent background for medical technology as well as many other options in the health-related fields, professional schools, research, and graduate school entrance.

Admission to Both Programs: Students must apply for admission to USC and be accepted, must declare a major in medical technology or biology (or chemistry) and must be assigned as an advisee of USC's Program Director in Medical Technology. Detailed advising hand-out material is available from the program director.

In the year prior to entry into the internship, students must apply to the hospital lab school for admission. Information about the hospital lab schools is available from each lab school, or from the USC program director.

The 3 + 1 Program: Students who wish a BA in medical technology are subject to terms of the affiliation agreement made between USC and the four affiliate hospitals, St. Mary-Corwin and Parkview Episcopal Hospitals in Pueblo, and Memorial and Penrose Hospitals in Colorado Springs. In this 3 + 1 Program the student must complete at USC a minimum of 90

*per Dr. E. Allen
11-3-82
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semester hours of work including (a) all the university graduation requirements (see another section of this catalog), (b) 16 semester 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 in this 3 + 1 program 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.

For retention in the program students must earn, in the university-based course work, a C or better grade in required 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 will be recorded on the university transcript and the degree will be awarded by the University. Regular tuition and fees will be charged by USC during the three university-based years of instruction, but a special, reduced tuition will be charged during the hospital-based internship year.

Hospital-Based Courses in the 3 + 1 Program:

MEDT 471 Clinical Chemistry 14(0-40). PRQ 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 radioimmunoassay. The students will also be instructed in the physiological and biochemical rationale for doing various tests.

MEDT 472 Urinalysis 3(3-0). PRQ 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). PRQ Acceptance to hospital clinical program.

Theory and practical experience in the 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). PRQ 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). PRQ 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.

MED 498 Serology 4(0-4). PRQ 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 wish to earn a BA or BS in biology will have stronger background than the 3 + 1 program provides, will be able to qualify for application to any hospital-based lab program in med tech in the U.S., and will have career options leading them into many other fields in addition to medical technology. We recommend this program for most students over the 3 + 1 described above. Requirements for graduation include (a) satisfying all requirements for graduation with a BA or BS degree (see another section of this catalog), (b) satisfying requirements of a major in biology, with C or better grades in required courses. The 42-hour hospital-based credit is not earned in this program although students take the same courses during their internships.

An abbreviated curriculum is provided in the following suggested course sequence. See program director for complete advising handout.

Suggested Course Sequence (deviations must be approved by program director in medical technology):

Year	Term	Credit	Spring	Credit
First Year	Fall			
	Biology	171	202&202L	5
	Biology	191/191L		
	Chemistry	121/121L	122/122L	5
	Math	121	122	2
Basic Communications, PE, and General Education - 7 hours.				
Second Year	Fall			
	Biology	201/201L		
	Chemistry	301/301L	302/302L	5
	Physics	202/201L	202/202L	4
	Basic Communications and General Education - 9 hours.			
Third Year	Fall			
	Biology	341/341L	472/472L	4
	Biology	382/382L		
	Chemistry	317/317L	318/318L	4
	Math		240	1
Basic Communications and General Education - 12 hours.				
Fourth Year	Fall			
	Biology	301/301L	302/302L	5
	Biology	471	351/351L	4
	Biology		412/412L	4
	General Education and Electives - 13 hours.			

Environmental Health Program

Dr. Jay Linam, Adviser
Office: LS 205B Phone: 549-2509

This course of study has been 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 B.S. degree in biology will be awarded.

Freshman Year	Credits
BIOL	171 Career Planning I 1
BIOL	191 Aspects of Biology 3
BIOL	191L Aspects of Biology Lab 1
CHEM	121 General Chemistry 4

CHEM	121L	General Chemistry Lab	1
MATH	221 or 126	Calculus	5
BIOL	221	Human Anat. & Physiol.	3
BIOL	221L	Human Anat. & Physiol. Lab	1
CHEM	122	General Chem II	4
CHEM	122L	General Chem II Lab	1
MATH	156	Statistics	3
MATH	240, 241	Computer Programming	3
BCOM	110	Freshman Composition I	3
SPCOM	101	Basic Speech Communication	2
			35

Sophomore Year

BIOL	201	Botany	4
BIOL	201L	Botany Lab	1
CHEM	213	Surv. Org. Chem.	3
CHEM	213L	Surv. Org. Chem. Lab	1
BCOM	111	Freshman Composition II	6
BCOM	120	College Reading	2
PE	100	Phys. Ed. Orientation	2
BIOL	202	Zoology	4
BIOL	202L	Zoology Lab	1
AG	240	Pesticides	2
		Gen. Ed. Requirements	6
CHEM	219	Instrumentation	1
		Electives	6
			33

Junior Year

BIOL	301	Microbiology	3
BIOL	301L	Microbiology Lab	1
BIOL	381	Entomology	2
BIOL	381L	Entomology Lab	1
PHY	201	Principles of Physics	4
BIOL	392	Ecology	4
BIOL	392L	Ecology Lab	1
BIOL	382	Parasitology	2
BIOL	382L	Parasitology Lab	1
PHYS	202	Prin. Physics	4
		Gen. Ed. Requirements	6
BIOL	394	Urban Ecology	3
			32

Senior Year

			Credits
BIOL		Upper-division-electives	3
BIOL	471	Career Planning IV	1
		Gen. Ed. Requirements	8
BIOL	472	Radiation Biology	3
BIOL	472L	Radiation Biology Lab	1
BIOL	410	Internship	15
			31

Manufacturing Engineering Technology

Dr. Donald Cottrell, Acting Head
Departmental Office: T-266
Profs: Moss, Wallace

The manufacturing engineering technology program is currently under revision. Components will be developed into an option under the Mechanical Engineering Technology Department. The degree program will be phased out by 1985-86. No new majors are being accepted.

A strong demand is projected for graduates with manufacturing backgrounds. Interested students should refer to the Mechanical Engineering Technology program and request information on the Manufacturing option.

Courses:

MFET 101 Machining Principles I 3(0-6) F,S.

Basic instruction in the use of pedestal grinders, drill presses, bandsaws, shapers, and lathes. Work includes the use of layout tools, measuring instruments, taps and dies.

MFET 102 Machining Principles II 3(0-6) F,S. PRQ MFET 101 or equivalent.
 A continuation of MFET 101 providing more experience in the operation and setup of lathes, vertical and horizontal milling machines and surface grinders.

MFET 104 Measurement 3(3-0) F,S.

A historical overview of measurement and the development of the basic skills in English, as well as SI metric systems. GEN.ED.IIIC

MFET 111 Welding Processes I 3(0-6) F,S.

A general course covering the theory, application and actual practice of oxy-acetylene and electric arc welding.

MFET 201 Manufacturing Processes 3(2-2) F.

A study of industrial processes including topics on casting, forging, stamping, die-casting, plastic molding, production welding and machining. GEN.ED.IIIC

MFET 211 Welding Processes II 3(0-6) F,S. PRQ MFET 111.

Advanced instruction in arc welding, structural fabrication, production, welding practices and TIG welding.

MFET 221 Advanced Machining 3(0-6) F,S. PRQ MFET 101.

Advanced methods including set-up and machining compound angles, indexing, cylindrical grinding, turret lathes, and tool and cutter grinding.

MFET 231 Introduction to Numerical Control 3(3-0) S. PRQ MFET 101.

Theory and application of basic N/C concepts including manual point-to-point and continuous path programming.

MFET 232 Numerical Control Lab 3(0-6) S. PRQ MFET 231 concurrently.

Manual programming and operation of the Pratt and Whitney Point-to-Point drilling machine and a Gorton 2-30, 3-axis milling machine.

MFET 296 Co-Op Education Placement (1-5 VAR) F,S,SS.

For freshmen and sophomores for industrial cooperative education work experience under the direction of a field supervisor and faculty member.

MFET 301 Instrumentation 3(2-2) S.

Principles governing types of process and control instruments will be studied; topics to include mechanical, pneumatic and electrical instruments.

MFET 351 Computer-Assisted N/C Programming 3(3-0) F. PRQ MFET 231, 232.

Programming various N/C machines using the Auto-Spot, AD-APT and APT computer language via an IBM 360 computer.

MFET 352 Advanced N/C Technologies 3(3-0) S. PRQ MFET 351, 356.

Emphasis on expanded APT programming techniques and their application. Special programming routines are developed such as loops, macro's and surface types.

MFET 356 N/C LAB II 3(0-6) F. CORQ MFET 351.

Programming and machining a variety of production parts from computer general tapes.

MFET 357 Advanced N/C Lab 3(0-6) S. CORQ MFET 352.

Process programs utilizing the CAM (Computer Aided Manufacturing) approach and development of special production techniques unique to N/C.

MFET 361 Production Planning 3(3-0) S. PRQ MFET 201.

Production planning and coordination for efficient manufacturing. Includes study of material and equipment utilization, scheduling time and motion study, process selection and automation systems.

MFET 401 Plant Operations 3(3-0) F. PRQ MFET 201.

Study of the principles of plant layout, material flow, material handling, plant utilities, location and arrangement of equipment and machinery.

MFET 411 Advanced Manufacturing Processes 3(2-2) F. PRQ MFET 201.

A study of advanced processes including EB welding, EDM, ECM, friction welding, precision sheet metal, powder metal parts.

MFET 421 Quality Assurance 3(3-0) S.

A study of the quality assurance function in industry, including the development of quality standards, sampling techniques, statistical analysis, inspection instruments, methods and planning.

MFET 431 Machinability 3(3-0) S.

An in-depth study of modern metal-cutting principles including tool materials, cutting forces, surface finish, cutting fluids, vibration, and machine tool evaluation.

MFET 441 Production Tooling 3(3-0) S. PRQ MFET 101, MET 102 or 112.

A study of state-of-the-art tooling being used in industry.

MFET 491 Topics and Seminars 3(6-0). PRQ Consent of instructor.

Designed for manufacturing subjects on an individual research project basis or special group seminars.

MFET 496 Co-Op Education Placement (1-5 VAR) F,S,SS.

For Juniors and seniors for industrial cooperative education work experience under the direction of a field supervisor and faculty member.

Mass Communications

Patricia Orman, Head

Departmental Office: AM-113 Phone: 549-2811

Profs: McGill, Miller, Pavlik, Wayne

Students enrolled in the mass communications major are required to specialize in one of five emphasis areas offered within the department prior to completion of a seven-course, 20-credit-hour core curriculum of required courses. Courses in this 20-credit-hour curriculum are:

			Credits
MACOM	101	The Mass Media	3
MACOM	102	Introduction to Broadcasting	3
MACOM	201	News Writing	3
MACOM	290	Public Relations	2
MACOM	400	Photographic Procedures	3
MACOM	411	Journalism Law and Ethics	3
MACOM	465	Mass Media Seminar	3

Emphasis areas, or sequences, require 20 to 22 additional credit hours of course work beyond the mandatory 20-credit-hour core curriculum for completion of the major. The five emphasis areas in the department and total credit hours required for each are:

	Total Credits
News-Editorial	40
Radio/Television Broadcasting	40
Photojournalism	40
Public Relations	42
Advertising	42

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 department's FM radio station, the University television station, the University's news services and sports information offices, and local internship programs.

The Mass Communications Minor

Students desiring a minor in mass communications must complete the 20-semester-hour core curriculum or an approved program of 20 semester hours arranged by an adviser. It is not necessary for the minor to declare an emphasis area.

The English-Mass Communications Composite

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, Journalism in the Secondary School. 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 department 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 following review of all applications by interested parties. The newspaper is funded primarily through advertising revenue. The newspaper's editorial and advertising advisers are members of the mass communications faculty, who also participate on the Publications Review Board. The USC TODAY offices are located in Art/Music 109 and 110.

KTSC-FM

KTSC-FM operates as a laboratory tool of the mass communications department's broadcasting sequence and is located in the east wing of the University Center basement. Student-staffed and programmed, the 100,000-watt station serves a 50-mile radius of the Belmont Campus, including Colorado Springs, Canon City and Pueblo. The station is funded by student fee allocation, public donations and the department, and operates on a daily basis throughout the academic year.

KTSC/Channel 8

USC's Public Broadcasting System affiliate, KTSC/Channel 8, allows 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 Learning Resources Center. The station provides PBS programming in addition to local productions in service to Southern Colorado.

The Baccalaureate Programs in Mass Communications

The major in mass communications may lead to a degree of Bachelor of Arts or Bachelor of Science. All majors should emphasize in one of the five sequences listed above, arranging a schedule with the appropriate sequence director. Note: All majors should complete the basic communications sequence (10 semester hours) prior to enrolling in MACOM 201 NEWSWRITING, a core curriculum requirement.

The typical mass communications schedule:

Freshman Year		Credits
MACOM	101	The Mass Media..... 3
MACOM	102	Introduction to Broadcasting..... 3
MACOM	110	Career Orientation..... 1
MACOM	151	Staff Publications I..... 2
MACOM	152	Staff Publications II..... 2
BCOM	110	Freshman Composition I..... 3
BCOM	111	Freshman Composition II..... 3
SPCOM	101	Basic Speech Communication..... 2
BCOM	120	College Reading..... 2
		GEN ED Electives — Group I..... 6
		GEN ED Electives — Group II..... 7
		—



USC is one of only two institutions in Colorado with a Public Broadcasting Channel which offers students an opportunity to have a hands-on experience in television production and broadcasting. You don't have to be a Mass Communications major to participate.

Sophomore Year			Credits
MACOM	201	Newsriting	3
MACOM	210	Introduction to Photography	3
	or		
MACOM	215	Media & Human Relations	3
	or		
MACOM	226	Introduction to Television	3
MACOM	202	Newsbeats & Features	3
MACOM	222	Broadcast Newsriting	3
MACOM	290	Public Relations	3
		GEN ED Electives — Group I	4
		GEN ED Electives — Group II	3
		GEN ED Electives — Group III	10
			—
			32
Junior Year			Credits
MACOM	301	Editorial Writing	3
MACOM	311	Copyediting and Makeup	3
MACOM	315	Advertising Principles	3
MACOM	351/352	Publications Workshop I & II	5
MACOM	400	Photographic Procedures	3
		Electives	16
			—
			33
Senior Year			Credits
MACOM	411	Journalism Law and Ethics	3
MACOM	421	Public Relations Case Problems	3
MACOM	445	Reporting Public Affairs	5
MACOM	465	Mass Media Seminar	3
MACOM	499	Field Experience	3, 5, or 10
		Electives	10
			—
			27-34

The above sample schedule reflects a news-editorial emphasis. Changes would be required for other sequence areas. Majors should consult the Mass Communications Department Office for specific course requirements for each of the five emphasis areas.

Courses:

MACOM 101 The Mass Media 3(3-0) F,S,SS.

Mass media in American society, their growth, development and impact on contemporary culture. Open to all students. GEN.ED.1D.

MACOM 102 Introduction to Broadcasting 3(3-0) F,S,SS.

An 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.1D.

MACOM 110 Career Orientation 1(1-0) F,S.

A survey of career opportunities in the communication industry with emphasis on the mass media and related agencies. Required for majors and minors in mass communications.

MACOM 151 Staff Publications 1(0-2) F.

Practical application of theory for editorial, pictorial and advertising members of student publications. Sequence may be repeated one time.

MACOM 152 Staff Publications II 1(0-2) S.

Continuation of MACOM 151.

MACOM 201 News Writing 3(3-2) F,S. PRQ BCOM 110, 111.

Instruction and practice in basic news writing skills including the 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 News Beats and Features 3(3-2) F,S. PRQ MACOM 201.

Reporting campus events via interpretative articles, news features, straight features, seasonal stories and series articles.

MACOM 210 Photography 2(2-0) F.

An 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) F,S,SS.

A behavioral science/communications approach to media, their roles and functions, with emphasis on interpersonal interaction in mass society. GEN.ED.ID.

MACOM 222 Broadcast News Writing 3(3-2) F,S. PRQ MACOM 102, 201.

Preparation of copy for radio/television news reports, interviews and commentary.

MACOM 224 Broadcast Announcing 3(3-0) F. PRQ MACOM 102.

The study and application of the principles of oral communication to radio and television announcing. May be taken as SP 224.

MACOM 226 Introduction to Television Production 3(3-0) S. PRQ 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 241 Radio Station Operation I 1(0-3) F. PRQ MACOM 102, 222, 224.

Practical application of radio theory with emphasis on the news and entertainment functions of the medium

MACOM 242 Radio Station Operation II 1(0-3) S.

Continuation of MACOM 241.

MACOM 250 Radio Sports casting 1(0-3) F,S.

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) F,S. PRQ MACOM 201, 202.

The study and practical application of sports writing and statistics, the emphasis on press box experience at season intercollegiate athletic events. Repeatable once.

MACOM 290 Public Relations 2(2-0) F,SS.

The historical and theoretical approach to contemporary public relations, with emphasis on the public relations process, case problems and the ethics of contemporary practice. GEN.ED.IIB.

MACOM 301 Editorial Writing 3(3-0) F. PRQ MACOM 201, 202.

The 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 is required.

MACOM 302 Advertising Writing 3(3-0) S. PRQ MACOM 315 or permission of instructor.

The copy writing essentials and formats for print, broadcast and direct mail advertising. Emphasis is placed on developing writing techniques for practical application in both retail and product advertising.

MACOM 311 Copy Editing and Makeup 3(3-0) F. PRQ 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) S. PRQ MACOM 311.

A technical course designed to introduce the student to production methods used in newspapers, advertising and public relations, with emphasis on printing tech-

niques, typography, photomechanical processes, computerized typesetting and graphic technology.

MACOM 315 Advertising 3(3-0) F,S. PRQ Upperclass standing.

The principles of advertising on local and national levels for newspapers, magazines, radio and television.

MACOM 316 Advertising Campaigns 3(3-0) S. PRQ MACOM 315 or permission of instructor.

Practical application of the planning and development of advertising campaigns for print and broadcast media, with emphasis on the use of creative strategy.

MACOM 317 Advertising Strategy 3(3-0) F,S. PRQ MACOM 315, 316.

A seminar emphasizing the tactics and strategies of advertising planning, utilizing media techniques, marketing posture and creative media buying.

MACOM 320 Broadcast Station Programming 3(3-0) F,S. PRQ MACOM 222, 224, 226.

Program types used on broadcast stations; the analysis of network structure and local station programs. Study of the ethical requirements in programming.

MACOM 326. Advanced Television Production 3(3-0) S. PRQ MACOM 226. Offered every other year.

Television studio and control room operation, with emphasis on video console equipment, cameras, microphones, stagecraft and lighting.

MACOM 341 Broadcast Production Workshop I 1(1-0) PRQ Upperclass standing and permission of instructor.

A laboratory devoted to experiencing the operation of all technical equipment in a radio or television station control room and studio. Repeatable once.

MACOM 342 Broadcast Production Workshop II 1(0-3).

Continuation of MACOM 341.

MACOM 351 Publication Workshop I 5(0-15). PRQ MACOM 201, 202, 311 and permission of the instructor.

An advanced course in practical laboratory work for upperclass students occupying unpaid editorial positions on campus publications. Sequence repeatable once.

MACOM 352 Publication Workshop II 5(0-15).

Continuation of MACOM 351.

MACOM 377 Journalism in the Secondary School 3(3-0) F,S. PRQ Upperclass standing and permission of the instructor.

An introduction to teaching journalism/communications in junior and senior high school, with emphasis on organizing and supervising student publications.

MACOM 400 Photographic Procedures 3(3-2) F,S. PRQ MACOM 210 or permission of instructor.

A practical course in still photography, with emphasis on camera operation and darkroom procedure. A 35mm camera is required for course.

MACOM 401 Photojournalism 3(3-2) S. PRQ MACOM 400.

A practical course in pictorial reporting, with emphasis on spot news features, picture stories, and photographic essays.

MACOM 411 Journalism Law and Ethics 3(3-0) S. PRQ 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) F. PRQ MACOM 202, 222, 290.

A continuation of MACOM 290, with emphasis on the practical approach to client-community problems, press relations, industrial publications, brochures, and other specialized public relations tools.

MACOM 422 Public Relations Campaigns 3(3-2) S. PRQ MACOM 421.

A simulated independent public relations agency approach to the development and implementation of public relations campaigns, with emphasis on practical application of agency-client relations and problem solving.

MACOM 430 Radio Station Management 2(0-6) F,S. PRQ Permission of instructor.

A workshop designed for training appointed radio station managers and directors involved in key positions on the University radio station.

MACOM 440 Magazine Writing 3(3-0) S. PRQ 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) S. PRQ 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. Emphasis on interpretive and investigative reporting skills. Attendance at public meetings required.

MACOM 465 Mass Media Seminar 3(3-0) F,S. PRQ Senior standing.

A seminar devoted to special problems in mass media, with emphasis on the interrelationships of media, understanding media, and the role of criticism.

MACOM 475 Independent Study 2(0-4) F,S,SS. PRQ Upperclass standing or permission of instructor.

Individual research, directed reading and/or special assignments under the supervision of a member of the department. Repeatable once.

MACOM 480 Special Projects 3(0-6) F,S,SS. PRQ Upperclass standing or permission of instructor.

Individualized instruction within a special interest area, under the supervision of a member of the department. Repeatable once.

MACOM 491 Special Topics 3(3-0) F,S. PRQ Upperclass standing or permission of the instructor.

Exploration of scholarly and special interest subjects in the mass media and related fields.

MACOM 496 Cooperative Education Placements (1-4 VAR) F,S,SS. PRQ 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.

MACOM 499 Field Experience (3-10 VAR) F,S,SS. PRQ Upperclass standing, minimum of 30 hours in major, or permission of department head. A semester-long internship in which the student performs the professional skills required of the cooperating commercial mass medium, business or public service agency. May be repeated for up to 15 hours credit.

Mathematics

Dr. John Gill, Chairman

Departmental Office: PM-222B Phone: 549-2434

Prof. Allen, Blandford, Bronn, Gill, Johnson, Li, Miller, Nichols, Orman, Orr, Phillips, Prater, Puléo, Redman, Vunovich, Walent, Withnell.

Major Programs

The role of mathematics in the physical sciences and engineering is well established; recently its usage in the life and social sciences, economics, and management has grown 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. 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.

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.

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 towards satisfying mathematics major or minor requirements.

The Bachelor of Arts or Bachelor of Science degrees may be earned in either major.

The sample four-year program that follows this paragraph 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 intent at the earliest possible time. The student will then be assigned a mathematics adviser whose responsibilities will include assisting the student in planning and fulfilling University and departmental degree requirements. (See Academic Advising.)

Bachelor of Science in Mathematics/Computer Science Emphasis

Freshman Year			Credits
MATH	126,224	Calculus and Analytic Geometry	10
MATH	240	Computer Programming	1
MATH	245	Intro. to Discrete Mathematics	3
CST	102	Computer Science II	3
EN	105	Fortran	2
SP	101	Basic Speech Communication	2
BCOM	120	College Reading	2
BCOM	110	Freshman Composition I	3
BCOM	111	Freshman Composition II	3
PE	100	PE Orientation	2
			31

Sophomore Year			Credits
MATH	325	Calculus and Analytic Geometry	4
MATH	281	Linear Algebra	3
PHYS	221	General Physics I	5
CST	115	Operating Systems I	3
CST	120	Assembler I	3
CST	321	Assembler II	3
ECON	201	Principles of Economics I	3
ACCTG	201	Principles of Accounting I	3
			32

Junior Year			Credits
MATH	327	Algebraic Systems	3
MATH	337,338	Differential Equations I, II	6
MATH	342	Numerical Analysis	3
PHYS	222	General Physics II	5
CST	240	System Design	3
CST	330	Programming Languages	3
			7
			4
			34

Senior Year			Credits
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
CST	416	Operating Systems II	3
CST	420	Data Structures	3
CST	305	Fortran IV	3
			8
			31

Majors should consult the Mathematics Department Office for specific course requirements for each of the emphasis areas.

Minors in Mathematics

Programs leading to a minor in mathematics are diverse in order to meet the needs of a variety of students. The department will make every attempt to cooperate on an intra-departmental level to design specific programs for students.

All minors require the student to complete an approved program containing a minimum of 20 credits with the exception of the teaching minor which requires a minimum of 23 credits.

The following minor is one of several approved to date. It is a traditional mathematics minor, but there are also minors in mathematics teaching, technical mathematics, applied mathematics and statistics. The list gives some indication of the flexibility and diversity of offerings.

Mathematics Minor			Credits
MATH	126/224	Calculus and Analytical Geometry	10
			(or the equivalent)
MATH	240	Computer Programming	1
MATH	281	Linear Algebra	3

Approved electives from mathematics courses numbered above MATH 120 (excluding MATH 155, 360, 361, 377) including at least 3 credits from courses numbered above 300

Other Services

The department:
 * 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 mathe-

matics 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 procedures may be obtained in the department office.

* grants advanced placement standing to qualified incoming 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 prerequisites may be no more than an adequate knowledge of algebra and/or a working knowledge of Basic computer language. Do not hesitate to seek the advice of department faculty for entry requirements for these courses.

Courses:

Undergraduate:

MATH 104 Arithmetic for College Students 3(3-0) F,S,SS.

An individualized course which provides developmental instruction in the basic skills of arithmetic. Credit applies for the associate degree only.

MATH 105 Introductory Algebra 3(3-0) F,S,SS.

Stresses the development of problem-solving skills. Includes the study of elementary algebraic operations, linear and quadratic equations and the quadratic formula. GEN.ED.III.E.

MATH 109 Mathematics for Everyone 3(3-0) F,S,SS.

A 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.III.E.

MATH 120 Intermediate Algebra 4(4-0) F,S,SS. PRQ one year of high school algebra or MATH 105.

Stresses the development of problem-solving skills. Includes the study of linear equations and inequalities, polynomials, roots and radicals, quadratic equations, GEN.ED.III.E.

MATH 121 College Algebra 4(4-0) F,S. PRQ 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.III.E.

MATH 122 College Trigonometry 2(2-0) F,S. PRQ MATH 121 or the equivalent.

Trigonometric and circular functions, identities, inverse functions, vectors, complex numbers. GEN.ED.III.E.

MATH 124 Precalculus Math 5(5-0) F,S. PRQ MATH 120 or the equivalent.

Polynomial, rational, exponential and logarithmic functions; solutions of systems of equations; trigonometric, circular and certain special functions. GEN.ED.III.E.

MATH 126 Calculus & Analytic Geometry I 5(5-0) F,S. PRQ MATH 124 or the equivalent.

An introduction to analytic geometry, functions, limits, continuity, differentiation and integration of algebraic functions, the theory of calculus and selected applications. GEN.ED.III.E.

MATH 130 Technical Algebra & Trigonometry 5(5-0) F,S. PRQ MATH 105 or one year of high school algebra.

Algebraic operations, fractions, factoring, exponents, roots and radicals, inequalities, linear and quadratic equations, right triangle trigonometry.

MATH 131 Mathematics for Engineering Technology I 4(4-0) F,S. PRQ MATH 130 or the equivalent.

An integrated sequence (131-132-233) covering topics in algebra, trigonometry, analytic geometry, differential calculus, integral calculus, with engineering applications.

MATH 132 Mathematics for Engineering Technology II 4(4-0) F,S. PRQ MATH 131.

A continuation of MATH 131.

MATH 151 Mathematics for Business Analysis 4(4-0) F,S. PRQ MATH 120 or the equivalent.

Applications of mathematics to business problems, breakeven analysis, probability, decision making, determinants, matrices, linear programming.

MATH 155 Basic Mathematics for Statistics 3(3-0) F,S.

The basic mathematical skills needed in statistics. An introduction to the use of calculators, probability, set theory, and descriptive statistics. GEN.ED.III.E.

MATH 156 Introduction to Statistics 3(3-0) F,S. PRQ MATH 155 or the 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.III.E.

MATH 221 Applied Calculus: An Intuitive Approach 5(5-0) S. PRQ MATH 121 or the equivalent.

A non-rigorous introduction to calculus with emphasis on applications and modeling in the life sciences, social and behavioral sciences, and business. GEN.ED.III.E.

MATH 224 Calculus and Analytic Geometry II 5(5-0) F,S. PRQ MATH 126.

Applications of differentiation and integration, operations on trigonometric, logarithmic and other transcendental functions.

MATH 233 Mathematics for Engineering Technology III 4(4-0) F,S. PRQ MATH 132.

A continuation of MATH 132.

MATH 240 Introduction to Computer Programming 1(1-0) F,S. PRQ MATH 120 or the equivalent.

Principles of computers, numeration systems, data representations, and a general familiarization with computer equipment. An introduction to programming using high level languages. GEN.ED.III.E. May be offered in a 5-week module.

MATH 241 Introduction to Digital Computers 2(2-0) F,S. PRQ MATH 240.

A continuation of MATH 240. More programming using high level languages and computer terminal usage. GEN.ED.III.E. May be offered in a 10-week module.

MATH 243 Introduction to Computer Modeling 3(3-0) F. PRQ MATH 120 and MATH 240 or the equivalent.

An introduction to mathematical modeling. Emphasis will be placed on modeling techniques. Formulated models and existing computer programs will be used.

MATH 244 Techniques in Operations Research 3(3-0) F. PRQ MATH 120 or the equivalent.

Linear, integer, goal, nonlinear, and dynamic programming. Optional transportation, network problems and simulation. GEN.ED.III.E.

MATH 245 Introduction to Discrete Mathematics 3(3-0) F,S. PRQ Math 121 or equivalent.

Logic and algebra of sets, permutations and combinations, relations and functions, graph theory, trees, recurrence relations and induction.

MATH 253 Applied Data Analysis with Computers 3(3-0) S. PRQ Intermediate Algebra and Introduction to Statistics.

Statistical models of linear regression and analysis of variance will be covered. The SPSS computer programs will be used with an emphasis on the underlying assumptions of the mathematical model and practical problems encountered in real situations.

MATH 256 Probability and Statistics 4(4-0) S. PRQ MATH 156.

Probability space, random variables, and sampling theory are developed as a basis for statistical inference; bivariate populations and regression analysis included.

MATH 281 Introduction to Linear Algebra 3(3-0) F,S. PRQ MATH 121 or the equivalent.

Matrices, vectors, vector spaces, linear transformations, and change of basis. Application topics are included. GEN.ED.IIIE.

MATH 291, 292, 491, 591 Topics (1-3 VAR). PRQ permission of instructor and approval of the department.**MATH 301 Problem Solving 1(1-0) F.** PRQ MATH 224.

The strategy and technique of mathematical problem solving, emphasizing presentation and rigor.

MATH 325 Intermediate Calculus 4(4-0) F,S. PRQ 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) F. PRQ MATH 224 or permission of instructor.

An 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) F. PRQ MATH 224 or permission of the instructor.

Euclidean, hyperbolic, finite, and transformation geometries, models, and constructions.

MATH 337 Differential Equations I 3(3-0) F,S. PRQ MATH 224 or the equivalent.

First order differential equations, homogeneous and non-homogeneous linear differential equations, introduction to the Laplace transform, applications.

MATH 338 Differential Equations II 3(3-0) S. PRQ 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) S. PRQ MATH 281 and FORTRAN or departmental permission.

Finding numerical solutions of polynomial, differential, integral, and other equations using the computer.

MATH 355 Nonparametric Methods 2(2-0) F. PRQ MATH 156 or 256 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) S. PRQ MATH 156 or 256 or BUSAD 260 or PSYCH 253.

Topics include decision and action space, utility, with or without data in making decisions, minimax principle and Bayesian procedures.

MATH 360 Mathematics for Elementary Teachers I 3(3-0) F,S. PRQ One year algebra and 1/2 unit of geometry or permission of the instructor.

Sets, numeration systems, whole numbers algorithms, number theory, integers, and intuitive geometry.

MATH 361 Mathematics for Elementary Teachers II 3(3-0) F,S. PRQ MATH 360.

Metric geometry, rational numbers, real numbers, logic, mathematical systems, word problems, metric system, probability, and statistics.

MATH 377 Materials and Techniques of Teaching Secondary School Mathematics 4(4-0) S. PRQ MATH 327.

Instructional materials, methods, evaluation, and other related topics.

MATH 411 Introduction to Topology 3(3-0) S. PRQ MATH 224.

An introduction to topological, compact, connected and metric spaces. Continuous functions and separation properties.

MATH 421 Advanced Calculus I 3(3-0) F. PRQ 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) S. PRQ MATH 421.

A continuation of MATH 421.

MATH 425 Complex Variables 3(3-0) F. PRQ MATH 325.

Complex numbers, sequences and series, derivatives and integrals, analytic functions, conformal mappings.

MATH 443 Optimization Techniques 3(3-0) S. PRQ MATH 281 and FORTRAN or departmental permission.

Linear programming and its derivatives, network optimization and their applications to practical problems.

MATH 445 Topics in Discrete Mathematics 3(3-0) F. PRQ MATH 224, MATH 281 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) F. PRQ MATH 256 or BUSAD 260 or PSYCH 253.

Focus on the design and analysis of experimental studies which will include randomized block, Latin square, and factorial experiments; general regression analysis of variance.

MATH 455 Sampling and Survey Methods 2(2-0) S. PRQ MATH 156 or 256 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) F. PRQ 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) S. PRQ MATH 126 or the permission of instructor.

A survey of the origins of several important mathematical concepts and of the mathematicians responsible for these discoveries.

MATH 495 Independent Study (1-3 VAR) PRQ 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).**

A foundation for the study of graduate mathematics. Topics include sets, logic, axiomatics, mappings, and the various sub-systems of the reals.

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)

This course is designed to prepare future teachers to utilize the computer in teaching secondary school mathematics.

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 Topics in Elementary School Mathematics (1-3 VAR)

A consideration of problems concerned with the curriculum, methods of teaching, and evaluation in the elementary school.

MATH 557 Topics in Secondary School Mathematics (1-3 VAR)

A consideration of problems concerned with teaching secondary school mathematics. The slow learner, methods, gifted students, evaluation, etc.

MATH 581 Linear Algebra 3(3-0)

Vector spaces, matrices, eigenvalues, linear functionals and dual space, etc., and selected applications.

MATH 591 Topics (1-3 VAR)

MATH 595 Independent Study (Projects) (1-2 VAR)

Allows students to earn credit independently under the guidance of a faculty member.

Mechanical Engineering Technology

Dr. Donald Cottrell, Acting Head

Departmental Office: T-266

Profs: Hyland, Pope, Sweet

Mechanical engineering technology prepares students to join the Engineering-Related Manpower Team. This program emphasizes the application of scientific and engineering principles, to develop industrially oriented personnel with competencies which are needed in research, design, development, production and marketing. It is based on a 2-plus-2 concept with lower-division coursework leading to an Associate in Applied Science degree. Two additional years of upper-division work for AAS graduates (or transfer students from approved two-year programs) will lead to the Bachelor of Science degree.

Mechanical engineering technology prepares students for a broad spectrum of employment in all types of industry.

Graduates find rewarding employment in one or more of the following functions: design, develop and test new machines and equipment; prepare layouts and drawings for parts manufacture; design tools and plan methods of production; sales and installation of industrial equipment, industrial supervision and teaching technology.

An option in Manufacturing is available to MET majors.

This program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

The graduating candidate must have a 2.00 cumulative grade point average in major area of study.

Transfer students must have a minimum 2.5 grade point average.

A typical MET schedule:

Freshman Year		Credits
MATH	131/132	Math for Engineering Technology 8
BCOM	115/116	Technical Writing 6
MET	101/102	Technical Drafting I and II 10
MFET	101	Machining Principles 3
MFET	201	Manufacturing Processes 3
		General Education 3
		—
		33

Sophomore Year		Credits
MET	201	Mechanics 3
MET	202/210	Strength of Materials 4
MET	221/230	Industrial Hydraulics 3
MET	222/231	Industrial Controls 3
MATH	233	Math for Engineering Technology 4
PHY	201/202	Principles of Physics 8
		General Education 3
		Electives 6
		—
		33

Junior Year		Credits
MET	301/310	Pneumatics and Fluidics 3
MFET	351	Numerical Control Programming 3
MET	302/320	Vacuum Technology 3
MET	311	Machine Design 3
MET	312	Tool Design 3
EN	105	FORTTRAN 2
		Chemistry 4
		General Education 9
		Electives 3
		—
		33

Senior Year		Credits
MET	401/402	Design Projects 8
MET	411	Applied Thermodynamics 3
		General Education 9
MET	421/422	Industrial Robotics 6
		Electives 7
		—
		33

Courses:

MET 101 Technical Drafting 5(0-10) F.

Professional drafting techniques, lettering, line quality, scales and measurements to include metric, geometric constructions, orthographic projections, technical sketching, sectioning, auxiliary views, revolutions, isometric and perspective views, welding and fasteners.

MET 102 Technical Drafting II 5(0-10) S. PRQ MET 101 or permission of instructor.

Dimensioning, tolerances and allowances, cylindrical fits, numerical control, descriptive geometry, pattern development, graphical math, design and working drawings.

MET 111 Technical Drawing I 3(0-6) F.S.

Basic drafting techniques, use and care of equipment, lettering line quality, scales, geometric construction, orthographic drawing, section views and auxiliary views and use of reference planes. GEN.ED.IIIC.

MET 112 Technical Drawing II 3(0-6) F,S. PRQ MET 111 or permission of instructor.

Dimensioning, tolerancing, threads and fasteners, welding symbols, isometric and working drawings.

MET 201 Mechanics 3(3-0) F. PRQ MATH 131 or equivalent, CORQ PHY 201.

Theory and application of the basic laws of physics to include analysis of forces applied to structural and machine elements equilibrium, centroids.

MET 202 Strength of Materials 3(3-0) S. PRQ MET 201 or PHY 201.

Stress and strain relationships, tensile, compression, torsion, shear, bending, combined stresses and moment of inertia.

MET 210 Strength of Materials Lab 1(0-2) S. CORQ MET 202.

Lab experiments relating to stress-strain relationships and strengths of various materials or conditions.

MET 211 Industrial Detailing 3(0-6) F. PRQ MET 102, 112 or permission of instructor.

Standard industrial drafting practices for detail drawings, including geometric and true positional tolerancing and dimensioning, emphasis on design, feasibility, economy, and metrics.

MET 212 Mechanisms 3(0-6) S. PRQ MET 102 and PHY 201.

An introduction to kinematics including linkages, velocities, accelerations, cams, gears and gear trains.

MET 221 Industrial Hydraulics 2(2-0) F. CORQ MET 230.

Theory and application of fluid power principles, terminology, symbols, circuitry, operating characteristics and industrial application of pumps, motors, and pressure control valves.

MET 222 Industrial Controls 2(2-0) S. PRQ MET 221, CORQ 231.

A study of hydraulic control components including directional valve, servo's and stepping motors. Electric controls JIC symbols and ladder schematic circuitry.

MET 230 Industrial Hydraulics Lab 1(0-2) F.

Demonstrations and experiences relating to flow, pressure, and cavitation. Familiarization with industrial equipment through use in lab.

MET 231 Industrial Controls Lab 1(0-2) F.

Demonstration of hydraulic and electrical control components and circuits.

MET 291 Special Topics (Mechanical) (1-5 VAR) F,S,SS. PRQ Sophomore status in MET.

Designed for students majoring in Mechanical Engineering Technology or individuals from local industry who have special interests not covered by existing courses.

MET 296 Co-op Education Placement (1-5 VAR) F,S,SS.

For freshmen and sophomores for industrial cooperative education work experience under the direction of a field supervisor and faculty member.

MET 297 Technical Experience (3-10 VAR) F,S,SS.

For Eng. Technology Sophomores. One hour credit for each 40 hours of professional work experience directly related to the area of training. (Applicable towards AAS degree only; written report required).

MET 301 Industrial Pneumatics and Fluidics 2(2-0) F. PRQ MET 222.

Study of compressed air and its industrial uses. Topics include compressors distribution systems, air tools moving parts and fluidic logic.

MET 302 Vacuum Technology 2(2-0) S. PRQ MET 301.

Basic vacuum principles and their application to design of vacuum process systems by use of existing commercial equipment.

MET 310 Industrial Pneumatics and Fluidics Lab 1(0-2) F.

Application of Pneumatic and Fluidic Devices to machines and machine control.

MET 311 Machine Design 3(3-0) F. PRQ MET 102, 202.

Design principles, friction lubrication, bearings, shafts, fastening devices and techniques, couplings, keys, belts, chains, brakes, clutches, power units (written & oral reports).

MET 312 Tools Design 3(0-6) S. PRQ MET 102, MFET 101 & MATH 132.

Design and drawing of cutting tools, gages, jigs, fixtures, N.C. tooling.

MET 320 Vacuum Laboratory 1(0-2) S.

Assembly and disassembly of vacuum system and components to become familiar with the physical equipment and its operation.

MET 401 Mechanical Design Projects 4(0-8) F. PRQ MET 311, 312 and MFET 101.

Students will do necessary research, engineering design and fabrication of self-conceived working device. Planning includes concept, feasibility, viability, marketing and testing.

MET 402 Mechanical Design Projects 4(0-8) S. PRQ MET 401.

MET 411 Applied Thermodynamics 3(3-0) F. PRQ MATH 233, PHY 202. Applied basic thermodynamics concepts, work and heat calculations, laws of thermodynamics, liquids, gases, power cycles and heat transfer.

MET 421 Industrial Robotics I 3(3-0) F. PRQ permission of instructor.

History, theory, social problems, productivity, unemployment, union relations, basic abilities, and types of industrial robots.

MET 422 Industrial Robotics II 3(3-0) S. PRQ MET 421.

Industrial robot applications, programming methods, power and grip design.

MET 491 Special Topics (Mechanical) (1-5 VAR) F,S,SS. PRQ Permission of instructor.

Designed for students majoring in mechanical engineering technology or individuals from local industry who have special interests not covered by existing courses.

MET 496 Co-op Education Placement (1-5 VAR) F,S,SS.

For juniors and seniors for industrial cooperative education work experience under the direction of a field supervisor and faculty member.

MET 497 Industrial Practicum (3-10 VAR) F,S,SS. PRQ Permission of instructor. Written report required.

One hour of credit for each 40 hours of professional work experience directly related to the area of training.

Mental Health

Dr. Dunstan J. Wack, Director
Center for Psychology and Mental Health
Center Office: P-167 Phone: 549-2719
Professors: Krinsky, S, Madrid

The mental health program leads to an A.A. degree upon completion of 75 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. The purpose is to provide students with knowledge and skills about human behavior, social problems and inter-personal functioning which can be put to use in a variety of settings which provide mental health and social restoration services. Course work in mental health should begin in the fall semester. Students should work out a comprehensive schedule with their faculty adviser. Students may minor in mental health by completing 20 semester hours of required and elective courses.

Mental Health Major

Students should see a department adviser for information about degree requirements and scheduling of classes.

The typical mental health schedule:

Freshman Year		Credits
MH	115	Introduction to Mental Health 2
MH	121	Interviewing 2
MH	141	Group 3
MH	151	Introduction to Human Behavior 3
MH	131	Counseling 2
MH	170	Field Experience I 3
PSYCH	101	Introduction to Psychology 3
BCOM	110	Fresh Comp I 3
PE	100	PE Orientation 2
BCOM	120	College Reading 2
SPCOM	101	Basic Speech Communications 2
BIOL	102	Human Biology 4
PSYCH	102	Introduction to Psychology 3
FL	181	Introduction to Spanish 3
		—
		37

Sophomore Year		Credits
MH	200	Drugs, Society & Human Behavior 2
MH	251	Behavior Modification 3
MH	260	Field Experience II 2
MH	181	Seminar I 1
MH	290	Field Experience Block 8
SPCOM	241	Organizational Communication 2
SPCOM	242	Conference Techniques 1
SOC	230	Marriage and the Family 3
		General Education Electives 11
		—
		36

Courses:

MH 115 Introduction to Mental Health 2(2-0) F.

An overview of the field from a socio-psychological perspective. GEN.ED.IIA.

MH 121 Interviewing 2(2-0) F,S.

Interviewing principles and techniques related to mental health and community service work. Social, ethical and legal responsibilities are also considered.

MH 131 Counseling 2(2-0) F,S. PRQ MH 121 or consent 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) F,S.

The structure and dynamics of groups practicing interpersonal skills and leadership qualities. Experience in techniques of developing self-awareness.

MH 142 Group Process II 3(3-0) F,S. PRQ MH 141 or consent of instructor.

The structure and development of groups practicing interpersonal skills and leadership qualities. Development of group utilizing a variety of therapeutic group approaches.

MH 151 Introduction to Human Development 3(3-0) F.

Survey of human development through life span. GEN.ED.IIA.

MH 160 Community Orientation 2(2-0) F.

Acquaints and familiarizes student with community resources. Increases student knowledge in agency functions and services provided to clients.

MH 170 Field Experience I 3(0-3) F,S. PRQ MH 121.

Nine hours agency, one hour conference. Beginning work experience in the helping agencies with focus on observation and communication skills.

MH 181 Mental Health Seminar 1(1-0) S.

Open-ended discussions exploring aspects of mental health work relevant to student experiences in the program.

MH 200 Drugs, Society & Human Behavior 2(2-0) F,S.

Use and abuse of drugs; analysis of causes of drug abuse. Different treatment modalities used in cure of drug abuse will be considered. GEN.ED.IIA.

MH 203 Community Action for Mental Health 3(3-0) S.

Community mental health services, state and federal resources in the area are studied. The mental health worker's role in community programs is illustrated.

MH 211 Health Problems 3(3-0) F.

Health problems and processes affecting mental health. Behavior management via drug therapy, first aid principles and basic health aims.

MH 231 Family Dynamics 2(2-0) F,S.

Family processes influencing mental health and the effect of stress on the family structure. Family potential in fostering mental health is emphasized. GEN.ED.IIA.

MH 241 Family Therapy 3(3-0) F,S. PRQ MH 231 or consent of instructor.

Counseling techniques are used to develop skills in working with families.

MH 251 Behavior Modification 3(3-0) F,S.

Learning theory and its application for the modification of maladaptive behavior. Various techniques are examined.

MH 260 Field Experience II 2(1-6) F,S,SS. PRQ MH 121.

Six hours agency, one hour conference. Work experience with clients seeking help. Clinical field work is based on student experience and ability. Supervisory conference continued.

MH 270 Field Experience III 3(1-9) F,S,SS. PRQ MH 260 or consent of instructor.

Nine hours agency, one hour conference, increased work experience with full participation in agency activities. The student functions as a team member with increased responsibilities.

MH 281 Mental Health Seminar 1(1-0) F,S.

Open-ended discussions exploring the responsibilities and opportunities of mental health work relevant to student experiences in the program.

MH 283 Special Topics (1-3 VAR) F,S,SS.

Various topics of interest to those involved in the area of mental health. Designed for majors and others whose work involves relating with people.

MH 290 Field Experience Block 8(8-0) F,S,SS. PRQ Departmental approval.

Supervised field placement in mental health agency, second-year students only; 23 hours per week commitment with an hour conference.

MH 300 Aging and Mental Health Practicum 4(1-4)

Discussion of the emotional crises that confront older people with an affirmative approach to dealing with the problems of physical and mental rehabilitation. Critical evaluation of studies dealing with aging, plus a field placement in at least one agency which serves the elderly client.

MH 320 Developmental Disabilities Practicum 4(1-4)

Critical evaluation of studies dealing with retardation and other developmental disabilities. Institutions, agencies and treatment methods will be discussed. A field placement in at least one agency which serves the developmentally disabled client is also required.

MH 400 Drug and Alcohol Counseling Practicum 4(1-4)

Discussion of institutions, agencies and treatment methods used in drug and alcohol counseling. Critical evaluation of studies dealing with treatment and rehabilitation of this kind of client. Includes a field placement in at least one agency which serves clients suffering from drug or alcohol addictions.

MH 420 Youth Counseling Practicum 4(1-4)

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.

Metallurgical Engineering Technology

Tsang Yu Shih, Head
Departmental Office; T-264
Profs: Ahmadieh

Metallurgical engineering technology offers both two-year and four-year programs. The curricula of these programs are designed to provide maximum technical instruction. Students are given broad-based, comprehensive training in specialized subjects so they may develop the versatility required of metallurgical technicians. Graduates are prepared with the technical competence for entrance into responsible positions in quality control, material testing, examination, production and research in many diverse areas of the metal industry. A minimum of 65 semester hour credits with not less than a 2.0 cumulative grade point average is required for the two-year program. Graduates of the two-year program receive the Associate in Applied Science degree.

A minimum of 131 semester hour credits with not less than a 2.0 cumulative grade point average and 40 S.H. hours in upper division credits are required for B.S. degree candidates. Graduates of the four-year program receive the Bachelor Science degree in Metallurgical Engineering Technology. Both two and four-year degree programs are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. The graduating candidate must have a 2.0 cumulative grade point average in the major area of study.

A typical MLET schedule:

AAS and BS Degrees

Freshman Year

			Credits
BCOM	115/116	Technical Writing I & II	6
MFET	101	Machining Principles	3
MFET	111	Welding Process	3
MLET	113/218	Nondestructive Testing I & II	5
MLET	122/123	Physical Metallurgy I & II	6
MATH	131/132	Math for Engineering Technology	8
		General Education	3
PE		Physical Education	2
			36

Sophomore Year

			Credits
EN	105	Fortran	2
EET	108	Basic Electronic Principles	2
CHEM	121	General Chemistry	5
PHY	201/202	Principles of Physics	8
MLET	211	Metallography	3
MLET	214	Industrial Radiography	3
MLET	216	Independent Study	2
MATH	233	Math for Engineering Technology	4
		General Education	4
		Guided Elective	2
			35

Junior Year

			Credits
BCOM	120	College Reading	2
ECON	101	Introduction to Economics	3
CHEM	122	General Chemistry II	3
MLET	302	Welding Metallurgy	2
MLET	303	Process Metallurgy	3
MLET	304	Physical Behavior of Materials	4
MLET	305	Foundry Metallurgy	3
MLET	312	Advanced Industrial Radiography	3
		General Education	6
		Guided Electives	3
			32

Senior Year

			Credits
MLET	306	Metal Forming Techniques	2
EN	340	Industrial Engineering	3
MLET	412/415	Corrosion and Oxidation	6
MLET	416	Advanced Metal Casting	2
MLET	425	Mechanical Behavior of Materials	4
MLET	491	Independent Study	3
SP	101	Basic Speech	2
		General Education	7
		Guided Electives	3
			32

Courses:

MLET 113 Nondestructive Testing 3(2-2) F,S.

Determination of quality without damage to the material by using magnaflux, eddy current, ultrasonic and fluorescent penetrant equipment.

MLET 122 Physical Metallurgy 3(2-2) F.

Properties, structure, testing of metals, heat treatment of ferrous alloys and surface treatment of metals.

MLET 123 Physical Metallurgy II 3(2-2) S.

Crystal structure, theory of alloy phase transformation. Behavior of metals during heating, cooling and processing, cast iron, nonferrous metals, and high-low temperature properties.

MLET 211 Metallography 3(2-2) F.

Microscopic examination of metals, ample preparation, microphotography film and print development, and interpretation of microscopic structure.

MLET 214 Industrial Radiography 3(2-2) S.

Determination of soundness without damage to the material, techniques in the use of x-ray and gamma ray to produce film records and radiation safety protection.

MLET 216 Metallurgical Research and Development 2(0-4) S.

Individual project to allow student to demonstrate initiative in gathering and reporting empirical values in a formal technical report.

MLET 218 Nondestructive Testing II 2(1-2) S.

A continuation of MLET-113 in-depth theory and application of eddy current and ultrasonic inspections. Fundamentals of stress-wave emission, holography inspection, and quality assurance.

MLET 225 Applied Physical Metallurgy 3(2-2) F,S.

Properties, structure, testing of metals. Behavior of metal during heating, cooling and processing. Heat treatment of steel and surface treatment of metal.

MLET 296 Co-op Education Placement (1-5 VAR) F,S,SS.

For freshmen and sophomores for industrial cooperative education work experience under the direction of a field supervisor and faculty member.

MLET 302 Welding Metallurgy 2(1-2) F. PRQ MLET 123, MLET 211, MFET 111.

Weldability, defects, heat flow, phase transformation, residual stress, preheat treatment, heat-affected zone, microstructure and properties.

MLET 303 Process Metallurgy 3(2-2) F. PRQ CHEM 1223, MLET 123. Mining, ore preparation, fuel, furnace, smelting, refining, slag control, thermodynamics and refractory materials.

MLET 304 Physical Behavior of Materials 4(3-2) S. PRQ MLET 123. Atomic structure, crystal structure, crystal imperfection, solid state transformation, thermal, electrical and magnetic properties, dislocation, x-ray diffraction, semi-conductors, polymers and ceramics.

MLET 305 Foundry Metallurgy 3(2-2) F. PRQ MLET 123. Patterns, molding processes and materials, cores, risening, gating, melting, pouring casting defects and foundry refractories.

MLET 306 Metal Forming Techniques 2(1-2) S. PRQ MLET 123, MATH 233. Rolling, forging, extrusion, piercing forming, working forces, forming defects, die design, work-hardening, nonwork-hardening metals, structures and properties.

MLET 312 Advanced Industrial Radiography 3(2-2) S. PRQ MLET 123, MLET 214, PHY 202.

Structure of metal, nature and property of x-ray and y-ray, nuclear radiation, radioisotopes, radiation physics, radiography techniques, survey instruments, and radiation protection and safety.

MLET 412 Oxidation and Corrosion 3(2-2) F. PRQ MLET 123, CHEM 122. Corrosion chemistry, mechanism of corrosion galvanic cell, pitting, stress corrosion, intergranular corrosion and controlling environment.

MLET 415 Oxidation and Corrosion II 3(2-2) S. PRQ MLET 412. A continuation of MLET 412. Modern theory, mechanism and kinetics, polarization, corrosion, underground corrosion, corrosion prevention, and corrosion case study.

MLET 416 Advanced Metal Casting 2(1-2) S. PRQ MLET 305. Kinetics of solidification, phase transformation and equilibrium, cored structure, gray cast iron, foundry metallography, casting design and modern casting techniques.

MLET 425 Mechanical Behavior of Materials 4(3-2) F. PRQ MLET 304. Plastic and elastic properties, deformation, tensile, impact, creep, fatigue, hydrogen embrittlement. Strengthening mechanism, property evaluation, failure analysis, polymers and ceramics.

MLET 491 Independent Study (1-4 VAR) S. Individual project. Enrollment limited to senior students.

MLET 496 Co-Op Education Placement (1-5 VAR) F,S,SS. For juniors and seniors for industrial cooperative education work experience under the direction of a field supervisor and faculty member.

Military Science Reserve Officers' Training Corps Program

LTC Glen Hollis, Head
Departmental Office: PM-205 Phone: 549-2291
Professors: Butler, Ellis, Londino, Presley

The Army ROTC Program

The Army Reserve Officers' Training Corps exists to develop college-educated officers for the active Army and Reserve components. As the major source of 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 our national security structure and an opportunity to gain practical experience in leadership and management techniques.

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. However, veterans and students who have had the equivalent of the Basic Course in high school Junior ROTC may be granted constructive credit and be selected for the Advance Course.

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.

A six-week summer training period conducted after the sophomore year at Fort Knox, Kentucky, substitutes for the first two years of ROTC in the normal four-year program.

Army ROTC Courses

All courses are fully accredited by the university and credits are supplied as electives toward graduate requirements. Instruction is both academic and practical and is designed to develop self-reliance, confidence, initiative, courtesy, and a strong sense of citizenship.

Upon graduation, the ROTC cadet is afforded a selection of one of the following branches of the Army aligned with his academic major and/or individual preference:

- Adjutant General's Corps
- Air Defense Artillery
- Armor
- Corps of Engineers
- Field Artillery
- Finance Corps
- Infantry
- Medical Service Corps
- Military Intelligence
- Military Police Corps
- Ordinance
- Quartermaster Corps
- Signal Corps
- Transportation Corps

Courses:

MILSC 101 National Defense Studies 1(1-2) F.

A study of the organization of the Army and its role in American society. Also, related topics on the organization of Soviet Military equipment and U.S. Special Organizations. Includes leadership laboratories.

MILSC 102 Basic Survival Skills 1(1-2) S.

An introduction to the basic skills required in the Army environment. These include reappelling, tactical aircraft control, mountain operations, first aid, and others. Includes leadership laboratories.

MILSC 201 Land Navigation Techniques I (1-2) F.

A study of and practical exercise in cross country land navigation. Emphasis will be placed on the use of the topographical map and lensatic compass. Includes leadership laboratories.

MILSC 202 Applied Survival Skills I (1-2) S.

A continuation of MILSC 102 with emphasis on the practical application of those skills acquired in the earlier course. Includes leadership laboratories.

MILSC 210 Nations at War 3(3-0) F.

Military history; the role of warfare in the development of human society. GEN.ED.IIC.

MILSC 301 Leadership and Management Development 3(3-2) F.

Technique and practice in applied military leadership at the small group level, and basic military management skills. Includes leadership laboratories.

MILSC 302 Advanced Leadership and Instructor Techniques 3(3-2) S.

Leadership theory and research with emphasis on the applicability to the Army leadership phenomenon. Also, the theory and practice in preparing and presenting instruction. Includes leadership laboratories.

MILSC 304 ROTC Advanced Camp 6(0-6) PRQ MILSC 301, 302.

A six-week practical training session supplementing on-campus instruction by providing cadets experience and instruction in tactical subjects with emphasis on leadership development. Course is conducted at Fort Lewis, WA.

MILSC 401 The American Military Experience 3(3-2) F.

A study of the origins and development of the armed forces in American Society around six themes: the democratic revolution, the industrial revolution, the managerial revolution, the mechanical revolution, the scientific revolution, and the social revolution. All themes will be developed in a chronological sequence. Includes leadership laboratories.

MILSC 402 Advanced Leadership and Management 3(3-2) S.

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. Includes leadership laboratories.



Music

Doyle K. Muller

Departmental Office: AM-175 Phone: 549-2552

Profs: Beck, Cedrone, Duncan, Grabiec, Kellogg, Markowski, Roach, Strobel, Track, Vorce

The Department of Music is accredited by the National Association of Schools of Music. The Department of Music offers the Bachelor of Arts with emphasis in one of the following programs: Music Theory; Music Performance; Certification in Music Education.

The performance emphases are: Voice, Keyboard Instruments, String Instruments, Woodwind Instruments, Brasswind Instruments and Percussion Instruments.

Core courses indicate courses in the development of fundamental musicianship and include the areas of music theory, music history, music performance and basic courses in the student's area of concentration.

A typical music schedule:

Freshman Year		Credits
MUS	101/102	Basic Musicianship 8
MUS	121/122	Survey Music History 4
MUS	161/162	Applied Music Major 4
MUS	172	Piano Ensemble 4
MUS	181/182	Lab Band-Lab Choir 2
MUS	185	Symposium 2
MUS	144	Woodwind Class 2
MUS	145	Brass Class 2
BCOM	110	Freshman Composition I 3
BCOM	111	Freshman Composition II 3
SPCOM	101	Basic Speech Comm. 2
		36

Sophomore Year		Credits
MUS	201/202	Comprehensive Musicianship 8
MUS	244/245	Conducting 4
MUS	261/262	Applied Music Major 4
MUS	172	Piano Ensemble 4
MUS	181/182	Lab Band-Lab Choir 2
MUS	185	Symposium 2
MUS	241	String Class 2
MUS	242	Percussion Class 2
BCOM	120	College Reading 2
PE	100	PE Orientation 2
		GEN ED Electives — Group I 4
		36

Junior Year		Credits
MUS	321/322	Music History (1700-Present) 6
MUS	311/312	Arranging 4
MUS	377/378	Mat & Tech Tchg Music 6
MUS	361/362	Applied Music Major 4
MUS	372	Piano Ensemble 4
MUS	181/182	Lab Band-Lab Choir 2
MUS	185	Symposium 2
		GEN ED Electives — Group II 5
		GEN ED Electives — Group III 5
		38

Senior Year		Credits
MUS	439	Psychology of Music 3
MUS	461/462	Applied Music Major 4
MUS	372	Piano Ensemble 4
MUS	181/182	Lab Band-Lab Choir 2
MUS	185	Symposium 2
		GEN ED Electives — Group I 6
		GEN ED Electives — Group II 5
		GEN ED Electives — Group III 5
		Electives 5
		36

The above sample schedule reflects a music education (7-12 Certification) emphasis. Changes would be required for other sequence areas. Majors should consult the music department office for specific course requirements for each of the emphasis areas. Additionally, music education majors will complete the certification requirements as prescribed by the department of education. A major in any program will add those music electives as necessitated by the individual's goals.

Minor in Music

Those students desiring a minor in music are required to consult with the music department staff and the head of the music department. The minor in music does not lead to teacher certification.

Required Courses

MUS 101/102	Basic Musicianship	8
MUS 121/122	Survey Music History	4
MUS 244 or 245	Conducting I or II	2

In addition, the student must have a minimum of four semesters of applied study, four semesters of ensemble, and four semesters of symposium.

Ensembles

Each student majoring in music must participate in one of the major ensembles offered by the department. This major ensemble must be the appropriate ensemble 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 Guitar 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 are offered by the department and are available to all students on an audition basis or with permission of the instructor. Those students enrolled in 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.

Courses:

Undergraduate:

MUS 101 Basic Musicianship I 4(3-2) F.

The fundamentals of musicianship correlating sight-singing, rhythmic reading, keyboard harmony and the basic principles of part-writing. GEN.ED.IE.

MUS 102 Basic Musicianship II 4(3-2) S.

Continuation of MUS 101.

MUS 118 Introduction to Music 3(3-0) F,S.

Designed to assist the student in acquiring a vocabulary of terms related to music and in developing specific music-listening skills that may broaden the understanding and appreciation of music as an art. GEN.ED.IE.

MUS 119 How to Read Music 3(3-0) F.

A study of music notation in its various rhythmic and pitch patterns related to the treble and bass clefs. GEN.ED.IE.

MUS 120 Jazz and Folk Music 3(3-0) S.

A study of the 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) F.

A survey of the historical style periods in our western culture from the Middle Ages to 1800. GEN.ED.IE.

MUS 122 Survey of Music History II 2(2-0) S.

Continuation of MUS 121 from 1800 to present. GEN.ED.IE.

MUS 131 Recorder Class for Elem. Teachers 2(2-0) S.

A course in the fundamentals of the literature for the recorder.

MUS 144 Woodwind Class 2(2-2) F.

The various techniques employed and the problems confronted in the teaching and playing of woodwind instruments.

MUS 145 Brass Class 2(2-2) S.

The various techniques employed and the problems confronted in the teaching and playing of brass instruments.

MUS 147 Functional Piano Class 2(2-2) F,S.

Designed for the student with little or no background in keyboard instruments. Explores the basic fundamentals of piano playing.

MUS 161 Applied Music Major 2(1-5) F.

An in-depth study of the performance practices of the appropriate keyboard, brass, woodwind, percussion or string instrument.

MUS 162 Applied Music Major 2(1-5) S.

Continuation of MUS 161.

MUS 165 Performance Block C (1-3 VAR) F,S.

Designed for the music major 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 within the music program. Amount of credit to depend on the number of ensembles desired by the student.

MUS 170 Band 3(1-4) F,S.

Open to all regularly enrolled University students by permission. May be repeated for lower-division credit.

MUS 171 Choir 3(1-4) F,S.

Open to all regularly enrolled University students by permission. May be repeated for lower-division credit.

MUS 172 Piano Ensemble 2(2-2) F,S.

Open to all regularly enrolled University students by permission. May be repeated for lower-division credit.

MUS 173 Guitar Ensemble 1(1-1) F,S.

Open to all regularly University students by permission. May be repeated for lower-division credit.

MUS 174 String Ensemble/Chamber Orchestra 2(2-2) F,S.

A performing 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)F,S.

MUS 181 Lab Choir 1(0-1) F.

Required of all music education majors each fall-semester of residence.

MUS 182 Lab Band 1(0-1) S.

Required of all music education majors each spring semester of residence. Freshman string, piano, and voice majors may be excused for the spring semester in Lab Band if they do not play a wind or percussion instrument.

MUS 185 Symposium 1(2-2) F,S.

Required course for all music majors. Consists of student performance, both solo and ensemble, faculty lectures and demonstrations and public performance preparation.

MUS 186 Beginning Guitar Class I 1(1-1) F,S.

A course to offer the non-musician an opportunity to discover music through the guitar. Application of both melodic and chordal (rhythmic) mediums allow the student an introduction to the basic folk music of America.

MUS 187 Beginning Guitar Class II 1(1-1) F,S.

A course serving the student with a slight knowledge of the instrument to broaden his horizons. Finger picking techniques and chordal harmonization is covered in the course as well as a knowledge of chords covering the entire spectrum of the instrument.

MUS 201 Comprehensive Musicianship 4(3-2) F. PRQ MUS 102.

Analytical techniques stressing style and ear-training.

MUS 202 Comprehensive Musicianship II 4(3-2) S. PRQ 201.

Continuation of MUS 201.

MUS 210 Electronic Music 3(3-3) F.

The study of the scientific and aesthetic practices employed in sound recording studio. Intensive experience with the Arp Synthesizer is required. No prerequisite.

MUS 241 String Class 2(2-2) F.

A study of the various techniques employed and problems confronted by the string instrument teacher.

MUS 242 Percussion Class 2 (2-0) S.

The various techniques employed and the problems confronted in the teaching and playing of percussion instruments, tuned and untuned.

MUS 244 Conducting I 2(2-1) F.

The various techniques and methods of conducting both vocal and instrumental ensembles.

MUS 245 Conducting II 2(2-1) S.

Continuation of MUS 244.

- MUS 251 Music in the Elementary School I 2(2-0) F.**
The logical steps in the development of music appreciation and music skills throughout the elementary grades in the public school.
- MUS 252 Music in the Elementary School II 2(2-0) S. PRQ MUS 251.**
Continuation of MUS 251.
- MUS 261 Applied Music Major 2(1-5) F. PRQ MUS 162.**
An in-depth study of the performance practices of the appropriate keyboard, brass, woodwind, percussion or string instrument.
- MUS 262 Applied Music Major 2 (1-5) S. PRQ MUS 261.**
Continuation of MUS 261.
- MUS 265 Performance Block C (1-3 VAR) F,S.**
Continuation of MUS 165 for the sophomore student.
- MUS 291 Special Topics (1-3 VAR).**
Any type of special study and/or activity designed to increase understanding of a specific subject within the discipline of music not covered by regular offerings.
- MUS 301 Counterpoint 2(2-0) S. PRQ MUS 202.**
A direct approach to 16th Century composition. Writing in two, three, four and more voices.
- MUS 304 Form and Analysis 2(2-0) F. PRQ MUS 202.**
Analytical techniques in music from Gregorian Chant to contemporary music.
- MUS 311 Arranging I 2(2-0) F. PRQ MUS 144, 145, 202, 241, 242.**
A study of the techniques of scoring for all instrumental combinations.
- MUS 312 Arranging II 2(2-0) S. PRQ MUS 311.**
Continuation of MUS 311.
- MUS 321 Music from 1700 to 1850 3(3-0) F. PRQ MUS 122.**
An 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) S. PRQ MUS 321.**
Post-romanticism and contemporary composition.
- MUS 324 Piano Literature 2(2-0) F.**
A survey of piano literature from the 18th Century to the present.
- MUS 347 Piano Pedagogy I 2(2-0) F.**
An introduction to the practices in teaching private and class piano.
- MUS 348 Piano Pedagogy II 2(2-0) S. PRQ MUS 347.**
Continuation of MUS 347.
- MUS 361 Applied Music Major 2(1-5) F. PRQ MUS 262.**
Continuation of MUS 262 for the junior music student.
- MUS 362 Applied Music Major 2(1-5) S. PRQ MUS 361.**
Continuation of MUS 361.
- MUS 365 Performance Block C (1-3 VAR) F,S.**
Continuation of MUS 265 for the junior student.
- MUS 370 Band 3(1-4) F,S. PRQ Junior standing.**
Open to all regularly enrolled University students by permission. May be repeated for credit.
- MUS 371 Choir 3(1-4) F,S. PRQ Junior standing.**
Open to all regularly enrolled University students by permission. May be repeated for credit.
- MUS 372 Piano Ensemble 2(2-2) F,S. PRQ Junior standing.**
Open to all regularly enrolled University students by permission. May be repeated for credit.
- MUS 373 Guitar Ensemble 1(1-1) F,S. PRQ Junior standing.**
Open to all regularly enrolled University students by permission. May be repeated for credit.



Few public universities can match the facilities of the Hoag Recital Hall and its magnificent Davis Memorial pipe organ, whether used by music students for practice or by nationally-prominent artists in campus-community concerts.

MUS 374 String Ensemble/Chamber Orchestra 2(2-2) F,S. PRQ Junior standing.

A performing 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 377 Materials & Techniques of Teaching Music in Public Schools I 3(3-0) F. PRQ 144, 145, 241, 242, 245.

A comprehensive study in the materials, techniques, methods and problem-solving necessary for the teacher of music in the public schools.

MUS 378 Materials & Techniques of Teaching Music in the Public Schools II 3(3-0) S.

Continuation of MUS 377.

MUS 385 Symposium 1(2-2) F,S.

Continuation of MUS 185.

MUS 425 Piano Methods I 1(1-0) F.

A survey of various piano methods from the past to the present.

MUS 430 Practicum in Music II 2(0-2) F,S.

An opportunity 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(0-2) F,S.

Continuation of MUS 430.

MUS 439 Psychology of Music 3(3-0) F. PRQ PSYCH 101 and senior standing. May be taken as Psych 439.

Philosophical, physiological, acoustical and psychological bases of music as a science and as an art.

MUS 448 Voice Pedagogy 2(2-0) S.

The techniques and materials employed in the private instruction of vocal students.

MUS 461 Applied Music Major 2(1-5) F. PRQ MUS 362.

Continuation of MUS 362 for the senior music student.

MUS 462 Applied Music Major 2(1-5) S. PRQ MUS 461.

Continuation of MUS 461.

MUS 465 Performance Block C (1-3 VAR) F,S.

Continuation of MUS 365 for the senior student.

MUS 491 Independent Study (1-4 VAR) F,S.

(Combination of lecture and lab appropriate to the project). Individual instruction in special interest areas not offered in any course regularly taught in the department.

Graduate:

MUS 501 Special Methods in Music Education 2(1-1) F. PRQ Graduate standing.

(Combination of lecture and lab appropriate to the project.) A course for graduate students to study in depth the techniques and materials for teaching music in the elementary and middle school. Involvement in research and practical application of approved methods.

MUS 502 Seminar in Music Education 2(2-0) S. PRQ Graduate standing.

A course for graduate students involving practical application of current music techniques to secondary teaching.

Nursing

Dr. Marjorie Sczehan, Assistant Dean

Departmental Office: PM-220 Phone 549-2401

Prof: Atteberry, Dunemn, Gilbert, Gray, King, Mettler, Mutzebaugh, Sabo, Socha, vonAldefeldt, Walch

Associate Degree Program

The A.A. program is an NLN-accredited program. It has as its primary goal the development of competent practitioners of nursing who are clinically proficient and aware of their social responsibilities as members of the health profession. The curriculum requires a minimum of five semesters. Application to the associate degree program must be made well in advance. Enrollment in the A.A. program is limited and not automatic on the basis of admission. Admission information may be obtained from the office of the Department of Nursing. Course work in the associate degree nursing program starts in the fall semester only.

The typical A.A. in Nursing schedule:

First Year		Credits
NSG	110*	Nursing I 8
CHEM	111**	Principles of Chemistry 3
CHEM	111L**	Laboratory 1
BCOM	120	College Reading 2
BCOM	110	Freshman Composition I 3
BIOL	221	Human Anatomy & Physiology 3
BIOL	221L	Laboratory 1
NSG	120*	Nursing II 9
BCOM	111	Freshman Composition II 3
BIOL	206	Bacteriology 3
BIOL	206L	Laboratory 1
NSG	200*	Nursing III Practicum 3
		40
Second Year		Credits
NSG	210*	Nursing IV 9
PSYCH	101	General Psychology 3
PSYCH	102	General Psychology II 3
PE	100	PE Orientation 2
SPCOM	101	Basic Speech Communication 2
NSG	220*	Nursing V 10
		Gen Ed Electives — Group I 2
		Gen Ed Electives — Group II 4
		35

*Clinical practicums are instructor-defined learning experiences for nursing students that deal with procedural fundamental nursing skills and extend to the complex nursing formulations necessary to implement the nursing process in hospital/ community health care settings.

**Should be taken in summer prior to entering AA program.

Bachelor of Science in Nursing Program

The Bachelor of Science in Nursing program is designed to prepare the Registered Nurse to function as a generalist in a variety of settings. The BSN program is NLN-accredited. Conceptual foci include application of the nursing process in a variety of complex and diverse situations, utilization of systems perspective in the analysis and synthesis of data, and expansion of professional skills in the areas of role development, leadership and nursing research, health promotion, ethnicity, and rural nursing. This curriculum requires a minimum of four semesters and is offered to Registered Nurses only. Full-time and part-time study may be planned. Students seeking admission to the program should meet with the departmental adviser to evaluate previous nursing and general education courses.

For specific information regarding admission and curriculum requirements, contact the Department of nursing.

The typical B.S. in Nursing schedule (last two years only):

Junior Year			Credits
NSG	298	Theoretical Foci of Nursing Practice	3
NSG	300	Nursing Process I	3
NSG	310*	Health Assessment	7
BIOL	341	Vertebrate Physiology	4
NSG	303*	Nursing Process II	3
NSG	311*	Community Health I	7
BIOL	342	Pathobiology	4
		Elective	3
			34
Senior Year			Credits
NSG	309	Research Process in Nursing I	2
NSG	406	Principles of Mental Health Nursing	3
NSG	411*	Community Health Nursing II	5
MATH	156	Statistics	3
NSG	402*	Leadership Dynamics	4
NSG	409	Research Process in Nursing II	2
NSG	405	Issues & Trends	2
NSG	412*	Clinical Nursing Synthesis	6
		Elective	3
			30

*Clinical practicums are instructor-defined learning experiences for nursing students that deal with procedural fundamental nursing skills and extend to the complex nursing formulations necessary to implement the nursing process in hospital/community health care settings.

Associate Degree Courses:

***NSG 110 Nursing I 8(4-12) F.** PRQ Admission to ADN Program or concurrent CHEM 111, 111L; BIOL 221, 221L.

Introduces concepts of wellness/illness, basic human needs, and the nurse as a member of the health team. Includes use of nursing process as means for application of scientific principles in nursing care. Emphasis on communications, assessment, and technical nursing skills. Provides guided experience in campus, and clinical laboratory setting.

NSG 115 Pharmacology in Nursing 2(2-0) F,S. PRQ NSG 110, BIOL 221, 221L.

General concepts of pharmacology, chemotherapy, toxicology, cardiovascular and endocrine drug effects.

NSG 117 Women, Health and Society 2(2-0) F,S.

Examines cultural, sociological and medical issues related to the role and status of women in society, and the relationship between these norms and health status. Content area includes 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) S.** PRQ NSG 110; CHEM 111, 111L; BIOL 221, 221L.

Includes maternal-infant and psychiatric-mental health nursing. Focuses on family involvement in the maternal-infant cycle. Emphasis on intrapersonal relationships and therapeutic use of self. Laboratory experiences included for both areas. NOTE: Each section must be passed separately to continue in course and program.

***NSG 200 Nursing III 3(1-6) S.** PRQ NSG 110, 120; CHEM 111, 111L; BIOL 221, 221L.

Guided experience for application of theoretical concepts of Nursing I and II. Emphasis is on components of the nursing process and nursing skills.

NSG 205 Perspectives on Professional Development for Nursing Practice 2(2-0) F,S. PRQ Second-year placement.

Includes issues in nursing which are significant to the RN entering practice. Discussion and experience will assist the student in decision-making related to entry into practice, determining and maintaining standards of practice, career planning, professional organizations and economic considerations.

***NSG 210 Nursing IV 9(5-12) F.** PRQ NSG 110, 120, 200; CHEM 111, 111L; BIOL 221, 221L; or concurrent BIOL 206, 206L.

Application of previously learned concepts to care for 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 individual in hospital and other agencies.

***NSG 220 Nursing V 10(4-18) S.** PRQ NSG 110, 120, 200, 210; CHEM 111, 111L; BIOL 221, 221L, 206, 206L.

Continued application of concepts and the nursing process in caring for adults and children. Complex health problems that interfere with basic human needs are studied. Information needed for transition from student to graduate is included. Clinical experience is provided.

NSG 295 Parent-Child Nursing 3(3-0). F,S. PRQ NSG 210.

Provides interested students with an in-depth view of content related to parent-child nursing practice. Major topic areas include fetal growth and development, labor and delivery, complications of pregnancy, family planning and childhood diseases. Emphasis is placed upon student preparation and presentation of a project related to course content and objectives.

Bachelor's Degree Courses:

NSG 298 Theoretical Foci of Nursing Practice 3(3-0) F,S. PRQ Approval of instructor.

Provides the theoretical foundation for students preparing for baccalaureate nursing education. Major course focuses include the development of scientific knowledge in nursing, the process of theory and role development, and examination of major theoretical and conceptual frameworks basic to nursing practice.

NSG 300 Nursing Process I 3(3-0). F,S. PRQ Admission to BSN program.

Introduces the RN student formally to the nursing process, both theoretically and in its application to client situations. Content includes concepts central to theoretical understanding and utilization of the nursing process and the phases of the nursing process.

NSG 303 Nursing Process II 3(3-0) F.S. PRQ NSG 298, 300.

Examines socio-cultural influences that affect man's health or behavior and explores conceptual tools and theories for affecting change. Emphasis is placed on application of the nursing process in ethnic contexts.

NSG 305 Ethical Issues in Nursing Practice 3(3-0) F.S. PRQ Approval of instructor.

Explores selected philosophical theories which influence ethical choice. The course identifies areas of the law and legal systems which affect the public health, and relates current ethical issues to nursing practice.

NSG 309 Research Process in Nursing I 2(2-0). F. PRQ NSG 300, MATH 156.

Provides an overview of the steps and procedures that make up the research process in nursing and identifies the interfaces between research and clinical nursing practice.

***NSG 310 Health Assessment 7(3-12) F.S. PRQ NSG 300 or concurrent, BIOL 341 or concurrent.**

Focuses on the nursing history, physical examination and socio-psycho-cultural aspects of assessing the individual throughout the life span.

***NSG 311 Community Health Nursing I 7(3-12) F.S.**

Synthesis of professional generalist nursing practice with a focus on families as the basic unit of society in a complex health care system. Family theories are clinically applied to client families utilizing the nursing process.

NSG 391 Special Topics (1-5 var) F.S. PRQ Approval of instructor.

Topics will be 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(3-3) F.S. PRQ Senior status.**

Focuses on the clinical application of leadership principles, decision-making skills and management of groups in nursing practice.

NSG 405 Professional Issues and Trends 2(2-0). S. PRQ Senior status.

Examines pertinent issues which influence nursing education and practice and its roles and functions within the changing health care systems. Course content focuses on preparation for practice, role definition, political issues, nursing as a profession and current health care trends.

NSG 406 Principles of Prevention in Mental Health Nursing 3(3-0). F. PRQ Senior status.

Reviews the literature related to primary prevention efforts in mental health from an interdisciplinary perspective. Particular emphasis is placed on the development of conceptual models for nursing practice based on analysis and application of this perspective in non-traditional mental health settings.

NSG 409 Research Process in Nursing II 2(2-0) S. PRQ NSG 309.

Examines the work of major nursing theorists in terms of nursing functions they imply, the kinds of hypotheses they would generate, and the kinds of research they would stimulate. Various aspects of the research process in nursing will be explored including design, methods of collecting and analyzing data, and interpretation of data.

***NSG 411 Community Health Nursing II 5(3-6) S. PRQ Senior status.**

Synthesis of professional generalist nursing practice with a focus on promotion of health in defined populations. Theories of communities are clinically applied to client populations including the analysis of multiple health care systems and rural health care settings.

***NSG 412 Clinical Nursing Synthesis 6(2-12) F.S. PRQ NSG 406.**

Emphasis is on the clinical synthesis and analysis of data in the areas of acute care, chronicity and rehabilitation. The nursing process will serve as the framework for the analysis and synthesis.

NSG 495 Independent Study (1-6 VAR).

Course designed for more in-depth applications of the nursing process in selected areas of nursing practice.

Philosophy

Dr. John Senatore, Head
Dept. of English/Philosophy
Department Office: P-230 Phone: 549-2173
Professors: Aichele, Driscoll, Nicholl

Instruction offered by the philosophy program is designed to help students understand and appreciate the great philosophic ideas and movements of the past and present, see these ideas in relation to their cultural setting, develop the ability to think, speak, and write in a clear and analytical manner, and begin to formulate a viable philosophy of life. In particular, we seek to meet the needs of four types of students:

1. Students 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. Students with primary interests in fields related to philosophy (such as politics, law, literature, etc.), 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. Students with a professional interest in philosophy who wish to go on to do graduate work in the field.
4. Students 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.

Bachelor of Arts Degree—Major Program

A. General Education Requirements.

The philosophy program encourages a more extensive general education background than the minimum required by the University. In particular, it is recommended (but not required) that the student schedule 9 hours in history, 6 hours in literature, and 6 hours in psychology. For foreign language requirements, see institutional requirements for the B.A. degree. In addition, work is encouraged in the following fields:

1. Art, music, speech communication and theatre.
2. Anthropology, political science, and sociology.
3. Biology, chemistry, physics, and mathematics.

B. Philosophy Requirements.

30 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 elements:

1. One introductory course: either Phil 100 or Phil 101.
2. Deductive Logic: Phil 205.
3. Three history courses: Phil 313, 314, 315.
4. Three area courses: Phil 220, 401, and 402.
5. Six hours of upper-division elective course work.

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.

The typical philosophy schedule:

Freshman Year			Credits
PHIL	100	Introduction to Plato	3
PHIL	101	Introduction to Problems in Philosophy	3
PHIL	105	Logic and Fallacies	3
PHIL	108	Philosophy of Religion: The Supernatural I	1
PHIL	109	Philosophy of Religion: The Supernatural II	1
PHIL	110	Philosophy of Religion: The Supernatural III	1
PHIL	121	Oriental Religions I, Indian: Hinduism & Buddhism	1
PHIL	122	Oriental Religions II, China & Japan	1
PHIL	123	Oriental Religions III, Lesser Asian Religions	1
BCOM	110/111/112	Freshman Composition I and II, College Reading	8
SPCOM	101	Basic Speech Communication	2
PE	100	PE Orientation	2
		GEN ED Electives in Natural Sciences & Math	3
		GEN ED Electives in Social Sciences	3
			33
Sophomore Year			Credits
PHIL	205	Deductive Logic	3
PHIL	220	Ethics and Values	3
PHIL	238	Business Ethics	3
PHIL	313	History of Philosophy I	3
		GEN ED Electives in Humanities	7
		GEN ED Electives in Social Science	7
		GEN ED Electives in Natural Sciences and Math	7
			33
Junior Year			Credits
PHIL	311	Aesthetics	3
PHIL	314	History of Philosophy II	3
PHIL	315	History of Philosophy III	3
PHIL	320	American Philosophy	3
PHIL	330	Advanced Philosophy of Religion	3
PHIL	401	Epistemology	3
PHIL	403	Philosophy of Science	3
		GEN ED Electives in Humanities	3
		Upper Division Electives Soc. Sci.	3
		Upper Division Electives Nat. Sci. & Math	3
			30

Senior Year			Credits
PHIL	237	Medical Ethics	3
PHIL	370	Political Thought	3
PHIL	325	Existentialism	3
PHIL	402	Metaphysics	3
PHIL	404	Philosophy of Education	3
PHIL	405	Philosophical Psychology	3
		Upper Division Electives in Humanities	6
		Upper Division Electives in Social Sciences	4
		Upper Division Electives in Natural Sciences & Math	4
			32

Minor Program

21 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	History of Philosophy I	3
PHIL	314	History of Philosophy II	3
PHIL	401	Epistemology	3
	or 402	Metaphysics	3
		Lower division electives in Philosophy	3
		Upper division electives in Philosophy	3

Courses:

Undergraduate:

PHIL 100 Introduction to Plato 3(3-0) F,S,SS.

An introduction to the world of philosophic ideas through a study of Plato. Course is aimed at relating Plato's views to contemporary issues. GEN.ED.IF.

PHIL 101 Introduction to Problems in Philosophy 3(3-0) F,S,SS.

An examination of some of the crucial problems of philosophy, with solutions to those problems from the major philosophers. GEN.ED.IF.

PHIL 103 Civilization 1(1-0) F.

This course will consist of Kenneth Clark's film series *Civilisation*. Fifteen 50-minute films exploring the notion of civilization particularly from the viewpoint of the humanities will be shown. GEN.ED.IF.

PHIL 105 Logic and Fallacies 3(3-0) F,S,SS.

A study of the 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) F,S,SS. GEN.ED.IF.

PHIL 109 Philosophy of Religion: The Supernatural II: Life after Death, Ghosts, Reincarnation, Etc. 1(1-0) F,S,SS. GEN.ED.IF.

PHIL 110 Philosophy of Religion: The Supernatural II: ESP, Miracles, Faith Healing, Etc. 1(1-0) F,S,SS. GEN.ED.IF.

PHIL 121 Oriental Religions I, India: Hinduism & Buddhism, 1(1-0) F. GEN.ED.IF.

PHIL 122 Oriental Religions II, China & Japan: Taoism, Confucianism & Shinto 1(1-0) F. GEN.ED.IF.

PHIL 123 Oriental Religions III, Lesser Asian Religions: Zoroastrianism, Jainism, Islam, Sikhism & Zen 1(1-0) F. GEN.ED.IF.

PHIL 205 Deductive Logic 3(3-0) F,S.
Specialized emphasis on the methods and principles used to distinguish "good" from "bad" deductive reasoning patterns. Useful for student in mathematics-related fields. GEN.ED.IF.

PHIL 220 Ethics and Values 3(3-0) F,S.
Representative ethical theories designed to introduce the student to competing conceptions of value and obligations and to encourage development of an evolving personal value system. GEN.ED.IF.

PHIL 237 Medical Ethics 3(3-0) S.
A study of current problems of medical ethics such as experimentation on humans, genetic counseling, right to die, abortion, allopathic medicine, etc.

PHIL 238 Business Ethics 3(3-0) F.
A study of the main problems of business ethics.

PHIL 291 Topics (1-3 VAR) F,S.
Special topics and/or authors of philosophical interest will be studied. May be repeated for 12 credits maximum.

PHIL 311 Aesthetics 3(3-0) S. PRQ Previous work in philosophy or a strong background in fine arts.
Beauty and creation — appreciation and criticism of works of art.

PHIL 313 History of Philosophy I 3(3-0) F,S.
Greek, Latin, and Medieval philosophy.

PHIL 314 History of Philosophy II 3(3-0) F,S.
Study of 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) F,S.
The later modern period in philosophy beginning with Kant and proceeding to the beginning of the 20th Century.

PHIL 320 American Philosophy 3(3-0) F.
A study of Pragmatism, through such representative American philosophers as Dewey, Peirce, James, and Santayana.

PHIL 325 Existentialism 3(3-0) S. PRQ Previous work in philosophy or upper-class status.
Basic writings of major existentialist thinkers treating subjectivity, estrangement, hostility, freedom, love, death, absurdity, mystical experience, revolt.

PHIL 330 Advanced Philosophy of Religion 3(3-0) S. PRQ Some previous course work in philosophy.
Basic problems of religious philosophy. Treatment is on a more advanced level than in PHIL 108, 109 and 110.

PHIL 370 Political Thought 3(3-0) S. PRQ 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. (May be taken as Pol Sci 370)

PHIL 401 Epistemology 3 (3-0) F. PRQ PHIL 205, 313, and 314.
A study of the philosophic principles relevant to various claims "to know."

PHIL 402 Metaphysics 3(3-0) F. PRQ PHIL 313 and 314.
Ontology, cosmology, space, time, substance, change, freedom, and other topics of metaphysics.

PHIL 403 Philosophy of Science 3(3-0) S. PRQ PHIL 205 or a strong background in experimental science.
A consideration of the logical structure of scientific knowledge.

PHIL 404 Philosophy of Education 3(3-0) S.
Course focuses on the study and comparison of several major theories of education. Special emphasis on the contributions of John Dewey in American Education.

PHIL 405 Philosophical Psychology 3(3-0) S.
A philosophical study of the concept of mind, of human consciousness, of such mental phenomena as emotions, and of the dynamics of how we think.

PHIL 410 Ethics in Technology 3(3-0) S.
Scrutiny of technological society from ethical standpoint. Covers human machine relations, limits of progress, leisure for the masses.

PHIL 491 Topics (1-3 VAR) F,S.
Special topics and/or authors of philosophical interest will be studied. May be repeated for 12 credits maximum. Approach more advanced than in PHIL 291.

PHIL 495 Independent Study (1-3 VAR) F,S. PRQ Senior status and consent of instructor.
Specialized study of selected persons, ideas, schools, historical trends or problems in philosophy. May be repeated for credit.

Graduate:
PHIL 504 Philosophy of Education 3(3-0) F,S. PRQ Graduate standing.
Course focuses on study and comparison of several major theories of education. Special emphasis on contributions of John Dewey in American education. Individual studies in greater depth required of graduate student.

PHIL 505 Advanced Philosophical Psychology 3(3-0) F,S. PRQ Graduate standing.
An advanced philosophical study of the concept of mind, of human consciousness, of such mental phenomena as emotions, and of the dynamics of how we think.

Physical Education

Dr. M. Kay Aguilar, Head
Departmental Office: 201 Massari Gym Phone: 549-2381
Professors: Banks, Barnes, Blasing, Cranmer, Haering, Jacobs, Klunksiek, Larkin, McIntosh, Muhic, Stutters

The Department of Physical Education and Recreation offers majors in physical education and recreation; and minors in physical education, coaching and recreation.

The professional preparation leading to a Bachelor of Science degree in physical education provides programs with the endorsements in elementary, secondary or K-12. Certification requirements may be accomplished by completing a physical education program listed below and the professional education requirements of the state. See "Specialist Programs" under the Department of Education.

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 department head.

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 department head.

Major in Physical Education

I Required Core Courses: (26 Hours)		Credits
PE	232	First Aid.....2
PE	233	Introduction and History of HPE&R.....3
PE	235	Principles of PE.....2
PE	322	Elementary School PE.....2
PE	342	Training Room Methods.....2
PE	343	Tests & Measurements in PE.....2
PE	364	Kinesiology.....2
PE	378	Principles & Techniques of Teaching PE.....2
PE	442	Physiology of Exercise.....2
PE	451	Officiating.....2
PE	461	Organization & Administration of HPE&R.....3
PE	465	Adaptive PE.....2
II Other Required Courses		
PE	290	Student Assistant.....2
PE	390	Two elective courses approved by the student's adviser.....4

Elementary Physical Education (45 Hours)

Methods Courses (13 Hours) (must acquire a grade of C or better)		Credits
PE	242	Skills & Techniques of Perceptual Motor and Self Testing Activities.....3
PE	243	Skills & Techniques of Rhythmic Activities.....1
PE	244	Skills & Techniques of Soccer, Volleyball, Track and Basketball.....3
PE	245	Skills & Techniques of Weight Training, Circuit Training and Self Defense.....2
PE	247	Skills & Techniques of Gymnastics, Tumbling and Apparatus.....2
PE	249	Skills & Techniques of Elementary Activities.....2

Secondary Physical Education (48 Hours)

Methods Courses (16 Hours) (must acquire a grade of C or better)		Credits
PE	242	Perceptual Motor and Self Testing Activities.....3
PE	243	Skills & Techniques of Rhythmic Activities.....1
PE	244	Skills & Techniques of Soccer, Volleyball, Track and Basketball.....3
PE	245	Skills & Techniques in Weight Training, Circuit Training and Self Defense.....2
PE	246	Skills & Techniques of Softball, Bowling, Handball or Racketball.....2
PE	247	Skills & Techniques in Tumbling, Gymnastics and Apparatus Activities.....2
PE	248	Skills & Techniques of Badminton & Archery.....1
PE	250	Skills & Techniques of Recreational Sports.....2

K-12 Physical Education (50 Hours)

Methods Courses (18 Hours) (must acquire a grade of C or better)		Credits
PE	242	Perceptual Motor and Self Testing Activities.....3
PE	243	Skills & Techniques of Rhythmic Activities.....1
PE	244	Skills & Techniques of Soccer, Volleyball, Track and Basketball.....3
PE	245	Skills & Techniques in Weight Training, Circuit Training and Self Defense.....2
PE	246	Skills & Techniques of Softball, Bowling, Handball or Racquetball.....2
PE	247	Skills & Techniques in Tumbling, Gymnastics & Apparatus Activities.....2
PE	248	Skills & Techniques of Badminton & Archery.....1
PE	249	Skills & Techniques of Elementary Activities.....2
PE	250	Skills & Techniques of Recreational Sports.....2

The following schedule is typical for the physical education major who wishes to be certified to teach kindergarten through twelfth grade.

Freshman Year		Credits
SPCOM	101	Basic Speech Communication.....2
BCOM	110/111	Freshman Comp I & II.....6
BCOM	120	Developmental Reading.....2
PSYCH	101	General Psychology I.....3
PSYCH	102	General Psychology II.....3
PE	100	Physical Education Orientation.....2
PE	232	First Aid.....2
PE	233	Introduction & History of HPE&R.....3
PE	235	Principles of Physical Education.....2
PE	242	Skills & Tech of Percept Motor Training.....3
PE	243	Skills & Tech of Rhythmic Activities.....1
PE	244	Skills & Tech Soc. Vlybal, Trk, and Baskt.....3
PE	248	Skills & Tech of Badminton and Archery.....1
ED	102	Teaching as a Career.....1
		34
Sophomore Year		Credits
BIOL	221/221L	Human Anatomy and Physiology.....4
SPCOM	211	Public Speaking.....2
PE	245	Skills & Tech. Wgt. Trng., Circ. Trng., Self-Def.....2
PE	246	Skills & Tech. Softball, Bowling and Racquetball.....2
PE	247	Skills & Tech. Gymnastics, Tumbling & Apparatus.....2
PE	249	Skills & Tech. of Elementary Activities.....2
PE	250	Skills & Tech. of Recreation Sports.....2
PE	290	Student Assistant.....1
ED	202	Foundations of Education.....3

ED	210	Human Growth & Development for Educators...	3
RDG	201	Teaching & Language Arts in Elementary School	4
		General Education	6
			33
			Credits
Junior Year			
PE	322	Elementary School Physical Education	2
PE	342	Training Room Methods	2
PE	343	Tests & Measurements in Physical Education	2
PE	364	Kinesiology	2
PE	378	Principles and Techniques of Teaching PE	2
BBE	405	Education Across Cultures	2
IED	345	Career Education	2
PSYCH	351	Psychology of the Exceptional Individual	3
ED	435	Middle/Jr. and Sr. High School General Education	4
PE	390	Student Assistant	12
			1
			34
			Credits
Senior Year			
ED	416 or 460	Education Lab	3
PE	442	Physiology of Exercise	2
PE	451	Officiating	2
PE	461	Organization & Administration of HPE&R	3
PE	465	Adaptive Physical Education	2
PE	471/472/ 473/482/		
	483	Coaching (Select two courses)	4
ED	499	Student Teaching K-12	15
			31

Variations of this schedule exist for Physical Education major tracks Kindergarten through Sixth Grade and Seventh through Twelfth Grade. The assigned adviser will inform students of these differences.

Courses:

Undergraduate:

PE 100 Physical Education Orientation 2(1-1) F,S.

A 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) F,S.

PE 102L Flag Football 1(0-2) F.

PE 103L Tumbling & Gymnastics 1(0-2) F.

PE 104L Personal Fitness 1(0-2) F,S.

PE 105L Soccer 1(0-2) F.

PE 106L Softball 1(0-2) S.

PE 107L Scuba Diving 1(0-2) F,S.

PE 108L Windsurfing 1(0-2) F,S.

PE 109L Volleyball 1(0-2) F,S.

PE 110L Weight Training 1(0-2) F,S.

PE 111L Wrestling 1(0-2) S.

PE 114L Self Defense 1(0-2) F,S.

PE 115L Yoga 1(0-2) F,S.

PE 116L Camping 1(0-2) F.

PE 117L Backpacking 1(0-2) F.

PE 118L Jogging 1(0-2) F,S.

PE 120L Rhythmic Aerobics 1(0-2) F,S.

PE 121L Mexican Folk Dance 1(0-2) F,S.

PE 150L Archery 1(0-2) F,S.

PE 152L Field Hockey 1(0-2) F.

PE 153L Figure Fixers 1(0-2) F,S.

PE 154L Tumbling & Gymnastics 1(0-2) F.

PE 157L Elementary Swimming 1(0-2) F.

PE 166L Badminton 1(0-2) S.

PE 167L Bowling 1(0-2) F,S.

PE 168L Contemporary Dance 1(0-2) F,S.

PE 170L Golf 1(0-2) F,S.

PE 173L Social Dance 1(0-2) S.

PE 174L Tennis 1(0-2) F,S.

PE 175L Racquetball 1(0-2) F,S.

PE 176L Advanced Life Saving 1(0-2) S.

PE 177L Marksmanship 1(0-2) F,S.

PE 178L Karate 1(0-2) F,S.

PE 179L Intercollegiate Gymnastics 2(0-15) S.

PE 180L Intercollegiate Volleyball 2(0-15) F.

PE 181L Intercollegiate Baseball 2(0-15) S.

PE 182L Intercollegiate Basketball 2(0-15) S.

PE 183L Intercollegiate Cross Country 2(0-15) F.

PE 184L Intercollegiate Football 2(0-15) F.

PE 185L Intercollegiate Golf 2(0-15) S.

PE 186L Intercollegiate Tennis 2(0-15) S.

PE 187L Intercollegiate Track and Field 2(0-15) S.

PE 188L Elementary Physical Conditioning 2(0-15) F,S.

PE 203L Gymnastics & Apparatus 1(0-2) S.

PE 204L Fitness for Life 2(0-4) S.

A course designed to provide physical fitness information and training for life. Extensive physical fitness activities with special emphasis on cardiovascular adaptation are included in the course.

PE 209L Specialized Physical Rehabilitation 2(0-2) F,S.

A course designed specifically to meet the needs of people suffering from a physical affliction.

PE 231 Cardiopulmonary Resuscitation 1(1-0) F,S.

The study of the technique of applying a combination of artificial respiration and artificial circulation in the event cardiac arrest occurs.

PE 232 First Aid 2(2-0) F,S.

Knowledge and skills in the latest approved First Aid procedures. Advanced Red Cross Certification.

PE 233 Introduction and History of HPE&R 3(3-0) F,S.

A study of the history and philosophies of physical education and recreation and their influences upon contemporary American society.

PE 235 Principles of Physical Education 2(2-0) F,S.

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) F,S.

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) F,S.

A course designed to develop programs in the basic fundamentals of folk, square and social dance with 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) F,S.

A study of the basic skills and techniques of basketball, soccer, volleyball, track and field with emphasis on the organization and teaching procedures of these activities.

PE 245 Skills and Techniques of Teaching Weight Training, Circuit Training and Self Defense 2(2-0) F,S.

A study of the basic skills and techniques of self defense, weight training, and circuit training with emphasis on teaching procedures.

PE 246 Skills and Techniques of Teaching Softball, Bowling, Handball or Racquetball 2(2-0) F,S.

A study of the basic skills and techniques of softball, bowling, handball, or racquetball with emphasis on planning, organization, and teaching procedures.

PE 247 Skills and Techniques of Teaching Tumbling, Gymnastics and Apparatus Activities 2(2-0), PRQ PE 154.

A study of the basic skills and techniques of tumbling, gymnastics and apparatus activities with emphasis on spotting and teaching procedures.

PE 248 Skills and Techniques of Teaching Badminton and Archery 1(1-0) F,S.

Techniques of teaching basic skills in badminton and archery with consideration of equipment, organization and strategy.

PE 249 Skills and Techniques of Teaching Elementary Activities 2(2-0) F,S.

A course introducing the student to low organization on games and enrichment activities appropriate for the elementary and physical education curriculum with emphasis on teaching procedures.

PE 250 Skills and Techniques of Teaching Recreation Sports 2(1-2) F,S. PRQ PE 174L.

A study of the skills and techniques of golf and tennis with emphasis on organization and teaching procedures in these activities.

PE 254L Gymnastics and Apparatus 1(0-2) S.**PE 276L Water Safety Instructor Certification 2(0-2) S.**

Water Safety Instructor Certification may be earned in this course.

PE 279L Intercollegiate Gymnastics 2(0-15) S.**PE 280L Intercollegiate Volleyball 2(0-15) F.****PE 281L Intercollegiate Baseball 2(0-15) S.****PE 282L Intercollegiate Basketball 2(0-15) S.****PE 283L Intercollegiate Cross Country 2(0-15) F.****PE 284L Intercollegiate Football 2(0-15) F.****PE 285L Intercollegiate Golf 2(0-15) S.****PE 286L Intercollegiate Tennis 2(0-15) S.****PE 287L Intercollegiate Track and Field 2(0-15) F,S.****PE 288L Advanced Physical Conditioning 2(0-15) F,S.****PE 290L Student Assistant 1(0-2) F,S.****PE 291L Special Topics (1-5 Var) F,S.**

A course designed for specific and unique topics which are not a part of the continuing curriculum.

PE 322 Elementary School Physical Education 2(2-0) F,S.

A study of the mental, emotional, social and physical needs of elementary school age children and the planning of programs, selection of materials, and methods of teaching physical education at this level.

PE 342 Training Room Methods 2(2-0) F. PRQ BIOL 221, 221L.

A study of the procedures to be utilized in the prevention, care, and treatment of athletic injuries.

PE 343 Tests and Measurements in Physical Education 2(2-0) F,S.

A study of modern testing programs in physical education with emphasis on the preparation and administration of both written and skills test.

PE 364 Kinesiology 2(1-0) F,S. PRQ BIOL 221, 221L.

A study of the fundamental body movements and the primary muscles involved in those movements.

PE 378 Principles and Techniques of Teaching Physical Education Activities 2(2-0) F,S.

A classroom course used to identify and examine methods in teaching of physical education activities.

PE 390L Student Assistant 1(0-2) F,S.**PE 442 Physiology of Exercise 2(2-0) F,S. PRQ BIOL 221, 221L.**

A study of the effects of muscular activity on the various organs and systems of the body with an analysis of intramuscular and extramuscular adaptations which occur with training.

PE 451 Officiating 2(2-0) F.

General principles and philosophies of officiating and a study of the mechanics involved in the officiating of interscholastic sports.

PE 461 Organization and Administration of HPE&R 3(3-0) F,S.

A study of the 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) F,S. PRQ BIOL 221, 221L

A study of remedial and corrective programs in physical education with emphasis given to the various diseases and injuries which cause individuals to require special attention above and beyond the regular physical education program.

PE 471 Coaching Football 2(2-0) F.

The techniques and strategy of coaching football.

PE 472 Coaching of Basketball 2(2-0) F.

The techniques and strategy of coaching basketball.

PE 473 Coaching of Track, Field and Cross Country 2(2-0) S.

The techniques and strategy of coaching track and field.

PE 474 Coaching of Gymnastics 2(2-0) S.

A theory course designed for physical education major and minor students and coaching minors with emphasis being placed on the techniques of coaching gymnastics.

PE 482 Coaching of Wrestling 2(2-0) S.

The techniques of strategy of coaching wrestling.

PE 483 Coaching of Baseball 2(2-0) S.

The techniques and strategy of coaching baseball.

PE 491 Special Topics (1-5 VAR) F,S.

A study and/or activity designed to increase understanding in areas not covered by the regular offerings in the physical education department.

PE 495 Independent Study in Physical Education (1-5 VAR) F,S. PRQ Approval of departmental chairman.

Individual research, directed reading and/or special assignments under the supervision of a member in the department.

PE 497 Field Experience in Physical Education (1-5 VAR) F,S. PRQ Approval of departmental chairman.

A learning experience to be conducted in the actual environment and supervised by the physical education department.

PE 499 Workshop in Physical Education (1-5 VAR) F,S. PRQ Approval of departmental chairman.

An accelerated course offered in large blocks of time not corresponding to the weekly meeting times of the regular course offerings.

Graduate:

PE 522 Elementary School Physical Education 2(2-0) F,S.

An advanced course in the study of mental, emotional, social and physical needs of elementary school age children with emphasis on the planning of programs, selection of materials and methods of teaching physical education at this level.

PE 591 Special Topics (1-5 VAR) F,S. PRQ Approval of departmental chairman.

A graduate level study and/or activity designed to increase understanding in areas not covered by the regular offerings in the physical education department.

PE 599 Workshop in Physical Education (1-5 VAR) F,S. PRQ Approval of department chairman.

A graduate learning experience in physical education offered in large blocks of time not corresponding to the weekly meeting times of regular course offerings.

Physics/Physical Science

Dr. Robert K. Smith, Head

Departmental Office: PM 201 Phone: 549-2542

Professors: Bard, Graham, Spenny, Watkins

The University offers BS degree programs 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 advisor 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.

A student graduating with a BS in physics must have at least a 2.0 grade point average in the major area of study. However only 4 credits below C in physics will be accepted toward the major. 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.

A student must have earned a C or better grade in lower division prerequisite courses before being admitted to upper division courses in physics.

Bachelor of Science Degree

The Bachelor of Science Degree in physics is offered with five options.

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 credits in physics (PHYS 221, 222, 301, 321, 322, 323, 331, 341, 342, 499), 37 credits in engineering and technical courses, plus supporting courses in mathematics and chemistry.

A typical schedule for Option I:

Freshman Year		Credits
MATH	126/224	Calculus and Analytic Geometry 9
EN	106	Computer Programming 3
PHYS	221	General Physics I 5
EN	107	Engineering Graphics 2
CHEM	221/221L	Engineering Chemistry 5
BCOM	110/111	Freshman Composition I and II 6
PE	100	Physical Education 2
Sophomore Year		Credits
PHYS	222/323	General Physics II and III 10
MATH	325	Intermediate Calculus 4
MATH	337	Differential Equations I 3
EN	231/232	Circuit Analysis 8
EN	251/252	Electrical Engineering Lab 2
BCOM	120	College Reading 2
SPCOM	101	Basic Speech Communication 2
		General Education 3
Junior Year		Credits
PHYS	301	Theoretical Mechanics 4
PHYS	321/322	Thermodynamics 4
PHYS	331	Electricity & Magnetism 4
PHYS	341/342	Optics 4
		Engineering & Technical Electives 9
		General Education 8
Senior Year		Credits
PHYS	499	Senior Research 1
		Engineering and Technical Electives 13
		General Education 9
		Electives 6

II. Physics

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, 222, 301, 321, 322, 323, 331, 332, 341, 342, 441, 499) plus supporting courses in mathematics (including at least one course from among MATH 281, 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 either chemistry, geology, biology or mathematics and 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 32 credits in physics, supporting courses in mathematics and chemistry, plus education courses needed for teacher certification. A typical schedule for Option IV:

Freshman Year			Credits
MATH	126/224	Calculus and Analytical Geometry	9
MATH	240/241	Computer Programming	3
PHYS	110	Astronomy	3
PHYS	221	General Physics I	5
PSYCH	101/102	General Psychology	4
ED	102	Teaching as a Career	1
BCOM	120	College Reading	2
PE	100	Physical Education	2
Sophomore Year			Credits
PHYS	222/323	General Physics II and III	10
MATH	325	Intermediate Calculus	4
MATH	337	Differential Equations I	3
ED	202	Foundations of Education	3
ED	210	Human Growth and Development	3
SPCOM	101	Basic Speech Communication	2
RDG	202	Reading in the Middle/Jr. Sr. High School	2
		General Education	6
Junior Year			Credits
PHYS	301	Theoretical Mechanics	4
PHYS	331	Electricity and Magnetism	4
PSYCH	351	Psychology of the Exceptional Individual	3
BBE	405	Education Across Cultures	2
IED	445	Career Education	2
CHEM	121/121L	General Chemistry I	5
CHEM	122/122L	General Chemistry II	5
GEOL	101	Earth Science	3
		General Education	4
Senior Year			Credits
ED	461	Working with Individual Differences	2
PHYS	377	Materials and Techniques for Teaching Physics	3
PHYS	341/342	Optics	4
		General Education	6
		Professional Education Semester	17

Under Options I, II, III, and IV the recommended sequences of courses presumes 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 50 credits in physical science (i.e., physics, geology, chemistry and supporting courses in biology with a 20 credit emphasis in one discipline), 10 credits in mathematics, plus courses needed for teacher certification.

Minor

			Credits
PHYS	221	General Physics I	5
PHYS	222	General Physics II	5
PHYS	323	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.

Courses:

Undergraduate:

PHYS 100 Physical Science 3(2-2) F,S.

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 110 Elementary Descriptive Astronomy 3(3-0) F,S.

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 Health Sciences 4(3-2) S. PRQ MATH 105 or equivalent.

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 130 Physics for Everybody (1-3 VAR) F,S.

A set of one-credit minicourses on special interest topics in physics. Students may choose one, two or three five-week modules matching their interests and needs. GEN.ED.IIIF.

PHYS 201 Principles of Physics I 4(3-2) F. PRQ MATH 120 or equivalent.

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 202 Principles of Physics II 4(3-2) S. PRQ PHYS 201.

Electrostatics, electromagnetism, light, atomic and nuclear physics. GEN.ED.IIIF.

PHYS 221 General Physics I 5(4-2) S. PRQ or COREQ MATH 126.

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 222 General Physics II 5(4-2) F. PRQ PHYS 221.

Electrostatics, electromagnetism, elementary circuits, electrical oscillations, geometrical optics and the wave aspects of light. GEN.ED.IIIF.

PHYS 291 Topics in Physics (1-4 VAR) F,S.

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) F. PRQ 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. Offered every Fall.

PHYS 321 Thermodynamics 3(3-0) F. PRQ PHYS 221.

Introduction to energy equations and flows, entropy, kinetic theory and statistical mechanics. Same as EN 321. Offered every Fall.

PHYS 322 Advanced Laboratory-Heat 1 (0-2) F. PRQ or COREQ PHYS 321.

Experiments in heat of combustion, heat transfer, thermal electromotive force, viscosity, and specific heat measurements. Offered every Fall.

PHYS 323 General Physics III 5(4-2) S. PRQ PHYS 222 and MATH 224.

Introduction to special relativity, kinetic theory, quantization, wave mechanics, atomic structure and spectroscopy.

PHYS 331 Electricity and Magnetism 4(4-0) S. PRQ PHYS 222, MATH 325 and MATH 337.

Mathematical treatment of electrostatics, currents, magnetism, electromagnetic induction, Maxwell's equations, and electrodynamics. Offered odd years only.

PHYS 332 Advanced Laboratory-Electricity and Magnetism 1(0-2) S. PRQ or COREQ PHYS 331.

Experiments in electrostatic constants, magnetic effects, capacitance, thermoelectric effects, magnetic properties, inductance, mutual inductance, and production, propagation and diffraction of microwaves. Offered odd years only.

PHYS 341 Optics 3(3-0) S. PRQ PHYS 222, MATH 325 and MATH 337.

Geometrical optics, interference, diffraction, polarization of light, optical properties of materials, optical sources including lasers, and holography. Offered even years only.

PHYS 342 Advanced Laboratory-Optics 1(0-2) S. PRQ or COREQ PHYS 341.

Experiments in interference, diffraction, absorption, spectral characteristics, and polarization of light. Offered even years only.

PHYS 361 Physics of Sound 3(3-0) F. PRQ MATH 105 or equivalent.

Sound waves, sources of sound, physics of hearing, acoustical measurements. For speech correction majors and other interested students. Offered even years only.

PHYS 377 Materials and Techniques of Teaching Physics/Physical Science 2(2-0) F.

Instruction and experience in preparing for and conducting discussion sessions and laboratory exercises in secondary school physics/physical science. Taught in conjunction with ED 377.

PHYS 441 Quantum Mechanics 4(4-0) S. PRQ PHYS 323, MATH 325 and MATH 337.

Wave packets, operators, the Schrodinger equation, eigenstates, angular momentum, spin, magnetic moments, Heisenberg formulation. Offered even years only.

PHYS 480 Practicum in Laboratory Instruction 1(0-3) F,S.

Participation in laboratory instruction under the guidance of a staff member. May be repeated for a maximum of two credits.

PHYS 491 Topics in Physics (1-4 VAR) F,S.

Meets the needs of special interest groups. Content and credit must be approved by the department. Offered on demand.

PHYS 495 Independent Study (1-2 VAR) F,S.

For academically strong juniors and seniors only. Each student must choose a supervising professor and obtain approval by the department.

PHYS 498 Senior Colloquium 1(1-0) F,S. PRQ Advanced standing with a major or minor in physics.

Class members will report on recently published work or on their own research in physics or applied physics.

PHYS 499 Senior Research 1(0-3) F,S.

The student conducts research under the guidance of a staff member. May be repeated for a maximum of two credits.

Graduate:

PHYS 501 Science for Elementary Teachers 3(3-0) SS.

Seminar/Laboratory course emphasizing elementary school science pedagogy; includes new science programs, utilization of teaching materials, program implementation.

Political Science

Dr. Lawrence E. Daxton, Director
Center for Humanistic Policy Studies
Center Office: P-118 Phone: 549-2417
Professors: Bond, Eberling, Love

The political science program is designed to prepare individuals at the undergraduate level for para-professional 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.

Bachelor's Degree Requirements

Thirty hours, as approved by your adviser, in the area of political science including American National Politics, Comparative Politics, an introductory method course, Modern Political Theory, and the Seminar in Methodology for Majors.

Electives are selected in accordance with one of four basic course orientations in political science: (1) preparation for a career in public service, (2) paralegal and pre-law training, (3) political party and interest group activity and (4) graduate school preparation.

Departmental recommendations include either one year of foreign language or courses in statistics, depending on the student's interests and goals.

General Major

Freshman Year		Credits
POLSC	101 American National Politics	3
POLSC	100- Level Electives	6
BCOM	10
PE	100 Orientation	2
	General Education Groups I, II, & III	12
		33
Sophomore Year		Credits
POLSC	201 Comparative Politics	3
or		
POLSC	202 Politics of Developing Nations	3
POLSC	200 Research Methods	2
or		
POLSC	290 Legal Research Methods	2
or		
POLSC	295 Computer Method	1
POLSC	200	
or 300 —	Level Electives	6
	General Education Groups I, II, & III	18
	Other Electives	3
		31-32

Junior Year		Credits
POLSC	300 — Level Electives	6
	Electives — upper division	27
		33
Senior Year		Credits
POLSC	370 Political Thought	3
POLSC	490 Seminar for Majors	3
POLSC	480 Practicum and other upper division courses	26
		32

Courses:

POLSC 100 The Study of Politics 3(3-0) F,S.

Basic concepts, principles and approaches used in the study of political institutions and behavior. Emphasis on individual opportunities to influence political decision-making processes. GEN.ED.IIC.

POLSC 101 American National Politics 3(3-0) F,S.

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) F,S.

Behavioral aspects, government organization and interrelationships of state and local politics, relations with federal government and other states. Special attention paid to Colorado government. GEN.ED.IIC.

POLSC 103 Techniques of Analysis 4(3-2) F,S.

An introduction to the methods of scientific investigation in the social sciences.

POLSC 150 The Human Experience 3(3-0) F,S,SS.

Human efforts to organize societal activity and relationships for group development and survival through political, economic, and social institutions. GEN.ED.IIC.

POLSC 200 Research in History and Liberal Arts 2(2-0) F.

The content of the course will enhance the general knowledge of all students by providing the necessary skills to evaluate historical data. In addition, the emphasis on writing and evaluation of evidence will aid students in understanding the complexities of the modern era by comparison with past historic events. GEN.ED.IIC.

POLSC 201 Comparative Politics 3(3-0) F.

Introduction to comparative political analysis through the study of selected political systems. Emphasis on basic political functions and processes in developed countries. GEN.ED.IIC.

POLSC 202 Politics of Developing Nations 3(3-0) S.

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 250 International Relations 3(3-0) F.

Analysis of international political behavior and organization. Comparison of national power, goals, and politics. GEN.ED.IIC.

POLSC 281 Topics (1-3 VAR) F,S.

Independent study involving research and seminars.

POLSC 290 Legal Research Method 2(2-0) F.

Introduction to the basic reference materials of legal investigation and research. Use of law libraries, interpretation of statutes and judicial decisions, case brief preparation.

POLSC 295 Computer Method 1(1-0) F.

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 300 Public Opinion and Elections 3(3-0) F.

Analysis of forces shaping socio-political attitudes. Basic techniques used to measure and manage these attitudes. Expression in voting behavior and patterns.

POLSC 301 Political Parties and Pressure Groups 3(3-0) F. PRQ Previous work in political science.

History, organization and functions of party politics and pressure group activity with special emphasis on American political processes.

POLSC 321 American Constitutional Development 3(3-0) F. PRQ 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) S. PRQ POLSC 101 or HIST 202.

Intensive survey of American constitutional law involving the analysis and consideration of major Supreme Court decisions, and the development of basic constitutional principles.

POLSC 323 Criminal Law and Procedure 3(3-0) S. PRQ 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) S. PRQ POLSC 101.

Survey of the legal issues concerning domestic relations as developed by Supreme Court decisions and legislative enactments.

POLSC 330 Introduction to Public Service 3(3-0) S.

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) S. PRQ POLSC 330.

Problems of public policy analysis in decision-making processes. Techniques of assessing policy alternatives toward selection of effective governmental programs.

POLSC 360 Urban Government and Politics 2(2-0) S.

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) S. PRQ Previous work in political science or philosophy. May also be taken as PHIL 370.

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) S.

Organization, function, and process of American legislatures at national, state and local levels. Party organization, legislative procedures, lobbying and legislative re-organization.

POLSC 421 Public Organization and Management 3(3-0) S.

Functions of public administrators; theory and practical application of management and organization concepts; development of skills in analyzing organizational and management systems in public agencies.

POLSC 435 Micropolitics 2(2-0) F.

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) S.

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) F.

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) F,S,SS.

Provides advanced students with practical experience as interns with a governmental agency, political party or interest group. Research thesis program on an individual basis.

POLSC 481 Topics (1-3 VAR) F,S. PRQ Junior or senior status with adequate preparation and approval of instructor.

Independent study involving seminars and research.

POLSC 490 Seminar for Majors in Political Science (1-3 VAR) F,S.

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 Placements (1-4 VAR) F,S,SS. PRQ 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. Twelve credits maximum allowed toward graduation.

Psychology

Dr. Dunstan J. Wack, Director

Center for Psychology and Mental Health

Center Office: P-167 Phone: 549-2719

Professors: Cameron, Gardner, Gorden, Hearn, Hobbs, Krinsky, R., Mengeny, Mo, Schnur, Snowden.

The psychology major contains 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:

PSY	101-102	General Psych	6
PSY	201	Data Analysis	4
PSY	333	Experimental Psych	4
PSY	381	Prin. of Psych Test	4
PSY	401	Hist & System	3

In addition to this group, one course is selected from each of the following general areas: developmental, clinical, experimental, (9 hours, approximate).

30

All majors should work with their adviser in deciding what elective courses to take, since the student's specific goals dictate the necessary background for a successful career.

A minor in psychology requires not less than 20 semester credit hours taken in logical sequence as determined by the student and the psychology adviser.

A typical psychology schedule:

		Credits	
Freshman Year			
PSYCH	101, 102	General Psych I, II	6
BCOM	110, 111	Freshman Comp I	6
BCOM	120	College Reading	2
		Speech Comm	3
		General ED Group I	3
		General Ed Group II	4
		General Ed Group III	3
PE	100	PE Orientation	2
		General Electives	4
		33	
Sophomore Year			
PSYCH	201	Data Analysis	4
		Develop. Requirement	3
		Psych Electives	3
		General Ed I	7
		General Ed II	4
		General Ed III	3
		General Electives	8
		32	
Junior Year			
PSYCH	333	Experimental Psych	4
		Experimental Requirement	3
	381	Principles of Psych Test	4
		Psych Electives	4
		General Ed II	3
		General Ed III	4
		General Electives	12
		34	
Senior Year			
PSYCH	401	History & Systems	3
		Clinical Requirement	3
		Psych Electives	8
		General Electives	19
		32	

Courses:

Undergraduate:

PSYCH 101 General Psychology I 3(3-0) F,S,SS.

Contents include history and systems, neurology, cognition, emotion, selection and the laws of heredity, learning and motivation. Laboratory experiences are provided where appropriate. GEN.ED.IIA.

PSYCH 101L General Psychology I Lab 1(0-2) F. CORQ 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) F,S,SS.

A survey of the various fields of psychology: personality, social psychology, abnormal psychology, psychotherapy, developmental psychology and evaluation of personality. Opportunities to become acquainted with laboratory work are provided. GEN.ED.IIA.

PSYCH 102L General Psychology II Lab 1(0-2) S. CORQ 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) F,S.

Designed to be a practical guide to understanding and improving memory. Emphasis will be placed on the application of mnemonic techniques for memory improvement. Students will be provided with laboratory exercises designed to increase their memory ability. GEN.ED.IIA.

PSYCH 201 Data Analysis 4(4-0) F,S,SS. PRQ PSYCH 101, 102, and MATH 115 or equivalent.

Basic statistical concepts applied to psychological problems, percentiles, central tendency measures, variability, comparison statistics. Laboratory work will be scheduled for the students by the instructor.

PSYCH 211 Women and Society 3(3-0) F,SS.

A statistical overview of the current status of women, followed by an examination of theories concerning equality of the sexes. GEN.ED.IIA.

PSYCH 212 Sexism and Racism in America 3(3-0) S,SS.

The dynamics of prejudice and discrimination in terms of sex and race with special attention to analysis of strategies for improving relations. GEN.D.IIA.

PSYCH 213 Psychology of Religion and Expanding Awareness 3(3-0) S,SS. PRQ PSYCH 101, 102.

Religion is viewed as a psychological phenomenon. Both belief and unbelief are considered in their relation to personality structure and the expansion of awareness.

PSYCH 221 Psychology of Creativity 2(2-0) S,SS.

Examines creative behavior from a variety of approaches. Develops criteria for identifying creative processes. Investigates methods for fostering and developing creative behaviors. GEN.ED.IIA.

PSYCH 240 Practicum in Individualized Instruction 2(0-2) F,S,SS. PRQ PSYCH 101, 102, permission of instructor.

Students will participate in individualized systematic learning techniques by serving as learning assistants to professional staff members.

PSYCH 241 (BIOL 241) Human Sexuality 2(2-0) S,SS. PRQ Sophomore standing, permission of instructor.

Psychological and biological aspects of human sexual behavior.

PSYCH 242 Applied Human Learning 2(2-0) F,S,SS. PRQ PSYCH 101, 102.

Applied contemporary learning theories including social, behavioral, cognitive and information processing. Application will be made to home, school, business and industry.

PSYCH 251 Psychology of Infancy and Childhood 3(3-0) F,S,SS. PRQ 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) F,S,SS. PRQ PSYCH 101, 102; sophomore standing.

Physical, mental, social and emotional growth of the individual during the period of transition from childhood to adulthood.

PSYCH 253 Psychology of Adulthood and Old Age 3(3-0) F,SS. PRQ PSYCH 101, 102; sophomore standing.

Inquiry, by topic, into the average human life from the adolescent years to special problems of old age.

PSYCH 291 Special Topics in Psychology 2(2-0). PRQ Permission of instructor.

Selected aspects of psychology with high interdisciplinary interest in response to specific service requests.

PSYCH 295 Individual Projects in Psychology (1-3 VAR) F,S,SS. PRQ Psychology major or minor, prior written permission of instructor of record.

Creates and carries out experimental design under instructor's directions. Team projects may be undertaken. Laboratory work will be scheduled for the student by the instructor.



USC is one of the few universities in the Nation where *undergraduate* students have the opportunity of complementing classroom learning with actual applied research—in this instance, in a \$200,000 biomedical sciences grant program awarded to the University by the National Institute of Health.

PSYCH 311 Theories of Personality 3(3-0) F,S,SS. PRQ PSYCH 101, 102. This course surveys some of the major theories of personality and the methods to personality investigation.

PSYCH 312 Psychology of Time 3(3-0) S,SS. PRQ PSYCH 101, 102. Time, history, paradoxes, perception, psychopathology, aesthetics, aging and death. Laboratory work will be scheduled for the student by the instructor.

PSYCH 313 (SOC 313) Social Psychology 3(3-0) S,SS. PRQ Psych 101, 102 or permission of instructor.

General and applied psychological principles of the person's interaction with the group.

PSYCH 314 Psychology of Speech 2(2-0) F. PRQ PSYCH 101, 102. Emotional, actional, and intellectual behavior of the individual in speech situations.

PSYCH 315 Organizational and Administrative Psychology 3(3-0) F,SS. PRQ 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) F,SS. PRQ Psych 101, or BIOL 203 or BIOL 204.

Functional organization of the brain and mechanisms of sensation, perception, sleep and arousal, motivation, learning and memory will be considered.

PSYCH 332 Instrumentation in Psychological Research 2(1-2) F,SS. PRQ PSYCH 101, 102.

Introduction to function and use of electronic instruments commonly used in psychological research. Emphasis on programmable electromechanical and solid-state equipment and computer-machine interface. Annually upon demand.

PSYCH 333 Experimental Psychology 4(3-2) F,S,SS. PRQ PSYCH 101, 102, 202.

An introduction to laboratory experimental procedures in psychology. Both animal and human behavior are considered.

PSYCH 334 Perception 3(2-) S,SS. PRQ PSYCH 101, 102.

The study of the perceptual system, its function and dysfunction. Applications to architecture, painting, music, and advertising are considered. This is a laboratory course.

PSYCH 335 Motivation 3(2-2) F,S,SS. PRQ PSYCH 101, 102.

Examines the "why" of behavior from the point of view of the person as well as reviews efforts to objectify the study of human motivation. Stress and human efficiency are also considered. Interpretations of daily living and the kind of living suggested by the theory under consideration are discussed. This is a laboratory course.

PSYCH 336 Learning 4(3-2) F,SS. PRQ PSYCH 101, 102.

Empirical/theoretical material to human/animal learning. Laboratory experience, applied principles of learning to animals and human personality.

PSYCH 351 Psychology of the Exceptional Individual 3(3-0) F,S,SS. PRQ 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 361 Psychology of Interpersonal Relations 3(3-0) F,S,SS.

Theories of interpersonal relations as applied to one's role as citizen, parent, organizer, leader or cooperator are considered. Role-playing or similar techniques are used in illustrating the theories. This is a laboratory course.

PSYCH 362 Introduction to Psychopathology 3(3-0)

Study of the branch of psychology which deals with the etiology, diagnosis and therapy of maladaptive or abnormal behaviors and mental functioning.

PSYCH 381 Principles of Psychological Testing I 4(3-1) F,S,SS. PRQ PSYCH 101, 102, 201.

Theories and principles of psychological testing are applied to the selection, use and evaluation of available tests.

PSYCH 382 Psychology of Human Differences 2(2-0) F,SS. PRQ PSYCH 101, 102; 333 recommended.

The nature and extent of measurable human differences are reviewed, especially as reflected in intelligence, achievement, aptitudes, interests, and personality factors.

PSYCH 401 History and Systems of Psychology 3(3-0) F,S,SS. PRQ PSYCH 101, 102.

A study of the influences that made contemporary psychology possible.

PSYCH 414 (SOC 414) Forensic Psychology 2(2-0) F,SS. PRQ PSYCH 101, 102.

A review of the interrelations of psychology, law, penal rehabilitative procedures and their function as personal-social tools.

PSYCH 439 Psychology of Music 3(3-0) F. PRQ PSYCH 101 and senior standing. May be taken as MUS 439.

Philosophical, physiological, acoustical and psychological bases of music as a science and an art.

PSYCH 440 Practicum in Individualized Instruction 2(2-0) F,S,SS. PRQ PSYCH 101, 102, permission of instructor.

Students will participate in individualized systematic learning techniques by serving as learning assistants to professional staff members.

PSYCH 451 Seminar in Development 2(2-0). PRQ PSYCH 101, 102, permission of instructor.

Practical and research applications of developmental theory. Taken on separate topics up to six credits. Alternate years.

PSYCH 462 Psychopathology 3(3-0) F,S,SS. PRQ PSYCH 101, 102; 311 recommended.

A review of the history and ethics of psychiatric diagnosis, symptomatology of psychoses, adaptive processes in psychopathology, and the neurophysiological dysfunctions are considered from the point of view of clinical psychology. Some laboratory experience will be provided as scheduled by the instructor.

PSYCH 463 Psychopathology of Childhood 3(3-0) S,SS. PRQ PSYCH 101, 102, 462 or equivalent.

The peculiar diagnostic and psychological conceptualization of the problems found in the psychopathology of childhood as differentiated from the disorders of adulthood are reviewed. Laboratory scheduling will be made by the instructor.

PSYCH 464 Systems of Counseling and Psychotherapy 3(3-0) F,S,SS. PRQ PSYCH 101, 102, 311.

Traditional and contemporary theories of counseling and psychotherapy through the use of case studies and other selected materials.

PSYCH 465 Behavior Modification 3(3-0) F,SS. PRQ 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) S,SS. PRQ 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) S,SS. PRQ PSYCH 311, 331, 381, 462, 464.

Survey of clinical psychology as a profession. Training requirements, opportunities, future directions, current research and ethical problems.

PSYCH 481 Measurement and Evaluation in Education 3(3-0) F,SS. PRQ Junior standing.

Theories and principles applied to informal and standardized testing in educational situations.

PSYCH 484 Principles of Psychological Testing II 3(3-0). PRQ PSYCH 101, 102, 381, permission of instructor.

The course is a continuation of PSYCH 381. Reviews and familiarizes the student with the more commonly used psychological tests through field experience.

PSYCH 491 Special Topics in Psychology 2(2-0). PRQ PSYCH 101, 102. Selected aspects of psychology in response to specific service requests.

PSYCH 493 Senior Seminars 2(2-0) F,SS. PRQ 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 495 Individual Projects in Psychology (1-3 VAR) F,S,SS. PRQ PSYCH 101, 102, psychology major, prior written permission of instructor of record.

Creates and carries out experimental design under instructor's directions. Team projects may be undertaken.

PSYCH 496 Cooperative Education Placements (1-4 VAR) F,S,SS. PRQ 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.

PSYCH 497 Field Experience (4-12 VAR) F,S,SS. PRQ 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.

Graduate:

PSYCH 541 Mastery Level Instruction 3(3-0) SS. PRQ Graduate standing, permission of instructor.

Competency-based individualized learning techniques, primarily for educators. Alternate years.

PSYCH 542 Foundations of Guidance and Counseling 3(3-0) SS. PRQ Graduate standing, permission of instructor.

Contributions of various fields to the work of the counselor at all levels, in current and historical perspective, derivation of principles and objectives. Alternate years.

PSYCH 543 Techniques in Guidance and Counseling 3(3-0) SS. PRQ Graduate standing, permission of instructor.

Introduction to the development of individual and group methods and techniques based on established theories of counseling. Alternate years.

PSYCH 563 Psychopathology of Childhood 3(3-0) S,SS. PRQ Graduate standing, permission of instructor and 462 or equivalent.

Graduate students will complete an independent project and consider treatment and management techniques. Annually.

PSYCH 581 Measurement and Evaluation in Education 3(3-0) F,SS. PRQ Graduate standing.

Graduate students will be expected to master the materials of PSYCH 481 and to complete an assigned project.

PSYCH 583 Ability Testing 3(2-2) S,SS. PRQ Graduate standing, permission of instructor and PSYCH 381 or equivalent.

This course is designed to give practical experience in the administration and scoring of individual tests including intelligence tests. Alternate years.

PSYCH 595 Individual Projects (1-5 VAR) F,S,SS. PRQ Graduate standing, permission of instructor.

Graduate-level project conducted under direction of a staff member. Team projects may be undertaken. Semesterly.

Recreation

Mr. Tim Larkin, Director

Department Office: Massari 109 Phone: 549-2766

The program of study leading to the Bachelor of Science 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 inter-disciplinary studies to prepare for work in "specialty" areas such as human services, recreation for the physically or mentally disabled, youth/adolescents, the elderly. Others prepare for program areas such as sports and athletics, social and cultural recreation programming, arts and crafts or other "methods" emphases.

A minimum of 46 hours of study required for the B.A. in recreation, 32 of which are reflected 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.

Major in Recreation (46 Hours)

1. Professional "Core" (32 hours)

			Credit
PE	233	Introduction & History of HPER.....	3
REC	340	Principles of Community Recreation Programming	2
REC	350	Leadership & Supervision in Recreation	2
REC	399	Practicum in Recreation	3
PE	461	Organization & Administration in HPER.....	3
REC	490	Recreation for Special Populations.....	3
REC	491	Outdoor Recreation	3
REC	492	Recreation Management.....	3
REC	493	Seminar in Recreation.....	1
REC	497	Internship in Recreation	9
			32

2. Allied and Methods Courses (14 Hours)

Allieds:

A minimum of six (6) 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:

Accounting 201, 202; Biology 101, 121; Behavioral Science 101, 102; Education 324, 325; Geology 105; Management 310, 318; Mass Communications 201; Mental Health 141, 142; Political Science 330; Psychology 251, 252, 253, 313, 351; Sociology 160, 180; Speech Communications 211, 221.

Methods:

A minimum of eight (8) 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; Biology 101; Industrial Education 200; Music 118, 251; Physical Education 116, 117, 173, 232, 243, 244, 245, 246, 247, 248, 249, 250, 322, 378, 451, 465; Speech Communication 111, 131, 312; Theatre 145.

The following schedule is typical for the recreation major:

Freshman Year			Credit
PE	233	Introduction and History of HPER	3
PE	100	Physical Education Orientation	2
BCOM	110	Freshman Comp I	3
BCOM	111	Freshman Comp II	3
BCOM	120	Developmental Reading	2
SPCOM	101	Speech Communication	2
		Allieds and Methods	6
		General Education	11
			32
Sophomore Year			Credits
REC	340	Principles of Community Recreation Programming	2
REC	350	Leadership & Supervision in Recreation	2
		Allieds & Methods	6
		General Education Courses	12
		Electives	10
			32
Junior Year			Credits
REC	399	Practicum in Recreation	3
REC	490	Recreation for Special Populations	3
REC	491	Outdoor Recreation	3
PE	461	Organizations & Administration in HPER	3
		Allieds & Methods	2
		General Education Courses	7
		Electives	11
			32
Senior Year			Credits
REC	492	Recreation Management	3
REC	493	Seminar in Recreation	1
REC	497	Internship in Recreation	9
		Electives	19
			32

Courses:

REC 340 Principles of Community Recreation Programming 2(2-0) F.

An exploration of the 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) S.

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 as they relate to various populations and agencies.

REC 399 Practicum in Recreation 3(0-3).

Minimum of 150 hours of practical experience in a selected recreation agency.

REC 490 Recreation for Special Populations 3(3-0) F.

Emphasis on provision of community recreation and leisure services for the physically or mentally disabled and the elderly.

REC 491 Outdoor Recreation 3(2-1) F.

Lecture and practical outdoor experience relating to problems, trends in outdoor recreation and camping.

REC 492 Recreation Management 3(3-0) S.

Special emphasis on 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 in Recreation 1(1-0) S.

Student-led discussions on contemporary problems and issues in leisure/recreation. Preparation for entry into the profession; interview preparation and resume construction.

REC 497 Internship in Recreation 9(0-9) F,S,SS.

400 hours of supervised, full-time experience in a selected recreation agency. Management/supervision level experience expected.

Social Science

Dr. Lawrence E. Daxton, Director
Center for Humanistic Policy Studies
Center Office: P-118 Phone: 549-2417

The broad area social science major requires 50 semester credit hours. The student has five options for specialization within the major: General major, international relations, middle-secondary education, public administration, and urban studies. All majors should work with their adviser in deciding their specific courses and registrations, since the student's goals dictate the necessary background for his or her career. Within each of the five tracks there are differing requirements; close consultation with the adviser is necessary.

Requirements for the broad area social science major are 20-33 hours in core courses and 17-30 hours in specialty areas depending upon the specific major. Special courses of study are available for junior high and senior high teachers. These majors will provide a minimum of three teaching areas for the prospective teacher. The student must contact the faculty adviser for all courses of study.

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. Departmental guidance in the selection of general education courses will be available to the student.

Requirements for a general major in broad area social science:

Freshman Year		Credits
BCOM	120	College Reading 3
BCOM	110	Freshman Composition I 3
HIST	102	World Civilization 5
POLSC	101	American National Politics 3
BCOM	111	Freshman Composition II 3
SPCOM	100	
& 101		Speech Communication 3
PE	100	Physical Education Orientation 2
GEOG	103	World Geography 3
		General Education Group I 3
		General Education Group III 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	History of the U.S. since 1820 3
SOC	101	General Sociology I 3
		General Education Group I 6
		General Education Group II 3
		Electives 12
		—
		33
Junior Year		Credits
Upper division		ANTHR, GEOG, HIST, POLSC, SOC 15
		Electives 18
		—
		33
Senior Year		Credits
SOCSC	491	Seminar in Social Science 2
Upper Division		ANTHR, GEOG, HIST, POLSC, SOC 10
Upper Division		Electives 19
		—
		31

Requirements for a broad area social science major with an emphasis in Teaching Certification are as follows. Students wishing to take emphases in international relations, public administration, or urban studies should consult their adviser.

Freshman Year		Credits
ANTHR	100	Study of Mankind 3
or		
ANTHR	101	Physical Anthropology 3
or		

ANTHR	102	Cultural Anthropology 3
BCOM	110	Freshman Composition I 3
BCOM	111	Freshman Composition II 3
BCOM	120	College Reading 2
ED	102	Teaching as a Career 1
HIST	102	World Civilization 5
PE	100	Orientation 2
POLSC	101	American National Politics 3
PSYCH	101	General Psychology I 3
PSYCH	102	General Psychology II 3
SPCOM	100/101	Speech Communication 3
		—
		31
Sophomore Year		Credits
ECON	101	Introduction to Economics 3
or		
ECON	201	Principles of Economics 3
ED	202	Foundations of Education 3
ED	210	Human Growth & Development for Educators 3
GEOG	103	World Geography 3
HIST	201	History of the Americas 3
HIST	202	History of the U.S. Since 1820 3
POLSC	105	Human Experience 3
SOC	101	General Sociology I 3
		General Education Group I 6
		General Education Group III 4
		—
		34
Junior Year		Credits
BBE	405	Education Across Cultures 2
IE	345	Career Education 2
PSYCH	351	Psychology of the Exceptional Individual 3
RDG	202	Reading in the Middle/Junior & Senior H.S. 2
Upper Division		Anthr., Hist., Geog., Polsc., Soc. 12
		Electives 6
		General Education Group I 3
		General Education Group III 3
		—
		31
Senior Year		Credits
ED	461	Working with Individual Differences 2
ED	435	Middle/Jr. & Sr. High School 4
ED	460	Secondary Education Lab 3
ED	498	Student Teaching Secondary 10
SOCSC	377	Teaching Social Studies in Secondary Schools 2
SOCSC	491	Social Science Seminar 2
Upper Division		Anthr., Geog., Hist., Polsc., or Soc. 5
		Electives — Upper Division 4
		—
		32

Courses:

Undergraduate:

SOCSC 111 Career Orientation 1(1-0) F,S.
Examines current trends and developments in professional career fields. Provides students with a knowledge of job opportunities in modern occupational categories.

SOCSC 150 The Human Experience 3(3-0) F,S,SS.
Human efforts to organize societal activity and relationships for group development and survival through political, economic and social institutions. GEN.ED.IIB.

SOCSC 151 Society and Technology 2(2-0) F,S,SS.

Examines the 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) F.

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) S.

Current problems in today's milieu including problem areas and contemporary issues. GEN.ED.IIB.

SOCSC 231 Contemporary Affairs 2(2-0) S.

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) F,S.

Curriculum, materials, and techniques for teaching social studies in junior and senior high schools.

SOCSC 491 Seminar in Social Science 2(2-0) F.

Various problems within the realm of social science, utilizing an integrated approach. For majors in broad area social science disciplines.

Graduate:

SOCSC 591 Seminar in Social Science 2(2-0) F. PRQ Graduate standing.

Various problems within the realm of social science, utilizing an integrated approach. For majors in broad area social science disciplines.

Social Work

Dr. Wallace E. Smith, Acting Director
Center for Social and Cultural Studies
Center Office: P-110 Phone: 549-2336
Professors: Baca, Solis, Smith

The social work curriculum provides a learning experience for students preparing them for entrance-level social work practice, for graduate study, and for responsible, effective involvement in their community 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, and sociology in their course of study. The social work courses follow guidelines suggested by the Council on Social Work Education for undergraduate programs. Students receive instruction in all areas of social work theory and practice, and an educationally directed field experience is required.

The typical social work schedule:

Freshman Year		Credits
BCOM	110	Freshman Comp I..... 3
BCOM	111	Freshman Comp II..... 3
BCOM	120	College Reading..... 2
SW	101	Human Behavior and Social Env I..... 3
SW	102	Human Behavior and Social Env II..... 3
PE	100	Orientation..... 2
PSYCH	101	General Psychology I..... 3
PSYCH	102	General Psychology II..... 3
SPCOM	101	Speech Communication..... 2

SOC	101	General Sociology I..... 3
SW	100	Introduction to Social Welfare..... 3
		Total 30
		Credits
Sophomore Year		
ANTHRO	101	Physical Anthropology..... 3
*BIOL	132	Human Heredity and Birth Defects..... 2
*BIOL	141	Human Sexuality..... 2
MACOM	101	The Mass Media..... 3
MATH	105	Introductory Algebra..... 3
or		
MATH	155	Basic Mathematics for Statistics..... 3
*PHIL	103	Civilization..... 1
*POLSC	102	State and Local Government..... 3
SOC	103	Techniques of Analysis..... 4
SW	200	Social Welfare in the U.S..... 3
		Electives (See section below)..... 8
		Total 34
		Credits
Junior Year		
*FL	181	Beginning Spanish I..... 5
*FL	182	Beginning Spanish II..... 5
SW	320	Emergence and Counseling of Minorities..... 3
SW	322	Social Work Intervention I..... 3
SW	323	Social Work Intervention II..... 3
SW	324	Social Work Intervention III..... 3
SW	350	Social Welfare Policy & Program Evaluation..... 3
		Electives (see section below)..... 9
		Total 34
		Credits
Senior Year		
SW	401	Human Foundations of Social Work..... 3
SW	420	Social Work Theory..... 3
SW	460	Social Work Seminar..... 3
SW	495	Field Experience in Social Work..... 9
SW	496	Field Work Seminar..... 3
		Electives (see section below)..... 12
		Total 33
		Total 129

*Suggested courses. Students may take other courses with the approval of their adviser.

The social work program is designed to provide an education for the beginning social worker. Specific areas of social work — psychiatric, medical, poverty, etc. — are not focused on during the undergraduate course work. Students are expected to complete elective courses to prepare themselves for these specialties. A total of 29 hours of elective credit may be taken in a special area.

Courses:

SW 100 Introduction to Social Welfare 3(3-0) F,S,SS.

Familiarization with the field of social work. Exploration of what a social worker does and to a limited degree how he/she does it. Designed to explain role of social worker, the professional skills and philosophy of social work practice. GEN.ED.IIA.

SW 101 Human Behavior and Social Environment I 3(3-0) F,S,SS.
Deals with man in relation to environment, including working knowledge of individual patterns of development during each maturational phase; physical, emotional and environmental forces which affect potential for social functioning.

SW 102 Human Behavior and Social Environment II 3(3-0) F,S,SS.
Deepens student's knowledge of individual and family patterns of behavior. Study of selected number of maladaptive responses. Inter-relatedness of physical, psychological, and social systems in diagnosis and treatment planning.

SW 200 Social Welfare in the United States 3(3-0) S. PRQ 100.
Assists social work student toward understanding of where social work has come from and where it is going. Terminology, history, structure and scientific basis of social work.

SW 320 Emergence and Counseling of Minorities 3(3-0) F,S. PRQ 100, 101, 102.

The process of emergence of ethnic and minority groups in the United States. Examination of the traditional counseling role, which is presently being criticized by minority authors, and future suggestion of new directions for the student when dealing with minorities.

SW 322 Social Work Intervention I 3(3-0) F,S. PRQ SW 100, 101, 102.
Elements of social casework methodology, social study, diagnosis and treatment, relationships of the caseworker to the community, the social agency, and the individual seeking help are explored.

SW 323 Social Work Intervention II 3(3-0) S. PRQ SW 100, 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) F. PRQ SW 100, 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) F. PRQ SW 100, 200.

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) S. PRQ Departmental approval.

Specialized study related to human behavior. Attention given 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) F. PRQ Departmental approval.
Socio-behavioral 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) F,S. PRQ Departmental approval.
Selected topics in social work developed for in-depth study.

SW 494 Field Experience Seminar (1-3 VAR) F,S,SS.
Seminar taken by students in field placement to support the practiced experiences gained in that placement.

SW 495 Field Experience in Social Work (3-9 VAR) F,S,SS. PRQ Departmental approval.

Departmental approval 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 496 Cooperative Education Placements (1-4 VAR) F,S,SS. PRQ Departmental approval 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.

SW 499 Independent Study (1-3 VAR) F,S,SS. PRQ Permission of instructor.

Independent study is offered to give the student experience in planning and outlining a course of study through student's own initiative. Course topics should relate to student's special interest not covered in a regular course or in-depth exploration and analysis of subject matter presented in a regular course.

Sociology

Dr. Wallace E. Smith, Acting Director
Center for Social and Cultural Studies
Center Office: P-110 Phone: 549-2336
Professors: Hughes, Kashner, Keller

In addition to fulfilling institutional and general education requirements, a student majoring in sociology must complete a minimum of 42 semester hours including General Sociology I and II, Techniques of Analysis, Theory I and II, Research Methods, and Senior Seminar in Sociology.

The student interested in a general sociology major with the possible goal of graduate school is encouraged to pursue the BA degree. The student interested in applied sociology should pursue the BS with a program option in one of the following areas: Criminology, Community Resources, or Organization/Industrial. For specific program requirements, students should consult a faculty adviser.

A minor in sociology is available to anyone desiring to use this subject to support a major from a variety of areas.

Sociology Major

Requirements for a sociology major include a minimum of 42 semester hours in sociology. Required courses include SOC 101, 102, 103, 301, 302, 350, and 400. SOC 101 and SOC 102 should be taken before any other sociology course. Students are also encouraged to take ANTHR 319, Doing Anthropology. No grades below a C in sociology will be accepted toward a degree.

In addition to the core requirements for the major in sociology, the student is encouraged to choose one of the degree options in sociology as a career choice. These options include Criminology, Organization/Industrial, and Community Resources.

Sociology Minor

The sociology minor is available to support a major in various areas. Twenty-one hours of sociology, including 101 and 102, are required for a minor. Other courses should be selected with the approval of an adviser. The typical sociology schedule:

Freshman Year			Credits
SOC	101/102	General Sociology I, II	6
PE	100	PE Orientation	2
BCOM	110	Freshman Comp I	3
BCOM	120	College Reading	2
		General Education Group I	6
		General Education Group II	3
		General Education Group III	6
		General Electives	2
			30
Sophomore Year			Credits
SOC	103	Techniques of Analysis	4
BCOM	111	Fresh Comp II	3
SPCOM	100/101	Speech Communications	3
		General Education Group I	4
		General Education Group II	3
		General Education Group III	4
		Approved Sociology Track Electives	12
			33
Junior Year			Credits
SOC	301/302	Theory I, II	6
SOC	350	Research Methods	3
		General Education Group II	6
		Approved Sociology Track Electives	18
			33
Senior Year			Credits
SOC	400	Senior Seminar	2
		Approved Sociology Track Electives	12
		Approved Upper Division Electives	18
			32
Approved Sociology Track in Criminal Justice includes:			
SOC	150	Introduction to Criminology	3
SOC	160	Juvenile Delinquency	3
SOC	450	Law and Society	3
ANTHRO	311	Law in Cross-Cultural Perspective	3
ANTHRO	312	Forensic Anthropology	3
		Electives in Criminal Justice Courses	6
Approved Sociology Track in Community/Family includes:			
SOC	230	Marriage and Family	3
SOC	231	Social Problems	3
SOC	312	Social Deviance	3
SOC	340	Community Development	3
SOC	440	Poverty	3
		Electives in Community/Family Courses	6
Approved Sociology Track in Organizations/Industrial includes:			
SOC	420	Evaluation Research	3
SOC	430	Industrial Sociology	3
SOC	432	Organization Theory	3
		Electives in Organization/Industrial Courses	6
Minor in Sociology			
SOC	100	General Sociology I	3
SOC	101	General Sociology II	3
		Sociology Electives	14
			20

Courses:

SOC 101 General Sociology I 3(3-0) F,S,SS.

A general introduction to the field of sociology with an emphasis on basic principles and concepts. GEN.ED.IIB.

SOC 102 General Sociology II 3(3-0) F,S,SS.

Continuation of 101 with emphasis on social institutions. GEN.ED.IIB.

SOC 103 Techniques of Analysis 4(3-2) F,S.

An introduction to the methods of scientific investigation in the social sciences.

SOC 150 Introduction to Criminology 3(3-0) F,S,SS.

Nature and extent of crime in American society. GEN.ED.IIB.

SOC 160 Juvenile Delinquency 3(3-0) F,S,SS.

Nature and extent of juvenile delinquency in American society.

SOC 180 Minority and Ethnic Relations 3(3-0) F.

Sociological theories, studies, and findings concerning group maintenance and interaction in contemporary society.

SOC 200 Contemporary Social Issues (2-4 VAR) F,S,SS.

Analysis of current social issues. Topics will vary with instructor and student interest. GEN.ED.IIB.

SOC 210 The Criminal Justice System 3(3-0) F,S,SS.

Organizational features of police, courts, and corrections as subsystems of the American criminal justice system. GEN.ED.IIB.

SOC 221 Introduction to Population Study 3(3-0) S.

An analysis of population distribution, composition, and change as they relate to other social factors. GEN.ED.IIB.

SOC 230 Marriage and Family 3(3-0) F,S,SS.

Historical, cross-cultural, and intra-cultural comparisons of family formation, interaction, and dissolution. GEN.ED.IIB.

SOC 231 Social Problems 3(3-0) F,S,SS.

Sociological interpretation of contemporary social problems. GEN.ED.IIB.

SOC 250 Sociology of Law Enforcement 3(3-0) F,S.

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) F,S,SS.

An examination of correctional alternatives to incarceration.

SOC 300 Topics in Sociology (2-4 VAR) F,S,SS.

Content designed to cover special areas of faculty/student interest within the discipline.

SOC 301 Theory 3(3-0) F,S.

Sociological Theory I: Classical Theory.

SOC 302 Theory II 3(3-0) F.

Sociological Theory II; Contemporary Theory.

SOC 312 Social Deviance 3(3-0) F.

Sociological perspective on behavior defined as deviant, abnormal, or socially unacceptable.

SOC 313 (PSYCH 313) Social Psychology 3(3-0) S,SS. PRQ 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) F,S.

The study of prisons in historical perspective, and examination of treatment models as they affect the incarcerated individual.

SOC 320 Urban Sociology 3(3-0) F.

The development of urban places; analysis of socio-economic organization including urban social forces and the consequences for individuals, groups, and social institutions.

SOC 330 Political Sociology 3(3-0) F.

An analysis of the major sociological variables associated with political decision-making and other political processes.

SOC 332 Social Stratification 3(3-0) F.

Inquiry into inequalities of wealth, power, and the consequence for individuals and society.

SOC 340 Sociology of Community Development 3(3-0) F.

Current issues and concerns of the community-leadership, conflict, change, neighboring, community or organization, planning and service.

SOC 350 Research Methods 3(3-0) F,S.

An analysis of the research process.

SOC 399 Field Based Instruction 2(0-4) F,S,SS.

Designed to provide the student with critical analytical skills within a social context.

SOC 400 Senior Seminar in Sociology (2-4 VAR) F,S,SS.

An analysis of the major principles, propositions, and concepts which establish sociological understanding.

SOC 414 (PSYCH 414) Forensic Psychology 2(2-0) F,SS. PRQ PSYCH 101, 102.

A review of the interrelations of psychology, law, penal rehabilitative procedures, and their function as personal social tools.

SOC 420 Evaluation Research 3(3-0) F,S.

Analysis and application of the research techniques of social science with reference to program design, delivery, and impact on client systems.

SOC 430 Industrial Organization 3(3-0) F.

Modern industrial society with emphasis on industry as a type of social organization including roles of management and labor.

SOC 432 Organization Theory 3(3-0) S.

Analysis of prevailing theoretical models of large organizations and suggested alternatives.

SOC 433 Sociology of Aging 3(3-0) S.

Analysis of the demographic, sociological and socio-psychological dimensions of aging.

SOC 435 Human Sexuality and Social Behavior 3(3-0) F,S.

Analysis of sexuality and sexual conduct from a sociological and developmental perspective.

SOC 440 Poverty 3(3-0) S.

An exploration of poverty in the U.S. — its measurement and extent, perpetuating conditions, lifestyle and anti-poverty programs.

SOC 450 Law and Society 3(3-0) F,S,SS.

A sociological analysis of law creation and implementation. Emphasis on the history of law in Western society.

SOC 460 Criminological Theory 3(3-0) F,S.

Examination of theories of crime and criminality from the classical period to the present. Emphasis on social context of theory and its policy implications.

SOC 496 Cooperative Education Placements (1-4 VAR) F,S,SS. PRQ 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.

SOC 497 Pro-Seminar for Majors 1(1-0) F,S.

Restricted to majors only. Seminar designed to assist majors in career development activities including job placement, graduate school plans, and planning career alternatives.

SOC 498 Independent Study 3(3-0) F,S,SS.

Course is designed for the more scholarly student wishing to pursue some sociological topic in depth.

SOC 499 Field Experience (3-12 VAR) F,S,SS.

Course designed for students majoring in sociology to provide practical on-the-job experience in an agency setting.

Speech Communication and Theatre

H. W. Farwell, Head

Departmental Office: AM 175 Phone 549-2120

Professors: Benton, Bradley, Campaign, Fouts, O'Leary (on leave), Plonkey, Sherman, Swanson, Threlkeld.

The Department of Speech Communication and Theatre shares with all other elements of this University an obligation to provide students with training that will enable them to enjoy a rich, full life and with the skills necessary to adjust and acquire new knowledge appropriate to rapidly changing career opportunities.

To attain these goals the Department of Speech Communication and Theatre offers programs and courses appropriate for students preparing for life in our culture and for careers oriented toward that culture. The department offers programs leading to the Bachelor of Arts degree in general speech communication and in theatre; it offers a program leading to the Bachelor of Science degree in speech correction, and it offers a number of minor programs in dance, theatre and general speech which can be combined with other programs within the department or in other disciplines.

The enjoyment of a rich, full life and the ability to adjust to new conditions require the aid of trained intelligence. None of the things that are done with intelligence can be accomplished except through discourse, the prime instrument of knowledge and intelligence. Discourse is the essential link between and among people. It is manifested in many forms ranging from informal, unstructured oral communication to the rigid requirements of dance and theatrical performance.

Speech Communication Programs

Programs in speech communication offer courses appropriate for students preparing for careers in professions which require the ability to organize, substantiate, and communicate ideas effectively as well as to

be sensitive to interpersonal relationships. The program in speech correction provides undergraduate training for students preparing for careers in speech pathology and audiology.

"Core" courses focus upon discourse, the oral expression of organized thought. All students majoring in speech communication are required to complete: SPCOM 211 (Public Speaking), SPCOM 212 (Argumentation), SPCOM 214 (Parliamentary Practice), SPCOM 222 (Group Discussion), SPCOM 231 (Oral Interpretation), SPCOM 261 (Voice and Diction), SPCOM 323 (Interpersonal Dialogue), SPCOM 401 (The Nature of Discourse).

A maximum of 2 credits of SPCOM 115 and 1 credit SPCOM 315 will be counted toward any speech communication major or minor.

No grade below C will be accepted toward a major or minor program.

SPCOM 101 or its equivalent, or permission of the department, is prerequisite for all courses above the 100 level.

General Speech Communication

The major in general speech communication leads to the degree of Bachelor of Arts. Requirements consist of the "core" courses and at least 16 elective hours from department offerings or approved substitute courses. A minimum of eight elective hours must be upper-level.

The typical speech communication first year schedule:

		Credits
SPCOM	100	Introduction to Speech Communication 1
SPCOM	101	Basic Speech Communication 2
SPCOM	115	Speech Activity I 1
SPCOM	211	Public Speaking 3
SPCOM	231	Oral Interpretation 3
BCOM	110	Freshman Composition I 3
BCOM	111	Freshman Composition II 3
PE	100	PE Orientation 2
		GEN.ED. Electives — Group I 4
		GEN.ED. Electives — Group II 6
		GEN.ED. Electives — Group III 4
		—
		32

Language Arts

The composite major in Language Arts is designed to prepare students to teach speech communication, theatre and English in secondary schools and to provide certification in either speech communication or English. It consists of a broad foundation in each of these two areas combined with an excellent background in theatre. Upon graduation the student is awarded a Bachelor of Arts degree in either speech communication or English.

The typical first year schedule for a student in the Language Arts program:

		Credits
BCOM	110	Freshman Composition I 3
BCOM	111	Freshman Composition II 3
BCOM	120	College Reading 2
PE	100	PE Orientation 2
SPCOM	100	Introduction to Speech Communication 1
SPCOM	101	Basic Speech Communication 2

MACOM	101	Mass Media 3
SPCOM	131	Introduction to Technical Theatre 3
SPCOM	135	Introduction to Theatre Performance 3
PSYCH	101	General Psychology I 3
PSYCH	102	General Psychology II 3
ED	102	Teaching as a Career 1
		General Education Electives 3
		—
		32

Speech Correction

The major in speech correction leads to the Bachelor of Science degree. The program consists of the "core" courses, 30 hours of courses in communication disorders specifically designed to meet graduate school requirements, and certain related courses in Biology, Psychology and Physics.

The typical schedule for a first year student in speech correction:

		Credits
SPCOM	100	Introduction to Speech Communication 1
SPCOM	101	Basic Speech Communication 2
SPCOM	250	Introduction to Speech Correction 2
SPCOM	261	Voice and Diction 3
SPCOM	211	Public Speaking 2
PSYCH	101	General Psychology I 3
PSYCH	102	General Psychology II 3
BCOM	110	Freshman Composition I 3
BCOM	111	Freshman Composition II 3
BCOM	120	College Reading 2
PE	100	PE Orientation 2
BIOL	221	(and Lab) Human Anatomy and Physiology 4
		General Education Electives (Group III) 3
		—
		33

Program in Theatre

The theatre program offers a major leading to the degree of Bachelor of Arts. It is designed to provide the student with the background to enter graduate school or to seek a career or further training in the professional theatre and motion pictures. The theatre courses of the department of speech communication and theatre are designed to give all students an understanding and appreciation of theatre art.

The Department of Speech Communication and Theatre believes that its educational goals cannot be fully met without an active production program closely integrated with the student's academic curriculum. The department feels the cultural and artistic responsibility to provide theatre events of the highest quality to the university, the community and the region. Thus, the department provides public performances of one-act plays, major dramatic productions, musical comedies, children's plays and a summer stock theatre.

This major consists of a minimum of 46 semester hours including prescribed academic classes and required practicum classes each semester.

The typical first year theatre schedule:

		Credits
SPCOM	100	Introduction to Speech Communication..... 1
SPCOM	101	Basic Speech Communication..... 2
SPCOM	131	Introduction to Theatre Technology..... 3
SPCOM	135	Introduction to Theatrical Performance..... 3
SPCOM	168	Company Class..... 4
PE	100	PE Orientation..... 2
BCOM	110	Freshman Composition I..... 3
BCOM	111	Freshman Composition II..... 3
BCOM	120	College Reading..... 2
		GEN.ED. Electives — Group I..... 3
		GEN.ED. Electives — Group II..... 4
		GEN.ED. Electives — Group III..... 2
		—
		32

Minors in Speech Communication, Dance and Theatre

The minor consists of a minimum of 20 semester hours from departmental offerings. Minor programs are designed to meet the specific needs of the student. A minor program must be planned with the assistance of an adviser and approved by the department of speech communication and theatre.

Minor in Speech Communication		Credits
SPCOM	211	Public Speaking..... 2
SPCOM	214	Parliamentary Practice..... 1
SPCOM	221	Interpersonal Speaking..... 3
or		
SPCOM	243	Interview Techniques..... 1
SPCOM	222	Group Discussion..... 3
or		
SPCOM	242	Conference Techniques..... 1
SPCOM	401	The Nature of Discourse..... 3
		Electives in Speech (minimum of 2 credit hours must be upper level)..... 8-12
		—
		20

Minor in Theatre		Credits
SPCOM	131	Introduction to Theatre Technology..... 3
SPCOM	135	Introduction to Theatrical Performance..... 3
SPCOM	168	Company Class..... 4
		Electives in Theatre..... 10
		—
		20

Minor in Dance		Credits
DN	101	Ballet Techniques..... 4
DN	201	Ballet Techniques..... 4
DN	204	Modern Dance..... 4
DN	205	Dance Composition..... 1
		Electives in Theatre and Dance..... 7
		—
		20

Speech Communication Courses:

Undergraduate:

SPCOM 100 Introduction to Speech Communication 1(1-0) F,S,SS.
A five-week module centering on self-confidence and the skills of oral interaction. GEN.ED.IG.

SPCOM 101 Basic Speech Communication 2(2-0) F,S,SS.
Institutional requirement in speech. Introduction and practical application of basic theory and principles of oral communication.

SPCOM 102 Basic Speech Communication 3(3-0) F,S.
An integrated combination of SPCOM 100 and 101. Available only through the Continuing Education Program and at PVCC.

SPCOM 103 Effective Listening 2(2-0) F,S.
Principles of good listening introduced and applied through demonstrations and exercises. Approved for S-U grades only.

SPCOM 105 Responsibility & Freedom of Speech 3(3-0) F,S.
Examination of the problem of freedom embodied in the 1st Amendment, emphasizing both the individual and collective dangers and benefits. GEN.ED.IG.

SPCOM 115 Speech Activity I 1(1-0) F,S.
On- and off-campus activities including inter-collegiate forensic competition, programs for students and public. Communication skill and experience development. May repeat twice for credit.

SPCOM 200 Basic Manual Communication 2(2-0) F,S.
An introduction to the fundamentals of communicative interaction with and among the deaf by means of hand symbolization. Approved for S-U grades only.

SPCOM 211 Public Speaking (2-3 VAR) F,S,SS.
Introduction to speaking to groups, emphasizing organization, effective support, speaker credibility and audience analysis. Application made through classroom presentations and analysis of models. GEN.ED.IG.

SPCOM 212 Argumentation 2(2-0) F. PRQ SPCOM 211.
Argumentation focuses on the methods an advocate employs 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) F,S.
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 221 Interpersonal Speaking 3(3-0) F,S.
Emphasis is on the principles and skills of speaking applied to ordinary, informal speaking situations. Self-disclosure, active listening, and making appropriate responses are examined. GEN.ED.IG.

SPCOM 222 Group Discussion 3(3-0) F,S.
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) F. PRQ MACOM 102.
The study and application of the principles of oral communication to radio and television announcing. May be taken as MACOM 224.

SPCOM 231 Oral Interpretation (2-3 VAR) F,S.
Develops skill in gleaming meaning from a written work and projecting meaning in a psychologically credible and pleasing manner. Performance course. GEN.ED.IG.

SPCOM 241 Organizational Communication 2(2-0) F,S.
Study of discourse within the context of complex human organizational systems, and the nature of task-oriented communication. Identification and solution of malcommunication and conflict problems. GEN.ED.IG.

SPCOM 242 Conference Techniques 1(1-0)

Concepts of leadership, participation, delegation and interaction as applied to formal, structured conference. Emphasis is placed upon techniques while understanding is gained through experience. GEN.ED.IG.

SPCOM 243 Interview Techniques 1(1-0)

Techniques, and models of a variety of interviews are demonstrated and analyzed. Practical experience in classroom and off-campus situations. GEN.ED.IG.

SPCOM 244 Counseling Communication 1(1-0)

This mini-course is based on the assumption that effective helping communication is dependent upon the establishment of a quality interpersonal communication relationship between the counselor and the counselee.

SPCOM 245 Leadership Communication 1(1-0)

This mini-course is based on the assumption that effective leadership and the management of human resources is dependent upon the communication capabilities and attitudes of the leader. The purpose of the course is to enhance the students' understanding of how communication strategies and tactics may foster effective leadership and followership.

SPCOM 246 Persuasive Communication 1(1-0)

This mini-course is based on the assumption that effective persuasion in the marketplace is dependent upon the ability of the persuader to be adaptive in his or her interpersonal communication.

SPCOM 247 Conflict Resolution & Management 1(1-0)

It is the purpose of this special course to examine the nature of conflict and its resolution in order to determine the communication attitudes, strategies and tactics that are useful in managing conflict.

SPCOM 248 Bargaining and Negotiation 1(1-0)

An understanding and appreciation of the communication principles and strategies of oral argument is essential to the person who desires to be effective in either informal or formal disputes. The purpose of this course is to increase the student's ability to understand how to select strategic communication methods that are persuasive and lead to a successful settlement of a dispute.

SPCOM 249 Communication and the Law 1(1-0)

The informed citizen should understand the role that persuasive communication plays in the application of law and the establishment of justice and understand the communication roles of the juror, lawyer, client, judge, plaintiff and defendant. GEN.ED.IG.

SPCOM 250 Introduction to Speech Correction 2(2-0) F.

Emphasis on identification, classification and treatment of communication disorders. Treats professional opportunities and certification requirements.

SPCOM 261 Voice and Diction 3(3-0) F,S,SS.

Voice improvement course for teachers, actors, broadcasters, professional speakers, etc. Emphasis is on breath support, phonation, resonance, articulation and pronunciation, individual attention stressed.

SPCOM 304 Language Awareness and Human Behaviors I 3(3-0) F.

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 305 Language Awareness and Human Behaviors II 3(3-0) S. PRQ ENG 304.

Applies skills acquired in ENG 304 to create effective communications for satisfactory relationships between persons.

SPCOM 311 Speech Composition 2(2-0) F. PRQ SPCOM 211 or permission.

In this course the writing of speeches is of central concern. Manuscript models are studied to reveal how speeches are written for aural qualities.

SPCOM 312 Persuasion 2(2-0) S. PRQ 211, 212 or permission. 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(1-0) F,S.

On- and off-campus activities including inter-collegiate forensic competition, programs for students and public. Continuation of SPCOM 115. May repeat twice for credit.

SPCOM 323 Interpersonal Dialogue 2(2-0) F. PRQ SPCOM 222 or permission.

Performance course emphasizing the principles and skills of dialectical discourse. Practices the co-operative production and utilization of discourse in human affairs.

SPCOM 324 Anatomy of the Head, Neck and Chest 2(2-0) S. PRQ BIOL 221 or BIOL 321. CORQ BIOL 324L.

Anatomical structures of the head, neck and chest with analysis of development and function. Offered alternate years. May be taken as BIOL 324.

SPCOM 324L Anatomy of the Head, Neck and Chest, Dissection 1(0-2) S. CORQ SPCOM 324.

Dissection and examination of the anatomical structure of the head, neck and chest. Offered alternate years. May be taken as BIOL 324L.

SPCOM 351 Articulation Disorders 2(2-0) F. PRQ SPCOM 250 or permission.

Causation, diagnosis, and clinical management of articulation disorders.

SPCOM 352 Voice Disorders 2(2-0) S. PRQ SPCOM 250 or permission.

Causation, diagnosis and clinical management of voice disorders.

SPCOM 353 Stuttering 2(2-0) S. PRQ SPCOM 250 or permission.

Nature and theories of stuttering with an introduction to therapeutic and counseling procedures utilized in clinical management.

SPCOM 360 Language Acquisition & Linguistics 3(3-0) F,SS.

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) S.

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) S. PRQ SPCOM 250 or permission.

An introduction to the field of audiology. Emphasis on pure tone testing and interpretation of test results. Practice in hearing testing is required.

SPCOM 375 Speech Correction in the Classroom 2(2-0) F,S.

Identification and classification of common communication disorders found in the classroom. Speech improvement techniques and referral procedures are included. Recommended for all teachers.

SPCOM 376 Directing Speech Activities 2(2-0) F.

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) S. PRQ Junior standing and permission.

Provides instruction and practice in the principles of teaching speech. Geared to foster a thoroughly professional teacher.

SPCOM 379 Language Arts Methods in High School 5(5-0) S. PRQ Junior standing or permission.

Principles and tools for the high school language arts instructor. Composition, literature, speech communication and drama. Instruction models, learning designs, evaluations and effective results.

SPCOM 401 The Nature of Discourse 3(3-0) S. PRQ 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 411 Interpretation and Evaluation of Discourse 3(3-0) F. PRQ SPCOM 323.

Focuses on the principles of interpretation and criticism as practiced in speech; stresses theory, but involves some practice.

SPCOM 451 Aural Rehabilitation 3(3-0) S. PRQ SPCOM 365 or permission.

Detailed study of auditory training procedures and speech reading methods. Discussion of hearing aids included.

SPCOM 452 Diagnosis and Methods in Speech Pathology 3(3-0) S. PRQ Six semester hours in speech pathology or permission.

Clinical principles and methods with emphasis on diagnosis and evaluation. Experience with clinical tests, therapy materials, and diagnostic equipment.

SPCOM 462 Organic Disorders of Speech 2(2-0). PRQ Six semester hours in speech pathology or permission.

Nature and causes of cleft palate, cerebral palsy and aphasia. An introduction to clinical management of these disorders.

SPCOM 463 Language Disorders in Children 2(2-0) S. PRQ SPCOM 360 or permission.

A detailed study of the cause, nature, diagnosis and clinical management of language disorders in children.

SPCOM 469 Clinical Practicum in Speech & Hearing 1(0-1) F,S,SS. PRQ permission.

Supervised clinical practice. Fifty clock hours must be completed to earn one semester hour of credit. May be repeated three times for credit.

Graduate:**SPCOM 575 Speech Correction in the Classroom 2(2-0) SS.** PRQ 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). PRQ 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.

Theatre Courses:**Undergraduate:****SPCOM 111 Introduction to Theatre 3(3-0) F,S.**

A course for non-majors emphasizing understanding and appreciation of the theatre. GEN.ED.IH.

SPCOM 112 Understanding Motion Pictures 3(3-0) F.

A study of the function of the screenwriter, actor, director, producer, technician, designer and critic in the film entertainment industry. GEN.ED.IH.

SPCOM 131 Introduction to Theatre Technology 3(3-0) F,S.

Beginning techniques of stagecraft. GEN.ED.IH.

SPCOM 135 Introduction to Theatrical Performance 3(3-0) F,S.

Beginning techniques of acting. GEN.ED.IH.

SPCOM 168 Company Class (1-6 VAR) F,S,SS.

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 216 Theatre Survey I 3(3-0) F.

Survey of theatre history from primitive origins to 1800. GEN.ED.IH.

SPCOM 217 Theatre Survey II 3(3-0) S.

Survey of theatre history from 1800 to present. GEN.ED.IH.

SPCOM 232 Intermediate Theatre Technology 3(3-0) F,S.

Intermediate principles of sceneography and theatre technology.

SPCOM 235 Film Acting 3(3-0) F,S.

A beginning course in acting before the camera. Dramatic and commercial acting. Film terminology.

SPCOM 236 Character Workshop 3(3-0) F.

Instruction in characterization techniques for actors and directors. Emphasis on dialects.

SPCOM 237 Stage Makeup 2(2-0) F.

Instruction in the application of makeup for the stage.

SPCOM 331 Directing 3(3-0) PRQ. SPCOM 135 and SPCOM 131.

Directing theory and practice. Students choose and analyze scripts, and direct one-act plays.

SPCOM 332 Intermediate Theatre Technology 5(3-4) S. PRQ SPCOM 131.

Advanced techniques in scenography and stage lighting.

SPCOM 335 Advanced Acting 3(3-0) S.

Instruction in acting for verse plays. Emphasis on Shakespeare.

SPCOM 368 Company Class (1-6 VAR) F,S,SS.

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) F,S.

Classroom techniques in dramatics for the teacher.

SPCOM 416 Theatre Survey III 3(3-0) F.

A survey of dramatic literature from the classic period through the 18th century.

SPCOM 417 Theatre Survey IV. 3(3-0) F.

A survey of dramatic literature from the 19th century to the present.

SPCOM 418 Theatre Criticism 3(3-0) S.

A survey of the current professional season with emphasis on writing play reviews.

SPCOM 431 Advanced Directing 3(3-0) S.

Production laboratory for fourth-year students. Credit offered in all areas of theatre production.

Graduate:

SPCOM 568 Company Class (1-6 VAR) F,S,SS. PRQ 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) F,S. PRQ Graduate standing.

Graduate-level creative dramatics for the classroom teacher.

Other Courses in Both Speech Communication and Theatre:**Undergraduate:**

SPCOM 291 Special Topics (1-3 VAR) (When appropriate.) PRQ Permission.

The 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.

SPCOM 295 Independent Study (1-3 VAR) F,S,SS. PRQ Permission. 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 409 Communication Arts Research Methods 2(2-0). A study of the principles, procedures and requirements of formal research in the field. PRQ Junior or Senior standing and permission.

SPCOM 491 Special Topics (1-3 VAR) (When appropriate). PRQ Permission. Similar to SPCOM 291, a study concentrating upon specific and significant events and touched upon in regular courses. Academic value consistent with senior level requirements.

SPCOM 493 Seminar (1-3 VAR) (When appropriate). PRQ Junior or senior standing and permission.

A 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) F,S,SS. PRQ Permission. 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 496 Cooperative Education Placements (1-4 VAR) F,S,SS. PRQ Permission.

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:

SPCOM 509 Communication Arts Research Methods 2(2-0). PRQ Graduate standing.

Similar to SPCOM 409 above, but with more demanding requirements of quality and significance. A research report is required.

SPCOM 591 Special Topics (1-3 VAR) (when appropriate). PRQ 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) F,S,SS. PRQ Graduate standing.

Similar to SPCOM 495 above, but with more demanding requirements of quality and significance. A research report is required.

Program in Dance

The dance program at the University of Southern Colorado attracts a variety of students. Classes in ballet techniques and modern dance are carried out on 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 department office, AM-175.

Courses:

DN 102 Ballet Technique I 2(0-4) F,S.

First-year work in the science and technique of classical ballet.

DN 165 Introduction to Dance 2(1-2) F,S.

A lecture and activity course designed to develop within the student an appreciation and understanding of dance as an art form. GEN.ED.IH.

DN 201 Ballet Technique II 2(0-4) F,S.

Second-year work in the science and technique of the classical ballet.

DN 204 Modern Dance 2(0-2) F,S.

The form and physical techniques of the modern dance expression.

DN 205 Dance Composition 1(0-1).

Developing modern dance compositions from the choreographer's point of view.

Women's Studies Program

Coordinators: Basseln, Hearn

The women's studies program is designed to acquaint students with women's achievements and to help point out ways in which women may more fully realize their potential. Courses are taught with a positive approach toward correcting conditions for women and raising their awareness of possibilities for advancement in all fields. Community involvement is strongly encouraged.

This multi-disciplinary program offers a minor of 20 semester hours. Required courses include Women and Society (PSYCH 211), Sexism and Racism in America (PSYCH 212), and six semester hours in individual projects. Special multi-disciplinary seminars designed as special topics courses in art, literature, philosophy, and other subjects also count toward the minor. Students should contact coordinators for advisement.



University Personnel

State Board of Agriculture

		Term expires
David J. Bass ¹ , Ph.D.,	Durango	1982
Michael Beery ¹	Durango	1982
Rhonda Brittain ²	Pueblo	1982
Patrick J. Conley	Ignacio	1984
Lawrence E. Daxton ³ , Ph.D.	Pueblo	1982
Thomas T. Farley,	Pueblo	1982
John D. Fuhr, D.V.M.	Aurora	1984
Jean C. Graham, Ph.D.	Lakewood	1983
Beverly J. Haddon	Denver	1985
Christopher H. Hamre ²	Fort Collins	1981
Edmond F. Noel, Jr.	Denver	1983
Paul S. Salas	Fort Collins	1985
John Stencel, III	Denver	1982
Thomas M. Sutherland ³ , Ph.D.	Fort Collins	1981

Officers

Edmond F. Noel, Jr., President
 Beverly J. Haddon, Vice President
 Eugene T. Petrone, Executive Director

¹Faculty and Student Representatives from Fort Lewis College.

²Faculty and Student Representatives from Colorado State University.

³Faculty and Student Representatives from the University of Southern Colorado.

Administrative Officers

Wilcox, Lyle C., President
 Mullen, Robert, Director of Athletics
 Trujillo, Henry E., Director of Affirmative Action
 Vunovich, Bogdan, Executive Assistant to the President

Academic Affairs

Allen, Louise H., Vice President for Academic Affairs
 Adkins, Robert T., Dean, School of Business
 Allen, Ernest E., Dean, School of Science and Mathematics
 Daniel, Lark O., Dean, Learning Resources and Telecommunications
 Love, Alan P., Dean, School of Liberal Arts
 Muhic, Thomas J., Dean, School of Education
 Sisson, Ray L., Dean, School of Applied Science and Engineering Technology
 Valerio, Luis G., Dean, Academic Extension and Continuing Education
 Sczekan, Marjorie, Assistant Dean for Nursing
 Kashner, James B., Assistant Vice President for Academic Affairs
 Moore, Beverly, Director, Library
 Payne, John Jr., Director, Educational Media Division

University Relations

Pobst, Edda L., Assistant Director, University Relations
 Sutton, Richard R., Sports Information Director

Business and Finance

Murdoch, George W., Vice President for Business and Finance
 Bennett, Earle, Director of Support Services
 Genty, Don, Manager of Sponsored Programs, Accounting
 Huddin, Ralph W., Controller
 Karstens, Linda K., Director of Computer Center
 Kellner, Robert D., Manager of Residence Hall
 Kendall, Anita, Director of Personnel
 Mason, Robert, Director of University Computing
 Mekelburg, Dennis A., Director of Auxiliary Services
 Neari, John J., Purchasing Director
 Peters, Jock, Director of Facilities
 Tising, James R., Chief, University Police

Student Affairs

Martinez, Wilfred O., Vice President for Student Affairs/Director, Title III
 Arnold, Barbara, Coordinator, Student Development Center
 Carder, Judith M., Coordinator, Cooperative Education/Career Planning and Placement
 Denman, William F., Assistant Vice President for Student Services
 Diprince, Linda S., Financial Aid Counselor
 Gerber, Gerald I., Director, Career Planning and Placement
 Hultine, James, Director of the University Center
 Kidd, Frederick L., Acting Assistant Director, Financial Aid
 Lovell, Catherine M., Financial Aids Counselor
 Maldonado, Carlos, Director, High School Equivalency Program
 Padilla, Jose A. (Rudy), Director, Admissions/School Relations
 Pineda, Juan N., Director, Upward Bound Program
 Pobst, Alice, Acting Registrar
 Pope, Harold, Assistant Director, Admissions/School Relations
 Romero, Gina, Director, Financial Aid

Solorzano, George, Director, Higher Educational Learning Program
Sweet, Sharon, Acting Coordinator, Student Activities
Trujillo, Henry E., Assistant Vice President for Student Affairs
Vigil, Victor E., Director, Veterans Affairs
Wells, Elmer E., Director, International Students Program
Zeleny, Richard D., Coordinator, Resource Center/Career Planning and Placement

Emeritus Faculty

Barrett, James H., 1962, B.M., M.A., Ed.D., Professor Emeritus of Behavioral Science.
Bartlett, Thomas J., 1967, B.S., M.A., Professor Emeritus of Mathematics.
Binfield, Ann L., 1946, B.A., M.A., B.S.L.S., Professor Emeritus Librarian.
Blake, Marvin, 1949, B.E., Professor Emeritus of Manufacturing Engineering Technology.
Cotner, Jane, 1960, A.B., B.S.L.S., Professor Emeritus of Library Sciences.
Davison, Earle, 1950, B.S., Professor Emeritus of Industrial Technology.
Dudley, Lloyd P., 1956, B.A., M.A., Professor Emeritus of Speech.
Given, Jacqueline, 1933, B.S., M.A., Professor Emeritus of English and Mathematics.
Griffith, Gerald V., 1947, B.S., M.S., Professor Emeritus of Agriculture.
Herendeen, Gladys, 1948, B.A., M.A., Professor Emeritus of English.
Hobson, Henry, 1948, B.E., Professor Emeritus of Air Conditioning/Refrigeration.
Hoeglund, Harold A., 1959, B.A., M.A., M.Ed., Emeritus Associate Dean of the College.
Howard, Maurice L., 1962, Th.B., A.B., M.A., Ed.D., Professor Emeritus of Psychology.
Ihrig, Paul R., 1946, B.S., M.A., Professor Emeritus of Fine Arts.
Jurie, Carl A., 1956, B.A., M.A., Professor Emeritus of Geology.
Kahn, Theodore C., 1965, B.A., M.A., Ph.D., Sc.D., Professor Emeritus of Behavioral Science.
Kenyon, Gordon, 1960, B.A., M.A., Ph.D., Professor Emeritus of History.
Kurtin, Alfred D., 1945, B.A., M.A., Emeritus Registrar.
Levy, Ralph W., 1957, B.A., M.A., Professor Emeritus of Music.
Lund, Carl, 1957, Professor Emeritus of Welding.
MacClary, William B., 1946, B.A., M.A., Professor Emeritus of Economics.
McCown, Dean A., 1963, B.S., M.S., Ph.D., Professor Emeritus of Physics.
McIntyre, Katharine, 1938, B.S., M.S., Emeritus Dean of Women.
Middleton, Donald S., 1948, B.A., M.Ed., Professor Emeritus of Electronics.
Mikkelsen, Harry E., 1958, B.S., M.Basic Science, Professor Emeritus of Physics.
Pardun, Horace M., 1947, B.A., M.A., Professor Emeritus, Dean of Student Services.
Rudd, John P., 1965, B.A., M.A., Ed.D., Professor Emeritus of Psychology.
Sanderson, James M., 1947, B.S., M.A., Professor Emeritus of History.
Simmons, Harry H., 1946, B.A.B.E., M.Ed., Professor Emeritus of Physical Education.

Simms, Houston C., 1947, B.A., M.A., Professor Emeritus, Dean of Division of Science and Mathematics.
Singer, Olive, 1943, B.A., M.S., Professor Emeritus of English and Developmental Reading.
Taussig, ANNA, 1960, A.B., M.A., Professor Emeritus of Foreign Language.
Townley, Rodney D., 1945, B.Mus.Ed., M.Mus.Ed., Professor Emeritus of Music.
Vaughn, Leamon E., 1967, B.A., M.A., Professor Emeritus of Basic Communications.

Faculty and Staff

Adams, Robert M., 1981, B.A., George Washington University; Development Specialist, KTSC/TV.
Adkins, Robert T., 1981, B.B.A., University of Chattanooga, M.B.A., Stanford University, Ph.D., University of Arkansas; Professor of Marketing, Dean of the School of Business.
Aguilar, M. Kay, 1964, B.S., Lock Haven State College, M.A., Adams State College, Ed.D., University of Northern Colorado; Professor of Physical Education; Head, Department of Physical Education.
Ahmadi, Aziz A., 1981, B.S., University of Tehran, Iran, B.S., University of Idaho, M.S., University of Kansas, Ph.D., University of California, Berkeley; Professor of Metallurgical Engineering Technology.
Aichele, Ronald G., 1972, B.A., M.A., Ph.D., University of Missouri; Associate Professor of Philosophy.
Allen, Ernest E., 1963, B.S., Wayne State University, B.S., M.A., Michigan State University, M.A.T.M., University of Detroit, Ed.D., University of Northern Colorado; Professor of Mathematics, Dean of the School of Science and Mathematics.
Allen, Louise H., 1978, A.A., William Woods College, B.A., M.A., University of Kansas, Ph.D., University of Illinois; Vice President for Academic Affairs.
Amella, Gary, 1980, B.A., University of Colorado, M.A., Colorado State University; Liaison, Southwest Resource Center.
Amerman, Monique G., 1963, B.A., M.A., Colorado College, Ph.D., University of Colorado; Professor of French.
Amery, Frederick W., 1981, BSME, University of California; Instructor of Computer Science Technology.
Anderson, Norris D., 1965, B.A., M.A., Adams State College, Ed.D., Brigham Young University; Professor of Education.
Antista, James V., 1980, Master Control Switcher, KTSC/TV.
Arnold, Barbara A., 1971, B.A., M.Ed., University of Arizona; Coordinator, Student Development Center.
Askwig, William J., 1962, B.S.B.A., M.B.A., University of Denver, D.B.A., Texas Technological University; Professor of Economics.
Atteberry, Sarah, 1975, R.N., B.S., University of Southern Colorado, M.S., University of Northern Colorado; Instructor of Nursing.
Aube, Thomas R., 1980, Chief Engineer, KTSC/TV.
Aubert, Leah, 1977, R.N., B.S.N., St. Xavier College; Instructor of Nursing.
Austin, R. D., 1958, A.A., Pueblo College, B.S., M.S., University of Denver; Associate Professor of Chemistry.

- Baca, Judy M.**, 1981, B.S., University of Southern Colorado, M.S.W., Arizona State University; Assistant Professor of Social Work.
- Baldauf, Boyd J.**, 1964, B.S., Nebraska State College, M.A., Ed.D., University of Northern Colorado; Professor of Education.
- Banks, Jessie F.**, 1966, B.S., Central State University, M.A., Adams State College; Assistant Professor of Physical Education, Assistant Director of Athletics, Women's Basketball Coach.
- Bard, Eugene D.**, 1965, B.S., M.S., Oklahoma State University, Ed.D., University of Northern Colorado; Professor of Physics.
- Barnes, John**, 1976, B.A., M.A., University of Northern Colorado; Assistant Professor of Physical Education, Head Baseball Coach.
- Bassein, Beth Ann**, 1966, B.A., Tarkio College, M.A., Ph.D., University of Missouri; Professor of English.
- Beck, J. Michael B.**, 1970, B.A., Southern Colorado State College, M.A., Western State College; Assistant Professor of Music.
- Bennett, Earle L.**, 1968, Director of Support Services.
- Benton, Johnny**, 1968, B.A., Panhandle A&M, M.A., University of Arkansas, Ph.D., University of Oklahoma; Professor of Speech Communication.
- Blandford, Robert D.**, 1965, B.S., Eastern New Mexico University, M.A., Bowling Green State University, D.A., University of Northern Colorado; Professor of Mathematics.
- Blasing, James A.**, 1956, A.A. Trinidad State Junior College, B.S., M.S., Kansas State University; Associate Professor of Physical Education, Assistant Track Coach.
- Bond, John A.**, 1967, B.S., Trinity College, M.A., University of Chicago, Ph.D., University of Minnesota; Professor of Political Science.
- Boss, Marion L.**, 1964, B.S.B.A., Fort Hays State College, M.S.B.E., Emporia State Teachers College, Ed.D., University of Northern Colorado; Professor of Marketing.
- Bottini, Patrick W.**, 1968, B.S., Southern Colorado State College, M.A., Adams State College; Associate Professor of Industrial Education.
- Bowersox, Jack R.**, 1981, B.S.B.A., Clarion State College, M.A., Ph.D., University of Colorado; Assistant Professor of Economics.
- Bradley, Lawrence B.**, 1966, B.A., University of Northern Colorado, M.A., San Jose State College; Associate Professor of Theatre.
- Brassill, Joann A.**, 1967, B.A., Notre Dame College, M.A., Western Reserve University, M.F.A., University of Notre Dame; Professor of Art.
- Bright, A. Leon**, 1963, B.S., Central Missouri State College, M.A., University of Kansas, Ph.D., University of New Mexico; Professor of Spanish, Head, Department of Foreign Languages.
- Bronn, Stephen D.**, 1971, B.S., University of Nebraska, M.S., Ph.D., Northwestern University; Professor of Mathematics.
- Buckles, William G.**, 1965, B.A., M.A., Ph.D., University of Colorado; Professor of Anthropology.
- Cain, Robert L.**, 1970, B.A., Baylor University, M.S., Louisiana State University; Assistant Professor of Library Science, Documents Librarian.
- Cameron, James T.**, 1970, B.A., Colorado College, M.A., Ph.D., University of Colorado; Professor of Psychology.
- Campain, Robert F.**, 1981, B.S., Northern Michigan University, M.A., Western Michigan University, Ph.D., University of Denver; Associate Professor of Speech Communication.
- Campbell, William R.**, 1978, B.S., West Virginia University; Assistant Director of Telecommunications and Program Manager, KTSC/TV.
- Carder, Judith M.**, 1974, B.A., Southern Colorado State College; Coordinator of Cooperative Education/Career Planning and Placement.
- Carrillo, Andrew**, 1975, B.S., University of Southern Colorado; Development Skills Instructor, Higher Educational Learning Program.
- Cedrone, Frank J.**, 1969, Artist Diploma in Piano, Boston Conservatory; Artist-in-Residence.
- Cheng, Joseph K.**, 1973, B.S., Taiwan Christian College; M.S., University of Massachusetts, Ph.D., University of Oklahoma; Associate Professor of Engineering.
- Chandler, William D.**, 1979, B.S., Massachusetts Institute of Technology, M.B.A., University of San Francisco; Assistant Professor of Management.
- Chinn, Jacqueline**, 1970, B.A., Colorado College, M.A., University of Colorado; Assistant Professor of Basic Communications.
- Clay, Samuel O., Jr.**, 1971, B.A., University of Southern Colorado, M.A., University of Denver; Assistant Professor of Behavioral Science.
- Connelly, Jerald L.**, 1979, B.S., Ph.D., University of Rochester; Professor of Chemistry.
- Cook, Robert N.**, 1981, B.E.E., General Motors Institute, M.S.E., University of Michigan, M.Sc., Ph.D., University of Western Ontario; Associate Professor of Computer Science Technology.
- Cottrell, Donald E.**, 1970, B.S.E.E., University of Denver, M.S.E.E., University of Colorado, Ph.D.E.E., University of Denver; Professor of Electronics Engineering Technology, Head, Department of Electronics Engineering Technology.
- Cranmer, Joseph W.**, 1965, B.S., Brigham Young University, M.A., University of Wyoming, Ed.D., University of Utah; Professor of Physical Education.
- Crawford, Carole M.**, 1981, R.N., B.S.N., Oklahoma Baptist University, M.S., University of Colorado; Adjunct Assistant Professor of Nursing.
- Croton, Carol I.**, 1978, B.A., M.A., Ed.D., Ball State University; Assistant Professor of Basic Communications.
- Daniel, Lark O.**, 1975, B.A., M.A., Southern Methodist University, Ph.D., Purdue University; Dean, Learning Resources and Telecommunications.
- Daven, Jennifer**, 1981, R.N., B.S.N., University of California; Instructor of Nursing.
- Daxton, Lawrence E.**, 1966, B.A., M.A., University of Northern Colorado, Ph.D., University of Colorado; Professor of History, Director, Center for Humanistic Policy Studies.
- DeFore, Richard A.**, 1981, B.A., University of Wisconsin, M.A., University of Northern Colorado; Learning Resources Specialist, LRC/Educational Media Division.
- Denman, William F.**, 1981, B.S., Purdue University, M.A., University of Oregon, Ph.D., Syracuse University; Assistant Vice President for Student Services.
- Dille, Ralph G.**, 1976, B.A., B.S., M.A., Bowling Green State University, Ed.D., Ball State University; Associate Professor of Basic Communications.
- DiPrince, Linda S.**, 1970, B.S., University of Southern Colorado; Financial Aid Counselor.
- Dorsch, John A.**, 1965, B.A., Willamette University, M.S., Ph.D., Oregon State University; Professor of Biology.
- Driscoll, Donald J.**, 1965, B.A., Sophia University, M.A., Ph.D., New School for Social Research; Professor of Philosophy.
- Duncan, James L.**, 1958, B.M., Central College, M.M., Eastman School of Music; Professor of Music.

- Dunemn, Kathleen N.**, 1979, R.N., B.A., University of Northern Colorado, M.S., California State University, San Jose; Assistant Professor of Nursing.
- Eagan, William T.**, 1962, B.A., University of Denver, M.A., Claremont Graduate School; Professor of History, Summer Session Director.
- Eberling, Kathleen G.**, 1981, B.S., University of Southern Colorado, J.D., University of Colorado; Assistant Professor of Political Science.
- Engelbrecht, Kenneth W.**, 1967, B.S., University of Wisconsin, M.A., Northern Michigan University; Assistant Professor of Geography.
- Ervin, Dwain T.**, 1964, B.A., M.A., Ph.D., University of Colorado; Professor of History.
- Farris, Gerald C.**, 1967, B.A., Dakota Wesleyan University, M.S., Ph.D., Colorado State University; Professor of Biology.
- Farwell, Hermon W.**, 1966, A.B., Columbia University, M.A., The Pennsylvania State University; Associate Professor of Speech Communications, Head, Department of Speech Communication/Theatre.
- Fouts, Kenneth B.**, 1962, A.A., Lamar Junior College, B.F.A., University of Texas, M.A., University of Colorado, Ph.D., Southern Illinois University; Associate Professor of Speech Communication.
- Fouts, Pamela**, 1979, B.S.N., University of Kansas, M.S., State University of New York; Adjunct Assistant Professor of Nursing.
- Friedman, Michael A.**, 1974, B.S., M.S., University of Wisconsin; Head Football Coach/Admissions Counselor.
- Gabaldon, Frank**, 1981, B.S., University of Southern Colorado; Admission-Placement Counselor, High School Equivalency Program.
- Garcia, Nasario**, 1973, B.A., M.A., University of New Mexico, Ph.D., University of Pittsburgh; Professor of Spanish.
- Gardner, Rick M.**, 1969, B.A., Humboldt State College, M.A., Ph.D., University of Nevada; Professor of Psychology, Acting Assistant Vice President for Research.
- Genty, Don A.**, 1970, B.S.B.A., Carroll College, M.B.A., University of Denver; Manager, Sponsored Programs, Accounting.
- Gerber, Gerald I.**, 1969, B.A., Buena Vista College, M.Ed., Colorado State University; Director of Career Planning and Placement.
- Gilbert, Gail L.**, 1980, B.S., Texas Women's University, A.D.N., Texarkana Community College, B.S.N., Metropolitan State College, M.S.N., University of Texas at Arlington; Assistant Professor of Nursing.
- Gill, John P., Jr.**, 1971, B.S., University of Georgia, M.A., University of Alabama, Ph.D., Colorado State University; Professor of Mathematics, Head, Department of Mathematics.
- Gloe, Esther M.**, 1981, B.A., University of Missouri, Kansas City, M.A., M.Ed., Ph.D., University of Oklahoma; Assistant Professor of Basic Communications.
- Gorden, Joan C.**, 1970, B.S., Manchester College, M.S., Ph.D., University of Georgia; Professor of Psychology.
- Graham, Robert E.**, 1980, B.S., University of Tulsa, M.S., Ph.D., University of Arkansas; Associate Professor of Physics.
- Grabiec, Andrzej**, 1980, Masters, Poland Music Conservatory; Artist-in-Residence.
- Gray, Mary M.**, 1980, B.S.N., University of Northern Colorado, M.S.N., University of Colorado; Assistant Professor of Nursing.
- Griffin, John R.**, 1963, B.S., M.A., Xavier University, Ph.D., Ottawa University, Ph.D., Trinity College; Professor of English.
- Gutierrez, James M.**, 1978, B.A., University of Southern Colorado, M.A., New Mexico Highlands University; Assistant Professor of Education.
- Haering, Charles L.**, 1971, B.A., Colorado College, M.A., Western State College; Assistant Professor of Physical Education, Head Track Coach.
- Hammer, Charles R.**, 1964, B.A., Ph.D., University of Utah; Associate Professor of Chemistry.
- Hammond, William A.**, 1957, B.S.B.A., M.B.A., University of Denver; Professor of Accounting.
- Hearn, June L.**, 1967, B.A., Rice University, M.S., Iowa State University; Assistant Professor of Psychology.
- Hench, Robert W.**, 1965, B.F.A., University of Denver, M.A., Colorado College; Associate Professor of Art.
- Herrmann, Scott J.**, 1968, B.S., Northern Illinois University, Ph.D., University of Colorado; Professor of Biology.
- Hill, Warren R.**, 1981, B.S.E.E., University of Nebraska, M.S.E.E., Wayne State University, Dr. Engr., University of Detroit; Associate Professor of Electronics Engineering Technology.
- Hirth, Alan**, 1975, B.A., University of Colorado; Assistant Professor of Civil Engineering Technology.
- Hobbs, Harold C.**, 1966, B.A., M.A., Colorado College, Ph.D., University of Denver; Professor of Psychology.
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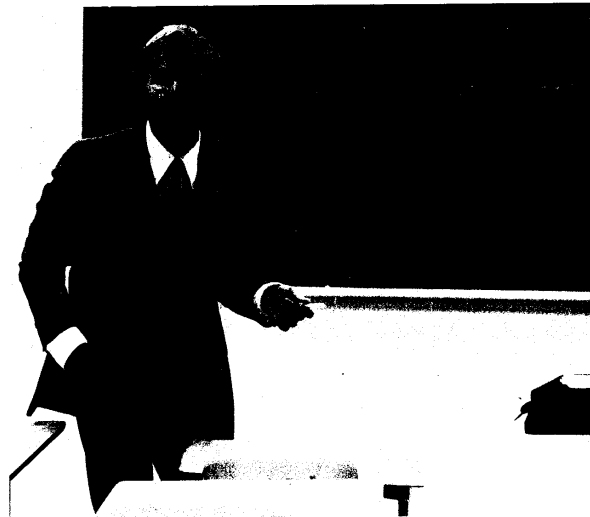
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