An Invitation

You are cordially invited to visit the University of Southern Colorado campus, meet members of the faculty and administration, and inspect the facilities of the university. Escorted tours of the campus will be provided on request. The administrative offices are open from 8 a.m. to 5 p.m. Monday through Friday. Please call or write the admissions office in advance of your visit.
The University of Southern Colorado does not discriminate on the basis of race, color, national origin, sex, age, or handicap in admission or access to or treatment of employment in its educational programs or activities. Inquiries concerning Title VI, IX, and Section 504 may be referred to: Affirmative Action Director, University of Southern Colorado, 2500 Bonforte Boulevard, Pueblo, Colorado 81001-4901, phone 719-549-2936 or Office for Civil Rights, Department of Education, 1961 Stout Street, Denver, Colorado 80204.
THE UNIVERSITY

HISTORY

The University of Southern Colorado has served the changing needs of the citizens of Colorado for more than 50 years.

In 1933, the institution was incorporated as The Southern Colorado Junior College. Classes took place on the top floor of the Pueblo County Courthouse. The “Class of ‘33” graduated 17 students. In 1936, the first building on the Orman Avenue campus site was donated by the Colorado Fuel and Iron Corporation. One year later, local citizens decided to support the institution with county taxes; they organized the Pueblo County Junior College District, and the institution was renamed Pueblo Junior College. In 1951, PJJC became the first accredited junior college in Colorado.

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

By then, four buildings had been erected on the new campus north of Pueblo’s Belmont residential district. On July 1, 1975, the state legislature granted the institution university status. Three years later, the State Board of Agriculture assumed governance of the University. In 1986, USC, Colorado State University and Fort Lewis College joined to form the Colorado State University System.
MISSION

The University of Southern Colorado, in accordance with the mission defined by the Colorado Commission on Higher Education in 1978 and revised in 1985, provides a unique contribution to higher education in the state. USC strives to become an excellent regional university with a polytechnic emphasis, continuing its tradition of teaching effectiveness and increasing its efforts in basic and applied research while maintaining a high degree of service to the citizens of Pueblo, the region and the state.

USC is an accredited institution with a specific mission: 1) to emphasize career-oriented, technological and applied programs, while maintaining strong programs in the liberal arts; 2) to engage in basic and applied research for the benefit of society; and 3) to function as the major educational resource for cultural, industrial and economic growth throughout the southeastern Colorado region.

The university accepts enthusiastically its role as a regional university with a polytechnic emphasis. We believe that our special commitment to applied research and career-oriented education, embracing but not limited to the technologies of engineering, science, and business, and grounded in an unalterable commitment to the traditional liberal and fine arts, creates a unique opportunity to educate the whole person. We resolutely embrace the conviction that while our liberal arts programs must be predicated on preparing students to engage in productive and meaningful living as well as to earn a living, our professional programs must maintain a strong liberal arts component to guard against the obsolescence of purely vocational and topical learning in a rapidly changing world.

High-quality teaching is the number one priority at the University of Southern Colorado. At the same time, faculty engage in scholarly activity to add to the store of knowledge in various disciplines and fields, and apply that knowledge to solving community and regional problems. Faculty involvement in research as well as in scholarly and creative activities substantially enhances the quality of teaching at the university. The University of Southern Colorado also places special emphasis on student development and success. To address this special emphasis, the university has made an unequivocal commitment to significantly improve the retention and graduation rates of all students.

In addition to the primary emphasis on teaching and the accompanying obligation to engage in scholarly endeavors, the university is committed to serving the surrounding community and region. The service obligation is fulfilled primarily through the processes of teaching and research, since the outcomes of those activities significantly address the needs of society. However, as a regional university which strives for excellence, we contribute to the overall quality of life and economic growth in our surrounding environment by sponsoring cultural events, clinical activities, student internships, research on community and business problems, and other special means of interaction.

To enhance its overall relationship with the city and region, the university is strongly committed to providing access for members of all minority groups, particularly the large Hispanic population within its service area, emphasizing and fostering cultural pluralism, enhancing the traditions of culture and language, encouraging the development of economic opportunities, providing appropriate academic support programs, and ensuring equal opportunity for all persons who are, or may become, members of the university community.

Thus, the university's mission has three components: teaching (the primary emphasis), scholarly activity (necessary to the advancement of knowledge and to high-quality teaching) and service (contributing to the development of the city and region).

GOALS AND PRIORITIES

In fulfilling its basic mission, the university regularly establishes long-range and short-term goals. Students, faculty, staff and administrators actively work together to achieve such important goals and to establish priorities for the institution's future. Copies of the most recent strategic plan are available for inspection in the Office of Planning and Budgeting.

GOVERNANCE

As part of the Colorado State University System, the University of Southern Colorado is governed by the State Board of Agriculture, which also governs Fort Lewis College in Durango and Colorado State University in Fort Collins. The Colorado Commission on Higher Education, the central policy and coordinating board for all public institutions, establishes policy on legislative, academic and fiscal matters.

ACCREDITATION

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

Individual programs approved by accreditation agencies include: chemistry, the American Chemical Society; engineering technology, the Accreditation Board for Engineering and Technology and the Colorado State Board of Education; music, the National Association of the School of Music; nursing, the National League for Nursing; and social work, the Council of Social Work Education.

AFFIRMATIVE ACTION/EQUAL OPPORTUNITY COMMITMENT

The University of Southern Colorado does not engage in unlawful discrimination in employment against any person because of race, color, religion, sex, national origin, age, handicap, or veteran status. Also, the university takes affirmative action to ensure that protected class applicants are
employed and that all employees are treated during employment without any regard to their race, color, religion, sex, national origin, age, handicap, or veteran status, in accordance with the laws of the United States and the State of Colorado. Such action includes, but is not limited to, affirmative efforts with respect to employment, promotion, transfer, recruitment, advertising; layoff, retirement, or termination; rate of pay or other forms of compensation; and selection for faculty development activities. The university posts in conspicuous places notices setting forth the provisions of nondiscrimination policy, affirmative action plans and programs, and equal opportunity commitments.

The University of Southern Colorado does not discriminate on the basis of race, color, national origin, sex, age, or handicap in admission or access to, or treatment of, employment in its educational programs or activities. Inquiries concerning Title VI, IX, and Section 504 may be referred to: Affirmative Action Director, University of Southern Colorado, 2200 Bonforte Boulevard, Pueblo, Colorado 81001-4901, phone 719-549-2936 or Office for Civil Rights, Department of Education, 1661 Stout Street, Denver, Colorado 80225.

THE CAMPUS

USC's campus, spanning more than 275 acres, crowns the north end of Pueblo, an historically and culturally rich city of 100,000 located near the Greenhorn Mountains in the colorful Pikes Peak region of southern Colorado.

All 13 buildings on campus, as well as fountains and pathways, follow the grand and unusual architecture of the University Library complex, which received a national award for design in 1986 from the American Institute of Architects and the U.S. Office of Education.

Approximately 330 sunny days a year attract outdoor enthusiasts to a full slate of summer and winter recreational activities, encompassing water sports at Lake Pueblo, biking along Pueblo's unique river trails, hang gliding over the prairie to the east and skiing in the mountains to the west.

Enrollment exceeds 4,000 students from throughout southeastern Colorado, the state, the nation and several foreign countries, representing a diversity of age groups and backgrounds, both rural and urban.

TERMS OF THIS CATALOG ISSUE

Students graduate under the catalog requirements noted in the Academic Policies section of this catalog. The 1992-93 issue becomes effective fall semester, 1992. Information contained within the catalog is current as of April 1992 but is subject to change without notice and therefore is not to be regarded as an irrevocable contractual commitment. Modification may occur at any time during the student's term of residence in the interest of lawful missions, processes and functions of the institution. The university will make reasonable efforts to inform students of any modifications occurring prior to publication of the 1993-94 catalog issue.

ADMISSION

The University of Southern Colorado welcomes applications from all persons interested in post-secondary education. The Office of Admissions, located in the Administration building, is the visitors' center for the university. Prospective students may obtain information about all USC programs, as well as university admission procedures, from the admissions office. Campus tours are available from 9 a.m. to 4 p.m. Monday through Friday. Advance notice is helpful but not mandatory.

All correspondence about admission and campus visits should be addressed to the Office of Admissions, USC, Pueblo, CO 81001-4901.

ENTERING FRESHMEN

Admission standards. The University of Southern Colorado's admission process is designed to promote diversity within the student population and to assure equal access to qualified applicants. The final admission decision is based on the applicant's potential for attaining a degree at the university.

First-time applicants are eligible for consideration for admission to the University of Southern Colorado if they achieve a CCHS admissions index score of 79 or higher. This score can be achieved by various combinations of high school grade-point average and ACT composite or SAT combined scores. Such combinations include:

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If applicants do not achieve an index score of at least 79, their credentials will be reviewed by an admissions committee, which will base a recommendation for admission on:

a) the applicant's academic and personal potential to benefit from or contribute to university programs; and,

b) the applicant's previous academic record.

Students with non-traditional backgrounds are encouraged to apply.

Admission requirements. Students may apply any time after the completion of 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 Education 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 Office of Admissions.

Applicants must submit:

1) a completed USC application;
2) a $15 application fee (non-refundable);
3) an official transcript of high school records or GED scores; and
4) scores from either the ACT or the SAT.

NOTE: Acceptance by the university does not necessarily mean acceptance into a particular degree program, some of which have admission requirements beyond those of the university.

Minimum high school academic preparation standards (MAPS). Students who meet the course requirements for graduation from a Colorado high school also meet the minimum academic preparation standards for admission to the University of Southern Colorado. However, to be prepared to take full advantage of the university's academic programs, and to strengthen the probability of graduation and career success, the university strongly recommends that students complete the following course work while in high school:

Four years of English
Three years of mathematics including two years of algebra and one year of geometry
Two years of natural science including at least one year of a physical science
Two years of social studies including American government
Two years of a single foreign language.

Advanced placement. The University of Southern Colorado participates in the Advanced Placement Program of the College Entrance Examination Board. Under the program, outstanding secondary school students may take certain college-level courses in their own high schools. Students who have taken the Advanced Placement Examination and who have received scores of 3, 4, or 5 will be granted university credit as well as advanced placement. USC credit is awarded without a grade, is counted toward graduation credits, and may be used to fulfill specific requirements.

For further information, students should contact the admissions office.

TRANSFER STUDENTS

Students who have attended other colleges or universities and are seeking admission to USC for the first time must file with the Office of Admissions an application for admission, the $15 application fee, and official transcripts from each institution attended. ACT or SAT scores and final high school transcripts also must be submitted if total transfer credits earned are less than 12 semester hours.

Transfer students must be in good standing at the institution they last attended and have at least a 2.0 cumulative grade-point average. If not, their records will be reviewed and a recommendation on their admission will be made by an admissions committee.

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

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

Each student must indicate all previous college experience on his or her application. Applicants may not ignore previous college attendance. Students who fail to inform the Office of Admissions of all previous college work will be subject to cancellation of enrollment.

Transfer Agreements. The Colorado State University System is dedicated to the concept of guaranteed transfer opportunities for students enrolled at any of the system's three campuses: the University of Southern Colorado, Fort Lewis College and Colorado State University. For a complete list of transfer agreements in effect, students should contact the Office of Admissions.

In addition, USC maintains transfer agreements with the two-year institutions in Colorado. Information on these agreements, which include course equivalencies, is available in the Office of Admissions.

Transfer of credit. Credit is accepted by USC from regionally accredited institutions recognized by the American Association of Collegiate Registrars and Admission Officers. USC accepts a maximum of 64 semester hours from community or junior colleges and/or a maximum of 96 semester hours from four-year institutions for credit toward degree requirements.

Grades of D and F are not accepted, with one exception. Grades of D in General Education Knowledge Component courses are accepted in transfer of the Colorado Community College and Occupational Educational System Core Courses if the student has fully completed either an A.A. or A.S. degree and has attained at least a 2.0 cumulative grade point average in completion of the associate's degree.
College Level Examination Program. All credit earned by the student on one of the CLEP general examinations and recorded on the student’s transcript from another institution is accepted in transfer, if the credit is not duplicated from other sources. If CLEP credit is transferred directly, only credit in the areas of humanities and social science is accepted unless otherwise approved in writing by the appropriate department chair and dean. If a student has taken humanities or social science classes before taking CLEP tests, those credits are deducted from the CLEP credits.

INTERNATIONAL STUDENTS

Students who are residents of another country must submit the following to be admitted to USC:

1) The official application for university admission, accompanied by a $15 fee;

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

3) Results of an English language proficiency test. First-time freshman students: A score of 500 on the Test of English as a Foreign Language (TOEFL) or a minimum score of 80 on the Michigan Test of English Proficiency, or completion of the advanced level at an English language training center is required. Transfer students: A score of 500 on the Test of English as a Foreign Language (TOEFL) or a minimum score of 80 on the Michigan Test of English Proficiency is required. In addition, transfer students must have an overall cumulative grade-point average of 2.00 or above. 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 no institutional funds are available to support international students; and

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

The Office of Admissions reserves the right to change policy. Exceptions are at the discretion of the dean of Admissions and Enrollment Services.

No international student applications for admission can be considered until all required materials are complete. All materials must be received by the Office of Admissions by the application deadlines.
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 reenrollment by the admission deadline of the semester in which they wish to enroll. Students who withdraw, or are withdrawn, from the university for any reason and are subsequently reenrolled after an absence of two or more semesters are governed upon reenrollment by the catalog current at the time of reenrollment. Any exceptions to the policy must have prior approval from the provost. Degree-seeking students who have attended another post-secondary institution or have taken college-level correspondence or extended studies courses must provide complete official transcripts of such studies.

The application fee is not required of undergraduates who are reenrolled to the university as degree-seeking students.

ACADEMIC RENEWAL

Students who return to the University of Southern Colorado after an absence of at least two years, and have not attended full-time at any other college or university, may request academic renewal at the time of reenrollment to the university. Students who take advantage of the Academic Renewal Policy will not have grade-point averages carried forward upon reenrollment, and courses with grades of D or F will not count toward graduation.

Students who seek reenrollment to the university after an absence of 10 years or more will not have grade-point averages carried forward. Any college credit earned more than 10 years before the date of reenrollment is not applicable toward the degree desired unless approved by the chair of the department offering the course[s] (or equivalent[s]), and by the appropriate dean.

Students who elect Academic Renewal will be required to complete at least 32 hours of credit after reenrollment before they are eligible for a baccalaureate degree.

UNCLASSIFIED STUDENTS

Students may enroll at the University of Southern Colorado as unclassified (non-degree seeking) students if they fall into one of the following categories.

Special Student: Special student status is reserved for applicants who are 20 years of age or older and who wish to enroll in courses without degree-seeking status. Applicants who wish to register as special students are required to file an application with the Office of Admissions each term that they wish to enroll.

A special student may carry up to 15 hours per semester and may earn a maximum of 36 semester hours while maintaining special student status. The student must maintain a 2.0 cumulative grade-point average as a special student. Special students who wish to exceed the 30-semester-hour maximum may file a petition with the Office of Admissions. However, no more than 30 semester hours may be applied to the baccalaureate degree should the student decide to become a degree candidate.

Degree-Plus Student: Non-degree-seeking students who have completed a baccalaureate degree may enroll as unclassified degree-plus students after filing the appropriate application with the Office of Admissions.

Guest Student: Students who are enrolled as degree candidates at other institutions of higher education may enroll for the summer term at the University of Southern Colorado as guest students. Guest students must complete the appropriate application with the Office of Admissions.

High School University Program: High school seniors may register for classes at the university. Students must submit an application approved by their high school counselor, principal and parents for each term they wish to enroll. In some cases, the high school district may pay students' tuition. Information on such programs is available in the Office of Admissions.

Senior Citizens: Persons 65 years of age or older, or 62 and retired, may audit courses on a space-available basis without paying tuition. Permission of the instructor is required.

Unclassified students are ineligible to receive financial assistance from the university, including aid from all federal and state financial assistance programs.

VETERANS

Veterans must follow the admission requirements and procedures outlined in this catalog. For certification of eligibility for education benefits under one of the Public Laws, students can apply for Veterans Administration benefits through the Office of Veterans Affairs in the Administration Building, Room 319.

ADMISSION PROCEDURES

Application deadlines. Application for admission as a degree-seeking student and all other required documents must be received before the deadline of the semester in which the student plans to enter. Deadlines for 1992-93 are:

Fall Semester 1992: July 31, 1992
Spring Semester 1993: December 15, 1992
Summer Session 1993: April 28, 1993
Fall Semester 1993: July 30, 1993
REGISTRATION
Advisement. All students are required to consult an academic adviser before registering for classes. Academic advisers are assigned by the major area. Degree-seeking students who have not selected a major and unclassified students should contact the Office of Counseling and Career Services, Room 236 of the Psychology building.
Registration procedures. Details on registration procedures are published in the class schedule bulletin distributed to students well in advance of each registration period.
Payment of tuition and fees. Tuition and fees are assessed in accordance with approved policies. Instructions for payment and payment deadlines are stated in the class schedule bulletin. Specific information about tuition and fees is given in the Student Expenses section of this catalog.
Changes of address. Students should keep university authorities informed of their current addresses. Change in address should be reported immediately to the records office.
Completion of student courses. The university holds students responsible for completing all courses for which they have enrolled unless they obtain approval for a change in registration or file an official withdrawal. Students not following proper course or university withdrawal procedures receive failing grades.

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

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

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

Intent is determined by:
1) the student's written declaration of intent to remain in Colorado indefinitely, i.e., the student has no present intent to leave the state now or in the future, and
2) documented evidence of overt actions that link the student to Colorado.

Examples which establish intent are: payment of Colorado state income tax, a Colorado driver's license, Colorado motor vehicle registration, the compliance with mandatory duty upon a domiciliary of the state, and voter registration. Obviously, the specific actions that establish intent vary according to the individual and the circumstances, but each individual must, with his/her circumstances, act consistently with the stated intent. An informational brochure pertaining to the establishment of residency for tuition purposes may be obtained by writing to the Office of Admissions.

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

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

TUITION AND FEES
The following schedule of tuition, fees and other charges is for information only. All fees and charges listed are subject to change because of action by the governing board prior to the beginning of the semester. The governing board normally acts on tuition and fee changes at its June meeting prior to the start of an academic year. Current information can be obtained from the university controller at (719) 549-2232. Tuition and fees per semester for 1991-92 were as follows:
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**Tuition surcharge for each hour over 18: $48**

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**Tuition surcharge for each hour over 18: $189**

**OTHER SPECIAL FEES**

The following are examples of special fees approved for the 1991-92 academic year. For a complete list of special fees, contact the university controller at (719) 549-2232.

- Original student/faculty/staff identification card: $3
- Identification card replacement: $5
- Faculty/staff identification card validation: $11
- Fee to activate placement file: $3
- General Education Development test battery: $30
- Parking permit (per year): $24
- Parking permit replacement: $4
- Returned check charge: $15
- Application fee: $15
- Deferred payment charge (per payment): $10
- Late add charge (per course): $10
- Matriculation fee (new students): $30
- Placement registration fee/student: $15
- Placement registration fee/alumni: $20
- Reinstatement charge: $50
- Transcript fee: $2

**Credit by Examination (per course):** $50
**Music fee (per lesson credit hour):** $30
**Television production fee:** $25
**Physical education fee-designated classes per semester:** $20
**Water Safety:** $20
**Scuba Diving:** $25
**Training Room:** $25
**Skiing:** $95
**Life Saving:** $20
**General fee:** $3

**ROOM AND BOARD RATES**

(Subject to change by governing board action)

- Occupancy and damage deposit: $100
- The deposit is required with each application for space in the residence hall and is held for the duration of occupancy.
- **Room (per semester, 1991-92):**
  - Single (continuing residence hall student): varies
  - Single (incoming student): $1,136
  - Double (continuing residence hall student): varies
  - Double (incoming student): $760
- **Board (per semester):**
  - 19-meal plan: $1,008
  - 14-meal plan: $916
  - 10-meal plan: $834
- **Room and Board (10-week summer semester):**
  - Single room: $680
  - Double room: $450
  - 15-meal plan: $580
- **Room and Board (5-week summer semester):**
  - Single room: $340
  - Double room: $225
  - 15-meal plan: $290

**OPTIONAL COPING FEE**

In the spring of 1989, students voted to establish a chapter of the Colorado Public Interest Research Group (CoPRiG), to be funded by a $3 walkable fee. CoPRiG is a statewide, student-directed, non-partisan, non-profit organization that conducts research, advocacy, and public education on such issues as voter registration, safe drinking water, air quality, toxic waste cleanup and prevention, consumer protection and good government. CoPRiG chapters operate at Colorado State University, the University of Northern Colorado, and Metro State College.
Students interested in becoming involved with CoIRG projects may call 549-6196 or (303) 555-1961. The CoIRG fee will be added to your charges automatically unless you initial the appropriate space on your registration form to waive a fee. If you do not wish to be charged for CoIRG and forget to initial the appropriate space, a refund can be requested from the CoIRG office in the Ochicko University Center.

PAYMENT OF STUDENT ACCOUNTS

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

<table>
<thead>
<tr>
<th>Amount owed</th>
<th>Late payment fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>$20-$99.99</td>
<td>$10</td>
</tr>
<tr>
<td>$100-$299.99</td>
<td>$15</td>
</tr>
<tr>
<td>$300-$499.99</td>
<td>$20</td>
</tr>
<tr>
<td>$500-$699.99</td>
<td>$30</td>
</tr>
<tr>
<td>$700-$899.99</td>
<td>$40</td>
</tr>
<tr>
<td>$900 and over</td>
<td>$50</td>
</tr>
</tbody>
</table>

NOTE: Students will not be permitted to register for subsequent terms until all debts have been paid.

ADDITIONAL PROCEDURES

Additional procedures are published before the beginning of each semester in the class schedule bulletin. The procedures described include the distribution of financial aid, payment due date, drop/add and withdrawal, administrative withdrawal for non-payment and refund policies. Students will be held responsible for adhering to the policies and procedures contained in that publication.

DELIQUENT STUDENT ACCOUNTS

Students are subject to any or all of the following actions if they have delinquent debts to the university:

- Administrative withdrawal
- Transcripts held
- Degree not conferred
- No future course registrations allowed
- Reasonable collection/legal costs added to the amount due

Any student who pays with a check that is returned unpaid by their bank will be subject to all of the penalties for late payment and will also be charged an additional fifteen ($15) fee.

ADJUSTMENTS

The Tuition Adjustment Appeals Committee will consider requests for adjustment to billed tuition and fee charges when a student must withdraw due to extenuating circumstances. Please see the semester class bulletin for procedures on how to file an appeal.

FINANCIAL ASSISTANCE

Financial aid is a resource for students and their parents to seek monetary assistance to help defray the costs of higher education. Eligible students who demonstrate financial need may receive assistance from grant, loan, work-study and/or scholarship funds. Students may obtain applications and other necessary forms from the Office of Financial Aid, Room 309 of the Administration Building.

The primary responsibility of paying for education rests with students and their families; assistance offered through the university is intended to supplement the family contribution. Requests for assistance always exceed the funds available, and federal monies are related to documented financial need. Therefore, the Office of Financial Aid requires students to follow the instructions for applying for aid outlined in the Student Financial Aid Handbook available in their office.

FINANCIAL AID POLICIES

Students must complete all necessary forms and submit the required documents to be considered for financial aid. Full-time students receive funding priority.

Funds are awarded with consideration for high need first, then moderate to low need.

When to apply (priority filing date). To be considered for financial assistance, students must complete either the Financial Aid Form (FAF) Need Analysis Report processed by College Scholarship Service, the Family Financial Statement (FFS) processed by the American College Testing Program or the USA Funds Form. Processing of any one of the applications requires approximately 30 days. Therefore, to meet the file-completion deadline for any fall semester, students must mail the FAF, FFS, or USA Funds Form by March 1 of each year.

The USC Office of Financial Aid requires a separate institutional application for aid recipients. This application, the FAF or FFS Need Analysis, and other required documentation must be in the financial aid office on or before the following file completion dates:

- Summer: April 15
- Fall - Spring: April 15
- Spring: November 30
Requirements for processing an application. To have an application processed and be considered for financial assistance, students must:

1) be accepted for admission to USC as a degree-seeking (classified) student; and

2) have a complete financial aid file.

Continuing students must be in good standing and comply with the financial aid Satisfactory Progress Policy, and must apply each year.

Students may not receive financial aid if they are:

1) on financial aid or academic suspension;

2) in default on student loans or owe repayment on grants previously received to attend USC or other institutions, or if parents are in default on a PLUS loan; or

3) not citizens or permanent residents of the United States.

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

For more detailed information on financial aid policies, contact the Office of Financial Aid for a copy of “Satisfactory Academic Progress Policy for Financial Aid.”

FINANCIAL AID PROGRAMS

GRANTS

Pell Grant. A Pell Grant is an award to help undergraduates pay for their education after high school. For the Pell Grant Program, an undergraduate is one who has not earned a bachelor’s degree.

For many students, Pell Grants provide a “foundation” of financial aid, to which aid from other federal and non-federal sources may be added. Unlike loans, grants do not have to be paid back.

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 with a five-year limit.

Colorado Student Grant (CSG). The CSG is awarded to undergraduate residents on the basis of financial need. The amount of this grant cannot be greater than $2,000 an academic year and generally will not exceed one-half the documented financial need.

Supplemental Education Opportunity Grant (SEOG). The SEOG is a form of non-repayable financial aid and is designed to assist undergraduate students with exceptional need. Awards may not exceed $4,000 per year.

State Student Incentive Grant (SSIG). The SSIG is awarded to undergraduate resident students on the basis of financial need. Stipends attached to the award are usually not greater than $2,500 per academic year and generally will not exceed one-half of the documented financial need.

WORK-STUDY

College Work-Study Program (CWSIP). The CWSIP is designed to provide jobs to students who, without the earnings from the employment, could not attend the university. The program is funded by both the federal government and the state of Colorado. The university annually employs approximately 600 students in the work-study program.

Full-time work-study. Full-time work-study is a program designed to provide students with employment during the summer. Some of the earnings from the employment may be used to offset the next academic year’s educational costs.

To be eligible, students must:

1) enroll at the university for the next academic year as degree-seeking (classified) students;

2) document financial need for the next academic year;

3) complete separate applications for the summer full-time work-study and for the next academic year by the specified date;

4) save a major portion of their earnings to assist with next year’s educational expenses; and

5) forgo enrollment in summer classes.

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

Students are selected for this program on the basis of their qualifications and the amount of funds available. The average no-need work-study award for the academic year is $1,500. Students must apply for need-based financial aid and must be found not eligible in order to qualify for the no-need program. They must complete either the College Scholarship Service Financial Aid Form (FAF), the American College Testing Program Family Financial Statement (FFS) or the USA Funds Form. Students should not assume that they will be found ineligible for need-based financial aid. Those who are declared ineligible, however, may qualify for the no-need work study.

LOANS

Perkins Student Loan (formerly titled National Direct Student Loan—NDSL). A Perkins Loan is a low-interest (5 percent) loan to help students pay for their post-secondary education.
Students may be eligible to borrow up to a total of:
- $4,500 if they are enrolled in the first two years of a degree program, or have completed less than two years of a program leading to a bachelor's degree;
- $9,000 if they are undergraduates who already have completed two years of study toward a bachelor's degree and have achieved third-year status (total includes any amount borrowed under Perkins Loan or NDSL for the first two years of study);
- $18,000 for graduate or professional study (total includes any amount borrowed under Perkins Loan or NDSL for undergraduate study).

Repayment of the loan begins nine months after students graduate or leave school. Students may be allowed up to 10 years to repay the loan. The amount of payment depends upon the size of the debt but usually is in payments of at least $30 per month. The university may agree to a lesser amount because of extraordinary circumstances such as prolonged unemployment.

In case of default on a Perkins Loan which the university is unable to collect, the federal government may take action to recover the loan. Questions about the terms of loan, repayment obligations, deferment or cancellation should be directed to the financial aid office or to the accounting office.

**Stafford Loan (formerly GSL).** A Stafford Loan is a low-interest loan made by a lender such as a bank, credit union or savings and loan association to help pay for post-secondary educational expenses. The loans are insured by either the federal government or state guarantee agency. For new borrowers who receive loans for periods of enrollment beginning on or after July 1, 1998, the interest rate is 6 percent for the first four years of repayment and 10 percent after that. For new borrowers who took out a loan between July 1, 1987, and June 30, 1988, the interest rate is 8 percent.

For students who are not new borrowers and who currently have a 7, 8 or 9 percent Guaranteed Student Loan, the interest rate(s) for any Stafford Loans borrowed in the future will remain 7, 8, or 9 percent. To be sure what your interest rate is, check your promissory note.

A freshman and sophomore can borrow up to $2,625 each year. A junior or senior can borrow up to $4,000 each year. A graduate student can borrow up to $7,500 a year (in some states these amounts may be less). At no time can the amount of a Stafford Loan exceed the student's financial need; therefore, the amount borrowed may be less than the amounts indicated above.

The total aggregate amount of a Stafford Loan that an undergraduate may borrow is $17,500; the total aggregate amount a professional student may borrow is $54,750 (including any Stafford Loan borrowed as an undergraduate student).

A Stafford Loan application may be obtained from a private lender, the Office of Financial Aid, or a guarantee agency.

Borrowers placed on financial aid suspension are not eligible for a Stafford Loan (GSL) and the lender will be notified.

**NOTE:** Applicants for Stafford Loans must complete the Financial Aid Form (FAF) (Nevada Analyst) or OPAR and submit it to the College Scholarship Service.

**PLUS loans.** PLUS loans are meant to provide additional funds for secondary educational expenses. The interest rate for PLUS loans is 9.3 percent. PLUS applications may be obtained through participating banks or credit unions.

Parents of dependent undergraduate students may borrow up to $4,000 per year to a total of $20,000 for each child who is enrolled at least half-time and is a dependent student. The borrower (parent) must begin the monthly repayments of a PLUS loan 60 days after the check is received.

The parent may request deferments of repayment under certain conditions established by the Colorado Student Loan Program.

**Supplement Loan for Student (SLS).** This loan is available for independent students to help pay for the cost of higher education. The interest rate is 9.3 percent. Independent students can borrow $4,000 per year, up to an aggregate amount of $20,000. SLS borrowers begin repayment within 60 days of disbursement. Principal (loan amounts) repayment may be deferred. Interest payments, if deferred, will be capitalized (added to the principal balance).

**NOTE:** PLUS and SLS applications must be submitted to the financial aid office for completion of the “school” section before mailing to the lender. SLS requires completion of the Financial Aid Form prior to submission of the SLS application.

For additional information on PLUS or SLS contact: Colorado Student Loan Program, (303) 450-9911; or the USC financial aid office.

**Short-term loan.** Short-term loans are intended only for those financial emergencies that present extreme hardship which could not reasonably be foreseen and which seriously threaten the continuation of students' enrollment at the university.

Students must be currently enrolled for at least 12 semester credits, must be in good standing and must not have an unpaid university account. Short-term loans will not be made at any time when the university is not in session.

Short-term loans will not be made to students who are in their first semester at USC (freshmen and transfer students). Maximum loan amount is $100 per semester.

Loans are to be repaid within a short period of time (normally within 60 days). If the loan has not been repaid or arrangements made for its repayment by the due date, the delinquent loan will be treated as an overdue student account and handled in accordance with university policy. Applications for short-term loans are available in the Office of Financial Aid. A $3 fee assessed for processing the loan will be deducted from the loan amount.
SCHOLARSHIPS

USC President’s Scholarship. The President’s Scholarship is designed to provide recognition for outstanding academic performance and talent (art, creative writing/journalism, music, speech/theatre) and is awarded to undergraduate Colorado residents who are graduates of Colorado high schools, community or junior college transfer students or continuing students at USC. The amount of the award is $1,000 per academic year. Twenty tuition and fee scholarships are awarded to incoming freshmen each year.

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

USC Diversity Grant. The Diversity Grant is designed to bring to campus and retain students from under-represented groups who contribute to a diverse education environment. Honors Diversity Grants of $1,000 are available to minority and handicapped students in the Honors Program. Applications for USC Diversity Grants of $1,000 are available in the financial aid office. These grants are designed to supplement other aid programs available to students.

Awards to out-of-state students. A portion of the undergraduate scholarship funds may be awarded to non-resident (out-of-state) students provided they meet all established criteria. Applications are available in the financial aid office.

Private scholarship program. The University of Southern Colorado Foundation administers many scholarships awarded by corporations, businesses, foundations, individuals and other private sources. Various scholarships also are given by local groups, service clubs, cultural societies and similar organizations. Additional awards are made by university departments out of funds deposited with the USC Foundation. Still other awards for designated scholarships are made by the USC scholarship committee.

The following procedures have been established for scholarship disbursements out of the USC Foundation each semester:

1) Foundation checks payable to each recipient and the university are placed with the USC cashiers;

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

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

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

Questions about private scholarships may be directed to the USC Foundation. Information about most scholarships is available at the USC Foundation office, 317C Administration Building, phone 549-2380, and from high school counselors.

ADDITIONAL ASSISTANCE PROGRAMS

Student employment services. The Office of Financial Aid provides a Job Locator and Development (JLD) program designed to encourage the development and expansion of off-campus part-time employment opportunities for all students, regardless of financial need. Additional information on the JLD program can be obtained in the financial aid office.

Veteran’s benefits. Programs offered by the University of Southern Colorado, with certain exceptions, are approved by the Community College and Occupational Education System for the education and training of those veterans and dependents of veterans eligible under applicable laws. A veteran or dependant planning a course of training in a special program not described in the university catalog or identified as approved for veterans benefits should check with the certifying official before enrolling in such a program, if benefit assistance is desired.

Veterans and dependents who plan to apply for Veterans Administration benefits while attending the University of Southern Colorado should contact the Office of Veterans Affairs as soon as the decision to enroll is made. Two months is the normal processing time required for the Veterans Administration to establish an applicant’s file. Further information may be obtained from the Office of Veterans Affairs in the Administration Building, Room 319.

Bureau of Indian Affairs. Students who are at least one-fourth American Indian, Eskimo or Alaskan, 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. For additional information, write to: Joseph Gregory, Scholarship Office, U.S. Department of Interior, Bureau of Indian Affairs, P.O. Box 370, New Town, North Dakota 58763.

Disabled/handicapped students. The Office of Counseling and Career Services, Room 216 of the Psychology building provides information and limited services for disabled and handicapped students.

REFUNDS AND REPAYMENTS

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

Example - Refund and Repayment

Jennifer received the following financial aid per semester:

<table>
<thead>
<tr>
<th>Aid Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pell</td>
<td>$1,000</td>
</tr>
<tr>
<td>Colorado Student Grant</td>
<td>$250</td>
</tr>
<tr>
<td>Stafford Loan (GSF)</td>
<td>$1,250</td>
</tr>
<tr>
<td>Scholarship</td>
<td>$500</td>
</tr>
<tr>
<td>Student Contribution</td>
<td>$500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$3,500</strong></td>
</tr>
</tbody>
</table>

Jennifer withdrew the sixth week of the semester; therefore, she is entitled to a 40 percent adjustment (possible refund) on tuition and fees.

- Total tuition/fees: $985
- Due for 5 weeks: $518 (60% due)
- Total refund adjustment: $345

The $345 is refunded to the federal and state financial aid programs, not to Jennifer. In this example, Jennifer earned the rest of her financial aid for room/board and other expenses; she does not have to repay those funds.

There is no refund or repayment adjustment after the ninth week of classes. Depending on the week of withdrawal, budget, and total financial aid, a repayment also may be expected from a student who withdrew before the end of the ninth week.

Upon withdrawal from the university, students must report their last day of attendance to the financial aid office. This date will be verified with the instructor.

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**STUDENT LIFE AND DEVELOPMENT**

**PROGRAMS, SERVICES, AND POLICIES**

The Division of Student Life and Development operates a number of offices, facilities, programs and organizations which exist primarily to enhance and support students' academic lives at the university.

**HOUSING**

Belmont Residence Hall (BRH) houses nearly 500 on-campus students. It is a modern, multi-story building consisting of three wings which are joined by a large commons area. A main lounge serves as a gathering area, a movie theater, and a large-screen satellite television viewing area. The housing office is located adjacent to the lounge, as is the mailroom. The lower level of the commons area consists of a recreation area (including a court for basketball, racquetball and volleyball and a weight room), a study lounge and a full-service laundry room. Belmont Residence Hall also has computer terminals for use by residents only.

All rooms are designed for two people, although single occupancy is available. Rooms contain beds, desks, bookshelves, study lamps, closets, dressers, and chairs. Linen service is available for a nominal charge.

**Freshman live-in policy.** All full-time (enrolled for 12 or more hours), single, non-veteran freshman students under 21 years of age, enrolled in any university program must live in the residence hall and participate in one of three meal plans. Students who make application to USC with permanent home
addresses and high school transcripts from communities that are within a 50-mile radius of the campus are exempt from the live-in requirement. Applications for appeals from the live-in requirement are due by the first day of classes each semester.

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

Housing for married students. Presently, no housing is available on campus for married students. Married students should contact the Joseph Occhiato University Center office (Room 113) for referral to housing in the community.

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

Off-campus housing. The Joseph Occhiato University Center office maintains a file of off-campus, privately owned rooming houses and apartments. Since listings change rapidly, prepared housing lists are not furnished.

FOOD SERVICE

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

**Monday through Friday**
- Breakfast: 7:00 a.m. — 8:15 a.m.
- Continental breakfast: 8:15 a.m. — 9:15 a.m.
- Lunch: 11:15 a.m. — 1:15 p.m.
- Dinner (except Friday): 5:00 p.m. — 6:30 p.m.
- Friday dinner: 5:00 p.m. — 5:45 p.m.

**Saturday and Sunday**
- Brunch: 10:30 a.m. — 12:30 p.m.
- Dinner: 5:00 p.m. — 5:45 p.m.

The snack bar and pub, La Cantina, is on the first floor of the Joseph Occhiato University Center and is open weekdays.

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

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

COUNSELING AND CAREER SERVICES

The counseling and career services department, located in Suite 236 of the Psychology building, houses many services available to students.

**Academic and Career Advisement.** The Advisement Center is open throughout the academic year to assist undeclared and unclassified students with course and major selection. Professional career counseling is provided to assist students in making academic decisions and vocational choices. Standardized testing instruments are administered to evaluate an individual’s interests and potential, and career materials are provided to promote career awareness and understanding. Once committed to an academic major, students are referred to faculty members in their major field for advising.

**Career Development and Placements.** The Placement Center provides resources and information to help potential graduates and alumni find career-related employment. On-campus career recruitment interviews are scheduled through the center. Information on career-related work experiences, cooperative education opportunities, and internships is available to assist undergraduate students with career development. The Career Resource Center provides written and video materials on employer organizations, as well as on job search strategies.

**Counseling.** USC provides professional counseling services for students with personal, social, or wellness concerns. This includes crisis intervention and referral services. In addition, student discussion groups, seminars and workshops are offered.

**Handicapped Services.** The USC campus is accessible to disabled persons and the Belmont Residence Hall provides adequate living facilities for handicapped students. Individualized support services such as readers, tutors, note-takers and interpreters are available for qualified students. All handicaps, including learning disabilities, are eligible for support.

**Testing Services.** USC is a national test center for standardized tests, including ACT, SAT, GRE, GMAT, CLEP, and MAT, and provides other interest, aptitude and personality assessments.

**Women’s Resource Center.** Many adults and re-entry students use the services of the Women’s Resource Center, which includes information on university and community resources. Special programs and peer counseling are available. Staff members are particularly sensitive to the needs and concerns of non-traditional students.

OTHER STUDENT SERVICES

**Orientation.** At the beginning of each semester, a program of orientation for transfer and new students is offered. During orientation, students are introduced to key academic and administrative personnel, learn about university policy, receive academic advising and register for classes. The University Calendar in this catalog and the semester bulletin list orientation dates and times. All new and transfer students are urged to attend.
The Office of Admissions provides information and dates for other opportunities for campus visits and orientation.

Student Health Service. The Student Health Service offers medical care to all students. The clinic is operated by a registered nurse and a secretary; a physician is on duty a part of each week.

Students are encouraged to visit the health clinic, located in Room 160 in the Joseph Occhiato University Center, whenever necessary.

Referrals to other physicians may be made when appropriate or if requested by the student. All medical records are confidential.

International Student Services. The Office of International Student Services helps students from other countries during their stay at the university. The office includes among its concerns, immigration matters, academic problems, student organizations, housing and subsistence emergencies. It is located in the Joseph Occhiato University Center, Room 22.

STUDENT ACTIVITIES

Clubs and organizations. USC students have opportunities to take part in the activities of a number of clubs, organizations, and honor societies. Membership often 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, seven copies of the proposed constitution should be submitted to the chairperson of the Associated Students' Government Charter Committee.

Student activities. The Office of Student Activities in Room 106 of the Joseph Occhiato University Center houses the Student Activities Board, funded by student fees. The board is responsible for planning, coordinating and implementing student-oriented activities. The board is composed of several committees: Special Events, Cultural Events, Town and Gown, Ethnic and Minority Programs, On-Stage, Outdoor, and Production.

Student government. All registered USC students who have paid fees are 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 ASG Senate, is composed of 14 senators elected from the student body and is presided over by the ASG executive vice president. The executive branch consists of the president, the vice president and the director of Business Affairs. The judicial branch is composed of five justices, one of whom is designated the chief justice. The senate meets weekly.

ATHLETICS

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

The university is a member of the National Collegiate Athletic Association and the Colorado Athletic Conference. USC sponsors the following intercollegiate sports:

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

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

INTRAMURALS

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

VETERANS' AFFAIRS

The Veterans Affairs Program provides information on programs and benefits available to veterans, including veterans' advisory services, educational benefits and programs, tutorial services and general information. For further details, write to the coordinator of Veterans Affairs or visit the office, Room 319 of the Administration building.

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

Benefits. The courses offered by the university, with certain exceptions, are approved for the training of veterans under Chapter 34, Title 38, U.S. Code (PL 819) as well as for dependents of veterans under Chapter 35, Title 38, U.S. Code. Recipients also include the new Montgomery GI Bill (Chapter 30), which encompasses service personnel recently discharged and active reservists. Veterans and dependents who plan to utilize benefits administered by the Veterans Administration while attending USC must report to the Office of Veterans Affairs as soon as the decision is made to attend the university.

JOSEPH OCCHIATO UNIVERSITY CENTER

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

**USC BOOKSTORE**

The USC bookstore is a modern 20,000 square-foot store in the Joseph Occhiato University Center serving USC faculty, staff and students. Texts for classes, general-interest books, current magazines, classroom supplies, sundries, 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.

**EDUCATIONAL RECORDS**

**Annual notification of rights.** The university informs students annually of their rights accorded under the General Education Provisions Act, Title IV of Pub. L. 90-247 as amended. Heretofore, provisions of the act have been discussed under the headings of "The Family Rights and Privacy Act" or "The Buckley Amendment."

**Prior consent for disclosure required.** The university shall obtain the written consent of the eligible student before disclosing personally identifiable information from the education records of a student, other than directory information, except as provided in section 99.31 of the act.

The university may disclose personally identifiable information from the education records of a student without the written consent of the parent of the student or the eligible student if the disclosure is:

- to other school officials, including teachers, within the educational institution or local educational agency who have been determined by the agency or institution to have legitimate educational interests;
- to officials of another school or school system in which the student seeks or intends to enroll, subject to the requirements set forth in section 99.34 of the act;
- subject to the conditions set forth in 99.31-99.35 of the act.

"Directory information" includes the following information relating to a student: The student’s name, address, telephone number, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, the most recent previous educational agency or institution attended by the student, and other similar information.

"Education records" mean those records which: 1) are directly related to a student, and 2) are maintained by the institution or by a party acting for the institution. At this institution, education records are defined as: student social security number or student number, grade reports, transcripts, disciplinary files and class schedules.

The university may disclose personally identifiable information about a student who is in attendance at the institution if the information has been designated as directory information.

The university may disclose personally identifiable information from the education records of a student to appropriate parties in connection with an emergency if knowledge of the information is necessary to protect the health or safety of the student or other individuals.

**VEHICLE REGISTRATION**

Students operating vehicles on campus must register their vehicles with the University Police before the first day of classes. A student parking permit costs $24 per year, $12 per a single semester. To register a vehicle, each student must present a valid driver’s license, a vehicle registration card or proof of ownership and valid university identification. The permit does not guarantee a parking space.

**IDENTIFICATION CARDS**

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

**VIOLATIONS OF LAW ON CAMPUS**

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

Deliberate illegal activity which comes to the attention of USC officials is not tolerated; officials do not interfere with lawful investigations or prosecutions regarding the law on campus. No one should assume that USC is a sanctuary for persons breaking the law. At USC, each individual is responsible for his or her behavior. An offense necessitating police action also may be treated internally as a university disciplinary matter.

**STANDARDS OF CONDUCT**

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

1) violation of federal, state and city laws and ordinances or any other conduct that adversely affects the functions of the university in the pursuit of its objectives;
2) theft or damage to university property or harm to a member or guest of the university community;
3) unauthorized entry into or use of university-controlled facilities or property;
4) failure to comply with directions of university officials acting in the performance of their duties;
5) violation of the university’s and/or residence hall’s regulations concerning the use, possession or consumption of alcoholic beverages;
6) use, sale, distribution or possession of drugs, controlled substances, barbiturates, not authorized by a physician or those which are illegal;
7) violation of published university, campus or residence hall policies, rules or regulations;
8) hazing in any and all forms;
9) disorderly conduct or loud, indecent or obscene conduct on university or university-controlled property or at university-sponsored functions;
10) physical or verbal abuse or intimidation of anyone on university or university-controlled premises or at university-sponsored functions or any conduct that endangers or threatens the health, safety or well-being of any person;
11) dishonesty, such as cheating, plagiarism, misrepresenting one’s self or facts or knowingly furnishing false information to any person or agency within the university community;
12) any form of academic dishonesty, including the acquisition of tests or other academic material belonging to a member of the university community without proper authorization, whether the acquisition is for personal gain or for the benefit of someone else;
13) forgery, alterations or use of USC documents, records, instruments, or identification with intent to defraud or mislead;
14) violation of university traffic or parking regulations;
15) Intentional obstruction or disruptions or inciting others to obstruct or disrupt teaching, research, administration, disciplinary proceedings or other university or university-authorized activities;
16) appropriating public or private property without the consent of the owner or person responsible;
17) possessing or using illegal or unauthorized firearms, explosives, dangerous chemicals, or other weapons on university-owned or controlled property;
18) possessing or consuming alcoholic beverages on or in university property, except in those areas authorized by the university, and then only those types of beverages authorized by the university;
19) failing to show proper identification to university police officers or other university staff (acting in official capacity) when requested to do so;
20) failing to meet university financial obligations;
21) tampering with fire equipment in any manner; or
22) any fraudulent misuse of university computer hardware or software.

DISCIPLINARY PROCEDURE

The primary responsibility for administering student discipline rests with the Office of Student Life and Development. In this capacity, the dean serves as the disciplinary ombudsman who receives and investigates all disciplinary complaints in an effort to alleviate unnecessary duplication of efforts while affording to all parties equal protection of the law. The dean delegates the responsibility for administering the judicial disciplinary process to a designated hearing officer. The hearing officer is responsible for discipline involving unacceptable student conduct and infractions of USC rules and regulations (other than academic rules and regulations).

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

If the hearing officer or campus appeals board determines that a student has violated a university regulation, a sanction may be imposed. Sanctions range from warnings to expulsion from the university. The Office of Student Life and Development provides upon request the institution’s Standards of Conduct Handbook, which contains a detailed explanation and description of institutional disciplinary philosophy, rules and regulations.
Students are well advised to become familiar with the academic policies of the university. Each student owns the responsibility to comply with those policies. The Office of Records exercises all possible care in checking students' records for graduation; however, it is the sole responsibility of the student to fulfill all requirements for a degree.

CATALOG REQUIREMENTS

Students may graduate under the catalog requirements for the year in which they are first enrolled, provided they complete graduation requirements within a continuous period of no more than 10 years. If a student withdraws or is withdrawn for any reason from the university and is subsequently readmitted after an absence of two or more semesters, readmittance will be governed by the catalog current at the time of readmission. Any exceptions to this policy must have prior approval from the provost. Students should obtain and keep a copy of the catalog under which they enter or are readmitted.

Students who transfer from Colorado community or junior colleges may graduate under the catalog requirements for the year in which they are first enrolled at the transfer college, provided they maintain continuous enrollment between the transfer college and USC and complete graduation requirements within 10 years. If a student withdraws or is withdrawn for any reason from the transfer college or USC and is subsequently readmitted after an absence of two or more semesters, readmittance will be governed by the catalog current at the time of readmission.
Students in the College of Applied Science and Engineering Technology, however, are required to meet the degree program requirements listed in the catalog in effect at the time they are admitted to that degree program, provided they subsequently complete graduation requirements within a continuous period of no more than 10 years.

TIME LIMITATION ON CREDIT

Any college credit earned more than 10 years before the date of admission or readmission is not applicable toward the degree desired unless it is approved by the chair of the department offering the course(s) or equivalent(s), and by the appropriate dean.

DEAN'S LIST AND GRADUATION CUM LAUDE

To qualify for placement on the dean's list, published fall and spring semesters, students must achieve a minimum grade-point average of 3.5 and place in the upper 10 percent of all eligible full-time students. To be eligible, students must be degree-seeking and must earn at least 12 credit hours in the semester in which grade points were awarded.

Students maintaining high scholastic averages are awarded undergraduate degrees cum laude, magna cum laude, and summa cum laude. A minimum of 60 hours must be earned at USC for a student to be considered for graduation cum laude, magna cum laude or summa cum laude. To graduate cum laude, a minimum cumulative grade-point average of 3.50 is required; for magna cum laude, a minimum grade-point average of 3.75 is required; and for summa cum laude, a minimum grade-point average of 3.90 is required.

CLASS HOURS AND CREDIT HOURS

A class hour consists of 50 minutes. One class hour a week of lecture or discussion for a semester earns a minimum of one credit hour. Two or three class hours a week of laboratory activities for a semester earn a maximum of one credit hour. The number of credits awarded for a given course is determined by the number of lecture or laboratory hours spent each week in class and is authorized in accordance with guidelines of the Colorado Commission on Higher Education.

FULL-TIME PROGRAM

A full-time program of study minimally consists of 12 credit hours per semester and normally consists of 15 to 18 credit hours per semester during the regular academic year. Under a typical full-time program, most students can complete a bachelor's degree in four years. To receive financial aid, insurance discounts, or full veterans' benefits, students must earn at least 12 hours per semester.

LIMITS ON PROGRAMS OF STUDY

Programs of study in excess of 18 semester credit hours are defined as overloads. Both resident and extended studies courses are counted in the credit-hour total.

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

<table>
<thead>
<tr>
<th>GPA</th>
<th>Credit-hour overload permitted</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than 2.50</td>
<td>0</td>
</tr>
<tr>
<td>2.50-3.40</td>
<td>3</td>
</tr>
<tr>
<td>3.41-3.80</td>
<td>6</td>
</tr>
<tr>
<td>3.81-4.00</td>
<td>7</td>
</tr>
</tbody>
</table>

Exceptions to these limits must be approved by the student's faculty adviser and department chair. Both signatures are required. Appeals may be made to the dean of the college of the student's major.

Under no circumstances may a student enroll for more than a total of 25 semester credit hours in a single semester.

CREDIT BY EXAMINATION

Departmental faculty shall identify those undergraduate courses, if any, for which students may earn credit by examination. A student may earn credit by examination in any of the approved courses subject to the following conditions:

- The student has not previously earned credit in the course at USC, has not previously failed a challenge exam for the course, or has not previously failed the course itself.
- The student has approval of the appropriate department chair (with appeal rights to the dean) to take the challenge examination.
- The student's performance on the examination is at the level of B or better.
- The student is currently admitted to USC or enrolled and in good academic standing at the time the examination is administered.
- The student does not use the challenged course to satisfy the residency requirement for graduation.
- The student must satisfy any additional criteria as specified by the department.

A student may earn a maximum of 30 hours of credit by examination, with no more than 10 hours of general education courses included in the total.
If the student is successful in challenging a course, the title of the course, credit hours and notation of credit by examination will be recorded on the student’s permanent record. Unsuccessful attempts are not recorded on the transcript.

The credit hours earned by examination do not count in the student’s load for the semester or in the calculation of the student’s grade-point average.

The non-refundable fee for credit earned by examination is $50 per course. Application forms for credit by examination are available in the records office.

CLASSIFICATION OF STUDENTS

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

Freshman: A student who has earned fewer than 30 semester hours of credit.
Sophomore: A student who has earned 30-59 semester credit hours.
Junior: A student who has earned 60-89 semester credit hours.
Senior: A student who has earned 90 or more semester credit hours.
Graduate Student: See the Graduate Studies section for classification information.

Unclassified: A student who has made no commitment to earning a degree. An unclassified student may be classified as degree-seeking when and if admission status is determined. Students under suspension, or those denied regular admission, are not eligible to enroll as non-degree students. Additional information on unclassified students is contained in the Admissions section of this catalog.

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

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

GRADING

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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade points per credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>(Excellent)</td>
</tr>
<tr>
<td>B</td>
<td>(Good)</td>
</tr>
<tr>
<td>C</td>
<td>(Average)</td>
</tr>
<tr>
<td>D</td>
<td>(Poor, but passing)</td>
</tr>
<tr>
<td>F</td>
<td>(Failure)</td>
</tr>
<tr>
<td>IN</td>
<td>(Incomplete)</td>
</tr>
<tr>
<td>W</td>
<td>(Withdrawal)</td>
</tr>
<tr>
<td>WF</td>
<td>(Withdrawal failing)</td>
</tr>
<tr>
<td>WN</td>
<td>(Administrative withdrawal)</td>
</tr>
<tr>
<td>S</td>
<td>(Satisfactory)</td>
</tr>
<tr>
<td>U</td>
<td>(Unsatisfactory)</td>
</tr>
<tr>
<td>NC</td>
<td>(No credit)</td>
</tr>
<tr>
<td>IP</td>
<td>(In progress)</td>
</tr>
</tbody>
</table>

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

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

Grades of S and U are available only in certain approved courses. Although a D is passing, it does not constitute a satisfactory grade. Students must have a 2.00 cumulative grade-point average of 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 except as specified under Transfer of Credit. Some programs require averages higher than 2.00. Students should check the information provided in the descriptions of the specific majors, minors or other programs in which they are interested. A course grade of F does not constitute a passing grade nor does it satisfy major or institutional requirements.

In progress. A grade of IP (in progress) may be given at the close of the term in certain approved courses. Students receiving an IP must register in the same course the next term, pay tuition and must complete the work during that term. Courses for which IP grades are accrued are identified in the Course Description section of this catalog.

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 failed to complete other course requirements. Any instructor giving an IN grade must submit an incomplete grade form in four copies. One copy is sent to the student, one to the Office of Records, one to the department chair’s office, and one is kept by the instructor. A grade of IN may be changed by the instructor. If incompletes are not completed by the end of the second semester (excluding summer) after they are received, a letter grade of A, B, C, D or F must be assigned by the instructor. Students are responsible for completing the course and initiating the change of an IN to a permanent grade. Re-registration is not necessary.
Transcripts contain an appropriate entry indicating that the grade-point average has been recomputed and stating the basis for recomputation. If a student fails a course twice, only one failure is computed into the grade-point average.

CLASS SCHEDULE CHANGES

Students are encouraged to secure adviser approval for all schedule changes. When students do not secure such approval, they assume full responsibility for their progress toward meeting degree requirements.

Changes of major. All changes of major must be made through the records office with the approval of the appropriate department chair.

Adding courses. Courses may be added to a student’s schedule during the drop/add period, as specified in the class schedules, with the permission of the instructor. Course additions must be processed through the Office of Records.

Students are responsible for processing schedule changes during the drop/add period. Under no circumstances shall the instructor assume this responsibility on behalf of the student.

Addition of independent study and continuing education. A resident student may enroll in independent study and continuing education 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 college.

Dropping courses. Courses may be dropped from a student’s schedule through the drop/add period as specified in the class schedule without a record of the dropped course appearing on the student’s permanent record. Courses must be dropped officially through the Office of Records. Short or mini-courses may be dropped in the same manner before 15 percent of the course duration has passed.

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

When a student withdraws from a course before 80 percent of the course duration has passed, a grade of W will be assigned. After 80 percent of the course duration has passed, a student may not withdraw.

NOTE: 80 percent of a 15-week course occurs at the end of the 12th week.
80 percent of a 10-week course occurs at the end of the eighth week.
80 percent of a 5-week course occurs at the end of the fourth week.
80 percent of an 8-week course occurs at the end of the sixth week.

Exceptions to the above policy must be approved by the instructor and the dean of the appropriate college. A grade of W does not affect the student’s grade-point average.
WITHDRAWAL FROM THE UNIVERSITY

To withdraw officially from the university, students must file a withdrawal form with the records office.

Timing is critical. Students who withdraw after the end of the drop/add period are not refunded full tuition and fees. Students who withdraw after the twelfth week of the semester also may suffer academic loss; a grade of F may be assigned by instructors if they are not notified officially of the student’s withdrawal. Students residing in the residence hall also must check out at the housing office.

Retroactive withdrawal. Students may request that all grades in a previous semester be retroactively removed and replaced by entries of W on the transcript if they have experienced, during that term, health and/or personal problems so severe that they could not reasonably have been expected to complete the semester satisfactorily. The requests must be submitted with documentation of the problem to the dean of Student Life and Development within one calendar year from the end of the semester for which retroactive withdrawal is being sought. With the provost’s approval, the transcript will be changed with a notation of the retroactive withdrawal and the effective date.

Military withdrawal. If military obligations interrupt the academic work of a member of the armed forces registered for courses, the student may ask instructors for an early termination of his or her courses. Early terminations may include, but are not limited to: 1) a grade of W; 2) an incomplete (IN) grade, if there is any chance the student will be able to complete the course requirements; 3) an early final examination and course grade; 4) partial course credit or 5) an 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 chair and dean.

AUDITED COURSES

A student may register for a course as an auditor, without credit, provided the instructor concerned gives permission. The tuition for audited courses is the same as the tuition for credit courses.

Persons 65 years of age or older, or 62 and retired, may audit courses without paying tuition on a space-available basis. Permission of the instructor is required.

EXPERIENTIAL CREDIT COURSES

Through cooperative education, internships, field-experiences and laboratory research, students in many degree programs have the opportunity to expand their knowledge and apply theory in "real-life" situations. All experiential credit courses occur under the direction of an academic instructor and are a part of the regular university curriculum. In some cases such courses are required for majors. All such courses require registration, carry credit, require payment of tuition, are listed in the catalog and include a planned program of activities outlined in the course syllabus. The grading system is the same as the system used for regular courses. Supervised work-experience courses are approved for inclusion in veterans’ class schedules under Veterans Administration Regulation 14265.

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

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

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

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

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

The maximum number of semester credit hours allowed for life experiences is six. Any amount over six must be approved and justified by the appropriate dean to the provost. 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 chair and the dean of the college in which credit is requested.

ACADEMIC STANDING

The academic standing of all students is reviewed at the end of each semester. After a student has attempted 12 semester credit hours, he or she must have a cumulative grade-point average of 2.0 or higher to remain in good academic standing.

Probation. Students are placed on academic probation at the end of any semester in which the cumulative grade-point average falls below 2.00. Notice of probation is given on the grade report. Once a student attains good academic standing (cumulative 2.0 GPA), probationary status is removed. Students on probation are encouraged to contact Counseling Services or their advisers for assistance.
Suspension. Students on probation are subject to suspension if at the end of the spring semester the cumulative grade-point average falls below the minimum level stated in the following table:

<table>
<thead>
<tr>
<th>Hours Attempted</th>
<th>Cumulative Grade-Point Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>0.000</td>
</tr>
<tr>
<td>24</td>
<td>1.600</td>
</tr>
<tr>
<td>36</td>
<td>1.700</td>
</tr>
<tr>
<td>48</td>
<td>1.800</td>
</tr>
<tr>
<td>60</td>
<td>1.900</td>
</tr>
<tr>
<td>72</td>
<td>1.940</td>
</tr>
<tr>
<td>84</td>
<td>1.990</td>
</tr>
<tr>
<td>96</td>
<td>1.980</td>
</tr>
<tr>
<td>108</td>
<td>1.960</td>
</tr>
<tr>
<td>120</td>
<td>2.000</td>
</tr>
</tbody>
</table>

Each transfer student must meet the academic standing requirements shown in the Admission Section of this catalog. For the purposes of measuring hours attempted, the number of hours used shall be the total of transfer credit hours accepted by USC and the number of hours attempted at USC. For purposes of computing grade-point averages of transfer students, only USC hours are used.

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

Appeals. Any student wishing to appeal suspension must submit a letter of appeal to the Office of the Provost. All letters must be postmarked no later than June 30 for admission to the succeeding fall semester. Students submitting appeal letters after June 30 and before October 1 will be considered for spring semester admission. Appeal letters should be addressed to the associate vice president and should explain specific reasons for seeking readmission. Students are responsible for initiating the appeals process.

CLASS ATTENDANCE

Students are expected to attend all meetings of the classes for which they are enrolled unless excused by the instructor. No extensions of vacation periods are given to students regardless of the location of their homes. Non-attendance at classes caused by late registration is considered the same as absence. Students are not allowed to attend courses for which they are not properly enrolled unless permitted by the instructor.

The university does not have a policy permitting a specific number of cuts or absences from class. Each instructor establishes an attendance policy for his or her classes and must inform students in writing of the policy at

the beginning of the term. However, the grades of students shall not be affected negatively solely due to absence from class because of participation in university-sanctioned activities may include, but are not limited to: inter-collegiate competition, participation on the forensics team, and field trips. Class absence due to university-sanctioned participation does not in any way excuse students from completing class preparations, assignments, examinations, or projects.

Although students may drop classes on their own initiative within timelines established by policy, faculty members have the right to drop students for non-attendance.

ACADEMIC INTEGRITY

Any use of unauthorized assistance in preparing materials which students submit as original work is considered cheating and constitutes grounds for dismissal. Instructors use practical means of preventing and detecting cheating, but the responsibility for maintaining academic integrity and avoiding dishonest scholarship rests with students. 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. Academic dishonesty violates the Student Code of Conduct (see Student Life section of this catalog) and subjects students to the university disciplinary procedure.

CLASSROOM BEHAVIOR

The classroom instructor is responsible for setting standards 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 may be asked to leave. If a person refuses such a request, he or she may be removed by the University Police and is liable to legal prosecution.

ACADEMIC APPEALS

Students have the right to appeal any academic decision, including the assignment of grades. Final grades, however, are unalterable unless a grade change form is completed and signed by the instructor, department chair and the dean. Academic appeals should be made first to the classroom instructor, next to the department chair, then to the dean of the college involved. If a satisfactory resolution cannot be reached, a final appeal may be made to the provost.
TRANSCRIPTS OF CREDIT

Official transcripts are issued by the records office at the request of the student. The first official transcript is free; for additional copies, a $2 fee is assessed.

Students are not issued transcripts until they have arranged to clear any outstanding financial obligations.

COMMENCEMENT

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

UNDERGRADUATE PROGRAMS

DEGREE REQUIREMENTS

Candidates for the baccalaureate degree must satisfy institutional and general education requirements, as well as specific requirements for the major and minor or area of concentration. Students should plan to complete the basic competency requirements in the freshman year and should plan to complete the general education requirements in the freshman and sophomore years. Students must file an approved graduation planning sheet with the Office of Records before midterm of the semester prior to the one in which they plan to graduate.

INSTITUTIONAL REQUIREMENTS

To earn a baccalaureate degree, students must, without exception:

1) earn a minimum of 128 semester hours with a cumulative grade-point average of at least 2.00. The 128 semester hours must include a minimum of 40 hours in upper-division courses (numbered 300-499). Of the last 32 semester credits earned immediately preceding graduation, no more than 16 may be completed at other colleges or universities. A minimum of 30 semester hours of resident instruction as approved by the department of the major must be earned in residence at USC;

2) satisfactorily complete all general education requirements as explained in a following section of this chapter. Explained under the section on General Education Requirements;
3) complete the requirements for an approved major and minor or area of concentration outside the major. Candidates for a bachelor of science degree must earn a minimum of 48 hours in the college of their major. Candidates for a bachelor of arts degree must satisfy the foreign language requirement; and

4) meet all financial obligations.

**GENERAL EDUCATION REQUIREMENT**

For those students entering the university prior to fall semester 1992, the institutional and general education requirements are listed in Appendix I.

The general education requirement for graduation includes a total of 42 semester hours in three categories:

- **Skills Component**
- **Knowledge Component**
- **Upper Division Component**

**SKILLS COMPONENT:** Students should complete this requirement as early as possible, preferably during the freshman year.

- English Composition I: 3 credits
- English Composition II: 3 credits
- Speech: 3 credits
- Computer Usage: 2 credits
- Mathematics: 3 credits
- Total: 14 credits

A student must complete the Skills Component with a minimum of 2.0 GPA.

For illustrative purposes, the sub-areas of the Skills Component are listed below.

**Literacy and Communication Skills**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 101</td>
<td>Composition I</td>
</tr>
<tr>
<td>ENG 102</td>
<td>Composition II</td>
</tr>
<tr>
<td>SPOOM 103</td>
<td>Speaking and Listening</td>
</tr>
</tbody>
</table>

**Computing Skills**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 104</td>
<td>Computer Graphic Literacy</td>
</tr>
<tr>
<td>CST 101</td>
<td>Computers and You</td>
</tr>
<tr>
<td>MUS 105</td>
<td>Introduction to Music and Computers</td>
</tr>
<tr>
<td>BUSAD 160</td>
<td>Introduction to Computers and Information</td>
</tr>
<tr>
<td></td>
<td>Processing</td>
</tr>
</tbody>
</table>

**Quantitative Skills**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 109</td>
<td>Mathematical Explorations (or a higher course with a C or better grade)</td>
</tr>
</tbody>
</table>

**KNOWLEDGE COMPONENT:** Students are required to complete at least one course in each of eight areas listed below.

1) Visual and Performing Arts: 3 credits
2) Literature: 3 credits
3) International & Multicultural Experience: 3 credits
4) Historical Consciousness: 3 credits
5) Health Consciousness and/or Awareness of Human Development, Experience & Behavior: 3 credits
6) Economic, Political and Social Systems: 3 credits
7) Life Science: 3 or 4 credits
8) Physical Science: 3 or 4 credits

Total: 25 credits

A laboratory experience is required in either area 7 or 8.

**UPPER DIVISION REQUIREMENT:** All upper division requirement courses carry three credits, will be intercollegiate in nature, and will fit within a generic mold of "The Role of Technology in Modern Society." To enroll in an upper division course, a student must have junior or senior standing, and must have completed all of the skills components and at least 19 of the 25 credits required in the knowledge component.

Exemptions from skills and knowledge component requirements may have been approved for certain major or minor areas. For current information, a student should consult with the appropriate department. No exemptions will be allowed from the upper division requirement for either USC or transfer students.

**MAJOR REQUIREMENTS**

Every baccalaureate student must elect a major and successfully complete all the requirements of that major prior to receiving a degree. The minimum number of semester hours required varies by major but must include a departmentally approved program of at least 30 semester hours of course work in the program of study.

**Emphasis Areas/Options.** Programs of study may specify emphasis or option areas within majors. Students may decide to select emphasis areas within a major and may have the emphasis areas or options recorded on their transcripts with approval of the department chair.

**MINOR OR AREA OF CONCENTRATION REQUIREMENTS**

In addition to a major, every student must complete either a minor or a concentration of interrelated courses totaling at least 20 semester hours. Minors consist of a sequence of courses in a specific academic discipline which are established by the department offering the minor. Students taking double majors satisfy the minor requirement. An area of concentration is a selection of interrelated course offerings which is established in support of a specific academic major by the department of the student's major. All courses in the area of concentration must be taken outside the student's major.
DOUBLE MAJOR

Students seeking a double major must satisfy the requirements of both majors as stated by both departments involved.

BACHELOR OF ARTS: FOREIGN LANGUAGE REQUIREMENT

Students seeking the degree of bachelor of arts must complete successfully a minimum of six semester hours of approved foreign language or linguistics course(s). If the foreign language option is selected, then two semesters of the same language must be completed.

Courses satisfying the BA requirement are two semesters of "introduction to" a foreign language (six semester hours) or two semesters of beginning French, German or Spanish (8-10 semester hours). Separate "introduction to" courses are offered in Italian, Russian and Spanish. Other languages are taught when enrollment permits. If a foreign language is chosen to satisfy the BA requirement, two semesters of the same language must be completed.

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

Those not desiring to study a foreign language may elect to complete one semester of FREN 100: Introduction to Comparative Linguistics (three semester hours), and ANTHR 106: Language, Thought and Culture (three semester hours). International students may substitute six semester hours of English courses.

SECOND BACCALAUREATE DEGREE

A student who wishes to earn a second bachelor's degree must complete a minimum of 32 hours of credit in addition to the total number of credits required for the first degree. The additional 32 hours of credit must have the approval of the department from which the second degree is to be earned and must be earned in residence at USC.

The additional credits required for the second degree may be completed concurrently with those credits applying to the first degree and the two degrees may be granted simultaneously, providing all requirements are completed for both degrees.

If the student possesses a baccalaureate degree from a regionally accredited college or university, the general education and institutional requirements are considered complete. A cumulative grade-point average of at least 2.0 is required for all work completed at USC toward the second degree. Students seeking a second degree are eligible for the Dean’s List and for graduation with distinction.

ACCOUNTABILITY PROGRAM

In 1985, the Colorado General Assembly enacted legislation (C.R.S. 23-13-101) requiring higher education institutions to develop accountability programs to comply with the intent of the legislature that:

a) Institutions of higher education be held accountable for demonstrable improvements in student knowledge, capacities and skills between entrance and graduation;

b) Such demonstrable improvements be publicly announced and available;

c) Institutions express clearly to students their expectations for student performance; and

d) Such improvements be achieved efficiently through the use of student and institutional resources of time, effort and money.

The University of Southern Colorado, in response to the aforementioned legislation, has adopted an accountability plan which contains the following provisions:

a) The basic educational goals for all undergraduates shall be communicated to students in the form of performance expectations for all students.

b) Each department shall develop and publish specific curricular, co-curricular, and appropriate student performance expectations for students by major.

c) Information on student improvement from entrance to graduation shall be collected, used, and publicly reported at three levels:

1) The total student body level (that is, information on all students collected by year of entrance and tracked to graduation).

2) The major level (that is, qualitative assessments of the extent to which students meet the performance expectations stated by the department).

3) The individual student level (that is, qualitative assessments of the extent to which individual students demonstrate growth in knowledge, intellectual capacities, and skills between entrance and graduation).

d) Information on after-graduation performance of students shall be collected by means of surveys of graduates, employers, and graduate professional schools.

e) Information on student and alumni satisfaction with their education shall be collected by means of surveys.

f) Information collected for the accountability plan shall be reported annually to the State Board of Agriculture and the Colorado Commission on Higher Education and used for the purposes of improving the quality of the educational experience at the university.
In recognition of the evolutionary nature of an accountability program, the University acknowledges that the provisions of the plan, as they are stated in this catalog, may change at any time during students' residence. The University will make reasonable efforts to inform students of any modifications to the accountability plan.

Basic Educational Goals for all Undergraduates

Effective for students entering for or after fall semester 1990, the University requires its graduates to meet or exceed the following performance expectations:

1) Fields of Study Goals

   Major Field
   The graduate shall demonstrate outcomes (proficiency) in the major by a variety of assessments specified by the faculty of the department offering that major. Faculty will determine and publish the expected outcomes for each major offered, and the students in the major will be provided with career planning in terms of the expected outcomes.

   Minor Field
   The graduate shall demonstrate outcomes in the minor by a variety of assessments specified by the faculty of the department offering the minor. Faculty will determine and publish the expected outcomes for each minor offered.

2) Intellectual Skills Goals

   Literacy Skills
   The graduate shall demonstrate effective skills in reading, writing, speaking and listening (public and interpersonal communication), visualizing, computing, locating and documenting sources of information.

   Quantitative Skills
   The graduate shall demonstrate the ability to understand and interpret numerical and graphical data.

3) Intellectual Capacities Goals

   Problem Solving, Logical Inquiry and Critical Analysis
   The graduate shall demonstrate the ability to: identify, define and solve complex problems through logical inquiry and creative exploration; engage in critical analyses; test hypotheses; and discriminate between observation and inference.

4) Knowledge Goals

   Aesthetic and Ethical Values
   a) Creative and/or Performing Arts — The graduate shall demonstrate knowledge of aesthetic values and artistic processes.
   b) Values (Social/Ethical) — The graduate shall demonstrate knowledge of ethical values and social and civic responsibilities.

Understanding Peoples

a) International and Multicultural Experiences — The graduate shall demonstrate knowledge of cultural differences and global interrelationships.

b) Historical Consciousness — The graduate shall demonstrate knowledge of the past as a means for analyzing contemporary issues.

c) Health Consciousness — The graduate shall demonstrate knowledge of the principles of mental and physical health.

Economic, Political, and Social Systems

a) The graduate shall demonstrate knowledge of the social, economic, and political institutions and systems.

Science and Technology

a) Science — The graduate shall demonstrate knowledge of natural and physical phenomena.

b) Technology — The graduate shall demonstrate knowledge of technology and its interrelationship with society.

Assessment of Basic Educational Goals

To assess the extent to which students meet or exceed the above performance goals, the University requires that all first-time freshmen who enroll full-time for or after fall semester 1990, complete the First General Education Exam prior to the beginning of classes in their initial semester of enrollment. The exam is scheduled during summer, fall and spring orientation programs at convenient times and is offered at no cost to students. In extraordinary circumstances, students may petition the director of Accountability to delay taking the exam until after classes begin. Failure to complete the exam prior to the beginning of classes for the second consecutive semester of enrollment automatically disqualifies students from progressing toward degree candidacy.

In addition, beginning with fall semester 1992, the University requires that all full-time students who have completed at least 60 but not more than 90 credit hours must complete the Second General Education Exam prior to the beginning of classes in the semester for which they enroll in their ninety-first credit. Failure to complete the exam automatically disqualifies students from progressing toward degree candidacy. The exam is scheduled at convenient times and offered at no cost to students. Students failing to show gains in general education outcomes between the first and second exams will not be penalized. However, their scores will be reported to them to provide feedback on their progress toward meeting the basic undergraduate goals.

To assist students in preparing to meet the performance expectations stated in basic educational goals provision of the accountability program, the faculty recommend that students:

1) meet the institutional requirements as early as possible in their academic careers, preferably in the freshman year;
2) meet their general education requirements by the end of the sophomore year, to the extent allowed by the degree program; and
3) complete the General Education Exams in a timely fashion.

Educational Goals for Majors and Minors

Effective for students entering full-time for or after the fall semester 1990, individual departments expect graduates to meet or exceed their performance expectations as stated in each collegeschool section of this catalog.

Departmental accountability plans differ in accordance with requirements of specific disciplines; however, each plan typically includes the following information:

- Departmental Goals
- Expected Student Outcomes
- General Requirements
- Specific Requirements for Majors
- Specific Requirements for Minors
- Co-curricular Requirements (if any)
- Outcomes Assessment Activities

In consideration of the evolutionary nature of departmental accountability plans, departments reserve the right to make modifications in their accountability plans as appropriate and necessary. Departments will notify students majoring and minoring in their areas of modifications in accountability.

Student Surveys

During students' enrollment and for a period of five years after they graduate, the university will conduct surveys to assess the level of students' satisfaction with their education. Students are strongly encouraged to respond to surveys and to provide other appropriate forms of feedback so that the university may more effectively use the results of surveys to improve the quality of education students receive.

Dissemination of Results

Students will receive reports of general education growth from the Office of Accountability; other assessment results will be disseminated by the faculty of students' major departments in accordance with departmental accountability plans.

Inquiries about the accountability program may be directed to the director of Accountability in care of the Office of the Provost.

THE COLLEGE OF APPLIED SCIENCE AND ENGINEERING TECHNOLOGY

Dr. Ray L. Sisson, dean

<table>
<thead>
<tr>
<th>Academic Departments</th>
<th>Majors</th>
<th>Minors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Computer Science Technology</td>
<td>Computer Science Technology</td>
</tr>
<tr>
<td>Computer Science Technology</td>
<td>• Computer Information Systems</td>
<td>Computer Information Systems</td>
</tr>
<tr>
<td></td>
<td>• Computer Science</td>
<td>Computer Science Technology</td>
</tr>
<tr>
<td>Engineering</td>
<td>Industrial Engineering (BS/EN) Systems Engineering (MS) Engineering Transfer Program</td>
<td></td>
</tr>
<tr>
<td>Engineering Technology</td>
<td>Civil Engineering Technology (BS/ET) Electronics Engineering Technology (BS/ET) Mechanical Engineering Technology (BS/MET)</td>
<td></td>
</tr>
<tr>
<td>Industrial Technology</td>
<td>Automotive Parts and Service Management (BS) Industrial Science Technology (BS) • Teaching IST • Facilities Technology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Automotive Parts and Service Management Industrial Science and Technology</td>
<td></td>
</tr>
</tbody>
</table>

The College of Applied Science and Engineering Technology degree programs reflect USC's polytechnic emphasis and are designed to prepare graduates for professional positions in industry, business and governmental agencies.

The computer science technology degree offers two distinct program options: computer information systems and computer science.

The industrial engineering degree program prepares graduates to work with the design, improvement and installation of systems. Students learn to consider human characteristics along with those of materials and equipment to produce quality products and services more efficiently. The BS/EN degree program is accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).
USC’s two-year engineering transfer program provides a solid foundation in basic engineering education for any specialty field the student ultimately selects at USC or at other engineering colleges.

USC’s baccalaureate degrees in civil, electronics and mechanical engineering technology are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. In addition to practical, hands-on laboratory experience, students receive a rich academic education in small classes taught by faculty with industrial experience.

USC’s automotive parts and service management degree program combines technical courses and practical labs on the automobile with management courses in business — an unequaled combination.

Industrial science and technology majors may select the option in facilities technology to serve in administrative and supervisory positions, or the option for teaching industrial arts and technology education with state teaching certification.

The master’s degree program in systems engineering uses techniques from engineering disciplines, mathematics, behavioral and physical sciences to analyze and design large scale human/machine/software systems for commercial, governmental and non-profit organizations.

**COMPUTER SCIENCE TECHNOLOGY DEPARTMENT**

**CHAIR:** Tappen  
**FACULTY:** Bortn, Cook, Knight, May, Pedgitt, Sath, Smith

The major in computer science technology leads to a bachelor of science (BS) degree designed to meet a variety of student needs, as well as the increasing demand for computer scientists. Students are prepared for careers as computer programmers, systems analysts and specialists in software engineering.

**Departmental Goals**

- To provide a high quality bachelor of science degree in computer science technology, using a curriculum that is responsive to prerequisites for advanced studies and the needs of the region served by the university.
- To provide two specific educational program options:
  1. Computer information systems — to provide computer-related skills in response to employment trends in the USC service area.
  2. Computer science — to implement curriculum recommendations of the Association for Computing Machinery (ACM).

**Expected Student Outcomes**

- Employable skills in applications programming, PC support and configuration, systems analyzed, local-area network administration, database administration (Option 1).
- Knowledge of computer science theory, computer organization, methodology and techniques of computer program and system design, hardware and software architecture, and computational mathematics (Option 2).
- A technically sound, modern education emphasizing training, use and support of applied computer technology. Graduates must demonstrate mastery of communication skills (verbal and written), as well as proficiency in a field of study outside the major.

**General Requirements**

- Students majoring or minor in computer science technology must maintain grades of C or higher in all courses offered by the department.
- Students must complete at least 128 semester hours in an approved program of study, including 48 hours in the major.
- 75 percent of CST upper-division credits supporting the major must be taken in residence.
- Students must complete a course planning worksheet and participate in the advisement process with a member of the CST faculty.

**Specific Requirements for the CIS Major, Option I — Computer Information Systems**

<table>
<thead>
<tr>
<th>CST Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST 101</td>
<td>Computers and You</td>
<td>2</td>
</tr>
<tr>
<td>121</td>
<td>Computer Science I</td>
<td>4</td>
</tr>
<tr>
<td>130</td>
<td>Programming Methodology</td>
<td>1</td>
</tr>
<tr>
<td>131</td>
<td>COBOL Programming I</td>
<td>3</td>
</tr>
<tr>
<td>150/150L</td>
<td>Micro Computer Software Applications</td>
<td>3</td>
</tr>
<tr>
<td>211</td>
<td>C Programming Language</td>
<td>3</td>
</tr>
<tr>
<td>240</td>
<td>Systems Analysis and Design I</td>
<td>3</td>
</tr>
<tr>
<td>301/301L</td>
<td>Local Area Network Concepts</td>
<td>3</td>
</tr>
<tr>
<td>331</td>
<td>Professional Programming Projects</td>
<td>3</td>
</tr>
<tr>
<td>341</td>
<td>Systems Analysis and Design II</td>
<td>3</td>
</tr>
<tr>
<td>350</td>
<td>Data Base Systems</td>
<td>3</td>
</tr>
<tr>
<td>380</td>
<td>Data Communications Systems</td>
<td>3</td>
</tr>
<tr>
<td>493</td>
<td>Seminar</td>
<td>1</td>
</tr>
<tr>
<td>Language Specialization Course (CST 231 COBOL II or CST 253 Advanced C Language)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Upper-division CST Electives</td>
<td>TOTAL</td>
<td>47</td>
</tr>
</tbody>
</table>

- **TOTAL Credits: 47**
### Other Required Courses (Many count for Gen Ed Group III)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCTG</td>
<td>Principles of Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ENG</td>
<td>305  Tech and Scientific Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>MGMT</td>
<td>310  Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>MATH</td>
<td>121  College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH</td>
<td>124  Precalculus Math</td>
<td>5</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH</td>
<td>131  Algebra/Trig for Engineering Tech I</td>
<td>4</td>
</tr>
<tr>
<td>MATH</td>
<td>132  Algebra/Trig for Engineering Tech II</td>
<td>4</td>
</tr>
<tr>
<td>MATH</td>
<td>156  Introduction to Statistics</td>
<td>3</td>
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</tbody>
</table>

**TOTAL 16-20**

### Institutional and General Education

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG</td>
<td>101  Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG</td>
<td>102  Composition II</td>
<td>3</td>
</tr>
<tr>
<td>SPSCOM</td>
<td>103  Speaking and Listening</td>
<td>3</td>
</tr>
<tr>
<td>HUMANITIES</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>SOCIAL SCIENCES</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>NATURAL SCIENCES</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>FREE ELECTIVES</td>
<td></td>
<td>9</td>
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<tr>
<td>APPROVED MINOR</td>
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<td>20</td>
</tr>
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</table>

**TOTAL 61**

**Total Credit Hours: 124-128**

### Specific Requirements for the CST Major Option II — Computer Science

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST</td>
<td>121  Computer Science I</td>
<td>4</td>
</tr>
<tr>
<td>CST</td>
<td>122  Computer Science II</td>
<td>4</td>
</tr>
<tr>
<td>CST</td>
<td>270  File Processing</td>
<td>3</td>
</tr>
<tr>
<td>CST</td>
<td>316  Operating Systems III</td>
<td>3</td>
</tr>
<tr>
<td>CST</td>
<td>321  Advanced Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>CST</td>
<td>330  Programming Languages</td>
<td>3</td>
</tr>
<tr>
<td>CST</td>
<td>350  Data Base Systems</td>
<td>3</td>
</tr>
<tr>
<td>CST</td>
<td>360  Digital Computer Concepts</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL 46**

### Other Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG</td>
<td>305  Tech &amp; Scientific Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>MATH</td>
<td>126  Calculus and Analytic Geometry I</td>
<td>5</td>
</tr>
<tr>
<td>MATH</td>
<td>207  Matrix &amp; Vector Algebra with Appl</td>
<td>2</td>
</tr>
<tr>
<td>MATH</td>
<td>224  Calculus and Analytic Geometry II</td>
<td>5</td>
</tr>
<tr>
<td>MATH</td>
<td>256  Probability for Engineers &amp; Scientists</td>
<td>3</td>
</tr>
<tr>
<td>MATH</td>
<td>325  Intermediate Calculus</td>
<td>3</td>
</tr>
<tr>
<td>MATH</td>
<td>345  Introduction to Numerical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MATH</td>
<td>356  Statistics for Engineers &amp; Scientists</td>
<td>3</td>
</tr>
<tr>
<td>PHIL</td>
<td>205  Deductive Logic</td>
<td>3</td>
</tr>
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</table>

**TOTAL 30**

### Institutional and General Education

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG</td>
<td>101  Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG</td>
<td>102  Composition II</td>
<td>3</td>
</tr>
<tr>
<td>SPSCOM</td>
<td>103  Speaking and Listening</td>
<td>3</td>
</tr>
<tr>
<td>HUMANITIES</td>
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<td>10</td>
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<tr>
<td>SOCIAL SCIENCES</td>
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<tr>
<td>NATURAL SCIENCES</td>
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<tr>
<td>FREE ELECTIVES</td>
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**TOTAL 51**

**Total Credit Hours: 129**

### Specific Requirements for the CIS Minor

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST</td>
<td>121  Computer Science I</td>
<td>4</td>
</tr>
<tr>
<td>CST</td>
<td>150/150L Microcomputer Software Appl/Lab</td>
<td>3</td>
</tr>
<tr>
<td>CST</td>
<td>240  Systems Analysis &amp; Design I</td>
<td>3</td>
</tr>
<tr>
<td>CST</td>
<td>301/301L LAN Concepts/Lab</td>
<td>3</td>
</tr>
<tr>
<td>CST</td>
<td>CST Elective Language Course</td>
<td></td>
</tr>
<tr>
<td>CST</td>
<td>(Choose from COBOL or C Language)</td>
<td>3</td>
</tr>
<tr>
<td>CST</td>
<td>CST Electives (includes 3 hours upper division)</td>
<td>6</td>
</tr>
</tbody>
</table>

**TOTAL 22**

### Specific Requirements for the CS Minor

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST</td>
<td>130  Programming Methodology</td>
<td>1</td>
</tr>
<tr>
<td>CST</td>
<td>121  Computer Science I</td>
<td>4</td>
</tr>
<tr>
<td>CST</td>
<td>122  Computer Science II</td>
<td>4</td>
</tr>
<tr>
<td>CST</td>
<td>CST Electives (includes 6 hours upper division)</td>
<td>11</td>
</tr>
</tbody>
</table>

**TOTAL 20**

### Outcomes Assessment Activities

- Students in the computer science major (Option 2) are required to take a nationally normed computer science achievement test in their senior year. The results are not included within graduation eligibility requirements; however, students are given access to their test results.
- Attendance by students taking the computer information systems major (Option 1) is required at a senior-level seminar. Accountability assessment will be administered as a part of the seminar.
- Survey information will be collected from graduates to follow up on the alignment profile and to check satisfaction with their academic and career goals.
ENGINEERING DEPARTMENT

CHAIR: Mills
FACULTY: Massey, Meta, Sarper, Sisson

The industrial engineering major leads to a bachelor of science in industrial engineering (BSIE) degree. This program is accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET). The department also provides courses for the first two years of other engineering disciplines for potential transfer students, upper-division courses for engineering options in chemistry and physics, and a master of science in systems engineering (MS) degree.

As defined by the Institute of Industrial Engineers: "Industrial engineering is concerned with the design, improvement, and installation of integrated systems of people, materials, and equipment. It draws upon specialized knowledge and skill in the mathematical and physical sciences, together with the principles and methods of engineering analysis and design, to specify, predict and evaluate the results to be obtained from such integrated systems."

Industrial engineering is a major branch of engineering with applications in manufacturing, service, governmental, and non-profit organizations. Industrial engineers are productivity people who deal with the human aspects of work in addition to the advanced technologies of computer software and production-related hardware.

The master of science in systems engineering is an interdisciplinary degree which utilizes tools and techniques from the engineering disciplines, as well as from the mathematical, behavioral and physical sciences to analyze and design large-scale human/machine/software systems. For more information on the MS in systems engineering see the Graduate Studies section of this catalog.

Engineering options in chemistry and physics offer students in each of these majors an opportunity to achieve specific employment or graduate educational goals. The program requirements for the individual engineering options are described in the Chemistry and Physics sections of this catalog.

Departmental Goals

The fundamental goal of the engineering department is to provide students with high-quality instruction in modern industrial engineering which is broad based and strongly rooted in mathematics, physical science and engineering science. Graduates of the program will be well-trained industrial engineers who can make immediate contributions to the operation of high-tech industries, service organizations, and traditional manufacturers in southeastern Colorado and elsewhere.

To help achieve this goal, department faculty members are engaged in scholarly activities which put them at the forefront of their profession; at the same time, they work with industries to maintain a strong applications orientation. Opportunities for students to interact with real-world problems are available through co-operative work experiences and the senior engineering design course.

Expected Student Outcomes

General Requirements

- A cumulative average of at least 2.00 in all industrial engineering core courses is required for graduation. Students transferring into industrial engineering from other universities and/or departments must have earned a minimum overall 2.5 grade point average. Students transferring into industrial engineering from the USC pre-engineering (engineering transfer) program must be in good academic standing at the time of the transfer request.

- Successful development of engineering skills requires a thorough understanding of mathematics and science and that knowledge should be cumulative from course to course. Consequently, students attempting any engineering course required in the industrial engineering program are expected to have completed all prerequisite courses with a minimum grade of C.

- Mathematical modeling, computer literacy, scientific inquiry and analysis, communication and empirical methodology skills are necessary requirements for an engineering career. Consequently, engineering courses will emphasize open-ended, design-oriented problems in which students must formulate models, use computer solutions as appropriate, collect data and prepare both written and oral reports of their analysis.

- The ability to extract concise problem statements from excess and often conflicting information in an organizational environment, followed by implementable solutions easily understood by decision makers, is the mark of a true industrial engineer. Consequently, every engineering student must take the senior capstone design course. This course requires on-site work with real-world problems.

- All engineers must have an adequate foundation in science, mathematics, communications, the humanities and social sciences, engineering science and engineering design methods to meet the challenges of society’s large-scale system problems. Consequently, the industrial engineering program has been designed to ensure that each of those areas is covered by a logically connected series of courses with strong prerequisite requirements.

Specific Requirements for the Industrial Engineering Major

<table>
<thead>
<tr>
<th>EN Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 105</td>
<td>FORTRAN for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>EN 107</td>
<td>Engineering Graphics</td>
<td>2</td>
</tr>
<tr>
<td>EN 211</td>
<td>Engineering Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>EN 212</td>
<td>Engineering Mechanics II</td>
<td>3</td>
</tr>
<tr>
<td>231/231L</td>
<td>Circuit Analysis Lab</td>
<td>5</td>
</tr>
<tr>
<td>315</td>
<td>Intro to Indus &amp; Sys Engineering</td>
<td>3</td>
</tr>
<tr>
<td>321</td>
<td>Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>324/324L</td>
<td>Mechanics of Materials/Lab</td>
<td>4</td>
</tr>
<tr>
<td>340</td>
<td>Human Performance Engineering</td>
<td>4</td>
</tr>
<tr>
<td>342</td>
<td>Manufacturing Processes</td>
<td>5</td>
</tr>
<tr>
<td>343</td>
<td>Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td>440</td>
<td>Safety Engineering</td>
<td>4</td>
</tr>
<tr>
<td>443</td>
<td>Quality Control &amp; Reliability</td>
<td>3</td>
</tr>
<tr>
<td>465</td>
<td>Stochastic Systems</td>
<td>3</td>
</tr>
<tr>
<td>471</td>
<td>Operations Research</td>
<td>3</td>
</tr>
<tr>
<td>473</td>
<td>Production &amp; Computer Aided Engi</td>
<td>5</td>
</tr>
<tr>
<td>475</td>
<td>Systems Analysis &amp; Design</td>
<td>3</td>
</tr>
<tr>
<td>477</td>
<td>Operations Planning &amp; Control</td>
<td>3</td>
</tr>
<tr>
<td>486</td>
<td>Indus Engineering Design Project</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>65</strong></td>
</tr>
</tbody>
</table>

**Other Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 126</td>
<td>Calculus and Analytic Geometry I</td>
<td>5</td>
</tr>
<tr>
<td>MATH 224</td>
<td>Calculus and Analytic Geometry II</td>
<td>5</td>
</tr>
<tr>
<td>MATH 256</td>
<td>Probability for Engineers and Scientists</td>
<td>3</td>
</tr>
<tr>
<td>MATH 325</td>
<td>Intermediate Calculus</td>
<td>3</td>
</tr>
<tr>
<td>MATH 337</td>
<td>Differential Equations I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 356</td>
<td>Statistics for Engineers and Scientists</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 221/221L</td>
<td>General Physics I/ Lab</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 222/222L</td>
<td>General Chemistry I/ Lab</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 121/121L</td>
<td>General Chemistry I/ Lab</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 123</td>
<td>Chemistry for Engineers</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 221/221L</td>
<td>Anatomy and Physiology/Lab</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>43</strong></td>
</tr>
</tbody>
</table>

**Institutional and General Education**

| EN Courses | EN 101 Composition I                             | 3       |
|            | EN 102 Composition II                            | 3       |
|            | SPCOM 103 Speaking and Listening                 | 3       |
|            | PSYCH 101/101L General Psychology I/ Lab         | 4       |
|            | ECON 201 Macroeconomics                          | 3       |
|            | HUMANITIES (GEN ED Group I)                      | 10      |
|            | **TOTAL**                                        | **29**  |

Total Credit Hours: 137

See departmental list of acceptable Group I courses.

**Co-curricular Requirements**

Engineering graduates should be introduced to the professional world and encouraged to develop a sense of obligation to the development and ethical practice of industrial engineering. Consequently, the faculty will support the activities of the local chapter of the Institute of Industrial Engineers (IEE), encourage student participation and promote the operation of a student chapter.

**Outcomes Assessment Activities**

The goal of the BSIE program is to produce engineers who meet the standards of nationally recognized professional licensing agencies and who are ready to assume responsibilities of professional practice. Consequently, each senior engineering student will be required to take the Fundamentals of Engineering Exam as prescribed by the Colorado State Board of Registration for Professional Engineers. The exam will be administered on regularly scheduled examination dates. No student will be permitted to graduate until he or she has taken the exam.

The engineering department also will participate with the College of ASET in graduate follow-up activities. Employment achievement and continued progress toward full professional engineering registration will be highlighted.

**Engineering Transfer Program**

Students planning to transfer to Colorado State University must follow the required program. Students planning to transfer to the Colorado School of Mines or other universities should consult an adviser in their expected receiving department for an evaluation of this program.

**Freshman Year**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 121/121L</td>
<td>General Chemistry II/ Lab</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 123</td>
<td>Chemistry II for Engineers</td>
<td>2</td>
</tr>
<tr>
<td>EN 105</td>
<td>FORTRAN 77</td>
<td>3</td>
</tr>
<tr>
<td>EN 107</td>
<td>Engineering Graphics</td>
<td>2</td>
</tr>
<tr>
<td>ENG 101</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 126/224</td>
<td>Calculus &amp; Analytic Geometry II</td>
<td>10</td>
</tr>
<tr>
<td>PHYS 221/221L</td>
<td>General Physics I/ Lab</td>
<td>5</td>
</tr>
<tr>
<td>General Education (Group I or II)</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>HP Approved Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>35</strong></td>
</tr>
</tbody>
</table>

**Sophomore Year**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 211/212</td>
<td>Engineering Mechanics III</td>
<td>6</td>
</tr>
<tr>
<td>EN 231/231L</td>
<td>Circuit Analysis I/ Lab</td>
<td>5</td>
</tr>
<tr>
<td>EN 324/324L</td>
<td>Mechanics of Materials/Lab</td>
<td>4</td>
</tr>
<tr>
<td>EN 321</td>
<td>Thermodynamics I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 325</td>
<td>Intermediate Calculus</td>
<td>3</td>
</tr>
<tr>
<td>MATH 337</td>
<td>Differential Equations I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 222/222L</td>
<td>General Physics I/ Lab</td>
<td>5</td>
</tr>
<tr>
<td>General Education (Group I or II)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>32</strong></td>
</tr>
</tbody>
</table>

See departmental list of acceptable Group I and II courses.
NOTE: 1) For priority consideration, transfer students should have a grade-point average of 2.5 or better with 60 semester-hour credits or more and a grade-point average of 3.0 or better with fewer than 60 semester-hour credits.  
2) Applications must be received by February 1 to qualify for priority consideration.  
3) Students who have grades of D in any of the pre-engineering courses will be considered on an individual basis.

ENGINEERING TECHNOLOGY DEPARTMENT

CHAIR: McNeill  
FACULTY: Burton, Chen, Cheng, Cough, Greet, Hirth, Holderness, Perkins, Sodum, Sweet, Womack

The major in civil engineering technology leads to a bachelor of science in civil engineering technology (BSCET) degree. The major is designed to produce competent field engineering technologists, surveyors, and soil and concrete technologists, who have supervisory capabilities. The curriculum places emphasis on surveying, construction, design and estimating. The upper-division courses provide a broader and more detailed understanding in areas such as land surveying, water supply systems, architectural drafting, and civil design projects. Managerial and supervisory capabilities are developed in courses such as estimating, business law, and construction contracting and supervision.

The major in electronics engineering technology leads to a bachelor of science in electronics engineering technology (BSEEET). The EET program prepares graduates for positions in the electronic and computer industries. Basic design concepts, as well as construction, testing, analysis, and computer applications are included in the program. Specifically, theory and laboratory work cover the design, testing, analysis and computer applications of conventional and state-of-the-art circuits and systems. Creative design relating to typical circuits and systems involving both discrete components and integrated circuits is included as part of the course work in the junior and senior years. The program also provides the student with an academic background necessary for many advanced positions in the electronics industry.

The major in mechanical engineering technology leads to the degree of bachelor of science in mechanical engineering technology (BSMET). Most MET courses are structured such that students learn theoretical and practical concepts in the classroom, followed by experimental application of the learned concepts in the laboratory. The use of computers and computer-controlled equipment is prevalent throughout the curriculum. MET graduates have been in high demand and have commanded high starting salaries from manufacturing industries and government research laboratories.

Students seeking a degree in one of the engineering technology disciplines should have a mathematics/science background including algebra, geometry, and trigonometry. All of the engineering technology programs are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Departmental Goals

- To prepare graduates in the disciplines of civil, electronics and mechanical engineering technology to function effectively in the technical workplace.
- To develop in students the theoretical foundation and practical skills necessary to apply existing technology to the solution of practical engineering problems.
- To maintain accreditation for all programs as defined by the Accreditation Board for Engineering and Technology.

Expected Student Outcomes

General Requirements

- Graduates are required to complete an approved program of study with a cumulative GPA of 2.0 or better in their major courses.
- Graduates are required to demonstrate skill and knowledge in the areas of quantitative analysis and science by having a cumulative GPA of 2.0 or better in the mathematics and physics courses common to all programs.
- All engineering technology majors are required to demonstrate the ability to solve problems appropriate to their discipline, to use computer techniques where applicable, and to complete a technical project requiring both oral and written reports.
- All engineering technology majors are required to study at least one computer language and to demonstrate their knowledge by writing appropriate computer programs.

Specific Requirements for the CET Major

It is expected that CET graduates should have the appropriate skills and knowledge regarding surveying and drafting. In addition, they should have a knowledge of basic construction materials along with the fundamentals of statics, strength of materials, hydraulics, structural analysis and design, and soil mechanics which are central to the discipline.
### Specific Requirements for the EET Major

All EET majors will be required to learn the use of basic electronic laboratory instruments and to demonstrate such knowledge through appropriate laboratory experiences. In addition, all EET majors should have a knowledge of electrical circuits, discrete electronic devices, digital circuits, advanced integrated circuits (both digital and analog), feedback control systems, microcomputers, and analog and digital communication.

#### EET Courses

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EET 101</td>
<td>101/110L \ Computer-Aided Electronic Draft/ Lab</td>
</tr>
<tr>
<td>EET 121/122L</td>
<td>\ DC Circuits/ Lab</td>
</tr>
<tr>
<td>EET 211/212L</td>
<td>\ AC Circuits/ Lab</td>
</tr>
<tr>
<td>EET 212/212L</td>
<td>\ Electronics II/ Lab</td>
</tr>
<tr>
<td>EET 254/254L</td>
<td>\ Intro to Digital Systems/ Lab</td>
</tr>
<tr>
<td>EET 255/255L</td>
<td>\ Intro to Microprocessors/ Lab</td>
</tr>
<tr>
<td>EET 311/311L</td>
<td>\ Control Systems/ Lab</td>
</tr>
<tr>
<td>EET 351/351L</td>
<td>\ Electronics III/ Lab</td>
</tr>
<tr>
<td>EET 353</td>
<td>\ Advanced C Programming</td>
</tr>
<tr>
<td>EET 354/354L</td>
<td>\ Computer Architecture/ Lab</td>
</tr>
<tr>
<td>EET 355/355L</td>
<td>\ Advanced Microcomputer Systems</td>
</tr>
<tr>
<td>EET 356/356L</td>
<td>\ Electronics IV/ Lab</td>
</tr>
<tr>
<td>EET 393</td>
<td>\ Seminar</td>
</tr>
<tr>
<td>EET 412</td>
<td>\ Communication Systems</td>
</tr>
<tr>
<td>EET 455/455L</td>
<td>\ Control Systems III/ Lab</td>
</tr>
<tr>
<td>EET 456/456L</td>
<td>\ Design Projects/ Lab</td>
</tr>
</tbody>
</table>

#### Approved EET electives

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>65</td>
</tr>
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</table>

#### Other Required Courses

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT 310</td>
<td>Principles of Management</td>
</tr>
<tr>
<td>MATH 131</td>
<td>Math for Engineering Tech I</td>
</tr>
<tr>
<td>MATH 132</td>
<td>Math for Engineering Tech II</td>
</tr>
<tr>
<td>MATH 231</td>
<td>Calculus for Engineering Tech I</td>
</tr>
<tr>
<td>MATH 232</td>
<td>Calculus for Engineering Tech II</td>
</tr>
<tr>
<td>PHYS 201/201L</td>
<td>Principles of Physics I/ Lab</td>
</tr>
<tr>
<td>PHYS 202/202L</td>
<td>Principles of Physics II/ Lab</td>
</tr>
<tr>
<td>PHYS 203</td>
<td>Principles of Physics III/ Lab</td>
</tr>
<tr>
<td>PHYS 201/201L</td>
<td>Principles of Physics I/ Lab</td>
</tr>
<tr>
<td>EN 343</td>
<td>Industrial Engineering Economy</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 134

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### Institutional and General Education

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 101</td>
<td>Composition I</td>
</tr>
<tr>
<td>ENG 102</td>
<td>Composition II</td>
</tr>
<tr>
<td>SPCOM 103</td>
<td>Speaking and Listening</td>
</tr>
<tr>
<td>HUMANITIES</td>
<td>10</td>
</tr>
<tr>
<td>SOCIAL SCIENCES</td>
<td>10</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 29
Specific Requirements for the MET Major

All MET majors should have a knowledge of drafting, computer-aided design, engineering materials, statics, dynamics, strength of materials, fluid mechanics, thermodynamics, manufacturing processes, statistical analysis, and quality control and reliability which are central to the discipline.

<table>
<thead>
<tr>
<th>MET Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MET 103/105L</td>
<td>Materials for Engineering Appls./Lab</td>
<td>4</td>
</tr>
<tr>
<td>111</td>
<td>Introduction to Drafting</td>
<td>3</td>
</tr>
<tr>
<td>202</td>
<td>Statics</td>
<td>3</td>
</tr>
<tr>
<td>203/203L</td>
<td>Manufacturing Processes I/Lab</td>
<td>4</td>
</tr>
<tr>
<td>204/204L</td>
<td>Manufacturing Processes II/Lab</td>
<td>3</td>
</tr>
<tr>
<td>206</td>
<td>Strength of Materials</td>
<td>3</td>
</tr>
<tr>
<td>306</td>
<td>Computer Programming and Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>311</td>
<td>Quality Control</td>
<td>3</td>
</tr>
<tr>
<td>322</td>
<td>Dynamics of Machinery</td>
<td>3</td>
</tr>
<tr>
<td>352/352L</td>
<td>Design of Machine Elements/Lab</td>
<td>3</td>
</tr>
<tr>
<td>356</td>
<td>Basic Design Principles</td>
<td>2</td>
</tr>
<tr>
<td>361/361L</td>
<td>Computer Integrated Manufacturing/Lab</td>
<td>3</td>
</tr>
<tr>
<td>441/441L</td>
<td>Thermal &amp; Fluid Principles II/Lab</td>
<td>3</td>
</tr>
<tr>
<td>442/442L</td>
<td>Design of Energy Systems/Lab</td>
<td>3</td>
</tr>
<tr>
<td>456/456L</td>
<td>Senior Project/Lab</td>
<td>2</td>
</tr>
<tr>
<td>460/460L</td>
<td>Instrumentation &amp; Ctrl Systems/Lab</td>
<td>3</td>
</tr>
</tbody>
</table>

Approved MET Electives

| | | |
| | | TOTAL 56 |

Other Required Courses

| EET | 250/250L | Basic Electronic Principles/Lab | 4 |
| EET | 350/350L | Electronic Motors & Controls/Lab | 4 |
| ENG | 305 | Technical & Scientific Report Writing | 3 |
| MGMT | 310 | Principles of Management | 3 |
| MATH | 131 | Math for Engineering Tech I | 4 |
| MATH | 132 | Math for Engineering Tech II | 4 |
| MATH | 231 | Calculus for Engineering Tech I | 3 |
| MATH | 232 | Calculus for Engineering Tech II | 3 |
| BUSAD | 260 | Business Statistics | 3 |
| PHYS | 201/201L | Principles of Physics I/Lab | 4 |
| PHYS | 202/202L | Principles of Physics II/Lab | 4 |
| CHEM | 111/111L | Principles of Chemistry I/Lab | 4 |

Approved Technical Electives

| | | TOTAL 49 |

Institutional and General Education

| ENG | 101 | Composition I | 3 |
| ENG | 102 | Composition II | 3 |
| SPOCOM | 103 | Speaking and Listening | 3 |
| GRP I | HUMANITIES | 10 |
| GRP II | SOCIAL SCIENCES | 10 |

Total Credit Hours: 134

Co-curricular Requirements

The faculty supports and encourages the involvement of engineering technology majors in at least one technical organization specific to each discipline and actively encourages student participation in such organizations.

Outcomes Assessment Activities

- To be eligible for graduation all engineering technology majors are required to take a departmental examination in their discipline. The results of the examination will be used by the department in the evaluation of its programs. The results for individual students will be kept in strict confidence by the department, however any individual student can obtain her/his results for advisory purposes. Test results will have no effect on student GPA or graduation eligibility.
- Survey information from both graduates and employers will be collected during the first, third and fifth year following graduation.

INDUSTRIAL TECHNOLOGY DEPARTMENT

Chair: Tedrow
FACULTY: Bandj, Bottini, Carleo, Darby, Sevcovic

The major in automotive parts and service management leads to a bachelor of science (BS) degree designed to provide the student with detailed technical knowledge of the automobile and a broad range of management skills applicable to the automotive industry. The curriculum emphasizes personnel supervision, financial analysis, customer relations, warranty administration, sales promotions, techniques of technical problem-solving, service dissemination, marketing, merchandising and distribution methods used by the automotive aftermarket, automotive manufacturer and import industries.

The major in industrial science and technology leads to a bachelor of science (BS) degree. The program has two options.

Option 1: Teaching Industrial Science and Technology

This option is designed to prepare teachers for junior and senior high schools. Graduates will be skilled in teaching methods, techniques, organization, curriculum, evaluation, and supervision. They will develop manipulative skills in the use and operation of the latest tools, machines, and products used in industry. They will learn technical information as related to our industrial society. State of Colorado (A.T.) certification requirements will be accomplished by completing the program and teacher certification.

Option 2: Facilities Technology

This option prepares students to serve in administration and supervisory positions. Graduates will be prepared to plan, program, and supervise plant operation and construction in major physical facilities, such as schools, industry, malls, hotel/motel complexes, hospitals, office buildings, etc.
Departmental Goals

- To provide students with the appropriate knowledge and skills necessary to become productive, accountable and responsible employees upon entering the work force.
- To provide students with a comprehensive theoretical foundation, bolstered by hands-on laboratory experiences.
- To prepare APSM students for entry-level management positions with automobile original equipment manufacturers and aftermarket companies.
- To provide, for students majoring in the other areas, i.e., mechanical engineering technology, education, etc., the opportunity to gain a limited automotive background which could prepare them to pursue a career in an automotive-related industry by successful completion of an APSM minor.
- To provide IST students with the knowledge and skills necessary to enter teaching positions in junior or senior high schools, or to enter administrative or supervisory roles in facilities management positions.
- To maintain accreditation in the teacher education option.
- Professional advisory committees will advise faculty in the automotive parts and service management and facilities management programs in keeping the curriculum updated.

Expected Student Outcomes

General Requirements for the APSM Program

- Graduates of the program are required to complete an approved curriculum with a minimum grade of C earned in all major courses.
- Graduates are required to demonstrate intellectual skills and knowledge in related business courses to satisfy the minor, and institutional requirements and general education courses to be successful; therefore, APSM students must complete their courses with a cumulative GPA of 2.0 or better.
- APSM majors shall demonstrate technological literacy by showing the ability to compose and edit using a word processor, and to use a simple spreadsheet for quantitative analysis.
- All APSM students will be required to solve problems appropriate to their discipline; to be able to use the computer for design, analysis, and business transactions; and to demonstrate proper use of measurements and diagnostic equipment.
- Students in the APSM minor program are required to complete the approved curriculum with a minimum grade of C earned in all minor courses.

Specific Requirements for the APSM Major

<table>
<thead>
<tr>
<th>APSM Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>105</td>
<td>Intro to the Parts &amp; Serv Indus</td>
<td>2</td>
</tr>
<tr>
<td>115</td>
<td>Automotive Engine Design &amp; Operation</td>
<td>4</td>
</tr>
<tr>
<td>125L</td>
<td>Automotive Susp &amp; Brake Systems Lab</td>
<td>4</td>
</tr>
<tr>
<td>135L</td>
<td>Automotive Fuel Sys &amp; Exhaust Ems Lab</td>
<td>4</td>
</tr>
<tr>
<td>155</td>
<td>Automotive Jobbers &amp; Dealer Parts Oper</td>
<td>5</td>
</tr>
<tr>
<td>165</td>
<td>Industrial Equip &amp; Heavy Equipment</td>
<td>2</td>
</tr>
<tr>
<td>205</td>
<td>Automotive Jobber Dist &amp; Merchandising</td>
<td>5</td>
</tr>
<tr>
<td>215L</td>
<td>Automotive Power Trains &amp; Dr Lines Lab</td>
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</tr>
<tr>
<td>235</td>
<td>Machine Shop Equipment &amp; Operation</td>
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</tr>
<tr>
<td>245L</td>
<td>Automotive Electrical Systems I Lab</td>
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</tr>
<tr>
<td>255L</td>
<td>Automotive Electrical Systems II Lab</td>
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</tr>
<tr>
<td>305</td>
<td>Auto Parts and Service Management</td>
<td>3</td>
</tr>
<tr>
<td>325</td>
<td>Fuels &amp; Lube Production, Mkig &amp; Conservation</td>
<td>3</td>
</tr>
<tr>
<td>335L</td>
<td>Automotive Shop Practices Lab</td>
<td>5</td>
</tr>
<tr>
<td>345L</td>
<td>Advanced Automotive Systems Lab</td>
<td>5</td>
</tr>
<tr>
<td>405</td>
<td>Automotive Sales Principals &amp; Practices</td>
<td>5</td>
</tr>
<tr>
<td>415</td>
<td>Auto Expense Control &amp; Analysis</td>
<td>5</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>66</td>
</tr>
</tbody>
</table>

Other Required Courses

| BUSAD 220 | Business Law | 3 |
| ACCTG 201 | Principles of Financial Accounting | 3 |
| ACCTG 202 | Principles of Managerial Accounting | 3 |
| MGMT 310 | Principles of Management | 3 |
| MGMT 318 | Personnel Management | 3 |
| FIN 330 | Corporate Financial Management | 3 |
| MKTG 340 | Principles of Marketing | 3 |
| MGMT 414 | Small Business Management | 3 |
| MET 152/152L | Applied Physical Metallurgy/Lab | 3 |
| TOTAL     |        | 27 |

Institutional and General Education

| SPCOM 103 | Speaking & Listening | 3 |
| ENG 101 | Composition I | 3 |
| ENG 102 | Composition II | 3 |
| MATH 109 | Mathematical Explorations | 3 |
| ECON 201 | Principles of Macroeconomics | 3 |
| ECON 202 | Principles of Microeconomics | 3 |
| BUSAD 105 | Introduction to Business | 3 |
| General Education Classes (consult your adviser) |        | 28 |
| CST 101 | Computers and You | 2 |
| TOTAL         |        | 51 |

Total Credit Hours: 144
Co-curricular Requirements

Automotive Parts and Service Management/Industrial Science Technology

In both programs, the faculty support and encourage students to have co-curricular experiences that complement and reinforce the curricular experiences by participation in student organizations, clubs, employment or other activities related to the APSM and/or IST program.

Outcomes Assessment Activities

Students enrolled in the baccalaureate degree programs of the industrial technology department are expected to meet the following requirements:

1) Students are required to develop and maintain a portfolio containing a record of achievement, in showing improvement in intellectual skills, knowledge and capacities between entrance and graduation. During the semester of graduation, the faculty shall evaluate each graduate portfolio. The department will keep a copy of each portfolio on file to be used as a summary assessment to assist the department in the evaluation of programs.

2) In addition to the portfolio, survey information from both the graduate and his/her employer will be collected during the first, third and fifth year following graduation.

3) Students minorin in APSM and IST, Teaching Option, must submit a portfolio containing a record of achievement.

THE COLLEGE OF HUMANITIES AND SOCIAL SCIENCES

Dr. Friederike Wiedemann, dean

Academic Departments

<table>
<thead>
<tr>
<th>Majors</th>
<th>Minors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art (BA, BS)</td>
<td>Art</td>
</tr>
<tr>
<td>History (BA)</td>
<td>History (BA)</td>
</tr>
<tr>
<td>Political Science (BA, BS)</td>
<td>Political Science</td>
</tr>
<tr>
<td>Social Science (BA, BS)</td>
<td>Social Science</td>
</tr>
<tr>
<td>Philosophy (BA, BS)</td>
<td>Philosophy</td>
</tr>
<tr>
<td>Chicano Studies</td>
<td>Chicano Studies</td>
</tr>
<tr>
<td>English (BA)</td>
<td>English</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>Foreign Languages</td>
</tr>
<tr>
<td>Spanish (BA)</td>
<td>Spanish</td>
</tr>
<tr>
<td>Interdisciplinary Studies</td>
<td>Honors</td>
</tr>
<tr>
<td>Mass Communications (BA, BS)</td>
<td>Mass Communications</td>
</tr>
<tr>
<td>Music (BA)</td>
<td>Music</td>
</tr>
</tbody>
</table>

Specific Requirements for the IST Minor

<table>
<thead>
<tr>
<th>IST Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IST 101</td>
<td>Wood Technology</td>
<td>3</td>
</tr>
<tr>
<td>103</td>
<td>Commercial &amp; Residential Construction</td>
<td>3</td>
</tr>
<tr>
<td>204</td>
<td>Production Systems</td>
<td>3</td>
</tr>
<tr>
<td>303</td>
<td>Communication Systems Technology</td>
<td>3</td>
</tr>
<tr>
<td>304</td>
<td>Transportation Technology</td>
<td>3</td>
</tr>
<tr>
<td>331</td>
<td>Manufacturing Fabrication Process</td>
<td>3</td>
</tr>
<tr>
<td>377</td>
<td>Curriculum Dev &amp; Evaluation in IST</td>
<td>3</td>
</tr>
<tr>
<td>455</td>
<td>Methods/Techniques of Teaching IST</td>
<td>3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

Other Required Courses

| ACCTG 201 | Principles of Financial Acctg | 3 |
| ACCTG 202 | Principles of Managerial Acctg | 3 |
| BUSAD 220 | Principles of Business Law | 3 |
| BUSAD 220 | Business Statistics I | 3 |
| ECON 201 | Principles of Macroeconomics | 3 |
| ECON 202 | Principles of Microeconomics* | 3 |
| FIN 330 | Corporate Financial Management* | 3 |
| PSYCH 101 | General Psychology** | 3 |
| PSYCH 315 | Organizational & Admin Psych** | 3 |

TOTAL 26

Note: Require only one in each of the two groupings: * and **.

Institutional and General Education

| ENG 101 | Composition I | 3 |
| ENG 102 | Composition II | 3 |
| SPOCOM 103 | Speaking & Listening | 3 |
| PSYCH 100 | General Psychology I | 3 |
| General Education Courses (consult your major advisor) | 21 |
| MATH 121 | College Algebra | 4 |
| CHEM 111L | Principles of Chemistry Lab | 4 |
| PHYS 201L | Principles of Physics Lab | 4 |
| CST 101 | Computers and You | 2 |

Total Credit Hours: 128
A university has the development of the human mind at its center. Throughout history, the disciplines represented in the liberal arts developed our ways of thinking and our methods of creating, researching, and inventing. It is the mission of the College of Humanities and Social Sciences to carry this tradition forward and to contribute to our knowledge in the arts, the humanities, and the social sciences. The college reflects the polytechnic mission of the university by introducing modern technology into its disciplines and by strongly emphasizing applied activities in all the fields it represents. Thus, grounded in the humanities and committed to career-oriented education, each of the college’s departments seeks to enhance its students’ academic and social growth; to help them find their individual aesthetic preferences and ethical priorities; to assist them in becoming responsible citizens; to guide them as they acquire intellectual knowledge and practical skills; and to prepare them to make enlightened choices.

ART DEPARTMENT

CHAIR: Jared

FACULTY: Audrey, Herch, Marine, Wands

The art curriculum is intended to increase the student’s awareness and understanding of art and its relationship to society. The art major prepares the student to be a practicing artist, to enter graduate school for further professional education, or to teach art at the elementary and secondary level. Students may select art courses as a minor or as a means of achieving a greater sense of personal sensitivity. Students, faculty, and invited professional artists display their work in the USC Art Gallery.

The major in art leads to the degrees of bachelor of arts (BA) or bachelor of science (BS). A minor in art and an endorsement in teacher certification also are available.

Departmental Goals

To prepare graduates in the discipline of fine art to become creative and responsible citizens with skills in studio processes and a knowledge of art history.

Expected Student Outcomes

General Requirements

- The art faculty firmly believes that a quality undergraduate art program must be built from the strong foundation of basic concepts and techniques that are provided by the required ART CORE courses. Art history, drawing, and design are the traditional disciplines providing the necessary background of information and skills for individual artistic growth and maturity. A strong grounding in the fundamentals of art, as provided in the ART CORE, indicates the department’s insistence upon respect for and commitment to the academic discipline of art as a professional career.
- Art majors must complete the required courses known as the ART CORE, except Art 410, before proceeding into the beginning courses.
- No grade lower than a C will count toward either an art major or minor.

Specific Requirements for the Art Major

- ART CORE

<table>
<thead>
<tr>
<th>ART Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>101 and 102 - Art Survey (History)</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>115 and 116 - Design I &amp; II</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>141 and 142 - Drawing I &amp; II</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>110 - Art Orientation</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>410 - Career Orientation</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>18</strong></td>
<td></td>
</tr>
</tbody>
</table>

- The BA degree requires an additional minimum of 22 hours of art to be chosen in consultation with a faculty adviser.
- The BS degree requires an additional minimum of 30 hours of art to be chosen in consultation with a faculty adviser.
- State certification in art education requires an additional 30 hours of art courses prior to certification. Courses are chosen in consultation with an art adviser.

Specific Requirements for the Art Minor

| ART | 141 or 142 - Drawing I or II   | 2       |
|     | 115 or 116 - Two Dimensional or Three Dimensional Design | 3       |
|     | 101 or 102 - Art History Survey I or II | 3       |
| Art electives approved by minor advisor | **12** |
| **TOTAL** |                                     | **20**  |

For teaching endorsement requirements, see the Education Program section of the catalog.
Co-curricular requirements

The faculty supports and encourages the involvement of art majors and minors in the Art Club and related activities specific to each discipline and actively encourages student participation in such organizations.

Outcomes Assessment Activities

• Art majors will successfully demonstrate competencies required by the department. Competencies will be evaluated using two basic instruments: grades and portfolio review.

• The art faculty believes that grades are an important and significant tool in indicating the quality of a student’s performance, therefore, grades are to be one of the measuring devices in determining the curricular outcomes of art majors.

• Each art major is required to produce and maintain a portfolio of work as a record of achievement. The contents and objectives of this portfolio will be described, discussed, and planned in the Career Orientation class (Art 110). Final evaluation of the progressive portfolio will take place during the last semester in the art orientation class (Art 410). The format of the portfolio may vary according to subject matter and content, but the general presentation format will consist of 35mm color slides, color prints and/or video tapes.

• As a competency indicator of achievements in the area of art history, part of the portfolio may contain samples of a student’s written material as related to art history, analysis and criticism, as well as a departmental art history exam.

• The intent of the portfolio is to faithfully reflect the ability and competency level of the art student as he or she progresses in the program. The makeup of the portfolio will reflect the personal accomplishments of each individual.

• A representative sampling of student portfolios will be retained by the department for a period not to exceed two years; thus enabling qualified persons to review and assess departmental achievement of stated goals.

• A complete set of syllabi, class assignments, course outlines and examination examples of each art instructor’s classes will be maintained and updated by each faculty member and made available to the student. Class objectives and skills to be attained during the class will be documented clearly in these materials. The complete file of this information will be retained and made available for perusal by qualified persons wishing to determine how courses are adapted to meet stated objectives.

HISTORY/POLITICAL SCIENCE/SOCIAL SCIENCE/PHILOSOPHY/CHICANO STUDIES DEPARTMENT

CHAIR: Aichele
FACULTY: Driscoll, Eagan, Grube, Nicholl, Otis, Sandoval

The programs in history, political science, social science, philosophy, and Chicano studies are intended to provide domains of study both for those individuals who desire knowledge purely for their own personal enrichment and for those who desire to apply their knowledge toward career objectives. Students who major or minor in the fields of the department should expect to develop and refine their knowledge of other cultures and the historical and political development of the modern world. They should also expect to engage in methodical research. Other expectations of students include the ability to prepare rationally cogent papers and the ability to understand political theories, historical movements, and the connections between them.

The departmental programs not only prepare students for occupations in government, business, education, and industry, but they are also central to the university’s traditional function of transmitting culture from generation to generation.

History Program

The major in history leads to the degree of bachelor of arts (BA) and prepares students for careers in teaching, law, government, and private enterprise, as well as entry into graduate programs.

Program Goals

• To provide students with a general knowledge of history and historical methodology;

• To prepare students, through written research, positive communication skills and research methods to gain knowledge of a given area of history; and

• To prepare students to continue personal study and learning about specific subject areas in the discipline on an independent basis.

Expected Student Outcomes

General Requirements

No grade below C is acceptable in the major or minor.
### Specific Requirements for the History Major

<table>
<thead>
<tr>
<th>HIST Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>World Civilization to 1500</td>
<td>5</td>
</tr>
<tr>
<td>102</td>
<td>World Civilization from 1500</td>
<td>5</td>
</tr>
<tr>
<td>201</td>
<td>United States History I</td>
<td>3</td>
</tr>
<tr>
<td>202</td>
<td>United States History II</td>
<td>3</td>
</tr>
<tr>
<td>300</td>
<td>Historiography</td>
<td>3</td>
</tr>
<tr>
<td>493</td>
<td>Seminar</td>
<td>3</td>
</tr>
<tr>
<td>History Electives</td>
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<td>15</td>
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### Specific Requirements for the History Minor

**Option I**

<table>
<thead>
<tr>
<th>HIST Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>World Civilization from 1500</td>
<td>5</td>
</tr>
<tr>
<td>202</td>
<td>United States History II</td>
<td>3</td>
</tr>
<tr>
<td>211</td>
<td>Colorado History</td>
<td>2</td>
</tr>
<tr>
<td>300</td>
<td>Historiography</td>
<td>3</td>
</tr>
<tr>
<td>History Electives</td>
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<td>9</td>
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**Option II**

<table>
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<th>HIST Courses</th>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>201</td>
<td>United States History I</td>
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<tr>
<td>202</td>
<td>United States History II</td>
<td>3</td>
</tr>
<tr>
<td>211</td>
<td>Colorado History</td>
<td>2</td>
</tr>
<tr>
<td>300</td>
<td>Historiography</td>
<td>3</td>
</tr>
<tr>
<td>History Electives</td>
<td></td>
<td>9</td>
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</table>

**Option III**

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<tr>
<th>HIST Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>World Civilization to 1500</td>
<td>5</td>
</tr>
<tr>
<td>102</td>
<td>World Civilization from 1500</td>
<td>5</td>
</tr>
<tr>
<td>300</td>
<td>Historiography</td>
<td>3</td>
</tr>
<tr>
<td>History Electives</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>21</td>
</tr>
</tbody>
</table>

### Outcomes Assessment Activities

- Demonstrated proficiency in writing coherent and accurate statements on specific topics within the discipline, as determined by the history faculty.
- Acceptable performance on standardized examinations. The specific exam is to be either selected from national exams or created by the faculty. (Percentile rankings to be established following a pilot test year.)
- Portfolios, of a random sample of majors, to be started on incoming freshmen and/or transfer students with two or more years before graduation. They will include vita, academic transcripts, major papers written for courses in the discipline, co-curricular data, and other pertinent information. The portfolios will be on file in the department chair’s office for a period of not less than five years after the student’s graduation. Updated copies of all course syllabi, handouts, assignments and exams will be kept in a central file to enable qualified persons to discover how courses are adapted toward program goals.

### Political Science Program

The major in political science leads to the degree of bachelor of arts (BA) and bachelor of science (BS), which prepare undergraduates for careers in law, government and politics. Courses 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 and toward specialized academic degrees.

While encouraging an exposure to a number of the subfields of the discipline, three areas of emphasis are offered in the political science major: public law, comparative and international politics, and American political institutions and politics.

### Program Goals

To prepare graduates with a major in the discipline to be able to:

- Demonstrate a basic understanding of historical, philosophic and empirical foundations of political science;
- Demonstrate a general command of knowledge about the American political system, comparative and international politics, the history of political thought, and standard political science research approaches;
- Demonstrate ability to continue personal study and learning on an independent basis about specific subjects in the discipline.

To prepare graduates with a minor in the discipline to be able to:

- Demonstrate a basic understanding of the nature of the discipline;
- Demonstrate general knowledge and understanding of the American political system and of comparative and world politics.

### Expected Student Outcomes

#### General Requirements

- Majors are expected to complete a minimum of 36 semester credit hours in political science (including 18 hours in the political science core) with a cumulative GPA of 2.5 or higher.
- Minors must complete a minimum of 24 semester credit hours in political science (including nine credit hours in the core) with a cumulative GPA of 2.0 or higher.
- Students must demonstrate proficiency in writing coherent and accurate statements on specific topics within the discipline, as determined by the political science faculty.
Electives are selected in accordance with one of five basic course orientations in political science: 1) preparation for a career in public service, 2) legal assistant training, 3) political party and interest group activity, 4) graduate school preparation, or 5) law school preparation.

Depending on their interests and goals, students are encouraged to take one year of foreign language or courses in statistics.

**Specific Requirements for the Political Science Major**

<table>
<thead>
<tr>
<th>POLSC Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Study of Politics</td>
<td>3</td>
</tr>
<tr>
<td>101</td>
<td>American National Politics</td>
<td>3</td>
</tr>
<tr>
<td>201</td>
<td>Comparative Politics</td>
<td></td>
</tr>
<tr>
<td>or 202</td>
<td>World Politics</td>
<td>3</td>
</tr>
<tr>
<td>250</td>
<td>Scope and Methods in Political Science</td>
<td>3</td>
</tr>
<tr>
<td>370</td>
<td>Political Thought</td>
<td>3</td>
</tr>
<tr>
<td>493</td>
<td>Seminar for Majors</td>
<td>3</td>
</tr>
</tbody>
</table>

Political Science Electives ........................................... 18

**TOTAL** 36

**Specific Requirements for the Political Science Minor**

<table>
<thead>
<tr>
<th>POLSC</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Study of Politics</td>
<td>3</td>
</tr>
<tr>
<td>101</td>
<td>American National Politics</td>
<td>3</td>
</tr>
<tr>
<td>201</td>
<td>Comparative Politics</td>
<td></td>
</tr>
<tr>
<td>or 202</td>
<td>World Politics</td>
<td>3</td>
</tr>
</tbody>
</table>

Political Science Electives ........................................... 15

**TOTAL** 24

**Pre-Law Program**

Students interested in attending law school should consult the department's pre-law adviser.

**Outcomes Assessment Activities**

To assist the political science faculty in the ongoing evaluation of its program and to document accomplishment of the expected outcomes, patterns of achievement for each student majoring or minoring in the discipline will be measured periodically through the assignment of letter grades representing a five-point performance scale.

In addition, a portfolio on each graduate majoring in the discipline will be maintained which will include: vita, academic transcript, major papers written for courses in the discipline over the several years of the student's study at the university and other pertinent information. The portfolio will reflect the graduates' judgment of their academic preparation for subsequent professional and career performance and will be collected at intervals of one, three and five years after graduation.

**Social Science Program**

- The interdisciplinary major in social science leads to the degrees of bachelor of arts (BA) and bachelor of science (BS).
- Social scientists study people and social institutions, especially the relationships and impacts they have with and on each other. Their research provides insights that help in understanding the ways individuals and groups make decisions, exercise power or respond to change. Social scientists gather and analyze data, interpret it and make it meaningful and useful for application in dealing with human problems.
- Employment has traditionally been in the academic area; however, as the economy changes from an industrial to a service-oriented system, a greater need for "people-oriented" specialists is developing. Job opportunities in applied fields include areas such as program administration, evaluation and research in both the public and private sectors. Related careers are teaching, planning, law, archives, museology and mass communications.

**Program Goals**

- To prepare students to function as knowledgeable and responsible individuals in society;
- To prepare students for the world of work exercising professional competence in their specific career;
- To prepare students for a role of leadership within the broader society;
- To maintain accredited status with NCSS and NCATE.

**Expected Student Outcomes**

**General Requirements**

- No grade below C is acceptable in the major or minor.
- A prerequisite of a 2.5 cumulative GPA in the major for student teaching.
- Proficiency in writing coherent and accurate statements on specific topics within the discipline. Such proficiency will be demonstrated in those major courses with a specific writing component.
- Students in the elementary and secondary education tracks must demonstrate the abilities to communicate knowledge in various areas of the discipline, to demonstrate information contained within the disciplines, to coherently organize the information and to work in group situations.

**Specific Requirements for the Social Science Major**

<table>
<thead>
<tr>
<th>General Track</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Science Core</td>
<td>27</td>
</tr>
<tr>
<td>Specialty Core</td>
<td>24</td>
</tr>
</tbody>
</table>

**TOTAL** 51
Expected Student Outcomes

General Requirements

The philosophy faculty believes that grades are an accurate indicator of performance and a valid predictor of success. Therefore, students who wish to minor in philosophy must complete a minimum of 21 credit hours of approved philosophy courses with grades averaging C or better.

Specific Requirements for the Philosophy Minor

<table>
<thead>
<tr>
<th>PHIL Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>Intro to Problems in Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>or 200</td>
<td>Plato and the Greeks</td>
<td>3</td>
</tr>
<tr>
<td>205</td>
<td>Deductive Logic</td>
<td>3</td>
</tr>
<tr>
<td>220</td>
<td>Ethics and Values</td>
<td>3</td>
</tr>
<tr>
<td>313</td>
<td>History of Philosophy Seminar I</td>
<td>3</td>
</tr>
<tr>
<td>314</td>
<td>History of Philosophy Seminar II</td>
<td>3</td>
</tr>
<tr>
<td>315</td>
<td>History of Philosophy Seminar III</td>
<td>3</td>
</tr>
<tr>
<td>401</td>
<td>Epistemology Seminar</td>
<td>3</td>
</tr>
<tr>
<td>or 402</td>
<td>Metaphysics Seminar</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL 21

Outcomes Assessment Activities

- Students are to demonstrate proficiency in writing defenses of theses on philosophical topics as determined by the philosophy faculty. A file of representative samples of philosophical writing by students will be retained for five years to document to qualified persons that students are accomplishing the goal of developing their ability to think and write in a clear, analytical manner.

Chicano Studies Program

The Chicano studies minor complements majors and careers in law, sociology, social work, languages, education, government, business and the liberal arts. Courses offer unique undergraduate preparation for those who seek entrance to graduate studies in law, humanities or the social sciences.

Students who plan to live and work in the American Southwest or aspire to careers that involve relations in the Western Hemisphere are likely to be well-served by Chicano studies courses. The interdisciplinary approach emphasizes history and cultural studies, and selected courses provide the student with in-depth knowledge of specific aspects of the Chicano community.

Program Goals

- To provide individual courses as well as a minor in fulfillment of the unique role and mission of the University of Southern Colorado;
- To offer individually designed minors in support of students' majors.
Expected Student Outcomes

General Requirements
- Students in Chicano studies courses should display an adequate and measurable knowledge of subject matter within the course.
- Students in Chicano studies courses should develop an understanding of the relationships of ethnic groups within American society.
- Chicano studies minors will demonstrate their ability to utilize a personal computer through CS 493, the capstone class.
- Students must earn a C or better in all courses applicable to the minor.

Specific Requirements for the Chicano Studies Minor

<table>
<thead>
<tr>
<th>CS Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 101</td>
<td>Introduction to Chicano Studies</td>
<td>3</td>
</tr>
<tr>
<td>136</td>
<td>The Southwest United States</td>
<td>3</td>
</tr>
<tr>
<td>248</td>
<td>History of Mexico</td>
<td>3</td>
</tr>
<tr>
<td>493</td>
<td>Seminar in Chicano Studies</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>21</td>
</tr>
</tbody>
</table>

Electives may be selected from Chicano studies courses or, with approval of the Chicano studies coordinator, from the following courses:

ART 320 Art History of Latin America
FL 183 Spanish for Spanish Speakers
FL 282 Readings in Hispanic Civilization II
HIST 211 Colorado History
HIST 489 Borderlands
PSYCH 212 Sexism and Racism in America
SOC 180 Minority and Ethnic Relations
SW 320 Human Diversity in Practice

Outcomes Assessment Activities
- Upon identification of a Chicano studies minor, the Chicano studies coordinator will initiate a "Chicano studies program" file on the student, with the student's permission. This file will contain the program of design, the student's orientation (research interest, general interest, personal interest, employment interest, etc.), a history of the student's academic progress, the substantive research paper completed in CS 493, a record of meetings with the coordinator, and other examples of the academic and personal qualities of the student.
- At three-, seven-, and 10-year intervals, the graduate will be contacted and asked to evaluate the program's influence.
- In addition to course syllabi, the Chicano studies coordinator will retain a copy of exams administered in Chicano studies courses for a 10-year period. At five-year intervals, the coordinator and the faculty will determine if consistency and academic integrity are being maintained by reviewing instruments of cognitive measurement, student perception forms and trends, alumni comments, and by comparatively analyzing grade distribution patterns.

ENGLISH/FOREIGN LANGUAGES DEPARTMENT

CHAIR: Kaplan
FACULTY: Bright, Covi, Croxton, Dille, Griffin, Hochman, Ilick, Milne, Morales, Senate, C. Taylor, K. Taylor, T. Taylor, Torres, Wiedemann

English Program
The major in English leads to a degree of bachelor of arts (BA) and provides graduates with an understanding of language and literature as a basis for aesthetic, ethical, social, and academic ways of thinking, creating, and researching. Critical, analytic, and composing skills, which provide excellent preparation for professional careers such as teaching, business, media, public service, and the arts, are emphasized.

Program Goals
- Students will become familiar with significant traditions in literature.
- Students will become familiar with various techniques in the analysis and understanding of literature, as well as gain aesthetic appreciation of great literature.
- Students will become familiar with the development of language and its application relative to vocational and avocational interests.
- Students will gain proficiency in writing (clarity and accuracy), in interpreting, and synthesizing materials and ideas.

Expected Student Outcomes
The English faculty believes that students' grades are valid indicators of students progress and performance: therefore, students must complete, with a grade of C or better, all courses counting toward the major or minor.

Requirements for the English Major
- Major requirements are 40 or more semester credit hours of courses in English, 25 of which must be upper-division. Courses must be chosen in consultation with an adviser in English.
- Students must fulfill the university language requirements for the BA degree.
Requirements for the English Minor

Minor requirements are 20 or more semester credit hours of course work in English, of which 12 must be upper division. Courses must be chosen in consultation with an adviser in English.

For teaching endorsement requirements, see the Center for Teaching and Learning section of this catalog.

Co-curricular requirements

The English faculty supports and encourages English majors’ involvement in student organizations and participation in tutoring activities in the community and on campus.

Outcomes Assessment Activities

A central file of course syllabi with representative assignments and examinations, which meet program objectives, will be maintained by the department for inspection by qualified persons.

English Major

• Students will submit a portfolio of at least eight papers written in the major field (six or more pages each) which demonstrate curricular outcomes. Portfolio papers may be either initial or revised papers.

• Portfolios will contain students’ work from each year of enrollment as a major to demonstrate the progress toward their degrees.

• Students will participate in a senior-year seminar in which vocational and professional standards will be emphasized. The seminar will include evaluation of the portfolio papers.

• Students’ portfolios will be maintained in a central file by the department for a period of five years for inspection by qualified persons.

English minor

The course paper(s) prepared in upper division English courses will demonstrate achievement of the expected student outcomes as determined by the adviser and a second reader designated by the English department.

Foreign Languages Program

The major in Spanish leads to a degree of bachelor of arts (BA) in foreign languages and prepares students for public school teaching and certification, for admission to graduate school, and for careers in international organizations, government, and business.

Minors in French, Italian, and Spanish complement a wide variety of majors to enhance students’ abilities to compete for jobs where knowledge of a foreign language is desirable.

Courses in German, Russian, and those with the general foreign language prefix are designed for students with specific interests in foreign languages.

Program Goals

It is the goal of the foreign language major and minors programs to prepare students for teaching, graduate studies, or for careers in international organizations, government, and business.

General Requirements

• The foreign language faculty subscribes to the proficiency standards delineated by the American Council on the Teaching of Foreign Languages which focus on abilities in speaking, listening, reading, writing and culture.

• Majors in Spanish will be required to demonstrate proficiency at the level of “superior” in at least two of the five areas and no less than “advanced plus” in any single area as demonstrated on the ACTFL tests.

• Students minoring in French, Italian and Spanish will be required to demonstrate a minimum proficiency level of “intermediate” in culture and “intermediate high” to “advanced” in the other four areas.

• Students must complete with a grade of C or better all courses counting toward the major or minor.

NOTE: Any language 101 and 102 may be waived for students participating in the Advanced Placement Program.

Specific Requirements for the Spanish Major

<table>
<thead>
<tr>
<th>SPN Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>Beginning Spoken Spanish I</td>
<td>5</td>
</tr>
<tr>
<td>102</td>
<td>Beginning Spoken Spanish II</td>
<td>5</td>
</tr>
<tr>
<td>201</td>
<td>Spanish Grammar and Composition I</td>
<td>3</td>
</tr>
<tr>
<td>202</td>
<td>Spanish Grammar and Composition II</td>
<td>3</td>
</tr>
<tr>
<td>211</td>
<td>Intermediate Spanish Conversation I</td>
<td>2</td>
</tr>
<tr>
<td>212</td>
<td>Intermediate Spanish Conversation II</td>
<td>2</td>
</tr>
<tr>
<td>281</td>
<td>Readings in Hispanic Civilizations I</td>
<td>3</td>
</tr>
<tr>
<td>282</td>
<td>Readings in Hispanic Civilizations II</td>
<td>3</td>
</tr>
<tr>
<td>301</td>
<td>Adv Spanish Grammar &amp; Conversation</td>
<td>3</td>
</tr>
<tr>
<td>302</td>
<td>Adv Spanish Composition &amp; Conversation</td>
<td>3</td>
</tr>
<tr>
<td>SPANISH ELECTIVES</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>46</td>
</tr>
</tbody>
</table>

Specific Requirements for the Spanish Major (Bilingual Emphasis)

<table>
<thead>
<tr>
<th>SPN Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>Beginning Spoken Spanish I</td>
<td>5</td>
</tr>
<tr>
<td>102</td>
<td>Beginning Spoken Spanish II</td>
<td>5</td>
</tr>
<tr>
<td>201</td>
<td>Spanish Grammar &amp; Composition I</td>
<td>3</td>
</tr>
<tr>
<td>202</td>
<td>Spanish Grammar &amp; Composition II</td>
<td>3</td>
</tr>
</tbody>
</table>
Specific Requirements for teaching endorsements in Spanish and French

A minimum of 32 semester credit hours as approved by a departmental adviser.

For teaching endorsement requirements, see the Center for Teaching and Learning section of this catalog.

Outcomes Assessment Activities

The proficiency of all foreign language majors and minors will be assessed, using materials developed by the American Council of Teachers of Foreign Languages, during the senior year.

INTERDISCIPLINARY STUDIES PROGRAM

FACULTY: Ryan

The university Honors Program, which offers a minor, provides intellectually invigorating challenges for academically talented students. In small, interdisciplinary seminars, students explore the natural and applied sciences, social sciences, and the humanities. "Graduation with honors" is a significant designation for students applying to graduate or professional schools or seeking employment.

Program Goals for the Minor in Honors

- To provide a sequence of thematic, interdisciplinary seminars that will enhance both the students' depth and breadth of knowledge.
- To offer intellectually invigorating challenges and opportunities to students.
- To provide a program that builds to a project undertaken in the student's senior year under the one-to-one supervision of a faculty mentor in the student's major field.

Expected Student Outcomes

General Requirements

- Students who wish to apply to the university Honors Program may either be: 1) high school seniors who have at least a 3.50 GPA and a composite score of at least 23 on the ACT (or the SAT equivalent); or 2) transfer or continuing USC students who have maintained at least a 3.30 GPA in their college-level courses.
- Students must complete 20 semester hours of honors coursework, labeled Interdisciplinary Studies (IS) in the catalog, in order to receive the minor in honors.
- Students must demonstrate the ability to make formal presentations, to write effectively, and to read and think critically.
Specific Requirements for the Honors Minor

<table>
<thead>
<tr>
<th>Honors Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 101, 102, 103 (1 hour each)</td>
<td>Freshman Honors Seminar I (Natural and Physical Science)</td>
<td>3</td>
</tr>
<tr>
<td>104, 105, 106 (1 hour each)</td>
<td>Freshman Honors Seminar II (Liberal and Fine Arts)</td>
<td>3</td>
</tr>
<tr>
<td>201, 202, 203 (1 hour each)</td>
<td>Sophomore Honors Seminar I (Applied Science &amp; Eng. Tech.)</td>
<td>3</td>
</tr>
<tr>
<td>204, 205, 206 (1 hour each)</td>
<td>Sophomore Honors Seminar II (Business and the professions)</td>
<td>3</td>
</tr>
<tr>
<td>301</td>
<td>Junior Honors Seminar (International &amp; multicultural issues)</td>
<td>3</td>
</tr>
<tr>
<td>401</td>
<td>Senior Honors Seminar (Issues in research and education)</td>
<td>3</td>
</tr>
<tr>
<td>490</td>
<td>Special Projects (Individualized, directed, independent study on honors project)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>20</td>
</tr>
</tbody>
</table>

Co-curricular Requirements

Honors students are encouraged to join various honor societies at USC including Alpha Lambda Delta, a freshman honor society; Alpha Chi, for juniors and seniors; and departmental honor societies.

Students in the Honors Program participate in several social, cultural and educational events each semester, including field trips to plays, concerts and museums; special dinners with faculty members; receptions with distinguished visitors; community service projects; and honors lectures.

Students are encouraged to attend and present papers at regional and national meetings of the National Collegiate Honors Council and various honor societies.

Outcomes Assessment Activities

Student portfolios are compiled for each freshman entering the Honors Program. The portfolios are maintained in the Honors Program office and include, but are not limited to, the following assessment items:

- The student’s initial application to the program, including ACT or SAT scores, high school GPA, class rank, hobbies, awards and intended major;
- Videotapes of each student making at least two formal presentations;
- Co-curricular inventories including evidence of awards, presentations, student government involvement and participation in campus organizations for each student;
- Selected examples of each student’s writing;
- The student’s honors project; and
- An updated list of the honors courses taken and the grades received.

MASS COMMUNICATIONS DEPARTMENT

CHAIR: Osman
FACULTY: Anderson, Binkly, Miller, Pavlik

The mass communications department supports the polytechnic role and mission of the university by its introduction and use of technology while maintaining deep traditional ties within the College of Liberal and Fine Arts. The department offers a pragmatic and professionally oriented program aimed at preparing majors for successful careers in the media and related areas while fostering the essential ethical and aesthetic foundations to make those careers meaningful.

The major in mass communications leads to the degrees of bachelor of arts (BA) and bachelor of science (BS).

A degree in mass communications leads to careers in reporting, editing, broadcast news direction and production, public relations and advertising.

USC TODAY, the university’s weekly newspaper, is published each Wednesday of the regular academic year as a laboratory tool of the mass communications department. The newspaper serves the students, faculty and staff of USC in addition to the Pueblo community. Editorial and management positions are awarded each spring for the following academic year after review of all applications from qualified students. The newspaper is funded through advertising revenue. The newspaper’s editorial and advertising advisers are members of the mass communications faculty.

KTSC-FM is licensed to USC as an educational radio station by the Federal Communications Commission. Operated by the mass communications department, the 10,000-watt station serves a 50-mile radius of the campus. Advanced mass communications students are involved in the daily programming, production, and news.

USC’s Public Broadcasting System affiliate, KTSC-TV, provides laboratory training and on-campus jobs for television students.

Departmental Goals

The primary goal of the mass communications department is to offer a pragmatic and professionally oriented program aimed at preparing majors for successful careers in the media and related areas.

Expected Student Outcomes

General Requirements

- Majors are required to specialize in one of four emphasis areas offered by the department:
  - News/Editorial
  - Telecommunications
  - Public Relations
  - Advertising
Successful mass communications majors will demonstrate sufficient knowledge, comprehension and analytical skills by their ability to evaluate specific communication events in the proper context of their emphasis area.

Each mass communications faculty member will keep, in the mass communications department’s central file, a set of examination materials as well as all course outlines or syllabi that list the objectives and skills to be achieved during the semester. It is this central pool of materials that describes the detailed expectations and accountability elements for the mass communications major.

The mass communications department believes that grades are valid quantitative indicators of student performance. Students’ GPAs in the major or minor will be used by emphasis area advisors for both formative and summary evaluations of majors and minors.

Students graduating with a degree in mass communications must achieve a total grade point average of 2.5 within the major — The GPA will be calculated on all courses appearing on the student’s transcript with the MACOM prefix.

Students graduating with a degree in mass communications must pass all mass communications emphasis area courses with a grade of C or better.

While it is necessary for mass communications majors and minors to meet the minimum GPA standards set by the department and university, it is expected that graduates will exceed these standards.

**Specific Requirements for the Mass Communications Major**

<table>
<thead>
<tr>
<th>MACOM Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MACOM</td>
<td>101  The Mass Media</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>110  Career Orientation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>201  News Writing</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>216  Advertising</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>265  History of the Mass Media</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>280  Public Relations</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>411  Journalism Law and Ethics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>493  Mass Media Seminar</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>24</strong></td>
</tr>
</tbody>
</table>

**Specific Requirements for the Emphasis in Telecommunications**

| MACOM         | Broadcast News Writing       | 3       |
|               | Intro to TV Production      | 4       |
|               | Audience Research Methods   | 3       |
|               | **MACOM DIRECTED ELECTIVES** |         |
|               | **TOTAL**                   | **10**  |

**Specific Requirements for the Emphasis in Public Relations**

| MACOM         | Feature Writing             | 3       |
|               | Copy Editing                | 3       |
|               | PR Case Problems            | 3       |
|               | Audience Research Methods   | 3       |
|               | **MACOM ELECTIVES**         |         |
|               | **TOTAL**                   | **5**   |

**Specific Requirements for the Emphasis in News Editorial**

| MACOM         | Feature Writing             | 3       |
|               | Editorial Writing           | 3       |
|               | Copy Editing                | 3       |
|               | Reporting Public Affairs    | 3       |
|               | **MACOM ELECTIVES**         |         |
|               | **TOTAL**                   | **6**   |

**Specific Requirements for the Emphasis in Advertising**

| MKTG         | Advertising Writing         | 3       |
|             | Advertising Campaigns      | 3       |
|             | Audience Research Methods  | 3       |
|             | **MACOM ELECTIVES**         |         |
|             | **TOTAL**                   | **8**   |

**Specific Requirements for the Mass Communications Minor**

Students who wish to minor in mass communications must complete 22 credit hours of planned course work approved by a departmental advisor. A minor in mass communications may be general or emphasis-specific.

**Co-curricular Requirements**

1) The thrust of the mass communications department is pragmatic in design. Therefore, all students are encouraged to involve themselves with the opportunities provided by participation in the following media labs:

- Advertising
- Desktop Publishing
- USC TODAY Newspaper
- KTSC-FM Radio
- KTSC-TV Television

The media labs provide the necessary entry to strongly suggested field experience and internship programs and opportunities.

2) In addition, mass communications majors and minors are encouraged to join and participate in additional co-curricular activities:

- Sigma Delta Chi
- Public Relations Student Society of America
- Community/University Projects
Outcomes Assessment Activities

Each mass communications major or minor is required to maintain a portfolio of all salient work or projects completed while in the department.

The expectations and requirements for the portfolio are described for each student during the Career Orientation class required of all mass communications majors and minors. The portfolios are proctored by the emphasis adviser and progress is monitored during advisement.

The mass communications department insists that the portfolio demonstrate a pattern of sustained academic growth and development of the major and minor, appropriate to the student’s emphasis area.

During the student’s last semester, an exit interview and evaluation will be conducted by the mass communications department’s faculty.

The portfolio should reflect the quality and level of intellectual and scholarly work undertaken by the student while in the department, relative to the qualitative, quantitative, ethical, legal and aesthetic dimensions of the field. The appropriateness of the content is dictated by the student’s emphasis area and is prescribed by the individual’s adviser.

All portfolios will remain in the department’s central files for two years after the student’s graduation, to enable qualified persons to determine how well student performance measures up to program goals. The graduate can claim the material after that period. The department will continue every effort to track graduates in order to gather further indicators of success.

MUSIC DEPARTMENT

CHAIR: Beck
FACULTY: Cedrone, Chi, Duncan, Markowski, Muller, Strobel

It is the mission of the music department to instill in its students an understanding of both traditional and technological musical approaches as a basis for aesthetic, ethical, social, academic and cultural ways of thinking, creating/composing, improvising, performing and researching. The major leads to a degree of bachelor of arts (BA) with emphasis in music theory (both traditional and jazz), music performance or music education (K-12). Relevant skills, which provide excellent preparation for professional careers in teaching, music industry, performance, composition, multimedia and music technology, are emphasized. The department is fully accredited by the National Association of Schools of Music.

Departmental Goals

• To educate the student in the fields of music theory, history and technology and to train the student to be proficient in performance in voice or an appropriate instrument.

• To develop increased aesthetic awareness and the capacity to evaluate musical activity. These will be, in part, by-products of the specific educational goals articulated in the Student Music Manual published by the music department. In addition, by means of required attendance at a variety of performances, students will be exposed to a diversity of musical experiences during their stay at the university. The experiences, in addition to the student’s own study and personal performance, should serve to realize such broad aims.

• To prepare candidates for the bachelor of arts degree with a music education emphasis with special knowledge in the fields of teaching methodology. Such methodology may be divided into two categories; 1) those pertaining to all disciplines; and 2) those pertaining to music.

The latter is a matter of concern for the music department.

1) The student should demonstrate knowledge of the various methodological systems contained within the broad field of music education (e.g., Kodaly, Orff).

2) The student should demonstrate a knowledge of current pedagogical trends directly affecting the teaching of music. The direct application of music technology to teaching and learning music is an example of such a current trend.

Expected Student Outcomes

General Requirements

• Students are required to complete all major and minor courses with a grade of C or better and maintain a cumulative GPA of 2.5 or better.

• A BA degree with an emphasis in music education K-12, music performance or music theory is excellent preparation for a wide variety of careers and a large number of graduate programs, including those of major universities and professional schools and conservatories; therefore, graduates must complete the department’s MUS 110 Career Planning in Music course and design an individualized career plan prior to the beginning of their senior year. The course also assists music minors in career choices.

• The ability to think across disciplines contributes significantly to the educational experience; therefore, graduates must successfully complete an approved minor or area of concentration in a discipline other than music with a cumulative GPA of 2.5 or better. For the music education emphasis, education is the appropriate minor.

• Literacy and quantitative skills are prerequisite to advanced study or careers; therefore, appropriate academic music courses for majors will require students to demonstrate the abilities to compose, sequence and perform musical compositions at a computer synthesizer workstation and to demonstrate basic word-processing skills.
The attainment of minimum performance skills is a requisite to participating successfully in an ever-changing and competitive world. The minimum Performance Standards, identified in the USC Music Student Manual published by the USC Department of Music, provide representative examples of music literature and repertoire to be successfully completed for each of the three musical areas of concentration. In addition, all music majors will be required to complete successfully the piano proficiency requirement.

Knowledge of specific subject areas, as identified by the Colorado Department of Education and recommended by the National Association of Schools of Music, in music education, music theory, music history and music performance will be measured through pre- and post-testing. An organized portfolio of student progress, pre-and post-testing will be maintained by the music department.

Note: MUS 100, 118 and 147 may be waived for students passing the appropriate departmental tests.

### Specific Requirements for the Music Major

<table>
<thead>
<tr>
<th>MUS Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Fundamentals of Music*</td>
<td>3</td>
</tr>
<tr>
<td>101/101L</td>
<td>Theory I/Lab I</td>
<td>4</td>
</tr>
<tr>
<td>102/102L</td>
<td>Theory II/Lab II</td>
<td>4</td>
</tr>
<tr>
<td>110</td>
<td>Career Planning in Music</td>
<td>1</td>
</tr>
<tr>
<td>118</td>
<td>Music Appreciation*</td>
<td>3</td>
</tr>
<tr>
<td>161/162</td>
<td>Applied Major</td>
<td>4</td>
</tr>
<tr>
<td>147</td>
<td>Functional Piano Class/Proficiency*</td>
<td>1</td>
</tr>
<tr>
<td>170/4</td>
<td>Major Ensemble (4 terms)</td>
<td>4</td>
</tr>
<tr>
<td>181/381</td>
<td>Lab Choir</td>
<td>2</td>
</tr>
<tr>
<td>182/382</td>
<td>Lab Band</td>
<td>2</td>
</tr>
<tr>
<td>201/201L</td>
<td>Music Theory III/Lab III</td>
<td>4</td>
</tr>
<tr>
<td>202/202L</td>
<td>Theory IV/Lab IV</td>
<td>4</td>
</tr>
<tr>
<td>261/262</td>
<td>Applied Major</td>
<td>4</td>
</tr>
<tr>
<td>305</td>
<td>Computer and Electronic Technology in Music</td>
<td>4</td>
</tr>
<tr>
<td>321/322</td>
<td>Music History I, II</td>
<td>6</td>
</tr>
<tr>
<td>349/350</td>
<td>Conducting I, Choral; Conducting II, Instrumental</td>
<td>4</td>
</tr>
<tr>
<td>351/362</td>
<td>Applied Major</td>
<td>4</td>
</tr>
<tr>
<td>370/4</td>
<td>Major Ensemble (3 terms)</td>
<td>3</td>
</tr>
<tr>
<td>461</td>
<td>Applied Major</td>
<td>2</td>
</tr>
<tr>
<td>400</td>
<td>Arranging/Orchestration I</td>
<td>2</td>
</tr>
</tbody>
</table>

**TOTAL 52**

### Specific Requirements for the Music Education Major K-12

<table>
<thead>
<tr>
<th>MUS Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>144</td>
<td>Woodwind Class</td>
<td>1</td>
</tr>
<tr>
<td>145</td>
<td>Brass Class</td>
<td>1</td>
</tr>
<tr>
<td>241</td>
<td>String Class</td>
<td>1</td>
</tr>
<tr>
<td>242</td>
<td>Percussion Class</td>
<td>1</td>
</tr>
<tr>
<td>246</td>
<td>Voice Class</td>
<td>1</td>
</tr>
<tr>
<td>352</td>
<td>Teaching Mus in the Elem School</td>
<td>2</td>
</tr>
</tbody>
</table>

### Specific Requirements for the Music Performance or Theory Major

<table>
<thead>
<tr>
<th>MUS Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>370</td>
<td>Major Ensemble</td>
<td>1</td>
</tr>
<tr>
<td>401</td>
<td>Arranging/Orchestration II</td>
<td>2</td>
</tr>
<tr>
<td>420</td>
<td>Counterpoint</td>
<td>2</td>
</tr>
<tr>
<td>421</td>
<td>Analytical Techniques</td>
<td>2</td>
</tr>
<tr>
<td>462</td>
<td>Applied Music</td>
<td>2</td>
</tr>
<tr>
<td>491</td>
<td>Senior Recital &amp; Upper Division Music Electives</td>
<td>5</td>
</tr>
</tbody>
</table>

**TOTAL 14**

### Specific Requirements for the Music Minor

<table>
<thead>
<tr>
<th>MUS Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>101/101L</td>
<td>Theory I/Lab I*</td>
<td>4</td>
</tr>
<tr>
<td>102/102L</td>
<td>Theory II/Lab II</td>
<td>4</td>
</tr>
<tr>
<td>110</td>
<td>Career Planning in Music</td>
<td>1</td>
</tr>
<tr>
<td>118</td>
<td>Music Appreciation*</td>
<td>3</td>
</tr>
<tr>
<td>147</td>
<td>Functional Piano Class</td>
<td>1</td>
</tr>
<tr>
<td>163</td>
<td>Applied Minor Lesson</td>
<td>1</td>
</tr>
<tr>
<td>170-174</td>
<td>Four terms of large ensemble</td>
<td>4</td>
</tr>
<tr>
<td>263</td>
<td>Applied Minor Lesson</td>
<td>1</td>
</tr>
<tr>
<td>349</td>
<td>Conducting I, Choral</td>
<td>1</td>
</tr>
<tr>
<td>350</td>
<td>Conducting II, Instrumental</td>
<td>2</td>
</tr>
</tbody>
</table>

**TOTAL 23**

*Requires pre-test for admission/placement.

### Co-curricular Requirements

Prior to graduation, students must document evidence of participation in student music organizations, clubs, musical performance groups, music-related employment or experiences, or other activities related to the program of study in music.
Outcomes Assessment Activities

- Students must prepare a senior music thesis/writing project and give a performance recital or composition recital to a committee of peers and faculty no later than their penultimate semester of enrollment. The music thesis/writing project and/or musical compositions must be bound and the recital must be recorded for inclusion in the music department's library collection.

- Students must document proof of having submitted for juridical criticism a minimum of three different projects and recitals before the end of classes in their final semester of enrollment.

- Advisers will supervise the development of portfolios for a cross section of music majors. Portfolios will contain evidence of the projects and recitals, and relevant curricular and co-curricular activities.

PSYCHOLOGY DEPARTMENT

CHAIR: Post-Garden

FACULTY: Cameron, R. Kinsky, S. Kinsky, Kulisky, Levy, Madrid, Mo, Schnur

The bachelor’s degree program in psychology is designed to prepare students for lifelong learning, thinking, and action as enlightened citizens and ethical and responsible members of the professional community. Although many employment opportunities exist for bachelor’s degree holders, students who seek careers as professional psychologists should consider the continuation of their studies at the graduate level.

The major in psychology leads to the degrees of bachelor of arts (BA) and bachelor of science (BS). An extensive curriculum allows the student to choose from a variety of specialties within the field. A modern facility with extensive teaching, counseling, and research facilities is available. Students have the opportunity to be involved with faculty in applied research activities and/or to apply their knowledge in career-related field experiences.

Departmental Goals

- Psychology graduates should have factual knowledge about significant theories, issues, and methods of inquiry. They should be able to compare the major theoretical perspectives represented in psychology.

- Psychology graduates should have acquired the skills needed to comprehend basic psychological concepts such as critical thinking, statistical thinking, the need for control groups, not confusing correlation with causation, and identifying valid and invalid conclusions based on empirical evidence.

- Graduates should be able to read and write complex prose to comprehend journal articles, and to present a coherent and persuasive argument on a psychological topic.

- Graduates should have skills of information gathering and synthesis including appropriate use of library materials and the ability to derive conclusions after surveying a variety of sources.

- Psychology graduates should be able to demonstrate an understanding of theoretical bases, especially as they relate to minority groups and sexist thinking.

- Students should gain practical experience in the form of relevant volunteer activities, field experience, cooperative education, work experience, or research assistantships.

Expected Student Outcomes

General Requirements

<table>
<thead>
<tr>
<th>PSYCH Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH 201</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 301</td>
<td>Introduction to Data Analysis/Lab</td>
<td>4</td>
</tr>
<tr>
<td>PSYCH 301L</td>
<td>Intro to Psych Experimentation/Lab</td>
<td>4</td>
</tr>
<tr>
<td>PSYCH 401</td>
<td>History and Systems of Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCHOLOGY EMPHASIS AND ELECTIVES</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>35</td>
</tr>
</tbody>
</table>

Educational Psychology Emphasis (Select 15 credits)

| PSYCH 200 | Drugs and Behavior                          | 2       |
| PSYCH 241 | Human Sexuality                             | 2       |
| PSYCH 242 | Educational Psychology                      | 2       |
| PSYCH 251 | Infancy, Childhood & Preadolescence         | 3       |
| PSYCH 252 | Adolescence, Adulthood & Aging              | 3       |
| PSYCH 336 | Conditioning and Learning/Lab               | 4       |
| PSYCH 351 | Cognitive Psychology/Lab                     | 4       |
| PSYCH 352 | Psychology of Exceptional Individual        | 3       |
| PSYCH 353 | Theory & Research in Development            | 3       |
| PSYCH 381 | Principles of Psych Testing                 | 4       |
| PSYCH 465 | Behavior Modification                       | 3       |

Mental Health Emphasis (Select 15 credits)

| PSYCH 220 | Drugs and Behavior                          | 2       |
| PSYCH 231 | Psychology of Family Behavior               | 3       |
| PSYCH 311 | Theories of Personality                     | 3       |
| PSYCH 362 | Psychopathology                             | 4       |
| PSYCH 381 | Principles of Psychological Testing         | 4       |
| PSYCH 463 | Psychopathology of Childhood                | 3       |
| PSYCH 464L| Counseling and Psychotherapy/Lab             | 4       |
| PSYCH 465 | Behavior Modification                       | 3       |
| PSYCH 471 | Clinical Psychology                         | 3       |
Specific Requirements for the Psychology Minor

- Minors in psychology take 20 credits of psychology, which must include PSYCH 101 and nine credits of upper-division coursework. Credits of PSYCH 404 and 406 do not count toward the minor. A maximum of three credits for PSYCH 295A/B may count toward the minor if the project undertaken is research based.

- Minors in psychology are required to earn a minimum grade of C in all psychology courses counting toward the minor.

Outcomes Assessment Activities

In order to demonstrate attainment of outcome goals, the psychology major will, upon reaching senior status, begin assembling a portfolio consisting of relevant materials from the following list. The portfolio will be kept in the office of the department chair for at least one year, to enable qualified persons to assess ways in which student work satisfies program goals.

1) A research proposal; may include complete research, presentations, etc.
2) A field experience description and evaluation
3) Individual project and evaluation
4) Resume including awards, honors and extracurricular activities
5) GRE results
6) Major Field Achievement Test Results
7) Complete Transcript
8) A term paper or equivalent dealing with a theoretical psychological issue

The faculty believes that grades are valid measures of student performance. The department will therefore examine and maintain records of grades earned by students majoring and minoring in psychology as one means of assessment.

SOCIOLOGY/SOCIAL WORK/ANTHROPOLOGY DEPARTMENT

CHAIR: Means

FACULTY: Baca, Bucides, Forsyth, Green, Hughes, Keller, Soto, Wintersmug, Wright

The programs in social work, sociology and anthropology are intended to provide students the opportunity to gain knowledge in the discipline areas for their own personal enrichment and to apply that knowledge to career objectives.

Social work is a professional field dedicated to helping individuals, groups, and communities meet basic human needs and enhance their lives. The
generalist curriculum, which leads to the bachelor of social work (BSW) degree, prepares students for employment in public and private agencies and community programs. The applied nature of social work practice builds upon a strong liberal arts base. Course work in the junior and senior year focuses on skill development and its application in a 440-hour field placement. Students can select placements in a wide variety of settings such as hospitals, corrections facilities, child welfare agencies, community agencies, and mental health agencies, to name a few. The program also prepares students for admission to graduate programs, many of which offer USC graduates advanced standing or equivalent credit of up to one year. The program is accredited by the Council on Social Work Education.

The program also offers a joint MSW degree with Colorado State University, with a specialization in advanced generalist practice in rural and transitional communities. Further information on the degree may be obtained by contacting the social work program faculty at USC.

Sociology is the study of human social behavior and is concerned with conditions such as crime and delinquency, family problems, social inequality, and organizations in contemporary industrial society. Sociologists are interested not only in understanding problems and social institutions, but in resolving problems.

The major prepares students to work in a wide variety of occupations, including education, government, business, industry and private human service agencies. Although most sociologists work in universities, they are increasingly employed in such areas as health care, youth services, drug rehabilitation, law enforcement, corrections, probation, and counseling. The sociology degree is an applied degree, offering students an emphasis in one of three areas: (1) criminology, (2) aging, health and sexuality, and (3) general sociology.

The major in sociology leads to the bachelor of arts (BA) and the bachelor of science (BS). The BS is designed for those pursuing an applied, career-oriented program, while the BA requires a foreign language. Both degrees prepare students for graduate studies and applied careers.

The anthropology minor provides students with an informed understanding of the cultural diversity evident in human societies and the concepts by which anthropologists explain cultural dynamics. The program emphasizes students having a holistic awareness of the relationships of all the parts of social and cultural systems. This prepares students to understand anthropological methods and theories and to apply them to academic as well as to life experiences.

Social Work Program Goals

The primary goals of the social work major are to:

* prepare students for entry-level professional social work practice;

* contribute to the liberal education of students from all parts of the university;

* maintain accreditation of the social work major as defined by the Commission on Accreditation, Council on Social Work Education.

General Requirements

* Graduates are expected to possess and demonstrate the generalist skills and knowledge necessary in beginning social work professional practice with an understanding and appreciation of the cultural diversity of the Southwest.

* Graduates are required to complete an approved program of courses described below with a minimum cumulative overall GPA of 2.0 and a minimum GPA of 2.5 within the major.

* Graduates are expected to demonstrate the incorporation of social work values and ethics in their professional social work practice.

* Majors are required to complete a minimum of 46 semester credit hours in social work courses (see specific courses listed below).

* Majors are required to spend at least 440 hours of supervised field experience (included in credit hours stated above).

* Majors are required to earn at least a cumulative 2.5 GPA in social work courses, and no lower than a C in each social work course.

* Majors are required to complete approximately 17 semester hours in courses with prefixes other than SW.

Specific Requirements

| SW Courses | SW 100 Introduction to Social Work... | 3 |
| SW 200 Human Behavior & Social Environment I | 3 |
| SW 151 Intro to Human Development | 3 |
| SW 202 Human Behavior & Social Environment II | 3 |
| SW 210 Techniques of Analysis | 3 |
| SW 320 Human Diversity in Practice | 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 Eval | 3 |
| SW 420 Theories of Social Work | 3 |
| PSYCH 311 Theories of Personality | 3 |
| SW 481 Field Seminar I | 3 |
| SW 482 Field Seminar II | 3 |
| SW 488 Field Placement I | 5 |
| SW 489 Field Placement II | 5 |

TOTAL 46
Electives:

<table>
<thead>
<tr>
<th>SW</th>
<th>Understanding Human Diversity</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>460</td>
<td>Social Work Seminar</td>
<td>3</td>
</tr>
<tr>
<td>490</td>
<td>Special Topics</td>
<td>3</td>
</tr>
<tr>
<td>491</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>495</td>
<td>Independent Study</td>
<td>3</td>
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</table>

Other Requirements

<table>
<thead>
<tr>
<th>CS</th>
<th>Chicano Studies</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC</td>
<td>General Sociology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>A course covering Human Biology</td>
<td>2-3</td>
</tr>
<tr>
<td></td>
<td>An Economics or Political Science Course</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>A course covering women's studies</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL 17-18

Co-curricular requirements

Field placement: A minimum of 400 hours of field experience in a community agency under the supervision of an MSW social worker (SW 488, 489).

Outcomes Assessment Activities

- Field placement experience and evaluation, conducted in the senior year, is a major component of student assessment. The evaluation focuses upon the application and demonstration of knowledge and professional skills within the context of a community human service agency setting. Field evaluations are shared with students each semester of field placement and form the final assessment of competency for beginning professional social work practice.
- Periodically, survey information from graduates' employers will be collected.
- Periodic assessment of student admissions into graduate programs will be conducted.
- A representative sample of student portfolios, field placement evaluations and other supporting documentation will be maintained for a period of five years to assure the availability of a body of evidence that qualified external examiners might inspect.

Sociology Program Goals

- Graduates will be able to understand and identify the major theoretical perspectives that inform modern sociological analysis.
- Graduates will be able to utilize a range of research methods in conjunction with sociological theory in order to explain and analyze complex social relations and organizations.

- Graduates will be able to apply social analysis to the substantive social area of their emphasis: criminology, aging, health and sexuality; or general sociology, and will be able to present findings in a clear, understandable and concise manner.
- Graduates will be able to engage in critical thinking about the relationship between social and personal experiences.
- Minors will have an understanding of the significant theories, issues and methodologies of the discipline.
- Minors will have an understanding of the relationship between social and personal experiences and the role of social institutions in this process.

Expected Student Outcomes

General Requirements

- Successful completion of the sociology core;
- Successful completion of one of the three sociology emphasis areas;
- No grade below a C in sociology courses is acceptable for the major or the minor; and
- Completion of at least 36 credit hours in approved sociology courses.

Specific Requirements for the Sociology Major

<table>
<thead>
<tr>
<th>SOC Core Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 101</td>
<td>General Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SOC 210</td>
<td>Techniques of Analysis</td>
<td>3</td>
</tr>
<tr>
<td>SOC 310</td>
<td>Social &amp; Cultural Theory</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL 9

Criminology Emphasis

<table>
<thead>
<tr>
<th>SOC</th>
<th>Required</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>203 Criminal Justice System</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>304 Crime and Delinquency</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>405 Sociology Of Law</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>420 Advanced Criminology Theory</td>
<td>3</td>
</tr>
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</table>

or

<table>
<thead>
<tr>
<th>SOC</th>
<th>Electives to be chosen from among:</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>Social Problems (3)</td>
</tr>
<tr>
<td>204</td>
<td>Community Corrections (3)</td>
</tr>
<tr>
<td>305</td>
<td>Crime and Women (3)</td>
</tr>
<tr>
<td>351</td>
<td>Social Deviance (3)</td>
</tr>
<tr>
<td>353</td>
<td>Penology (3)</td>
</tr>
<tr>
<td>356</td>
<td>Social Stratification (3)</td>
</tr>
<tr>
<td>407</td>
<td>Family Violence (3)</td>
</tr>
</tbody>
</table>
409 Victimization (3)
410 Structural & Elite Crime (3)
420 Criminological Theory (3)
or
405 Sociology of Law (3)
432 Organizational Theory (3)
492 Research Methods (3)
Other approved course (3)

TOTAL 27

Aging, Health & Sexuality Emphasis

Required:
SOC
401 Health, Culture and Society ............ 3
402 Aging, Culture and Society ............ 3
403 Human Sexuality and Social Behavior .... 3
Electives to be chosen from among: (18)
201 Social Problems (3)
206 Sociology of Gender (3)
250 Sacred in Culture (3)
252 Culture and Personality (3)
407 Family Violence (3)
352 Social Psychology (3)
404 Poverty (3)
492 Research Methods (3)
494 Field Experience (3-6)
Other approved courses ................. 3-6

TOTAL 30-33

General Emphasis

Based upon student interest, in addition to core requirements, students will select at least 27 credit hours of sociology courses, which may include six hours from anthropology. Courses must be approved by the adviser. At least 12 hours must be upper division, 300/400 level courses.

Specific Requirements for the Sociology Minor

Minors in sociology require a minimum of 21 semester hours, of which six hours must be upper level. SOC 101 is required. The remaining courses must be selected in consultation with the minor adviser. No grades below C are accepted toward the minor.

Co-curricular Requirements

Generally there are no co-curricular requirements, although students with an emphasis in criminology are encouraged to complete an internship in a community corrections-type agency or program.

Outcome Assessment Activities

• Completion of all required courses.

• The department believes that grades are one valid indicator of the quality of student work. No grade below C will, therefore, be accepted toward the major or minor.

• Student achievement will be assessed in the outcome areas on the basis of a portfolio. Selected majors will develop and present their portfolio for review in the senior year. The portfolio will consist of selected documents from their work in sociology, including: 1) papers, 2) exams, 3) journals, 4) research projects, presentations, etc., 5) complete transcript, 6) a statement of self evaluation and future plans, and 7) a professional-style resume.

• Selected students will take a standardized achievement test.

• For the sociology minor, grades will provide a valid measure of student performance. The department will examine and maintain records of grades of students minors in sociology as one means of assessment.

• A representative sample of student portfolios and other documentation will be maintained for a period of five years to assure the availability of a body of evidence that qualified external examiners might inspect.

Anthropology Program Goals

• Students will be able to deal with intellectual problems and engage in critical thinking in a lucid fashion, reflecting logical inquiry and knowledge of pertinent information.

• Students will possess knowledge and experience of cultural and sub-cultural groups other than their own.

• Students will achieve an understanding of a spectrum of anthropological sub-divisions and will be knowledgeable in at least two areas.

Specific Requirements for the Anthropology Minor

The minor consists of 21 semester hours of anthropology courses; ANTH 105 is required, and six hours must be at the 300/400 level. The rest of the courses may be based upon the student’s interest. No grades below C are accepted toward the minor.

Co-curricular Requirements

Students are encouraged, although not required, to engage in field-site or off-campus anthropology field experiences.

Outcome Assessment Activities

• The assessment of anthropology students’ progress is a continuing process from matriculation to graduation. This progress will be documented in portfolios maintained for selected minor students.

• Portfolios of selected students in the program will be maintained during the course of their program.
SPEECH COMMUNICATION AND THEATRE DEPARTMENT

CHAIR: O'Leary
FACULTY: Beren, Epstein, Plokey, Sherman, Whitney

The department of speech communication and theatre aims to enhance students' knowledge and skills of verbal expression, to acquaint students with significant works of rhetoric and drama, to cultivate their aesthetic appreciation for discourse and for drama, to develop skill in analyzing, composing, expressing, interpreting, and evaluating discourse and dramatic art. Teaching and speech pathology are two careers that normally grow out of the major, which also is suitable for employment emphasizing communication skills.

The major in speech communication leads to the degrees of bachelor of arts (BA) or bachelor of science (BS). Students completing an emphasis in communication disorders will receive the BS degree. Students completing the emphasis areas in general speech communication, speech communication education, or theatre will receive the BA degree.

Students in speech communication participate actively in extracurricular activities closely integrated with the academic curriculum. Open to all students, regardless of their majors, SPOCM 115 and 315 provide experience both in inter-collegiate competition and in community service. In the forensic program, students may participate in debate, dramatic reading, interpretation of literature, and other individual and group events. Theatre productions seek to provide public performances of the highest quality to the university, the community and the region. Performances include one-act plays, major dramatic productions, musical comedies and children's plays, providing experience in technical theatre, production, and performance.

Departmental Goals
- To prepare students to teach speech communication in secondary schools.
- To prepare students for a career in communication disorders.
- To provide students with a liberal arts approach to speech communication.
- To provide students with a liberal arts approach to theatre.

Expected Student Outcomes

General Requirements
- All majors must complete a set of required courses (the core), and declare an emphasis area from the following list: general speech communication, theatre, speech communication education, communication disorders.
- No grade lower than C will count toward the major.
- All majors must successfully complete a minor.
- Successful majors will be capable of analyzing, synthesizing, interpreting, evaluating, and communicating ideas in public.

Successful majors will be able to engage in problem analysis, present a well-reasoned solution to a problem, and know the tests for evidence and reasoning.

The graduate in speech communication will possess an understanding of the principles underlying the discipline generally and the respective emphasis areas. Such understanding would include knowledge of specific aesthetic and ethical values as they apply to the speech act, factual knowledge about human speech, and the literary remains of man's significant speaking efforts.

Specific Requirements for the Speech Major

Speech Communication Education Emphasis

SPCOM Electives in general speech or theatre

Speech Communication Education Emphasis

SPCOM 103 Speaking & Listening
SPCOM 115 Speech Activity I
SPCOM 212 Argumentation
SPCOM 224 Interpersonal Communication
SPCOM 241 Organizational Communication
SPCOM 242 Interview & Conference Techniques
SPCOM 250 Intro to Communication Disorders
SPCOM 312 Persuasion
SPCOM 315 Speech Activity II
SPCOM 360 Lang Acquisition and Linguistics
SPCOM 376 Directing Speech Activities
SPCOM 377 Speech Education Methods
MACOM 161 The Media Media

TOTAL 30-31

For teaching endorsement requirements, see the Center for Teaching and Learning section of this catalog.

*The majority of the elective hours must be in general speech or theatre. A maximum of two credits of SPOCM 115 and one credit in SPOCM 315 may be included toward the major or minor.
### Communication Disorders Emphasis

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPCOM 250</td>
<td>Intro to Communication Disorders</td>
<td>2</td>
</tr>
<tr>
<td>SPCOM 351</td>
<td>Anatomy of the Head, Neck &amp; Chest/Lab</td>
<td>3</td>
</tr>
<tr>
<td>SPCOM 352</td>
<td>Articulation Disorders</td>
<td>2</td>
</tr>
<tr>
<td>SPCOM 353</td>
<td>Voice Disorders</td>
<td>2</td>
</tr>
<tr>
<td>SPCOM 360</td>
<td>Slurring</td>
<td>2</td>
</tr>
<tr>
<td>SPCOM 361</td>
<td>Language Acquisition &amp; Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>SPCOM 365</td>
<td>Phonetics</td>
<td>2</td>
</tr>
<tr>
<td>SPCOM 451</td>
<td>Basic Audiology</td>
<td>3</td>
</tr>
<tr>
<td>SPCOM 452</td>
<td>Aural Rehabilitation</td>
<td>3</td>
</tr>
<tr>
<td>SPCOM 462</td>
<td>Diag &amp; Methods in Speech Pathology</td>
<td>2</td>
</tr>
<tr>
<td>SPCOM 462</td>
<td>Organic Disorders of Speech</td>
<td>3</td>
</tr>
<tr>
<td>SPCOM 463</td>
<td>Language Disorders in Children</td>
<td>2</td>
</tr>
<tr>
<td>SPCOM 469</td>
<td>Clinical Exper in Comm Disorders</td>
<td>1</td>
</tr>
<tr>
<td>SPCOM ELECTIVES</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>PSYCH 101</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 251</td>
<td>Infancy, Childhood &amp; Preadolescence</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 252</td>
<td>Pre-Adol &amp; Adol Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 331</td>
<td>Psych of the Exceptional Individual</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 362</td>
<td>Intro to Psychopathology</td>
<td>3</td>
</tr>
<tr>
<td>BIOC 221/221L</td>
<td>Phys of Human Anatomy &amp; Phys/Lab</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 361</td>
<td>Physics of Sound</td>
<td>3</td>
</tr>
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</table>

**TOTAL: 58**

### Theatre Emphasis

Students must complete a minimum of 26 TH hours, as listed below, including at least one hour of Company Class each semester: At least eight of the 26 hours (including SPCOM 493) must be numbered between 300 and 499. A maximum of eight Company Class hours may be counted toward the emphasis area; a maximum of 12 hours of Company Class may be credited toward graduation.

| TH 131 | Foundations of Theatre | 3 |
| TH 135 | Beginning Acting       | 3 |
| TH 216 | History of Theatre     | 3 |
| TH 331 | Play Direction         | 3 |
| TH 332 | Design for the Theatre | 3 |
| TH 168/568 | Company Class           | 8 |
| or 381 | Drama of Shakespeare   | 3 |

**TOTAL: 26**

### Specific Requirements for the Theatre Minor

The minor in theatre consists of 20 semester hours of curriculum offerings, six of which must be upper division. Required are TH 111 or TH 216, TH 131 and TH 135 plus four credits of Company Class which are usually taken one per semester for four semesters. No more than four hours of Company Class may be counted for the minor in theatre.

### Co-curricular Requirements

The speech and theatre faculty believe that speech communication graduates must have co-curricular experiences that complement and reinforce the curricular experiences; therefore, graduates must document evidence of successful participation in forensics, Company Class, student organizations, clubs, jobs, or other activities related to the program of study in speech and theatre.

### Outcomes Assessment Activities

- All majors and transfer students will be pre-tested as follows:
  - a) The speaking ability of all USC students declaring a speech communication major will be evaluated in one of the speech or theatre courses they are enrolled in at the time they declare the major. The evaluation will be based upon a classroom presentation.
  - b) The speaking ability of all transfer students declaring a major will be evaluated in the same way. Additionally, the final grade earned in an introductory speech or theatre course at the student's previous school will be considered.

- The speech communication/theatre faculty believe that grades are a valid record of students' progress. All majors and minors are therefore required to complete work in the major or minor at a grade level of C or better; no lower grades will count toward the major or minor.

- A central file of syllabi, assignments, and exams, revealing how these are adapted to program objectives, will be retained in the departmental office for inspection by qualified persons.

- Each student's major adviser will keep a record of the student's work in a folder. The record will include a list of completed course work, and a sample of the student's writing prepared for a freshman, sophomore, junior, and senior level course, preferably distributed over four academic years. Folders of all majors and minors will be retained for a minimum of two years, to enable qualified persons to assess student performance in meeting program goals.

- In SPCOM 493, Seminar, all majors will demonstrate their ability to complete a scholarly paper in correct English, and to present and defend its findings orally.
The student majoring in biology may plan to enter the workplace or continue study in graduate school as a professional biologist, or may elect to follow any of the following pre-professional programs: pre-chiropractic, pre-nursing, pre-optometry, pre-physics or physical therapy, pre-occupational therapy, pre-physician assistant, pre-pediatric medicine, pre-veterinary medicine, pre-dentistry, pre-medicine or pre-osteopathic medicine. Frequently, a pre-professional program involves a combination of majors or a major and minor. For example, many pre-medical students choose a double major in biology and chemistry. Each of the pre-professional programs has an adviser who can provide detailed and current information about the undergraduate work which the student should pursue to provide the foundation necessary for later entry into a professional school. The student should contact the specialized adviser as early as possible. A list of advisers is available in the department office.

The university has a guaranteed transfer agreement with the College of Forestry and Natural Resources at Colorado State University (CSU) in pre-forestry and pre-wildlife management. A student who successfully completes the two-year program at USC with a minimum 2.50 grade-point average is guaranteed transfer to the baccalaureate program at CSU. Grades of D and F do not transfer.

Biology majors may also seek teacher certification at either the elementary or secondary level. Each student should obtain a written description of specific degree requirements from the appropriate adviser. Biology students who are considering attending graduate school should take one year of a foreign language and should plan to take the Graduate Record Examination during their senior year.

The biology department also offers several different specialization or emphasis areas. The areas are described below and the course requirements are detailed in the requirements section.

The specialization in environmental health is designed to meet the curriculum recommended by the Accreditation Council of the National Environmental Health Association (formerly the National Association of Sanitarians). Satisfactory completion of the curriculum leads to a BS degree in biology.

The emphasis in biotechnology is available to students interested in professions and/or graduate schools which require specialization in molecular biology, industrial microbiology or genetics.

The emphasis in medical technology, available to students majoring in biology, stresses microbiology, immunology, parasitology and chemistry. In their senior year, students apply for admission to a hospital school of medical technology, and after receiving the degree from USC they spend a one-year internship in hospital clinical laboratory practice. They then sit for a certifying exam and are registered as a medical technologist.

The sports medicine emphasis is created as an option within the biology major together with a minor in kinesiology. The emphasis will require 75 credit hours. Upon completion of the program, the student has been prepared for the National Athletic Trainers Certification Test and a career as
a certified athletic trainer. Graduate school options in physical therapy and sports medicine will be available to graduates and will enhance their earning potential significantly.

**Departmental Goals**
- To prepare graduates to become productive, accountable and responsible employees upon entering the work force.
- To prepare graduates to enter graduate or professional schools.
- To develop in students a broad-based theoretical foundation supplemented by laboratory and field exercises that allow individual observations, inferences and hands-on experience.
- To allow those students seeking a minor in biology to supplement and reinforce their major field of study.

**Expected Student Outcomes**

**General Requirements**
- Students graduating with a B.S. in biology must have at least a cumulative GPA of 2.0 in the major area. A cumulative GPA of 2.5 in the major area is required for admission to the teacher education program.
- Graduates are required to demonstrate intellectual skills and knowledge in math and supporting sciences.
- Graduates are required to complete an approved minor outside the biology department.
- Biology majors are expected to demonstrate a knowledge of basic laboratory tools used in biology for observation and analysis, phylogenetic relationships, relationships between form and function, and population/ ecological dynamics.
- Biology graduates are expected to:
  a) be able to read critically, think about, and review historical and current literature in the biological sciences;
  b) be able to apply basic knowledge of the related fields of chemistry, mathematics, and physics to problem-solving in biology;
  c) be able to formulate logical hypotheses;
  d) be able to design and carry out well-designed, well-controlled tests on scientific hypotheses;
  e) have a knowledge of basic biology terminology;
  f) have a broad-based background in molecular, cellular and organismic biology; and
  g) find information and present it in oral and written reports.

### Specific Requirements for the Biology Major

<table>
<thead>
<tr>
<th>BIOL Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 171</td>
<td>Career Planning I</td>
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<tr>
<td>191/191L</td>
<td>Aspects of Biology/Lab</td>
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<tr>
<td>201/201L</td>
<td>Botany/Lab</td>
<td>5</td>
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<td>202/202L</td>
<td>Zoology/Lab</td>
<td>5</td>
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<tr>
<td>301/301L</td>
<td>General Microbiology/Lab</td>
<td>5</td>
</tr>
<tr>
<td>341/341L</td>
<td>Vertebrate Physiology/Lab</td>
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<tr>
<td>or 412/412L</td>
<td>Cellular Biology/Lab</td>
<td>4</td>
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<tr>
<td>471</td>
<td>Career Planning IV</td>
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<tr>
<td>493</td>
<td>Seminar</td>
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</table>

**Approved Electives**: 18

**TOTAL**: 44

**Other Required Courses**

| CST 101     | Computers and You             | 2       |
| CHEM 121/121L | General Chemistry II/Lab I   | 5       |
| CHEM 122/122L | General Chemistry III/Lab II | 5       |
| CHEM 301/301L | Organic Chemistry II/Lab I   | 5       |
| CHEM 302/302L | Organic Chemistry III/Lab II | 5       |
| PHYS 201/201L | Principles of Physics I/Lab I| 4       |
| PHYS 202/202L | Principles of Physics III/Lab II | 4 |
| MATH 121    | College Algebra               | 4       |
| MATH 221    | Applied Calculus              | 5       |

**TOTAL**: 39

**Institutional and General Education Courses**

| ENG 101     | Composition I                | 3       |
| ENG 102     | Composition II               | 3       |
| SPCOM 103   | Speaking & Listening         | 3       |

**HUMANITIES**: 10

**SOCIAL SCIENCES**: 10

**FREE ELECTIVES**: 15

**TOTAL**: 45

**Total Credit Hours**: 128

### Specific Requirements for the Biology/Secondary Certification Option

| BIOL 132 | Human Heredity & Birth Defects | 2       |
| 162      | Personal Health                | 3       |
| 191/191L | Aspects of Biology/Lab         | 4       |
| 201/201L | Botany/Lab                     | 5       |
| 202/202L | Zoology/Lab                    | 5       |
| 206/206L | Introduction to Microbiology/Lab| 4   |
| 221/221L | Prin Human Anatomy & Physiology/Lab | 4 |
| 280      | Biotechnology                  | 3       |
| 353/353L | Ecology/Lab                    | 5       |
| 377      | Methods & Materials in Teaching Biol | 5 |
| 471      | Career Planning IV             | 1       |
| 493      | Seminar                        | 1       |

**TOTAL**: 39
### Other Required Courses

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tr>
<td>CHEM 1121/121L</td>
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<td>CHEM 1221/122L</td>
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<td>GEOL 101/101L</td>
<td>Earth Science/Lab</td>
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<td>PHYS 110</td>
<td>Astronomy</td>
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<td>PHYS 201/201L</td>
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<td>PHYS 202/202L</td>
<td>Principles of Physics II/Lab II</td>
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<td>Computers and You</td>
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<td>MATH 121</td>
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<td>MATH 221</td>
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<td>PSYCH 101</td>
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<td>PSYCH 151</td>
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<td>Human Growth and Development</td>
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<td>ED 461</td>
<td>Atypical Students in Secondary School</td>
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<td>IST 345</td>
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### Institutional and General Education Courses

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<td>ENG 102</td>
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<td>SPCOM 103</td>
<td>Speaking and Listening</td>
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<td><strong>HUMANITIES</strong></td>
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**Total Credit Hours: 139**

### Specific Requirements for the Biology/Elementary Certification Option

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<td>BIOL 112</td>
<td>Nutrition</td>
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<tr>
<td>BIOL 121</td>
<td>Environmental Conservation</td>
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<tr>
<td>BIOL 132</td>
<td>Heredity &amp; Birth Defects</td>
<td>2</td>
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<tr>
<td>BIOL 162</td>
<td>Personal Health</td>
<td>3</td>
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<tr>
<td>BIOL 191/191L</td>
<td>Aspects of Biology/Lab</td>
<td><strong>4</strong></td>
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<tr>
<td>BIOL 201/201L</td>
<td>Botany/Lab</td>
<td><strong>5</strong></td>
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<tr>
<td>BIOL 202/202L</td>
<td>Zoology/Lab</td>
<td><strong>5</strong></td>
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<tr>
<td>BIOL 206/202L</td>
<td>Introduction to Microbiology/Lab</td>
<td><strong>4</strong></td>
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<td>BIOL 471</td>
<td>Career Planning IV</td>
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**Total Credit Hours: 147-148**

### Other Required Courses

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<th>Course Code</th>
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<tbody>
<tr>
<td>GEOL 101/101L</td>
<td>Earth Science/Lab</td>
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<tr>
<td>PHYS 110</td>
<td>Astronomy</td>
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<tr>
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<tr>
<td>CHEM 111/111L</td>
<td>Principles of Chemistry/Lab</td>
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<tr>
<td>CHEM 112/112L</td>
<td>Intro to Organic &amp; Biochem/Lab</td>
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<td>MATH 360</td>
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<td>Elementary Concepts Math II</td>
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<td>ENG 352</td>
<td>English Syntax and Usage</td>
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<td>Children's Literature</td>
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<td>ED 414</td>
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<td>HP 232</td>
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<td>HP 322</td>
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<td>Rdg &amp; Lang Arts in the Elem School</td>
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<td>Diag &amp; Remediation of Rdg Problems</td>
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**Total Credit Hours: 147-148**

### Specific Requirements for the Biology/Chemistry Double Major

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<th>Credit Hours</th>
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<tbody>
<tr>
<td>BIOL 171</td>
<td>Career Planning I</td>
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</tr>
<tr>
<td>BIOL 191/191L</td>
<td>Aspects of Biology/Lab</td>
<td><strong>1</strong></td>
</tr>
<tr>
<td>BIOL 201/201L</td>
<td>Botany/Lab</td>
<td><strong>4</strong></td>
</tr>
<tr>
<td>BIOL 202/202L</td>
<td>Zoology/Lab</td>
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### Approved Electives

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<td>Instrumental Analysis/Lab</td>
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<td>Physical Chemistry II</td>
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<td>MATH 121</td>
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<td>MATH 122</td>
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<td>MATH 136</td>
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### Specific Requirements for the Biology/Environmental Health Option

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<th>Course Title</th>
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<tbody>
<tr>
<td>BIOL 171</td>
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<tr>
<td>191/191L</td>
<td>Aspects of Biology/Lab</td>
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<td>General Microbiology/Lab</td>
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<td>Medical Microbiology &amp; Immunology/Lab</td>
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<td>Vertebrate Physiology/Lab</td>
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<td>351/351L</td>
<td>Genetics/Lab</td>
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<td>412/412L</td>
<td>Cellular Biology/Lab</td>
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### Other Required Courses

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<tr>
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<tr>
<td>CHEM 517/517L</td>
<td>Quantitative Analysis I/Lab I</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 411</td>
<td>Biochemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CST 101</td>
<td>Computers and You</td>
<td>2</td>
</tr>
<tr>
<td>MATH 124</td>
<td>Precalculus Math</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 201/201L</td>
<td>Principles of Physics I/Lab I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 202/202L</td>
<td>Principles of Physics II/Lab II</td>
<td>4</td>
</tr>
<tr>
<td>Approved Electives</td>
<td></td>
<td>TOTAL 58</td>
</tr>
<tr>
<td>ENG 101</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 102</td>
<td>Composition II</td>
<td>3</td>
</tr>
<tr>
<td>HUMANITIES</td>
<td>Speaking &amp; Listening</td>
<td>3</td>
</tr>
<tr>
<td>SOCIAL SCIENCES</td>
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</table>

### Total Credit Hours: 130

### Specific Requirements for the Biology/Medical Technology Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 171</td>
<td>Career Planning I</td>
<td>1</td>
</tr>
<tr>
<td>191/191L</td>
<td>Aspects of Biology/Lab</td>
<td>4</td>
</tr>
<tr>
<td>201/201L</td>
<td>Botany/Lab</td>
<td>5</td>
</tr>
<tr>
<td>202/202L</td>
<td>Zoology/Lab</td>
<td>5</td>
</tr>
<tr>
<td>301/301L</td>
<td>General Microbiology/Lab</td>
<td>5</td>
</tr>
<tr>
<td>302/302L</td>
<td>Medical Microbiology &amp; Immunology/Lab</td>
<td>5</td>
</tr>
<tr>
<td>341/341L</td>
<td>Vertebrate Physiology/Lab</td>
<td>4</td>
</tr>
<tr>
<td>351/351L</td>
<td>Genetics/Lab</td>
<td>4</td>
</tr>
<tr>
<td>412/412L</td>
<td>Cellular Biology/Lab</td>
<td>4</td>
</tr>
<tr>
<td>471</td>
<td>Career Planning IV</td>
<td>1</td>
</tr>
<tr>
<td>Approved Electives</td>
<td></td>
<td>TOTAL 66-67</td>
</tr>
<tr>
<td>BIOS 472/472L</td>
<td>Radiation Biology/Lab</td>
<td>4</td>
</tr>
<tr>
<td>481/481L</td>
<td>Entomology/Lab</td>
<td>3</td>
</tr>
<tr>
<td>482/482L</td>
<td>Parasitology/Lab</td>
<td>3</td>
</tr>
<tr>
<td>493</td>
<td>Seminar</td>
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<td>498</td>
<td>Internship</td>
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### Upper Division Electives

<table>
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<tbody>
<tr>
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</table>
### Other Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM</td>
<td>112/112L</td>
<td>Intro to Organic &amp; Biochem/Lab</td>
<td>4</td>
</tr>
<tr>
<td>CHEM</td>
<td>121/121L</td>
<td>General Chemistry I/Lab</td>
<td>5</td>
</tr>
<tr>
<td>CHEM</td>
<td>122/122L</td>
<td>General Chemistry II/Lab</td>
<td>5</td>
</tr>
<tr>
<td>CST</td>
<td>101</td>
<td>Computers and You</td>
<td>3</td>
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<tr>
<td>MATH</td>
<td>156</td>
<td>Introduction to Statistics</td>
<td>3</td>
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<tr>
<td>MATH</td>
<td>221</td>
<td>Applied Calculus: An Intuitive Approach</td>
<td>3</td>
</tr>
<tr>
<td>PHYS</td>
<td>126</td>
<td>Calculus and Analytic Geometry I</td>
<td>5</td>
</tr>
<tr>
<td>PHYS</td>
<td>202/202L</td>
<td>Principles of Physics II/Lab</td>
<td>4</td>
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</table>

**TOTAL 28 Credits**

### Institutional and General Education Courses

<table>
<thead>
<tr>
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<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>ENG</td>
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</tr>
<tr>
<td>ENG</td>
<td>102</td>
<td>Composition II</td>
<td>3</td>
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<tr>
<td>SPCOM</td>
<td>103</td>
<td>Speaking &amp; Listening</td>
<td>3</td>
</tr>
<tr>
<td>HUMANITIES</td>
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</table>

**TOTAL 35 Credits**

### Total Credit Hours: 129-130

### Specific Requirements for the Biology/Biotechnology Option

<table>
<thead>
<tr>
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<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOL</td>
<td>171</td>
<td>Career Planning I</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>191/191L</td>
<td>Aspects of Biology/Lab</td>
<td>4</td>
</tr>
<tr>
<td>201/201L</td>
<td>Zoology/Lab</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>202/202L</td>
<td>N/A</td>
<td>Introduction to Biotechnology</td>
<td>3</td>
</tr>
<tr>
<td>301/301L</td>
<td>General Microbiology/Lab</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>302/302L</td>
<td>Med Microbiology &amp; Immunology/Lab</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>351/351L</td>
<td>Genetics/Lab</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>412/412L</td>
<td>Cellular Biology/Lab</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>450</td>
<td>Recombinant DNA Technology</td>
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<td></td>
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<td>Career Planning IV</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>472/472L</td>
<td>Radiation Biology/Lab</td>
<td>4</td>
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<tr>
<td>475/475L</td>
<td>Seminar</td>
<td>1</td>
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<tr>
<td></td>
<td>485</td>
<td>Independent Study</td>
<td>1-2</td>
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</tbody>
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**TOTAL 54-55 Credits**

### Approved Electives

<table>
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<tr>
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<tbody>
<tr>
<td>CHEM</td>
<td>121/121L</td>
<td>General Chemistry II/Lab II</td>
<td>5</td>
</tr>
<tr>
<td>CHEM</td>
<td>301/301L</td>
<td>Organic Chemistry I/Lab</td>
<td>5</td>
</tr>
<tr>
<td>CHEM</td>
<td>302/302L</td>
<td>Organic Chemistry II/Lab</td>
<td>5</td>
</tr>
<tr>
<td>CHEM</td>
<td>317/317L</td>
<td>Quantitative Analysts II/Lab</td>
<td>5</td>
</tr>
<tr>
<td>CHEM</td>
<td>411</td>
<td>Biochemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM</td>
<td>412/412L</td>
<td>Biochemistry II/Lab</td>
<td>4</td>
</tr>
</tbody>
</table>

**TOTAL 25 Credits**

### Kinesiology Minor Total (See catalog)

- **TOTAL 20 Credits**

*Students who intend to use this track for pre-medical should understand that they will be required to take Biology 201L and 202L.

**Students who intend to use this track for pre-medical should understand that a full year each of General Chemistry and Organic Chemistry is required.**
Institutional and General Education Courses

Approved Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 101</td>
<td>3</td>
</tr>
<tr>
<td>ENG 102</td>
<td>3</td>
</tr>
<tr>
<td>SPCOM 103</td>
<td>3</td>
</tr>
<tr>
<td>HUMANITIES 103</td>
<td>3</td>
</tr>
<tr>
<td>SOCIAL SCIENCES 105</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 36

Specific Requirements for the Professional Biology Minor

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 191/191L</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 201/201L</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 202/202L</td>
<td>5</td>
</tr>
</tbody>
</table>

Total Credit Hours: 23

Specific Requirements for the General Biology Minor

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 191/191L</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 201/201L</td>
<td>5</td>
</tr>
</tbody>
</table>

Total Credit Hours: 10

Co-curricular Requirements

There are many opportunities to participate in experiences that will complement and reinforce a student's academic experience. These may be either on- or off-campus activities and may be used to develop leadership and interpersonal skills. The faculty of the biology department actively encourages student participation in such activities.

Outcomes Assessment Activities

A) Biology Majors

Assessment of graduates’ improvement in intellectual skills, knowledge and capacities between entrance and graduation will be accomplished by using portfolios. A portfolio will be developed for each student majoring in biology. The responsibility for the portfolio will be shared by the student and his/her adviser.

Examples of material that may be included in a portfolio are:

- ACT scores, high school transcripts and college transcripts.
- Samples of homework, quizzes, examinations, research reports and lists of developed skills.
- Examples of writing, both from the required English courses as well as reports required by courses in life sciences.
- Certificates, awards, honors and evidences of co-curricular activities.
- Scores from appropriate examinations such as: GRE, MCAT, DAT, ETS, College Board.

B) Biology Minors

- The faculty of the biology department believes that the course grade would be a measure of the student's grasp of the basics of the course material.
- A written report will be required in an upper-division class.

CHEMISTRY DEPARTMENT

CHAIR: Wilkes

FACULTY: Bonetti, Drueling, Hammer, Mahan, Proctor, Saul

The major in chemistry leads to a bachelor of science (BS) degree and the chemistry curriculum is approved by the American Chemical Society.

In addition to curricula for students who wish to pursue chemistry as a profession, programs can be designed for pre-professional areas such as pre-medicine, pre-dentistry, pre-veterinary medicine and pre-law.

While a core curriculum for the major exists, many options are open to students to combine other interests with a major in chemistry. For example, while medical schools do not mandate any particular major for entering students, biology and chemistry have been the leading majors of students entering medical school. The requirements for a pre-medicine/chemistry major are the same as for the chemistry major option plus the student must complete specific courses required by the medical schools to which they are applying.

It is recommended that pre-medical and other pre-professional students coordinate their programs with the appropriate pre-professional adviser, as well as the chemistry adviser, to make sure specific course requirements are completed.

Chemistry is a foundation science for many professions and graduates with degrees in chemistry find employment in such diverse areas as health sciences, agricultural and environmental fields, transportation industries, the semi-conductor industry, teaching and research. Consequently, the chemistry department provides students with a number of diverse program options to assure each student a sound education in the fundamental areas of modern chemistry as well as valuable educational versatility.

The chemistry department strives to provide intellectual and professional training for students in the field of chemistry and in support of the American Chemical Society charter, to "... encourage in the broadest and most liberal manner the advancement of chemistry in all its branches, the promotion of research in chemical science and industry; the improvement of the qualifications and usefulness of chemists through high standards of education ... to promote scientific interests and inquiry ..."
Program Goals

- To prepare graduates in the discipline of chemistry to become productive members of the profession whether they go to industry or to postgraduate education.
- To prepare graduates in the verbal, written and quantitative skills that are prerequisite to advanced study or careers in chemistry.
- To prepare graduates both in the theoretical principles of chemistry as well as in the laboratory approach to problem solving.
- To maintain approval of the chemistry curriculum as defined by the American Chemical Society, Committee on Professional Training.
- To provide the opportunity for a variety of educational programs through the following options:
  a) Basic Chemistry
  b) ACS Certified Curriculum
  c) Biochemistry
  d) Double Major
  e) Engineering/Chemistry
  f) Chemistry/Teacher Certification

Expected Student Outcomes

General Requirements

- Students majoring or minoring in chemistry are required to have a cumulative GPA of 2.0 or better in their chemistry courses.
- Proficiency in math and computer science is essential for understanding and application of chemical principles; therefore, graduates must complete approved math, physics and computer science courses such that the overall GPA in those areas is 2.0 or better.
- The ability to think across disciplines contributes significantly to the educational experience as well as the application of chemistry as a profession; therefore, graduates must successfully complete an approved minor or area of concentration such that the overall GPA in those areas is 2.0 or better.
- Critical thinking, logical inquiry and problem analysis are very important in the education of new chemists; therefore, chemistry courses for majors will require students to demonstrate these capabilities as relevant to the subject.

- Library and quantitative skills are prerequisite to advanced study or careers in chemistry; therefore, chemistry courses for majors require students to demonstrate the ability to read and understand concepts, theories and problems as well as communicate applications of and solutions to concepts, theories and problems.
- A fundamental knowledge of chemical theories, concepts and skills is necessary for advanced study or career placement in the profession; therefore, chemistry courses for majors will require students to demonstrate knowledge of fundamental theories, concepts and skills on a continuing as well as a comprehensive basis.
- Transfer students are required to earn a minimum of 20 semester credit hours in approved chemistry courses from USC for graduation with a BS degree in chemistry. Transfer students wishing to minor in chemistry must earn a minimum of 10 of the 20 semester credit-hour requirement at USC.
- Students will be required to take an exit examination during their senior year, covering the undergraduate chemistry curriculum.

Specific Requirements

The following common core is required for all of the chemistry options for the bachelor of science degree:

<table>
<thead>
<tr>
<th>CHEM Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 121/121L</td>
<td>General Chemistry I/Lab I</td>
<td>5</td>
</tr>
<tr>
<td>122/122L</td>
<td>General Chemistry II/Lab II</td>
<td>5</td>
</tr>
<tr>
<td>301/301L</td>
<td>Organic Chemistry I/Lab I</td>
<td>5</td>
</tr>
<tr>
<td>302/302L</td>
<td>Organic Chemistry II/Lab II</td>
<td>5</td>
</tr>
<tr>
<td>317/317L</td>
<td>Quantitative Analysis/Lab</td>
<td>5</td>
</tr>
<tr>
<td>321</td>
<td>Physical Chemistry I</td>
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<td>322</td>
<td>Physical Chemistry II</td>
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<td>419/419L</td>
<td>Instrumental Analysis/Lab</td>
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<tr>
<td></td>
<td>TOTAL</td>
<td>36</td>
</tr>
</tbody>
</table>

All options for the chemistry major also require completion of the following institutional and general education requirements:

Institutional and General Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 101</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 102</td>
<td>Composition II</td>
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</tr>
<tr>
<td>SPOCM 103</td>
<td>Speaking &amp; Listening</td>
<td>3</td>
</tr>
<tr>
<td>HUMANITIES</td>
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<td>10</td>
</tr>
<tr>
<td>SOCIAL SCIENCES</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>29</td>
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</table>
### Requirements for the specific options

#### Basic Chemistry Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 323</td>
<td>Required Chemistry Core</td>
<td>36</td>
</tr>
<tr>
<td>or 221/221L</td>
<td>Experimental Physical Chemistry</td>
<td>2</td>
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<td>493</td>
<td>Inorganic Chemistry</td>
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#### Other Required Courses

<table>
<thead>
<tr>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 126</td>
<td>Calculus and Analytic Geometry I</td>
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</tr>
<tr>
<td>MATH 224</td>
<td>Calculus and Analytic Geometry II</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 221/221L</td>
<td>General Physics III/Lab</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 222/222L</td>
<td>General Physics III/Lab II</td>
<td>5</td>
</tr>
<tr>
<td>CST 102</td>
<td>Programming with BASIC</td>
<td>3</td>
</tr>
<tr>
<td>or 105</td>
<td>FORTRAN</td>
<td>3</td>
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<tr>
<td><strong>TOTAL</strong></td>
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</table>

Institutional and General Education Courses: 28

APPROVED MINOR: 20

FREE ELECTIVES: 18

**TOTAL:** 66

Total Credit Hours: 131

### Specific Requirements for the ACS Certified Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 221/221L</td>
<td>Required Chemistry Core</td>
<td>36</td>
</tr>
<tr>
<td>323</td>
<td>Inorganic Chemistry/Lab</td>
<td>3</td>
</tr>
<tr>
<td>421</td>
<td>Experimental Physical Chemistry</td>
<td>2</td>
</tr>
<tr>
<td>493</td>
<td>Advanced Inorganic Chemistry</td>
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Chemistry Electives: 6

Other Required Courses

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<tbody>
<tr>
<td>MATH 126</td>
<td>Calculus and Analytic Geometry I</td>
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</tr>
<tr>
<td>MATH 224</td>
<td>Calculus and Analytic Geometry II</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 221/221L</td>
<td>General Physics III/Lab</td>
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<tr>
<td>PHYS 222/222L</td>
<td>General Physics III/Lab II</td>
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<tr>
<td>CST 102</td>
<td>Programming with BASIC</td>
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</tr>
<tr>
<td>or 105</td>
<td>FORTRAN</td>
<td>3</td>
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<tr>
<td><strong>TOTAL</strong></td>
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<td><strong>23</strong></td>
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</table>

Institutional and General Education: 28

APPROVED MINOR: 20

**TOTAL:** 54

Total Credit Hours: 128

### Specific Requirements for the Double Major Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 323</td>
<td>Required Chemistry Core</td>
<td>36</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>39</strong></td>
</tr>
</tbody>
</table>

Other Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 126</td>
<td>Calculus and Analytic Geometry I</td>
<td>5</td>
</tr>
<tr>
<td>or 201/201L</td>
<td>Principles of Physics III/Lab</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 221/221L</td>
<td>General Physics III/Lab</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 222/222L</td>
<td>General Physics III/Lab II</td>
<td>5</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>13-15</strong></td>
</tr>
</tbody>
</table>

Institutional and General Education: 28

FREE ELECTIVES: 10

APPROVED MINOR: 20

**TOTAL:** 76

Total Credit Hours: 128-130

### Specific Requirements for the Engineering/Chemistry Option

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>CHEM 323</td>
<td>Required Chemistry Core</td>
<td>36</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>36</strong></td>
</tr>
</tbody>
</table>
Other Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 126</td>
<td>Calculus and Analytic Geometry I</td>
<td>5</td>
</tr>
<tr>
<td>MATH 224</td>
<td>Calculus and Analytic Geometry II</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 221/221L</td>
<td>General Physics I/Lab I</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 222/222L</td>
<td>General Physics II/Lab II</td>
<td>5</td>
</tr>
<tr>
<td>CST 105</td>
<td>FORTRAN</td>
<td>3</td>
</tr>
<tr>
<td>EN 103</td>
<td>Introduction to Engineering</td>
<td>2</td>
</tr>
<tr>
<td>EN 107</td>
<td>Engineering Graphics</td>
<td>2</td>
</tr>
<tr>
<td>EN 211</td>
<td>Engineering Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>EN 212</td>
<td>Engineering Mechanics II</td>
<td>3</td>
</tr>
<tr>
<td>EN 231/231L</td>
<td>Circuit Analysis I/Lab I</td>
<td>5</td>
</tr>
<tr>
<td>EN 301</td>
<td>Fluid Mechanics</td>
<td>4</td>
</tr>
<tr>
<td>EN 312/312L</td>
<td>Materials Science I/Lab I</td>
<td>3</td>
</tr>
<tr>
<td>EN 321</td>
<td>Thermodynamics I</td>
<td>3</td>
</tr>
<tr>
<td>EN 322</td>
<td>Thermodynamics II</td>
<td>3</td>
</tr>
<tr>
<td>EN 324/324L</td>
<td>Mechanics of Materials I/Lab I</td>
<td>4</td>
</tr>
</tbody>
</table>

Institutional and General Education: 28
Free Electives: 9
Total Credit Hours: 128

Specific Requirements for the Chemistry/Teacher Certification Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 221/221L</td>
<td>Inorganic Chemistry/I/Lab</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 377</td>
<td>Methods &amp; Techniques</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 425</td>
<td>Environmental Chemistry</td>
<td>3</td>
</tr>
</tbody>
</table>

Other Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 121</td>
<td>Environmental Conservation</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 161</td>
<td>Personal Health</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 191/191L</td>
<td>Aspects of Biology I/Lab I</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 101/101L</td>
<td>Earth Science I/Lab I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 110</td>
<td>Astronomy</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 201/201L</td>
<td>Principles of Physics I/Lab I</td>
<td>4</td>
</tr>
<tr>
<td>or PHYS 221/221L</td>
<td>General Physics I/Lab I</td>
<td>5</td>
</tr>
<tr>
<td>or PHYS 202/202L</td>
<td>Principles of Physics II/Lab II</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 222/222L</td>
<td>General Physics II/Lab II</td>
<td>5</td>
</tr>
<tr>
<td>CST 101</td>
<td>Computers and You</td>
<td>2</td>
</tr>
<tr>
<td>MATH 221</td>
<td>Applied Calculus</td>
<td>5</td>
</tr>
<tr>
<td>or MATH 126</td>
<td>Calculus and Analytic Geometry I</td>
<td>5</td>
</tr>
<tr>
<td>PSYCH 101</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 151</td>
<td>Human Development</td>
<td>3</td>
</tr>
</tbody>
</table>

ED 202 | Foundations of Education    | 3       |
ED 435 | Classroom Management        | 3       |
ED 480 | Educational Media & Technology | 3     |
ED 461 | Atypical Sit in the Secondary School | 2   |
ED 488 | Student Teaching Secondary  | 15      |
IST 345 | Career Education            | 2       |
RDG 425 | Teaching Reading in Content Areas | 2   |

TOTAL 69-71

Institutional and General Education: 22

Total Credit Hours: 135-137

Specific Requirements for the Chemistry Minor

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 121/121L</td>
<td>General Chemistry I/Lab I</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 122/122L</td>
<td>General Chemistry II/Lab II</td>
<td>5</td>
</tr>
</tbody>
</table>

Upper Division Electives: 10

TOTAL 20

Co-curricular Requirements

Students should experience co-curricular activities which enhance, broaden and reinforce their academic experience; therefore, the faculty support and encourage students to participate in science-related, as well as in general activities such as:

- science or chemistry clubs
- student government
- scientific meetings, seminars, symposia, field trips/hours, etc.

Outcomes Assessment Activities

- Assessment of chemistry majors will occur through records kept for each student in individual files. These files shall contain:
  - ACT scores, high school transcripts and college transcripts;
  - Standardized exam scores (chemistry students demonstrate their knowledge and skills on national ACS standardized exams at the end of the freshman year; at the end of the sophomore organic year, and at the end of inorganic chemistry and physical chemistry); the senior exit exam; and
  - Samples of papers written and/or presented, seminars given and summaries of any research projects.

- Advisers maintain complete files on each student. At the end of the sophomore year and during the year of graduation, a committee composed of chemistry department members will evaluate each file for advisement and reference purposes. Upon graduation, students will have access to their files when requested; however, the file will be maintained for a period of five years in order to track the careers of graduates.
HUMAN PERFORMANCE AND LEISURE STUDIES DEPARTMENT

CHAIR: Aguilar
FACULTY: Banks, Cockrell

The major in kinesiology leads to the degree of bachelor of science (BS). Minors in kinesiology, physical education, coaching and recreation are available. Activity courses are open to all students.

The professional preparation leading to a degree in kinesiology includes teacher certification with endorsements in kindergarten through 12th grade physical education. Certification requirements are met by completing the kinesiology program and the teacher-certification core listed under the kinesiology major requirements.

The major in recreation leads to the degree of bachelor of science (BS) and prepares students for positions of leadership in a variety of recreational service agencies. Prospective employers include parks and recreation departments at the city, county, district and state levels as well as voluntary youth agencies such as the YWCA, boys' and girls' clubs and scouting. Additional areas of employment include recreation programs in the military, hospital, commercial, and industrial fields or employee recreation or outdoor recreation.

Many recreation majors use extensive interdisciplinary studies to prepare for work in specialty areas such as human services and recreation for the physically or mentally disabled. Others prepare for program areas such as sports and athletic, social and cultural recreation programming, arts and crafts or other emphases.

Kinesiology Program Goals

- Graduates will have gained competency in understanding the philosophy and historical basis for kinesiology/physical education as a discipline.
- Graduates will possess a depth of knowledge in the components of kinesiology as they relate to human movement.
- Graduates will have gained competencies related to skills, knowledge and activities included in physical education curricula.

Expected Student Outcomes

General Requirements

Majors are required to:

- complete an approved program of courses which is composed of a minimum of 45 credit hours with a cumulative GPA of 2.5 or higher;
- earn a minimum grade of C in all major courses;
- complete a minor or approved area of concentration with a cumulative GPA of 2.0 or higher;

- earn a cumulative GPA of 2.0 or higher in the required English/speech communication courses;
- complete, with a grade of C or higher a minimum of three term or professional papers that reflect facility in paper-writing in courses in the kinesiology major;
- complete a computer-literacy course or present documented evidence of competency in computer application.

Specific Requirements for the Kinesiology Major

<table>
<thead>
<tr>
<th>KIN Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>254</td>
<td>Anatomical Kinesiology</td>
<td>2</td>
</tr>
<tr>
<td>258</td>
<td>Motorlearning Kinesiology</td>
<td>2</td>
</tr>
<tr>
<td>354</td>
<td>Psychological Kinesiology</td>
<td>2</td>
</tr>
<tr>
<td>364</td>
<td>Mechanical Kinesiology</td>
<td>2</td>
</tr>
<tr>
<td>442</td>
<td>Physiological Kinesiology</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>10</td>
</tr>
</tbody>
</table>

Other Required Courses

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>231</td>
<td>CPR</td>
<td>1</td>
</tr>
<tr>
<td>232</td>
<td>Advanced First Aid</td>
<td>2</td>
</tr>
<tr>
<td>233</td>
<td>Hist &amp; Prin of PER</td>
<td>3</td>
</tr>
<tr>
<td>242</td>
<td>S&amp;I of Motor Learning and Elem Act</td>
<td>3</td>
</tr>
<tr>
<td>243</td>
<td>S&amp;I of Rhythmic Activities</td>
<td>1</td>
</tr>
<tr>
<td>244</td>
<td>S&amp;I of Soccer &amp; Volleyball</td>
<td>2</td>
</tr>
<tr>
<td>245</td>
<td>S&amp;I of W, Train &amp; Fitness Act</td>
<td>2</td>
</tr>
<tr>
<td>246</td>
<td>S&amp;I of Tr &amp; Fi, Basketball &amp; Softball</td>
<td>2</td>
</tr>
<tr>
<td>247</td>
<td>S&amp;I of Tumbling</td>
<td>1</td>
</tr>
<tr>
<td>248</td>
<td>S&amp;I of Ind &amp; Dual Spots (Golf, Tennis, Racquetball &amp; Badminton)</td>
<td>3</td>
</tr>
<tr>
<td>322</td>
<td>Elementary School PE</td>
<td>2</td>
</tr>
<tr>
<td>342</td>
<td>Training Room Methods</td>
<td>2</td>
</tr>
<tr>
<td>343</td>
<td>Measurement &amp; Evaluation in HP</td>
<td>2</td>
</tr>
<tr>
<td>461</td>
<td>Program Administration in PERA</td>
<td>3</td>
</tr>
<tr>
<td>465</td>
<td>Adapted PE</td>
<td>2</td>
</tr>
</tbody>
</table>

Two courses must be selected from among the following:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>276</td>
<td>WSI</td>
<td>2</td>
</tr>
<tr>
<td>471</td>
<td>Coaching &amp; Officiating Football</td>
<td>2</td>
</tr>
<tr>
<td>472</td>
<td>Coaching &amp; Officiating Basketball</td>
<td>2</td>
</tr>
<tr>
<td>473</td>
<td>Coaching &amp; Officiating Track &amp; Field</td>
<td>2</td>
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<tr>
<td>474</td>
<td>Coaching &amp; Officiating Gymnastics</td>
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<td>475</td>
<td>Coaching &amp; Officiating Volleyball</td>
<td>2</td>
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<tr>
<td>482</td>
<td>Coaching &amp; Officiating Wrestling</td>
<td>2</td>
</tr>
<tr>
<td>483</td>
<td>Coaching &amp; Officiating Baseball</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>45</td>
</tr>
</tbody>
</table>
For the teaching endorsement requirements, see the Center for Teaching and Learning section of this catalog.

Co-curricular Requirements

The faculty of the of human performance and leisure studies department believe that graduates must have co-curricular experiences that complement and reinforce the curricular experiences. Therefore, kinesiology major students must provide documented evidence of successful participation in jobs, clubs, student and professional organizations, or other activities related to their major field of study.

Outcomes Assessment Activities

In addition to the assessment which is inherent in the general requirements, each kinesiology major student must prepare a portfolio which includes academic transcripts, resume, completed placement file, and other pertinent information which indicates increasingly greater accomplishments in progress toward professional goals throughout the student’s higher education experience.

Recreation Program Goals

- Graduates will have gained competency in understanding the philosophical, historical and socio-psychological basis of recreation as a discipline.
- Graduates will possess a depth of knowledge in the various emphasis areas of recreation as they relate to humans in society.
- Graduates will have gained competencies encompassing the broad area of recreation including those pertaining to outdoor pursuits, therapeutic recreation, and public and private recreation program administration.

Expected Student Outcomes

General Requirements

Majors are required to:

- complete an approved program of courses which is composed of a minimum of 54 credit hours with a cumulative GPA of 2.5 or higher;
- earn a minimum grade of C in all major courses;
- complete a minor or approved area of concentration with a cumulative GPA of 2.0 or higher;
- earn a cumulative GPA of 2.0 or higher in the required English/speech communication courses;
- complete, with a grade of C or higher, a minimum of three term or professional papers that reflect facility in paper writing for courses in the recreation major; and
- complete a computer-literacy course or present documented evidence of competency in computer application.

Specific Requirements for Recreation Majors

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP</td>
<td>Hist &amp; Prin PER</td>
<td>3</td>
</tr>
<tr>
<td>REC</td>
<td>Rec Program Planning</td>
<td>3</td>
</tr>
<tr>
<td>REC</td>
<td>Leader &amp; Supervision in Rec</td>
<td>3</td>
</tr>
<tr>
<td>REC</td>
<td>Practicum</td>
<td>3</td>
</tr>
<tr>
<td>REC</td>
<td>Rec for Special Populations</td>
<td>3</td>
</tr>
<tr>
<td>REC</td>
<td>Outdoor Recreation</td>
<td>3</td>
</tr>
<tr>
<td>REC</td>
<td>Recreation Management</td>
<td>3</td>
</tr>
<tr>
<td>REC</td>
<td>Seminar</td>
<td>2</td>
</tr>
<tr>
<td>REC</td>
<td>Internship</td>
<td>9</td>
</tr>
</tbody>
</table>

Majors select from an approved list of courses in the following areas:

Courses | Credits | Methods | 16 |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>TOTAL</td>
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</tr>
</tbody>
</table>

Co-curricular Requirements

The faculty of the human performance and leisure studies department believe that graduates must have co-curricular experiences that complement and reinforce the curricular experiences. Therefore, recreation majors must provide documented evidence of successful participation in jobs, clubs, student and professional organizations, or other activities related to their major field of study.

Outcomes Assessment Activities

In addition to the assessment which is inherent in the general requirements, each student majoring in recreation must prepare a portfolio which includes academic transcripts, a resume, a completed placement file, and other pertinent information which indicates increasingly greater accomplishments in the progress toward professional goals throughout the student’s higher education experiences.

Program Goals for Physical Education Minors

- Minors will have gained understanding of the philosophical and historical base of physical education as a discipline.
- Minors will have gained competencies related to skills, knowledge and activities included in physical education programs.

Expected Student Outcomes

General Requirements

- Minors will complete a minimum of 20 credit hours, with a cumulative GPA of 2.5 or higher in approved minor courses.
• Minors will earn a minimum grade of C in all minor courses.
• Minors will earn a cumulative GPA of 2.0 or higher in the required English/speech communication courses.
• Minors will present documented evidence of successful writing skills as indicated by written assignments in academic course work.

**Specific Requirements for the Physical Education Minor**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP</td>
<td>232 Advanced First Aid</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>233 History and Principles of PER</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>378 Methods in Physical Education</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>461 Program Administration in PERA</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

**Skills & Techniques Courses: Select 10 hours**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP</td>
<td>242 Skills &amp; Tech of Mtr Learn &amp; Elem Act</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>243 Skills &amp; Tech of Rhythmic Act</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>244 Skills &amp; Tech of Soccer and Volleyball</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>245 Skills &amp; Tech of Wt Train &amp; Fit Act</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>246 Skills &amp; Tech of T &amp; F, Bsk &amp; Softball</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>247 Skills &amp; Tech of Tumbling</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>248 Skills &amp; Tech of Ind &amp; Dual Sports</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>20</strong></td>
</tr>
</tbody>
</table>

**Co-curricular Requirements**

Physical education minor students must show successful co-curricular experiences that complement and reinforce the physical education minor.

**Outcomes Assessment Activities**

In addition to the assessment which is inherent in the general requirements, each physical education minor student must prepare a portfolio which includes academic transcripts and information in regard to successful writing skills and co-curricular experiences related to the discipline of physical education.

**Program Goals for Coaching Minors**

Minors will have gained:

• knowledge of the anatomical and mechanical principles of human movement;
• understanding of prevention, care and rehabilitation of athletic injuries;

• understanding of organization and administration of athletic programs; and
• knowledge of coaching and officiating techniques in selected sports activities.

**Expected Student Outcomes**

**General Requirements**

• Minors will complete a minimum of 21 credit hours, with a cumulative GPA of 2.5 or higher in approved minor courses.
• Minors will earn a minimum grade of C or higher in minor courses.
• Minors will earn a cumulative GPA of 2.0 or higher in the required English/speech communication courses.
• Minors will present evidence of successful writing skills as indicated by written assignments in academic course work.

**Specific Requirements for the Coaching Minor**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP</td>
<td>232 First Aid</td>
<td>2</td>
</tr>
<tr>
<td>KIN</td>
<td>254 Anatomical Kinesiology</td>
<td>2</td>
</tr>
<tr>
<td>HP</td>
<td>342 Training Room Methods</td>
<td>2</td>
</tr>
<tr>
<td>KIN</td>
<td>364 Mechanical Kinesiology</td>
<td>2</td>
</tr>
<tr>
<td>HP</td>
<td>461 Prog Administration in PERA</td>
<td>3</td>
</tr>
</tbody>
</table>

With the approval of their advisor, the student must select 10 credit hours from the following courses:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP</td>
<td>244 Skills &amp; Tech of Ind &amp; Dual Spis</td>
<td>3</td>
</tr>
<tr>
<td>471</td>
<td>Coaching &amp; Officiating Football</td>
<td>2</td>
</tr>
<tr>
<td>472</td>
<td>Coaching &amp; Officiating Basketball</td>
<td>2</td>
</tr>
<tr>
<td>473</td>
<td>Coaching &amp; Officiating Track &amp; Field</td>
<td>2</td>
</tr>
<tr>
<td>474</td>
<td>Coaching &amp; Officiating Gymnastics</td>
<td>2</td>
</tr>
<tr>
<td>475</td>
<td>Coaching &amp; Officiating Volleyball</td>
<td>2</td>
</tr>
<tr>
<td>482</td>
<td>Coaching &amp; Officiating Wrestling</td>
<td>2</td>
</tr>
<tr>
<td>483</td>
<td>Coaching &amp; Officiating Baseball</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

**Co-curricular Requirements**

Coaching minors must show successful co-curricular experiences that complement and reinforce the coaching minor program.

**Outcomes Assessment Activities**

In addition to the evaluation inherent in the general requirements, coaching minors must prepare a portfolio which includes academic transcripts and information in regard to successful writing skills and co-curricular experiences related to the discipline of physical education.
Program Goals for Recreation Minors

- Minors will have gained knowledge of the philosophical and historical base of recreation as a discipline.
- Minors will possess a depth of knowledge in a selected emphasis area of recreation.

Expected Student Outcomes

General Requirements

- Minors will complete a minimum of 20 credit hours, with a cumulative GPA of 2.5 or higher in approved minor courses.
- Minors will earn a minimum grade of C or higher in minor courses.
- Minors will earn a cumulative GPA of 2.0 or higher in the required English/speech communication courses.
- Minors will present documented evidence of successful writing skills as indicated by written assignments in academic course work.

Specific Requirements for the Recreation Minor

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>REC 340</td>
<td>Rec Program Planning</td>
<td>3</td>
</tr>
<tr>
<td>350</td>
<td>Leadership and Supervision in Rec</td>
<td>3</td>
</tr>
<tr>
<td>389</td>
<td>Practicum</td>
<td>3</td>
</tr>
<tr>
<td>481</td>
<td>Outdoor Recreation</td>
<td>3</td>
</tr>
<tr>
<td>482</td>
<td>Recreation Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Recreation minor students must complete an approved emphasis tract of six semester hours in one of the following areas: outdoor recreation, management, or community recreation.

Co-curricular Requirements

Recreation minor students must show successful co-curricular experiences that complement and reinforce the recreation minor.

Outcomes Assessment Activities

In addition to the assessment, which is inherent in the general requirements, each recreation minor must prepare a portfolio which includes academic transcripts and information in regard to successful writing skills and co-curricular experiences related to the discipline of physical education.

Program Goals for Kinesiology Minors

- Minors will have gained understanding of the philosophical and historical base of kinesiology as a discipline.
- Minors will have gained knowledge of anatomical, maturational, psychological, mechanical and physiological kinesiology as they relate to human movement.
- Minors will gain knowledge in the emphasis area of athletic training or general professional preparation.

Expected Student Outcomes

General Requirements

- Minors will complete 20 credit hours, with a cumulative GPA of 2.5 or higher in approved minor courses.
- Minors will earn a minimum grade of C in all minor courses.
- Minors will earn a cumulative GPA of 2.0 or higher in required English/speech communication courses.
- Minors will present evidence of successful writing skills as indicated by written assignments in academic course work.

Specific Requirements for the Kinesiology Minor

<table>
<thead>
<tr>
<th>KIN Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIN 254</td>
<td>Anatomical Kinesiology</td>
<td>2</td>
</tr>
<tr>
<td>364</td>
<td>Mechanical Kinesiology</td>
<td>2</td>
</tr>
<tr>
<td>442</td>
<td>Physiological Kinesiology</td>
<td>2</td>
</tr>
<tr>
<td>258</td>
<td>Maturational Kinesiology</td>
<td></td>
</tr>
<tr>
<td>or 262</td>
<td>Psychological Kinesiology</td>
<td>2</td>
</tr>
</tbody>
</table>

The student must select one of the following blocks:

Athletic Training Block

<table>
<thead>
<tr>
<th>HP</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>232</td>
<td>Advanced First Aid</td>
<td>2</td>
</tr>
<tr>
<td>342</td>
<td>Training Room Methods</td>
<td>2</td>
</tr>
<tr>
<td>442</td>
<td>Advanced Athletic Training</td>
<td>3</td>
</tr>
<tr>
<td>494</td>
<td>Field Experience</td>
<td>5</td>
</tr>
</tbody>
</table>

Total 12

Professional Block

<table>
<thead>
<tr>
<th>HP</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>231</td>
<td>CPR*</td>
<td>1</td>
</tr>
<tr>
<td>232</td>
<td>Advanced First Aid*</td>
<td>2</td>
</tr>
<tr>
<td>461</td>
<td>Program Administration in PERA</td>
<td>3</td>
</tr>
<tr>
<td>465</td>
<td>Adapted PE</td>
<td>2</td>
</tr>
<tr>
<td>494</td>
<td>Field Experience</td>
<td>4</td>
</tr>
</tbody>
</table>

Total 12

Total Credit Hours: 20

*May substitute BIOL 320 EMT for HP 231 and HP 232
Curricular Requirements

Kinesiology minor students must show successful co-curricular experiences that complement and reinforce the kinesiology minor.

Outcomes Assessment Activities

In addition to the evaluation inherent in the general requirements, kinesiology minors must prepare a portfolio which includes academic transcripts and information in regard to successful writing skills and co-curricular experiences related to the discipline of physical education.

MATHEMATICS DEPARTMENT

Chair: Whitnell
FACULTY: Aitken, Barnett, Brons, Burgos, Chacon, Derr, Gill, Johnston, Louisell, Nichols, Or, Phillips, Soo Johnson

The major in mathematics leads to the degrees of bachelor of arts (BA) or bachelor of science (BS). A flexible curriculum allows students to prepare for graduate school, for teaching careers, or for employment in areas that require mathematics (such as actuarial science, computer science, engineering, and statistics). Faculty advisers work individually with mathematics majors and minors to design their programs of study. A list of advisers is available in the departmental office.

Departmental Goals

- To provide students with high-level problem solving skills of a quantitative and statistical nature based on logical reasoning.
- To provide students with an understanding of the applications of mathematics in other areas such as computer science, economics and management, engineering, physical, and life sciences.
- To prepare graduates for further study in graduate school.
- To prepare graduates for productive careers in the business world or in teaching.

Expected Student Outcomes

General Requirements

- All mathematics majors must complete the mathematics core curriculum: MATH 125, 207, 224, 207, 320, 325, 327, 350, or 255 and 350, 421, and 495. Majors are expected to complete courses in the core numbered above MATH 325 at USC.
- All majors are required to complete a senior research project under the guidance of a faculty member.

Mathematics majors and minors must complete the mathematics courses in their program with grades of C or better.

All majors are required to complete an approved two-semester sequence in a laboratory science (BIOL 191/191L and 201/201L or BIOL 191/191L and 202/202L, or CHEM 121/121L and 122/122L, or PHYS 221/221L and 222/222L).

Mathematics majors must demonstrate proficiency in a computer language.

Specific Requirements for the Mathematics Major

<table>
<thead>
<tr>
<th>MATH Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 125</td>
<td>Calculus and Analytic Geo I</td>
<td>5</td>
</tr>
<tr>
<td>207</td>
<td>Matrix &amp; Vector Alg with Appl</td>
<td>2</td>
</tr>
<tr>
<td>224</td>
<td>Calculus &amp; Analytic Geo II</td>
<td>5</td>
</tr>
<tr>
<td>320</td>
<td>Intro to Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>325</td>
<td>Intro to Mathematical Thought</td>
<td>3</td>
</tr>
<tr>
<td>327</td>
<td>Intermediate Calculus</td>
<td>3</td>
</tr>
<tr>
<td>350</td>
<td>Intro to Algebra Systems</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>Probability</td>
<td></td>
</tr>
<tr>
<td>256</td>
<td>Probability for Engineers &amp; Scientists</td>
<td>3</td>
</tr>
<tr>
<td>356</td>
<td>Stats for Engineers &amp; Scientists</td>
<td>3</td>
</tr>
<tr>
<td>421</td>
<td>Advanced Calculus I</td>
<td>3</td>
</tr>
<tr>
<td>495</td>
<td>Independent Study (Sr. research)</td>
<td>1</td>
</tr>
</tbody>
</table>

Upper Division Electives (Excluding MATH 365, 361, 377) | 9

TOTAL 40-43

Other Requirements

LABORATORY SCIENCE SEQUENCE | 8
COMPUTER PROGRAMMING | 3
TOTAL | 11

Institutional and General Education

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG</td>
<td>101</td>
<td>Composition I</td>
</tr>
<tr>
<td>ENG</td>
<td>102</td>
<td>Composition II</td>
</tr>
<tr>
<td>SPOCM</td>
<td>103</td>
<td>Speaking &amp; Listening</td>
</tr>
<tr>
<td>HUMANITIES</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>SOCIAL SCIENCES</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>NATURAL SCIENCES</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>FREE ELECTIVES</td>
<td>23-26</td>
<td></td>
</tr>
<tr>
<td>MINOR</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL 74-77

Total Credit Hours: 128
Specific Requirements for the Mathematics/Secondary Education Endorsement

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 126</td>
<td>Calculus &amp; Analytic Geometry I</td>
</tr>
<tr>
<td>MATH 224</td>
<td>Calculus and Analytic Geometry II</td>
</tr>
<tr>
<td>MATH 307</td>
<td>Intro to Linear Algebra</td>
</tr>
<tr>
<td>MATH 320</td>
<td>Intro to Mathematical Thought</td>
</tr>
<tr>
<td>MATH 325</td>
<td>Intermediate Calculus</td>
</tr>
<tr>
<td>MATH 327</td>
<td>Intro to Algebraic Systems</td>
</tr>
<tr>
<td>MATH 330</td>
<td>Intro to Higher Geometry</td>
</tr>
<tr>
<td>MATH 356</td>
<td>Probability for Engineers &amp; Scientists</td>
</tr>
<tr>
<td>MATH 359</td>
<td>Probability</td>
</tr>
<tr>
<td>MATH 359</td>
<td>Stats for Engineers &amp; Scientists</td>
</tr>
<tr>
<td>MATH 377</td>
<td>Mat &amp; Tech of Teaching Secondary School Math</td>
</tr>
<tr>
<td>MATH 419</td>
<td>Number Theory</td>
</tr>
<tr>
<td>MATH 421</td>
<td>Advanced Calculus I</td>
</tr>
<tr>
<td>MATH 453</td>
<td>History of Mathematics</td>
</tr>
<tr>
<td>MATH 495</td>
<td>Independent Study (Sr. research)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>46</strong></td>
</tr>
</tbody>
</table>

Other Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH 101</td>
<td>General Psychology I</td>
</tr>
<tr>
<td>PSYCH 151</td>
<td>Intro to Human Development</td>
</tr>
<tr>
<td>ED 102</td>
<td>Teaching as a Career (recommended)</td>
</tr>
<tr>
<td>ED 202</td>
<td>Foundations of Education</td>
</tr>
<tr>
<td>ED 435</td>
<td>Classroom Management</td>
</tr>
<tr>
<td>ED 460</td>
<td>Lab in Education</td>
</tr>
<tr>
<td>ED 461</td>
<td>Atypical Stu. in the Secondary Sch</td>
</tr>
<tr>
<td>ED 488</td>
<td>Student Teaching Secondary</td>
</tr>
<tr>
<td>ED 495</td>
<td>Teaching Reading in Content Areas</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>36</strong></td>
</tr>
</tbody>
</table>

Institutional and General Education

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 101</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 102</td>
<td>Composition II</td>
<td>3</td>
</tr>
<tr>
<td>SPCOM 103</td>
<td>Speaking &amp; Listening</td>
<td>3</td>
</tr>
<tr>
<td>HUMANITIES</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>SOCIAL SCIENCES</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>NATURAL SCIENCES</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>FREE ELECTIVES</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>47</strong></td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours: 129

Specific Requirements for the Minor in Mathematics

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 126</td>
<td>Calculus and Analytic Geometry I</td>
</tr>
<tr>
<td>MATH 224</td>
<td>Calculus and Analytic Geometry II</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

*Two of these must be taken at USC.

Specific Requirements for the Minor in Mathematics Teaching

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 126</td>
<td>Calculus and Analytic Geometry I</td>
</tr>
<tr>
<td>MATH 224</td>
<td>Calculus and Analytic Geometry II</td>
</tr>
<tr>
<td>MATH 320</td>
<td>Intro to Mathematical Thought</td>
</tr>
<tr>
<td>MATH 330</td>
<td>Introduction to Algebraic Systems</td>
</tr>
<tr>
<td>MATH 377</td>
<td>Math &amp; Tech of Teaching Sec Sch Math</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>22</strong></td>
</tr>
</tbody>
</table>

Specific Requirements for the Mathematics Endorsement Program

This program is offered to individuals who have already obtained Colorado teacher certification. The courses listed below are required in addition to those listed in the mathematics teaching minor above.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 156</td>
<td>Introduction to Statistics</td>
</tr>
<tr>
<td>MATH 207</td>
<td>Matrix and Vector Algebra</td>
</tr>
<tr>
<td>MATH 307</td>
<td>Introduction to Linear Algebra</td>
</tr>
<tr>
<td>MATH 419</td>
<td>Number Theory</td>
</tr>
<tr>
<td>MATH 463</td>
<td>History of Mathematics</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

Students need to be aware that many mathematics courses have prerequisites. Thus, certain courses within each program must be taken in a particular order.

Co-curricular Requirements

Students have the opportunity to broaden and reinforce their academic experience through participation in a variety of co-curricular activities. All students are encouraged to join the USCS Math Club. Many students serve as tutors in the Math Learning Center.

Outcomes Assessment Activities

* Faculty advisers meet individually with students on a regular basis to help them plan their schedules and to discuss their progress toward their educational and career goals. Advisers maintain a record of each student's performance in their program of study.
During their senior year, each major takes the Mathematics Field Achievement Test. The results of this test give some measure of a student’s achievement level in comparison with other students at schools throughout the country.

Each mathematics major is required to complete a senior research project under the close supervision of a faculty member. Students must submit a formal written report on the results of their research. The report is to be prepared using a word processor and should not exceed 2500 words. The research report should display the student’s abilities to work independently, to think logically and creatively, and to express themselves in a clear and concise fashion.

NURSING DEPARTMENT

CHAIR:  
Forley

FACULTY:  
Janes, Johnston, Mizebaugh, Nicolaiu, Sabo, Steen, Wischow-Jones

The major in nursing leads to a bachelor of science in nursing (BSN) degree and prepares the graduate to write the NCLEX licensing examination and to qualify for entry into professional nursing practice. Upon satisfactory completion of the examination, the graduate is prepared to function as a generalist in a variety of health care settings. The educational program is fully approved by the Colorado Board of Nursing and is accredited by the National League for Nursing (NLN).

The curriculum is designed with prerequisite foundation courses at the lower division. Requirements include specified general education and supportive courses. Learning experiences in nursing are conceptually based and include application of the nursing process in complex and diverse situations. The focus is on knowledge and understanding of theory, acquisition of practical skills, decision making and utilization of research in preparation for practice as a professional nurse. Students enter the nursing sequence at the sophomore level. Courses are completed in a specified sequence during junior and senior years. All required courses in nursing, general education, and academic minor or area of concentration must be completed with a grade of C or above. Failure to maintain required grades will result in the student being ineligible to continue in the nursing program. Students who are not in continuous enrollment in nursing courses must reapply for admission. Nursing courses must be repeated within one academic year from the date of unsatisfactory grades.

Admission to the university does not imply acceptance to the nursing major. Applications to the nursing program may be obtained in the Nursing Office or the Office of Admissions. Academic advisement for majors must be provided by a nursing faculty member. Requests for advanced placement through transfer or equivalent credit must be submitted in writing to the nursing department.

With the implementation of the Colorado Nursing Articulation Model, registered nurses with an associate degree or a diploma in nursing may articulate to the baccalaureate nursing program without testing in nursing content areas. To earn the BSN degree, students complete non-nursing requirements and the equivalent of one year of full-time nursing coursework.

Department Goals

- To prepare graduates to become eligible to sit for the Colorado State Board of Nursing Examination in order to receive an RN license to practice nursing.
- To prepare graduates to function safely and effectively as a beginning level generalists in all areas of nursing practice.
- To prepare associate degree and diploma RNs for baccalaureate nursing practice consistent with National League for Nursing criteria.
- To collaborate with various local health care delivery systems to provide experiences that enable the student to practice nursing safely, within the American Nursing Association Code of Ethics and the Colorado Nurse Practice Act.

Expected Student Outcomes

General Requirements

- Complete the required prerequisite and nursing courses with a grade of C or better and with a cumulative GPA of 2.5 or above.
- Complete a minimum of 129 semester hours including required nursing, general education, and other courses.
- Utilize knowledge from nursing theories and research findings to provide comprehensive nursing care for clients.
- Synthesize knowledge from natural and social sciences, humanities, and nursing in providing holistic client care.
- Reflect critical thinking and an analytical problem solving approach in devising and implementing personalized nursing care for individuals and groups.
- Accept responsibility and be accountable for the quality of care provided.
- Demonstrate behaviors which reflect legal standards and ethical and moral values congruent with the ANA Code of Ethics in the provision of non-discriminatory care to clients.
- Acknowledge responsibility for obtaining knowledge and acquiring skills in the use of emerging health care technology.
Specific Requirements for the Nursing Major

<table>
<thead>
<tr>
<th>NSG Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>221</td>
<td>Introduction to Professional Nursing</td>
<td>4</td>
</tr>
<tr>
<td>232/233L</td>
<td>Fundamentals of Nursing/Lab</td>
<td>3</td>
</tr>
<tr>
<td>270</td>
<td>Nursing Pathophysiology</td>
<td>2</td>
</tr>
<tr>
<td>302/303L</td>
<td>Health Assessment/Lab</td>
<td>2</td>
</tr>
<tr>
<td>322/323L</td>
<td>Nursing Care of the Adult I/Lab</td>
<td>2</td>
</tr>
<tr>
<td>312/313L</td>
<td>Nurs Care of Chldbearing Families/Lab</td>
<td>2</td>
</tr>
<tr>
<td>323/324L</td>
<td>Nurs Care of Children &amp; Adoles/Lab</td>
<td>2</td>
</tr>
<tr>
<td>351</td>
<td>Research in Nursing</td>
<td>3</td>
</tr>
<tr>
<td>382/383L</td>
<td>Psychiatric Nursing/Lab</td>
<td>6</td>
</tr>
<tr>
<td>401</td>
<td>Professional Issues in Nursing</td>
<td>2</td>
</tr>
<tr>
<td>410/410L</td>
<td>Nursing Care of the Adult II/Lab</td>
<td>3</td>
</tr>
<tr>
<td>442/443L</td>
<td>Community and Family Nursing/Lab</td>
<td>3</td>
</tr>
<tr>
<td>451</td>
<td>Nursing Management</td>
<td>3</td>
</tr>
<tr>
<td>452/453L</td>
<td>Nurs Process: Synthes/Lab</td>
<td>3</td>
</tr>
</tbody>
</table>

| TOTAL Credit Hours | 68 |

Registered Nurse Articulation

<table>
<thead>
<tr>
<th>NSG</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>307</td>
<td>Health and Disease Systems</td>
<td>3</td>
</tr>
<tr>
<td>309</td>
<td>Professional Nursing</td>
<td>3</td>
</tr>
<tr>
<td>311</td>
<td>Advanced Concepts in Nursing</td>
<td>3</td>
</tr>
<tr>
<td>322</td>
<td>Health Assessment/Lab</td>
<td>3</td>
</tr>
<tr>
<td>351</td>
<td>Research in Nursing</td>
<td>3</td>
</tr>
<tr>
<td>401</td>
<td>Professional Issues in Nursing</td>
<td>3</td>
</tr>
<tr>
<td>442</td>
<td>Community and Family Nursing/Lab</td>
<td>3</td>
</tr>
<tr>
<td>451</td>
<td>Nursing Management</td>
<td>3</td>
</tr>
<tr>
<td>452</td>
<td>Nurs Process: Synthes/Lab</td>
<td>3</td>
</tr>
</tbody>
</table>

| TOTAL Credit Hours | 35 |

Other Required Courses

| PSYCH 101 | General Psychology I                       | 3       |
| SOC 101   | General Sociology I                        | 3       |
| ANTHR 103 | Intro to Cultural Anthropology             | 3       |
| MATH 156  | Introduction to Statistics                 | 3       |
| PSYCH 151 | Intro to Human Development                 | 3       |
| BIOL 222L | Human Physiology & Anatomy I/Lab           | 4       |
| BIOL 224L | Human Physiology & Anatomy II/Lab          | 4       |
| CHEM 111   | Principles of Chemistry/Lab                | 4       |
| CHEM 112   | Intro to Organic & Biochemistry/Lab        | 4       |
| CHEM 205   | Introduction to Microbiology               | 4       |

| UPPER DIVISION AREA OF CONCENTRATION | 3 |
| UPPER DIVISION ELECTIVE              | 3 |

| TOTAL Credit Hours | 41 |

Institutional and General Education

| ENG 101 | Composition I                               | 3       |
| ENG 102 | Composition II                              | 3       |
| SPCOM 103 | Speaking & Listening                      | 3       |
| HUMANITIES |                                  | 10      |
| SOCIAL SCIENCES |                          | 1       |

| TOTAL Credit Hours | 20 |

Co-curricular Requirements

- Students enrolled in the nursing program are expected to conduct themselves in a manner that reflects the values of the profession. The guidelines for professional behavior are derived from two major sources: 1) the Colorado State Board of Nursing, the eventual grantor of the nursing license whose criteria appear in the Colorado Nurse Practice Act, and 2) the ANA Code of Ethics, a statement of standards and ideals for nursing.

- Students also are expected to participate in clinical practicums in various health care facilities and provide a health service to the community. Most of the clinical practicums are off-campus. Students work with individuals and families with a variety of health care conditions.

Outcomes Assessment Activities

- Successful completion of required coursework.
- State Board Results (NCLEX) required of graduates prior to professional nursing practice as a Registered Nurse.
- Individual and class scores on the NLN Comprehensive Nursing Achievement Examination.
- A survey of employers on graduate student performance.
- The Leadership Profile Standardized Examination.
- Standardized examinations (NLN).

PHYSICS/PHYSICAL SCIENCE DEPARTMENT

CHAIR: Graham
FACULTY: Speny, Wallin

The major in physics leads to a bachelor of science (BS) degree. In addition, supporting courses and general education courses in physics and physical science are available for students with a wide spectrum of interests, backgrounds and needs. Physics majors must consult with a departmental advisor as early as possible and must file a departmentally approved plan of study by the beginning of the junior year.
The bachelor of science degree in physics is offered with several options:

**Physics option**
Primarily for students planning graduate study toward a professional career in physics, astronomy or other related fields.

**Physics/Engineering option or Electronics Engineering Technology 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.

**Physics options in chemical physics, biophysics, or mathematical physics**
These options are designed to meet specific career objectives for an individual.

**Physics/teaching option**
Provides students with the knowledge and skills necessary to obtain Colorado Department of Education certification as science teachers.

Under all of the above options, the recommended sequences of courses presume that the student is ready to begin MATH 126 in the first semester of the freshman year. If not, MATH 124 should be taken in the fall and MATH 126 in the spring of the freshman year concurrently with PHYS 221. Otherwise it may not be possible to complete the requirements for a physics degree within four years. Students, especially transfers, who do not strictly adhere to the plan of study may find that their term of attendance at USC will be extended beyond four years.

**Physics/physical science teaching option**
This is a teacher certification program. Secondary teaching requirements include courses in the physical sciences and supporting areas. In addition to the basic requirements, 14 additional credits are required in one of the physical sciences along with appropriate courses in education. Students preparing to teach at the elementary level may use their broad-area subject matter preparation to meet this 14-hour requirement.

Minors also are available in physics, physical science, and geology for students needing a specialized science minor in these fields.

**Departmental Goals**
- To supply students with the necessary background to successfully pursue graduate study toward a professional career in physics, astronomy or a related field.
- To prepare students to enter technical positions in government or industry upon graduation.
- To provide students with the knowledge and skills necessary to obtain Colorado Department of Education Certification as science teachers of physics or physical science.

### Expected Student Outcomes

**General Requirements**
- Students graduating with a BS in physics must have at least a 2.0 grade-point average in physics courses and no more than four credits in physics with grades of D.
- Students graduating with a minor in physics must have at least a 2.0 grade-point average in physics.
- A 2.5 grade-point average in the major area is required for admission to the teacher education program.
- At least 12 physics credits applied to the major (seven for minor) must be earned at USC with a C or better average.
- Students must have earned a C or better grade in lower-division prerequisite courses before being admitted to upper-division courses in physics.
- Students must demonstrate a knowledge of computer programming.
- In all but the teaching options, majors are required to take the senior research course in which students become involved in a theoretical or experimental research problem relating to physics under the supervision of a department faculty member. A fundamental understanding of chemistry and its lab techniques also is required of all majors in all options.

### Specific Requirements for the Physics Option

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<tr>
<th>PHYS Courses</th>
<th>Titles</th>
<th>Credits</th>
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<tr>
<td>221/221L</td>
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<td>General Physics II/ Lab II</td>
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</tr>
<tr>
<td>301</td>
<td>Theoretical Mechanics</td>
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<td>321</td>
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<td>322</td>
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<td>323/323L</td>
<td>General Physics III/ Lab III</td>
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<tr>
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<td>431</td>
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<td>441</td>
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### Other Required Courses

<p>| MATH | 126 | Calculus and Analytic Geometry I           | 5       |
| MATH | 207 | Matrix &amp; Vector Algebra with Appl          | 2       |
| MATH | 224 | Calculus and Analytic Geometry II          | 5       |</p>
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<thead>
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<td>CHEM 121/121L</td>
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<td>or CST 105</td>
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Institutional and General Education

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**Total Credit Hours: 130**

### Specific Requirements for the Physics/Electronics Engineering Technology Option

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<td>322</td>
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<td>323/323L</td>
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### Other Required Courses

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<td>MATH 224</td>
<td>Calculus and Analytic Geometry II</td>
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<td>MATH 325</td>
<td>Intermediate Calculus</td>
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Undergraduate Programs 155
**Institutional and General Education**

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Total Credit Hours: 130

**Specific Requirements for the Physics, Biophysics, Chemical Physics, or Mathematical Physics Option**

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<td>General Physics III, Lab</td>
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Other Required Courses

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<tr>
<td>MATH</td>
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**Specific Requirements for the Physics, Teacher Certification Option**

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<td>General Physics III, Lab</td>
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<td>323/323L</td>
<td>General Physics III, Lab</td>
<td>5</td>
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<td></td>
<td>342</td>
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<td></td>
<td>431</td>
<td>Electricity and Magnetism</td>
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<tr>
<td>or</td>
<td>493</td>
<td>Adv Lab-Electricity &amp; Magnetism</td>
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Other Required Courses

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<tr>
<td>MATH</td>
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<td>MATH</td>
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<td>CHEM</td>
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<td>or ED</td>
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**Total Credit Hours: 140**

**Institutional and General Education**

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Total Credit Hours: 140
Specific Requirements for the Minor in Physical Science

A minimum of 24 credits must be selected from the courses listed below.

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<td>Physical Science</td>
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<tr>
<td>PHYS 111</td>
<td>Elementary Descriptive Astronomy</td>
<td>3</td>
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<td>PHYS 201/201L</td>
<td>Principles of Physics II/III Lab I</td>
<td>4</td>
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<tr>
<td>PHYS 202/202L</td>
<td>Principles of Physics II/III Lab II</td>
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<td>CHEM 111/111L</td>
<td>Principles of Chemistry I/II Lab</td>
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<td>CHEM 112/112L</td>
<td>Intro to Organic &amp; Biochem I/II Lab</td>
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<td>GEOL 101/101L</td>
<td>Earth Science/Geology I/II Lab</td>
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<td>Historical Geology/Geology Lab I/II</td>
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<td>3</td>
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<td>or CST 105</td>
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Specific Requirements for the Minor in Geology

A minimum of seven credits must be earned at USC.

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<tr>
<td>Upper-division electives in geology</td>
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Co-curricular Requirements

The department faculty believes that students should have co-curricular experiences that complement and reinforce their academic experiences. Therefore, we encourage students to join and participate in events sponsored by the department and the Society of Physics Students (SPS). Sigma Pi Sigma initiations, picnics, graduation breakfast, pot luck dinners, etc. to foster a spirit of camaraderie with our majors.

Outcomes Assessment Activities

The faculty of the physics/physical science department will assess the skills, capacities, and knowledge of its majors as follows:

- The student must complete a senior research project including a formal presentation of results both in writing and orally to at least two members of the department (except for those in the teaching options).
- The student must take the Physics Field Achievement test offered by The Educational Testing Services (ETS) or another departmentally approved exam covering the sub-fields in physics at some point during his/her senior year (except for those in the physical science option).
• By maintaining a portfolio on each student which would contain the following: college grades, record of special skills acquired, senior research project assessment, physics field achievement test results and a record of co-curricular activities. During the semester of graduation the department faculty will review the portfolio and draft a brief summation of the student’s performance. This summation becomes part of the graduate’s file, a copy of which will be kept in the department and added to as additional information is obtained from student or employer. The portfolio will be given to the student for his/her use upon graduation.

The department faculty believes that improvement in the skills, capacities, and knowledge of its minors can be assessed through course work required of each minor. The course grade would be a measure of the student’s grasp of the basics in each discipline. In addition to grades, the geology minor will be assessed:

• by performance during at least three required field trips; and
• by a written report on an upper division topic agreed to by the student and the professor.

THE SCHOOL OF BUSINESS
Dr. William Askvig, dean

Academic Departments

<table>
<thead>
<tr>
<th>Majors</th>
<th>Minors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting (BSBA)</td>
<td>Accounting</td>
</tr>
<tr>
<td>Business/Management (BSBA)</td>
<td>Business</td>
</tr>
<tr>
<td>• Management</td>
<td>Administration</td>
</tr>
<tr>
<td>• Marketing</td>
<td></td>
</tr>
<tr>
<td>• Operations and Materials</td>
<td></td>
</tr>
<tr>
<td>• Finance</td>
<td>Economics (BSBA)</td>
</tr>
<tr>
<td>Management</td>
<td></td>
</tr>
</tbody>
</table>

Goals of the School

The mission of the School of Business is to provide high quality, contemporary education in business for our service area.

To accomplish this mission we will:

• provide opportunities for both traditional and non-traditional students at the undergraduate and graduate levels;
• provide opportunities for on-going professional development for the community;
• include the activities of teaching, scholarly pursuit, and service; and
• emphasize innovation and excellence in all that we do.

Program Goals

The four programs leading to the BSSA degree in business management have the following goals:

The program in finance is designed to prepare students to work in general managerial positions that require financial application to the sources and uses of funds, to set criteria, to analyze financial instrument selection, and to manage and report on the financial components of a company.

The program in management is designed to prepare students to be employed in management stream positions of medium and large firms. In addition to general management skills, the program has an emphasis on personnel selection, training and evaluation.

The marketing program is designed to prepare students to be able to determine a target market, design and implement a marketing strategy, and manage the sales and promotion of products and services.

The program in operations and materials management is designed to prepare students in the necessary computer and quantitative skills to support managerial decisions in production-operations and materials-purchasing areas of manufacturing firms.

The program leading to the BSSA degree in economics has the following goals:

To prepare students to think critically by using reasoning and analytic skills on issues that have economic and financial content. The economics program not only prepares students for graduate study, but specifically prepares them to work in general managerial positions, both private and public, that have a financial foundation requirement.
The program leading to the BSBA in accounting has the following goals:

To prepare students for a professional career in government and/or private industry. Many graduates will become certified public accountants. Graduates will serve the public interest, and be responsible to investors, consumers and creditors.

The School of Business also offers a graduate program leading to a master’s degree in business administration (MBA). The degree of master of business administration is granted for the completion of a graduate program which includes knowledge of the various functions of the business organization, and 2) synthesizes that knowledge into the practice of management. Students are expected to achieve an advanced understanding of the function of the executive and to develop a high degree of competence in transferring that knowledge to the actual work situation. See the Graduate Studies section of this catalog for more information.

Program Goals for School of Business Minors

The purpose of the business administration minor (for non-business students) is to give students an understanding of the fundamentals of accounting, economic and financial principles, and the basics of managing a business and marketing a product or service.

The economics minor (for non-business students) is designed to prepare students to have an understanding of micro and macro economic principles, supply, demand, and income distribution, and to be able to apply these principles to current economic problems.

The goal of the minor in accounting (for non-business students) is to provide graduates in other majors with a basic understanding of accounting.

Course Waiver

The School of Business offers a “test out” course waiver for some business core courses. The School of Business does not offer credit for life experience.

Expected Student Outcomes

General Requirements

Pre-business core (cumulative GPA 2.0 is required to continue the business core).

All business students take the pre-business core. This prepares students who are declaring a business major for general business knowledge and skills. The core also gives students an understanding and appreciation for the intellectual discipline needed for the business program.

Pre-Business Core

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSAD</td>
<td>160  Computers and Information Processing</td>
<td>3</td>
</tr>
<tr>
<td>ACCTG</td>
<td>201  Principles of Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCTG</td>
<td>202  Principles of Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUSAD</td>
<td>260  Business Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>ECON</td>
<td>202  Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>BUSAD</td>
<td>270  Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>21</td>
</tr>
</tbody>
</table>

Business Core (cumulative GPA of 2.0 required)

All business students take the business core. This provides students with the common body of knowledge needed for imaginative and responsible citizenship and leadership roles in business and society — domestic and worldwide. The business core is also designed to provide students with the opportunity to integrate their educational experience in business within a specific discipline and across disciplines.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSAD</td>
<td>302  Ethical Issues &amp; Legal Env of Bus</td>
<td>3</td>
</tr>
<tr>
<td>ECON</td>
<td>310  Money and Banking</td>
<td>3</td>
</tr>
<tr>
<td>FIN</td>
<td>330  Corporate Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>MGMT</td>
<td>310  Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>MGMT</td>
<td>311  Production and Operations Management</td>
<td>3</td>
</tr>
<tr>
<td>MGMT</td>
<td>320  Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>MKTG</td>
<td>340  Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUSAD</td>
<td>475  International Business</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>484  Senior Studies</td>
<td>3</td>
</tr>
<tr>
<td>MGMT</td>
<td>485  Managerial Strategies and Policies</td>
<td>3</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

Area Requirements

- A cumulative GPA of 2.0 is required to graduate, except in accounting, where a minimum grade of C in each major course is required (except for ACCTG 201 and ACCTG 202).
- All business students take a major core.
- Business/management students choose from one of four emphasis areas, each requiring a total of 24 hours. In economics, area requirements total 24 hours. In accounting, area requirements total 24 hours.

Minor Requirements

Business students who have chosen business management, economics or accounting degrees have a business administration minor.

Specific Curricular Requirements

Math 220 or equivalent, with a minimum grade of C, is required of all business students. Students also must satisfy the university general education requirements, general institutional requirements, and have at least 128 total hours with a cumulative GPA of 2.0 to graduate.
Co-curricular Requirements

Co-curricular activities are encouraged for all business students. Included are internships, student clubs, and seminar programs. Student clubs include:

- Student chapter of the Institute of Management Accountants
- Management Club
- Marketing Club
- Omicron Delta Epsilon (Economics Club)
- Finance Club

Outcomes Assessment Activities

Student Portfolio

The School of Business curriculum offerings are designed to help track each student’s progress at various checkpoints through the establishment of a portfolio. The portfolios are kept in a central file in the School of Business, accessible to the administration, the student, the student’s adviser, and the faculty of the school.

Each portfolio contains items such as:

- the School of Business advising form;
- ACT or SAT test scores, with date;
- high school GPA and class standing, date of graduation, school, and location;
- records of club and organizational membership;
- MGMT 485, Management Strategies and Policies project reports record and the designated discipline area 484, Senior Studies project reports record and/or 480 Small Business; and
- national standardized test results, if applicable.

Advising

Generally, students enter the business program during their sophomore year. They finish the pre-business core sometime in their junior year, and the business core generally by the end of their junior year. Advisers assess their progress at each checkpoint, using the School of Business advising form.

Departmental Files

- School of Business faculty measure achievement annually in each major and area of emphasis by administering (whenever one is available) a nationally standardized test. Results of such measurements are kept in a central file in the School of Business office.

- The School of Business compiles information to assess the success of its graduates. Information is obtained from the USC alumni office, the placement office, and other sources.

ACCOUNTING DEPARTMENT

CHAIR: Peterlin (Acting)

FACULTY: Bridges, Dincio, Peterlin, Regasa

The major in accounting leads to the bachelor of science in business administration (BSBA) degree. The primary objective is to provide an academic program that covers the conceptual basis of accounting as well as the application of accounting doctrine in current accounting practice. The programs of study are functional in that they provide the broad base of knowledge required by the accounting profession.

The program is accredited by the Colorado State Board of Accountancy. Students completing the program qualify under the education requirements of Colorado law for the CPA examination, which they should plan to take during the last semester of their senior year.

Departmental Goals

- To produce graduates who will function in today’s multi-faceted accounting and business environment. This goal is achieved by the BSBA degree.
- To produce graduates who can understand and explain all areas of accounting, and apply that knowledge in a practical environment.
- To provide service and a minor to non-business students.
- To provide co-curricular opportunities in students’ areas of interest.

Expected Student Outcomes

General Requirements

- Completion of the pre-business core (see School of Business general requirements).
- Completion of the business core (see School of Business general requirements).
- Completion of the math requirement (see Specific Curriculum Requirements section).
- Completion of the specific requirements for the major in accounting.

Specific Requirements for the Major in Accounting

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCTG 301</td>
<td>Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACCTG 302</td>
<td>Intermediate Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>ACCTG 311</td>
<td>Federal Income Tax</td>
<td>3</td>
</tr>
<tr>
<td>ACCTG 320</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCTG 401</td>
<td>Advanced Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCTG 419</td>
<td>Auditing</td>
<td>3</td>
</tr>
<tr>
<td>BUSAD 220</td>
<td>Business Law</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives: Three hours from 300 or 400 level Accounting

TOTAL 24
Specific Requirements for the Minor in Accounting

(Non-business students)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCTG 201</td>
<td>Principles of Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCTG 202</td>
<td>Principles of Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCTG 301</td>
<td>Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACCTG 302</td>
<td>Intermediate Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>Electives: Nine hours from 300 or 400 level Accounting</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL: 21

Co-curricular Requirements
See School of Business requirements

Outcomes Assessment Activities
See School of Business outcomes

BUSINESS ADMINISTRATION AND ECONOMICS DEPARTMENT

CHAIR: Billington


The major in business management leads to the bachelor of science in business administration (BSBA) degree, and provides students with the theoretical and conceptual basis of business as well as application skills to assume leadership roles in industry, government, and education.

The undergraduate business management degree permits students to select one emphasis as a specialty area. Emphasis areas within this major are available in management, operations and materials management, finance and marketing. Courses in management, finance, and marketing are listed under separate prefixes in this catalog.

The major in economics leads to the bachelor of science in business administration (BSBA) degree, and provides students with the theoretical and conceptual basis of economics and an excellent preparation for graduate and professional training in economics, management, banking and law. The finance emphasis area prepares students for careers in financial institutions, insurance, real estate, investments and financial management.

Departmental Goals

• To prepare students to achieve accredited BSBA degrees in business management or business economics.
• To provide non-business students with broad but functional minors in business administration or economics.
• To provide service and general education for non-business students.

• To provide management and economics students the opportunity for real-world experience.
• To provide business co-curricular opportunities in students' areas of interest.

Expected Student Outcomes: Business Management Major

General Requirements

• Completion of the pre-business core (see School of Business general requirements).
• Completion of the business core (see School of Business general requirements).
• Completion of the math requirement (see Specific Curriculum Requirements section).
• Completion of one of the four emphasis areas.

Specific Requirements for the Emphasis Area in Finance

Courses | Titles | Credits
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCTG 301</td>
<td>Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>FIN 331</td>
<td>Managerial Finance</td>
<td>3</td>
</tr>
<tr>
<td>FIN 333</td>
<td>Investment Analysis</td>
<td>3</td>
</tr>
<tr>
<td>FIN 335</td>
<td>Real Estate</td>
<td>3</td>
</tr>
<tr>
<td>FIN 337</td>
<td>Insurance</td>
<td>3</td>
</tr>
<tr>
<td>FIN 431</td>
<td>Financial Policy Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Electives: Six hours from selected 300-400 level courses</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL: 24

Specific Requirements for the Emphasis Area in Marketing

Courses | Titles | Credits
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MKTG 341</td>
<td>Sales Force Management</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 342</td>
<td>Promotional Strategy</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 348</td>
<td>Consumer Behavior</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 350</td>
<td>International Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 440</td>
<td>Marketing Research</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 441</td>
<td>Marketing Strategies</td>
<td>3</td>
</tr>
<tr>
<td>Electives: Six hours from selected 300-400 level courses</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL: 24

Specific Requirements for the Emphasis Area in Management

Courses | Titles | Credits
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 402</td>
<td>Economics of Labor</td>
<td>3</td>
</tr>
<tr>
<td>ECON 410</td>
<td>Managerial Economics</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 318</td>
<td>Personnel Management</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 365</td>
<td>Management Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 410</td>
<td>Industrial Relations</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 468</td>
<td>Total Quality Management</td>
<td>3</td>
</tr>
<tr>
<td>Electives: Six hours from selected 300-400 level courses</td>
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</tbody>
</table>

TOTAL: 24
Specific Requirements for the Emphasis Area in Operations and Materials Management

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT 365</td>
<td>Purchasing and Materials Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 365</td>
<td>Management Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 370</td>
<td>Operations Planning &amp; Control</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 375</td>
<td>Management Science</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 493</td>
<td>Operations Strategy</td>
<td>3</td>
</tr>
<tr>
<td>Electives: Six hours in selected 300-400 level courses</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>24</td>
</tr>
</tbody>
</table>

Specific Requirements for the Minor in Business Administration (Non-business students)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCTG 201</td>
<td>Principles of Financial Acct</td>
<td>3</td>
</tr>
<tr>
<td>ACCTG 202</td>
<td>Principles of Managerial Acct</td>
<td>3</td>
</tr>
<tr>
<td>ECON 201</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 202</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>FIN 330</td>
<td>Corporate Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 310</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 340</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>21</td>
</tr>
</tbody>
</table>

Co-curricular Requirements

See School of Business requirements

Outcomes Assessment Activities

See School of Business outcomes

Expected Student Outcomes: Economics Major

General Requirements

- Completion of the pre-business core (see School of Business general requirements).
- Completion of the business core (see School of Business general requirements).
- Completion of the math requirement (see Specific Curriculum Requirements section).
- Completion of the economics core (see School of Business general requirements).

Specific Requirements for the Economics Major

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 301</td>
<td>Intermediate Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 302</td>
<td>Intermediate Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 307</td>
<td>Current Economic Issues</td>
<td>3</td>
</tr>
<tr>
<td>ECON 310</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 330</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 402</td>
<td>Economics of Labor</td>
<td>3</td>
</tr>
<tr>
<td>ECON 410</td>
<td>Managerial Economics</td>
<td>3</td>
</tr>
<tr>
<td>Electives: Six hours from selected 300-400 level courses</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>24</td>
</tr>
</tbody>
</table>

Specific Requirements for the Economics Minor (Non-business students)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 201</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 202</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 302</td>
<td>Intermediate Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 303</td>
<td>Intermediate Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 310</td>
<td>Money and Banking</td>
<td>3</td>
</tr>
<tr>
<td>Electives: Six hours from 300 or 400 level Economics</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>21</td>
</tr>
</tbody>
</table>

Co-curricular Requirements

See School of Business requirements

Outcomes Assessment Activities

See School of Business outcomes

CENTER FOR TEACHING AND LEARNING

DIRECTOR: Byrnes

FACULTY: Guleriez, McCame, Oitz, Oriz, Strader, Valero, Weinhouse

The Center for Teaching and Learning has a primary mission of preparing teachers of quality and distinction. It is an integral component of a formal alliance between the University and Pueblo School District No. 6. The first distinguishing feature of the center is its faculty complement, it includes teacher education and academic discipline specialists as well as public school teachers who serve the center in a variety of roles. This includes participation in professional development activities, school-based applied research, teacher induction programs, faculty exchanges, student mentor projects, professional development schools, and future teacher organizations.
The second distinguishing feature of the center is its commitment to an
tegrated model of learning that combines theory, professional practice,
critical thinking and human behavior. This focuses attention on educational
experiences in a variety of settings, including homes, community agencies
and schools. Clear outcomes expectations include the collaboration of faculty
members, students, parents, teachers, administrators, and human service
specialists to improve the quality of teaching and learning K-16.

Program Goals
• Prepare teachers of quality and distinction with a broad-based general
education, an academic specialty, and the ability to skillfully translate
theory into practice.
• Prepare students to teach effectively in their chosen areas of endorse-
ment and to obtain Colorado teacher certification.
• Offer a curriculum which provides a scope and sequence of educational
experiences designed to achieve program goals and expected student
outcomes.

Expected Student Outcomes
• Students will demonstrate knowledge of subject matter, theories and prin-
ciples of teaching and learning, and human development.
• Students will demonstrate the ability to plan and organize for teaching,
to implement effective teaching strategies, and to evaluate those strate-
gies in terms of student progress towards learning outcomes.
• Students will demonstrate the ability to make ethical decisions.
• Students will communicate effectively in a variety of cultural settings.
• Students will think critically about what is said, written, and accomplished
in the name of education and schooling.
• Students will engage in continuous professional development.
• Students will demonstrate that they are educated persons.

Teaching Endorsement Areas
The Center for Teaching and Learning collaborates with other academic
units to offer programs leading to Colorado teacher certification in the fol-
lowing endorsement areas:

<table>
<thead>
<tr>
<th>Endorsement Area</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art (K-12)</td>
<td></td>
</tr>
<tr>
<td>Bilingual Education (K-6)</td>
<td></td>
</tr>
<tr>
<td>Elementary Education (K-6)</td>
<td></td>
</tr>
<tr>
<td>English (7-12)</td>
<td></td>
</tr>
<tr>
<td>Foreign Languages (7-12)</td>
<td></td>
</tr>
<tr>
<td>French, Spanish</td>
<td></td>
</tr>
<tr>
<td>Industrial Education (7-12)</td>
<td></td>
</tr>
<tr>
<td>Mathematics (7-12)</td>
<td></td>
</tr>
<tr>
<td>Music (K-12)</td>
<td></td>
</tr>
<tr>
<td>Physical Education (K-12)</td>
<td></td>
</tr>
<tr>
<td>Science (7-12)</td>
<td></td>
</tr>
<tr>
<td>Speech (7-12)</td>
<td></td>
</tr>
</tbody>
</table>

Selective Entry and Retention in Teacher Education (SERTE)

Admission
Admission to the teacher education program for any endorsement area
requires the following:
1) A grade-point average (GPA) of 3.0 or better in SPSCOM 103, ENG 101,
and ENG 102.
2) A grade of B or better in MATH 120 or C in a higher level mathematics
course or an ACT mathematics score of 23 or better.
3) A minimum GPA of 2.5 for the last 30 semester hours of university course
work.
4) Pass the required entry-level basic skills competency tests.
5) File an application for admission to the teacher education program which
must include the following forms:
• Documented evidence of compliance with requirements 1-5.
• Documentation of successful experiences with children or youth.
• A writing sample.
• A completed health clearance form.
• Four written recommendations from faculty members.
• Submission of an advisement sheet for the selected teaching endorse-
ment area(s) listing all courses completed. This includes transfer
courses or substitutions (subject to approval by the director of the
Center for Teaching and Learning).
• Submission of an advisement sheet for the chosen academic major.
• A written recommendation from the Division of Student Life and
Development.
• Appropriate signatures on all forms.

*Students may not enroll in any course with the prefix ED (except ED 102
and ED 202) unless they have been fully admitted to the teacher educa-
tion program.

Retention
Students must pass all professional education courses including reading
and bilingual education with a grade of C or better and continue to meet
GPA requirements stipulated in the admission to teacher education criteria.
Students must also demonstrate characteristics of teachers of quality and
distinction in their field experiences and student teaching.
Student Teaching

Student teaching provides opportunities to integrate theory and practice. Prior to being approved for a student-teaching assignment, the following requirements must be met:

1. Completion of all methods courses.
2. Compliance with all admission to teacher education criteria.
3. A GPA of 2.5 or higher.
4. Grades of C or higher in all professional education courses.
5. Demonstration of the characteristics of teachers of quality and distinction.
6. Applications must be submitted on or before March 1 prior to the semester in which student teaching will commence.

Teacher Certification

Applications for certification are forwarded to the Colorado Department of Education (CDE) with the institutional recommendation only after official transcripts have been received and a final review has been conducted by the coordinator of certification in the Center for Teaching and Learning.

Specific Requirements for the Elementary Teaching Endorsement

CDE requires the student to complete a major in "a subject major or broad field interdisciplinary major drawn from the following areas: liberal arts, science, mathematics, humanities, social sciences or health" and to acquire background knowledge in the areas of language arts, humanities and fine arts, social sciences, science and health. Such background knowledge may be acquired through courses required for general education and the degree major, additional course work, or by other means determined with an education adviser from alternatives approved by CDE.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>or PSYCH</td>
<td>Intro to Human Development</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Adolescence, Adulthood &amp; Aging</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>Human Development/Adulthood, Adulthood &amp; Aging</td>
<td>6</td>
</tr>
<tr>
<td>ED</td>
<td>Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>or ENG</td>
<td>Traditional Grammar Theory</td>
<td>2</td>
</tr>
<tr>
<td>or MATH</td>
<td>English Syntax and Usage</td>
<td>3</td>
</tr>
<tr>
<td>or HP</td>
<td>Children's Literature</td>
<td>2</td>
</tr>
<tr>
<td>or ART</td>
<td>Elem Concepts in Math III</td>
<td>6</td>
</tr>
<tr>
<td>or MUS</td>
<td>Elem School Physical Education</td>
<td>2</td>
</tr>
<tr>
<td>or SPOCM</td>
<td>Principles of Elementary Art Education</td>
<td>1</td>
</tr>
<tr>
<td>or RDG</td>
<td>Prim of Music in Elementary Sch</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Creative Dramatics</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Rg and Language Arts in Elementary School</td>
<td>3</td>
</tr>
</tbody>
</table>

Specific Requirements for the Bilingual Elementary Teaching Endorsement

The student must complete the Spanish major (bilingual emphasis) offered by the English/foreign languages department. The requirements for general knowledge and requirements for supporting courses and the professional sequence are the same as those for the elementary endorsement with two exceptions: ED 413 and ED 414 are replaced by:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBE</td>
<td>Teaching Elementary Subjects in Bilingual Education</td>
<td>3</td>
</tr>
<tr>
<td>BBE</td>
<td>Survey of Language/Cultural Tests in Bilingual Education</td>
<td>3</td>
</tr>
</tbody>
</table>

Specific Requirements for the Secondary and K-12 Teaching Endorsements

The student must complete an appropriate major as approved by CDE, in addition, the following supporting courses and professional sequence are required:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH</td>
<td>Intro to Human Development</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Adolescence, Adulthood &amp; Aging</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>Human Development/Adulthood, Adulthood &amp; Aging</td>
<td>6</td>
</tr>
<tr>
<td>ED</td>
<td>Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>IST</td>
<td>Career Education</td>
<td>2</td>
</tr>
<tr>
<td>RDG</td>
<td>Teaching Reading in Content Areas</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(For K-12 endorsements, RDG 301 is required in place of RDG 425)</td>
<td></td>
</tr>
<tr>
<td>ED</td>
<td>Classroom Management</td>
<td>3</td>
</tr>
<tr>
<td>ED</td>
<td>Educational Media and Technology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Atypical Students in the Secondary</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(For endorsement in physical education, HP 465, Adapted Physical Education, is required in place of ED 461)</td>
<td></td>
</tr>
<tr>
<td>ED</td>
<td>Student Teaching Secondary</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Student Teaching K-12</td>
<td>15</td>
</tr>
</tbody>
</table>

TOTAL 34-39
Outcomes Assessment Activities

In the Center for Teaching and Learning, outcomes assessment is a process that documents the relationship between its stated mission, goals and objectives, and the actual outcomes of programs and activities. Assessment is multidimensional and comprehensive, in that a variety of quantitative and qualitative measures are utilized.

- Student compliance with all teacher education program standards is assessed through the Selective Entry and Retention in Teacher Education (SETE) process. This includes a GPA of 2.5 for the most recent 30 semester hours and a GPA of 2.5 in the major to qualify for a student-teaching assignment. Student teaching requires a full fifteen weeks under the supervision of an experienced teacher endorsed in the student’s area of preparation. All performance expectations are listed on the “Student Teacher Progress Indicator” rating form.

- Student records are maintained in the office of the Center for Teaching and Learning. Admission and Student Teaching applications are reviewed by faculty advisers, the center screening committee, and the university’s Teacher Education Board twice annually. Decisions are made to accept, to accept conditionally, or reject applications. Students have the right to appeal such decisions through the university’s due process procedures.

Assessment focuses on the following characteristics of teachers of quality and distinction.

- Knowledge of the academic specialty is assessed through qualitative and quantitative measures utilized in all courses.
- Knowledge and understanding of teaching principles and theories are assessed through qualitative measures in pedagogy courses, field experiences, and student teaching.
- The ability to plan, organize, implement, and evaluate teaching strategies is assessed by quantitative and qualitative measures in professional education courses, field experiences, and student teaching.
- Personal and professional qualities, including the ability to make ethical decisions, are assessed throughout the program. Both university and school personnel utilize formal and informal rating systems to assess these qualities.
- The ability to think critically about what is said, written, and accomplished. In the name of education and schooling is assessed through written assignments, tests, classroom discussion and observation during field experiences and student teaching.

Reading Program

Reading Minor

The reading minor is intended for elementary, secondary, or K-12 teacher certification candidates who wish to have a recognized area of strength in the teaching of reading and other language arts.

Expected Student Outcomes

As a result of successfully completing the reading minor, the student will:

- Recognize and be able to describe, diagnose, and teach all the generally accepted concepts, strategies, and skills in the areas of oral language, reading readiness, emergent literacy, word recognition, comprehension, interpretation, literacy appreciation, reading for information, critical reading and thinking, reference skills, study skills, oral reading, listening, speaking, English language usage, syntax, grammar, punctuation, capitalization, creative and informative writing, spelling, penmanship, keyboarding, and word processing.
- Be able to describe the role and importance of the child’s self-concept, experience and culture, home language and dialect, stages of growth and development, and success and familiarity with literature as factors in motivating growth in reading and the language arts.
- Be able to plan lessons and teach effectively using a variety of grouping techniques, including whole class, individual, ability, and cooperative.
- Be able to locate and use a variety of materials to teach reading and the other language arts. The materials include textbooks, basal readers, trade and library books, teacher-made materials, computer programs, student-generated texts, centers, newspapers, and children’s literature.
- Be able to diagnose student reading levels and specific strengths and weaknesses, organize instruction to provide for the needs of the class and individual special students, adapt instruction in content areas to promote content learning, and develop reading and writing growth for all students.
- Be able to recognize common causes of reading and writing difficulties and administer and interpret the scores of a variety of informal and formal assessment techniques such as reading miscue inventories and norm-referenced standardized tests.
- Be able to assess writing samples for diagnosis and prescription in expression, organization, fluency, sentence and paragraph development, theme, spelling, penmanship and fluency in word processing.
- Be able to explain the need to collaborate with parents, librarians, drama and other teachers to provide an effective language arts program.
Specific Requirements

Complete the reading core with a cumulative GPA of 3.0 or better and complete the reading electives with a cumulative GPA of 2.5 or better.

Core Courses

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RDG 301</td>
<td>Teaching Reading and Language Arts in the Elementary School</td>
<td>3</td>
</tr>
<tr>
<td>310</td>
<td>Current Approaches to Reading and Writing Instruction</td>
<td>3</td>
</tr>
<tr>
<td>425</td>
<td>Teaching Reading in Content Areas</td>
<td>2</td>
</tr>
<tr>
<td>450</td>
<td>Diagnosis and Remediation of Reading Problems</td>
<td>3</td>
</tr>
<tr>
<td>ENG 351</td>
<td>Children's Literature</td>
<td>2</td>
</tr>
<tr>
<td>or 412</td>
<td>Literature for Adolescents</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>13</td>
</tr>
</tbody>
</table>

Elective Courses (8 Hours)

<table>
<thead>
<tr>
<th>Courses</th>
<th>Titles</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RDG 360</td>
<td>Practicum</td>
<td>1-3</td>
</tr>
<tr>
<td>431</td>
<td>Developing Creative Centers</td>
<td>1</td>
</tr>
<tr>
<td>436</td>
<td>New Directions in Rdg Comprehension</td>
<td>2</td>
</tr>
<tr>
<td>437</td>
<td>Teaching with Newspapers as a Resource</td>
<td>1</td>
</tr>
<tr>
<td>442</td>
<td>Reading Across Cultures</td>
<td>2</td>
</tr>
<tr>
<td>491</td>
<td>Topics in Reading</td>
<td>1-2</td>
</tr>
<tr>
<td>ED 412</td>
<td>Teaching the Special Child</td>
<td>3</td>
</tr>
<tr>
<td>or 461</td>
<td>Atypical Sit in the Secondary School</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Electives chosen in consultation with the Education adviser</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>19-22</td>
</tr>
</tbody>
</table>

Outcomes Assessment Activities

Since reading minors are generally teacher-certification candidates, they are subject to the assessment listed above. In addition:

- They must complete the reading minor core with a GPA of 3.0 or better. Assessment of expected outcomes 1 through 6 are monitored by the reading director.
- Students must complete the 21-hour requirement with electives listed on the advisement sheet. The overall GPA must be 2.5 or higher.
- Students wishing to pursue the reading minor also are expected to complete a questionnaire. The questionnaires are kept on file in the reading minor director’s office. They are used to plan course offerings and to document the progress of students seeking the minor.

SPECIAL ACADEMIC PROGRAMS AND SERVICES

FEDERALLY SPONSORED PROGRAMS

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

Special Services. The Special Services Program expands educational opportunities for students who demonstrate personal motivation and a high potential for academic success. Low-income, first-generation students who meet the criteria established by the U.S. Department of Education are encouraged to apply.

Educational Opportunity Center. EOC counselors are assigned to area junior and community colleges to help low-income and first-generation students continue their post-secondary education. Students are assisted with admissions procedures, career counseling, and financial aid preparation.
Upward Bound. Upward Bound is a pre-college program for high school students from low-income and first generation families in Pueblo County. Through counseling and tutoring, the program helps students develop the motivation, interest and skill necessary for acceptance into and success in college. An intensive summer program assists high school graduates through six credits of college courses. Those who have not yet graduated from high school attend classes that emphasize English, mathematics, social studies, science, reading, speech and art.

AMERICAN LANGUAGE ACADEMY

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

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

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

American Language Academy offices are located in the Orchiato Center, Room 121. Contact American Language Academy by telephone at (719) 549-2222, Monday-Friday, 8 a.m. to 5 p.m., or write to the American Language Academy in care of the university.

THE UNIVERSITY LIBRARY

The University Library provides information services to students, faculty, staff and patrons throughout the city and region.

Library faculty and staff assist patrons in learning how to find and utilize books, periodicals, pamphlets and government documents through instruction for individuals, small groups or formal classes. Staff also prepare subject bibliographies for classes, arrange inter-library loans, and provide computer-based reference searches.

Approximately 200,000 volumes are available, as well as more than 1300 periodical titles. The University Library is a designated selective depository for U.S. Government documents and geological survey maps. Special collections include Colorado documents; the papers of Vincent Massari, former state senator; the Alva Adams family papers; Tobi Hopkins Black Literature; the Ralph Taylor Southwest collection, and the Edward O'Brien Western collection.

The audiovisual collection in Library 310 offers student carrels for playback of video tapes, sound filmstrip, sound slides sets and audio cassettes. Students may check out audio cassettes, cassette players and headsets. Software, including 16 mm films, is available to faculty members for use in curricular programs.

INTERNATIONAL STUDENT EXCHANGE PROGRAMS AND STUDIES ABROAD

The University of Southern Colorado values the benefit of an education in international settings. Consequently, the university encourages students with second language proficiency to enroll in international study programs. Students wishing to increase their cultural awareness, second language proficiency or competency in subjects offered abroad are encouraged to contact the English/foreign language department chair in the College of Liberal and Fine Arts.

CONTINUING EDUCATION

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

Off-campus instruction sites include Peterson Air Force Base and the Air Force Academy in Colorado Springs, the Colorado State Penitentiary in Canon City, McGuire Air Force Base in New Jersey; community college campuses throughout central and southeastern Colorado, and on-site in many local businesses.

Both degree and non-degree seeking students are allowed to participate in the extended studies. Persons desiring classification as degree-seeking students must apply for admission to the university.

Credit courses taken through the University of Southern Colorado Continuing Education program have the same credit value as those conducted on campus and may be used in meeting the institutional residency requirement.

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

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

Although the majority of course offerings are initiated by the university, courses may originate through requests by individuals and interested groups. These special request courses may be held either on or off campus.
The division also administers the Senior to Sophomore program in the public schools. This program enrolls eligible Pueblo high school students in dual-credit courses which are delivered by part-time university faculty on the high school campus.

The Division of Continuing Education serves as the host for graduate programs which are delivered on-site at the USG campus by Colorado State University, the University of Northern Colorado, and Adams State College.

In-house training programs are available to meet the ever-changing training needs of business and industry. The programs can be designed to meet the specific needs of an organization and may be presented at the company site or, if requested, at the university. Similar services are available to school districts.

COOPERATIVE EDUCATION

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

KTSC-TV

KTSC-TV, Channels 8 and 15, a non-commercial public television station licensed by the Federal Communications Commission to the university, operates as a public service under the supervision of the provost. The station broadcasts seven days a week at full power covering south/southeastern and west central Colorado, including Pueblo, Colorado Springs, Canon City, Waltensburg, the Arkansas and San Luis Valleys and also the western slope of Colorado. The nightly schedule consists of cultural, public affairs and educational programming for viewers of all ages.

KTSC-TV is affiliated with the Public Broadcasting Service and the Pacific Mountain Network. Television production courses offered through the department of mass communications are taught at the Buell Communications Center which is the home of KTSC-TV. Advanced students in mass communications and electronics receive academic credit for working in the daily operation of the station.

HONORS

The Honors Program provides educational enrichment experiences for academically talented students. Interdisciplinary courses (IS), independent study, and opportunities for experiential learning are available for honors students. Students completing at least 20 semester hours of coursework in the program can fulfill minor or area-of-concentration requirements for the university.

Information regarding eligibility, program offerings, and standards for successful completion of the program are available from the director of Special Academic Programs, the Honors Program director, or the Office of the Provost.

WOMEN’S STUDIES

The area of concentration in women’s studies is designed to acquaint students with the current scholarship on women — particularly in humanities and the social sciences. Courses are taught with a positive approach toward correcting conditions for women and raising awareness for advancement possibilities.

Programs of study may be planned with faculty in psychology, sociology, English and social work. Some departments offer individualized projects or special topics courses which could add to the offering. With approval of departments offering the major, students may pursue women’s studies as an area of concentration in lieu of a minor.

For advisement, students should contact course instructors, Women’s Studies Committee members, or department chairs.
GRADUATE PROGRAMS

GRADUATE POLICIES AND PROCEDURES

GRADUATE ADMINISTRATION

Graduate programs and curricula at the University of Southern Colorado are developed by the faculty and administration in the instructional colleges and are administered with the assistance of the dean of Admissions and Enrollment Services. The dean of Admissions and Enrollment Services is guided on academic policy matters by the University Graduate Studies Committee. Each graduate program has a director or coordinator functioning as the person to contact for specific information. Each program is responsible for its own guidelines for graduate assistantships.

GRADUATE DEGREE PROGRAMS

The University of Southern Colorado offers selected graduate courses and programs for degree-seeking and non-degree students. Graduate degrees are offered in applied natural science (MS), systems engineering (MS), and business administration (MBA). In addition, the university participates in a consortial arrangement with Adams State College for graduate degrees in elementary education (MA) and guidance and counseling (MA) and Colorado State University for a master’s degree program in social work. Although the latter programs are offered on the USC campus, the actual degree is awarded by Adams State College or Colorado State University and graduate regulations pertaining to the degree follow the policies of that institution.
GRADUATE ADMISSIONS POLICIES AND PROCEDURES

A student who has received a baccalaureate degree from an accredited institution and who wishes to take either additional undergraduate courses or begin graduate courses must submit the following items to the Office of Admissions, University of Southern Colorado, 2200 Bonforte Boulevard, Pueblo, Colorado, 81001-4901. The following items shall constitute the admissions file for each applicant:

1) A completed application for admission to graduate programs of the University of Southern Colorado and a $15 application fee. The fee is non-refundable and is not applicable toward tuition. For students previously enrolled as undergraduate students at USC, the fee is not required. An application form may be obtained by writing the USC Office of Admissions or by telephoning (719) 549-3461. Students in the consortium programs in elementary education and guidance and counseling apply directly to Adams State College for the MSW program, to CSU.

2) Official transcripts of all college and university work sent directly to the Office of Admissions by each institution attended. Records received directly from students cannot be accepted except for advisement purposes. The records of students who previously attended USC will be obtained from the records office and do not require a student request.

3) The score from the aptitude portion of the Graduate Record Examination (GRE) or the score from the Graduate Management Admissions Test (GMAT) for students in business.

4) The score from an English language proficiency test (TOEFL or Michigan) for students whose native language is not English. A minimum score of 550 (TOEFL) or 50 (Michigan) is required for admission. Level 5 from the American Language Academy also is acceptable.

GRADUATE ADMISSION

The student is admitted according to one of the four categories below, following the criteria approved by the program department.

Admission to graduate studies does not constitute admission to a particular graduate program. Admission to a particular degree program must be approved by the program director upon review of the student's credentials.

Regular Status

Regular status will be given to degree-seeking students who meet all of the published requirements of their selected graduate program department. The requirements include:

• a baccalaureate degree from an institution accredited by the regional accreditation agency;

• the minimum undergraduate GPA established for the program: applied natural science-3.0; business administration-2.7; systems engineering-2.8;

• submission of satisfactory scores from a standardized admissions test approved by the program department;

• a completed admissions file; and

• any additional requirements for the selected program including undergraduate deficiencies.

International students whose native language is not English must also meet the English language proficiency standard set forth in the Graduate Admissions section.

Conditional Status

The university provides a conditional status for students whose undergraduate grade-point average is between 2.5 and the minimum required for the particular program. In addition, program departments may specify conditions which may include higher grade-point averages, required scores on entrance examinations, or undergraduate major or course requirements as specified by the department. The dean of Admissions and Enrollment Services, on recommendation of the program director, will admit the student under conditional status if the student’s grade-point average is at least 2.5 but not high enough for regular admission; or if the student has met a condition specified by the program department. This special action may be taken if there are positive indicators of graduate success, e.g., high GRE or GMAT scores, solid upper-division performance, or outstanding professional achievement.

The dean will refer the student to an adviser appointed by the dean of the college in which the program department is located. The student will be notified to meet with the adviser to determine what conditions will be applied. Departments may specify additional coursework beyond the degree requirements as conditions of admission to regular status. A statement of the conditions and a plan for meeting them will be filed with the dean and a copy provided to the student.

When the conditions are met, the dean of Admissions and Enrollment Services will notify the student that he/she has achieved regular degree-seeking status. Students in conditional status may count toward the degree a maximum of 12 hours of graduate coursework taken in the degree program.

Non-Degree Status

The dean of Admissions and Enrollment Services will admit the student in non-degree status under the following conditions:

a) the student requests courses for professional development only.
b) The student’s record shows that he/she does not meet the qualifications for admission to a degree program with conditional or regular status. In this case, with the approval of the program director, the dean of Admissions and Enrollment Services will notify the student of the deficiency, the procedure to follow to become qualified and the name of an adviser who can assist the student. The adviser will be sent a copy of the notification. Students applying for admission from unaccredited institutions in the United States will be included in this category. A student in non-degree status who has completed 12 hours approved by an adviser with a 3.0 GPA or better at USC may petition the program director for a change to the regular degree-seeking status.

Students admitted in non-degree status may take, with the instructor’s permission, graduate courses for which they meet prerequisites. A maximum of 12 hours taken in non-degree status may be applied toward a degree, conditional upon the approval of the student’s graduate committee.

Ineligible

Students who are denied admission to a graduate program will not be permitted to enroll in graduate courses.

Graduate Work Taken by Seniors

USC students who are in their senior year of undergraduate work, and who have an undergraduate grade-point average that meets the admissions requirements for the program, may take graduate courses for graduate credit with the approval of the appropriate program director and the dean of Admissions and Enrollment Services. Up to 12 graduate hours may be taken prior to graduation, but the combined undergraduate and graduate enrollment normally may not exceed 16 hours for a semester. Graduate level courses (500 level) cannot be used simultaneously to satisfy baccalaureate and graduate degree requirements.

CHANGE OF STATUS

The dean of Admissions and Enrollment Services will notify the student and the program director when the student has satisfied the conditions of admission and is changed to regular status.

GRADUATION REQUIREMENTS

Each graduate program at the university has specific graduation requirements which must be met prior to graduation. In addition, students must fulfill the following requirements for a graduate degree:

1) Have a cumulative graduate GPA of 3.0 or better at graduation. A maximum of six semester hours of coursework at the grade of C may apply toward graduation. A minimum of 24 semester hours of credit in the approved degree plan must be earned at USC.

2) Have regular student status.

3) Complete the program’s minimum number of hours of approved course work. The MBA and systems engineering programs require a minimum of 36 semester hours. The applied natural science program requires a minimum of 34 semester hours.

4) Pass a final comprehensive and/or oral examination in the major area of study except for the MBA program.

5) Submit a graduation planning sheet signed by the student’s graduate committee during the semester in which graduation is to occur. The deadline for submission is published in the semester schedule of courses except for the MBA program.

6) Complete a thesis or directed research project. Submit two approved copies of the thesis, one to the program director and one to the dean of Admissions and Enrollment Services.

7) May repeat thesis and directed research project courses beyond the minimum hours required by a degree program. Satisfactory progress will be indicated by the grade IP. Enrollment for thesis or directed research credit is required for any academic term during which university resources (e.g., faculty time, computer use, library, etc.) are being used for such a project.

8) Must be enrolled in the semester that the degree is completed.

ACCEPTANCE OF TRANSFER CREDIT

A maximum of nine (9) semester hours of resident graduate credit from other regionally accredited graduate institutions may be applied to a graduate degree program. Transfer credits must be directly applicable to the degree program and must be approved by the applicant’s graduate committee and the dean of Admissions and Enrollment Services. Graduate credits accepted in transfer must not be from a correspondence course, must be from a course in which a grade of A or B was earned, and must be from an institution where the student maintained a graduate GPA of at least 3.0. Credits accepted in transfer do not apply to the GPA at USC.

GRADUATE ADVISING

Each graduate degree area has a program director or coordinator appointed by the dean of the college or school. Initial advisement of all graduate students in a degree area will be made by the program director or coordinator. During the first enrollment, each degree-seeking graduate student (regular or conditional) will be assigned a graduate adviser by the dean of the college in which the program resides. The adviser shall act as chairperson for a graduate committee for each student. The graduate committee shall consist of at least two faculty members (including the adviser) and is appointed by the dean of the college in consultation with the student. One member of the committee may be from outside the department of the student’s graduate program. Changes in membership in the graduate committee may be requested by the student to the dean.
DUAL DEGREE CREDIT

Students may receive dual credit for all common degree requirements in more than one graduate program if the degree plans are filed for both programs. In addition, up to six hours of elective credit may be applied to more than one graduate degree program pending approval of the graduate committee of the program involved and the dean of Admissions and Enrollment Services.

ACADEMIC STANDARDS

Graduate courses are graded in an alphabetical system with the following interpretation:

A - Excellent  
B - Good performance  
C - Passing, but below expected performance  
D - Unsatisfactory performance  
F - Failing  
i - Incomplete, no credit awarded  
S - Satisfactory  
P - In progress  
W - Withdrawal  
WF - Withdrawal failing

Students may apply no more than six (6) semester hours of work with a grade of C toward graduation requirements. Grades of D, F, i, U, do not fulfill graduation requirements for graduate programs.

Graduate students may repeat a maximum of six (6) hours of graduate credit. No course may be repeated more than once. When a course is repeated, only the higher grade and credit earned are computed into the student's grade-point average, provided the student has requested a recomputation of grade-point average by the records office. The previously attempted courses and grades remain in the academic record but are not computed in the average.

Transcripts contain an appropriate entry indicating that the grade-point average has been recomputed and stating the basis for recomputation.

To remain in good graduate standing, a graduate student's GPA must remain at 3.0 or better. If the graduate GPA falls below 3.0, a graduate student will be placed on probation. Students have one semester to show progress toward good standing. Probationary students with 12 or more semester hours of graduate work will be suspended whenever progress toward good standing is not demonstrated. A graduate student will be suspended whenever the graduate GPA falls below 2.50.

A student may appeal suspension by submitting a written petition to his/her graduate committee. This petition must provide a justification for continued registration. The graduate committee shall forward its recommendation through the appropriate dean to the provost. The provost or designee shall
make a decision on the appeal and inform the student of that decision. Decisions by the provost are final.

**COMPREHENSIVE EXAMINATIONS**

All graduate programs, except the MBA, require a final comprehensive and/or oral examination at the time of defense of the thesis or directed research project. Scheduling is made through the graduate adviser. Students who fail a final examination may take the examination once. A re-examination cannot be scheduled in the same semester as the original examination.

**THESIS OR DIRECTED RESEARCH**

Each graduate program, except the MBA, requires a thesis or a directed research project. The programs also require an oral defense of the thesis or research project. Each student must submit a research plan. The plan must define the topic of study and outline the research design. The plan must have the written approval of all members of the student’s graduate committee, the program director, and the appropriate dean.

The research plan should be filed as soon as possible after the degree plan is filed and before 24 credit hours of the student’s degree plan have been completed.

**DIRECTED RESEARCH REPORT**

Graduate students whose degree plan calls for a directed research project are required to submit a report on that project to their graduate committee. Although the report need not be as formal as a thesis, it must, however, be typed in an acceptable format and must include a title page comparable to thesis format.

The report should include the purpose of the study or project, limitations, sources of data, the procedure used, and a summary section with conclusions. The research report must be approved by all members of the graduate committee and the appropriate dean. The final approved report must be submitted at least five (5) days prior to the anticipated date of graduation.

**THESIS INSTRUCTIONS**

Students who will be writing a thesis in partial fulfillment of graduation requirements must submit two (2) official copies of the approved thesis and three (3) copies of the thesis abstract to the university. The department will retain one (1) copy of the thesis and thesis abstract. The thesis and one copy of the thesis abstract shall be maintained in the University Library.

The thesis or directed research must:

1. contain a certificate of acceptance;
2. contain a title page;
3. conform to the style and form approved by the major department and outlined in the thesis plan;
4. be printed on high-quality paper with a minimum of 25 percent rag content;
5. contain no erasures; and
6. be bound.

The university-duplicated copy of the thesis must be of high-quality printing and must use a paper of the same quality as the original. Other copies of the thesis may be duplicated in any manner the student desires.

It is imperative that the utmost care be taken in the preparation of the final copy of the thesis. The completion of the thesis, including typing and duplication, is the sole responsibility of the student.

The thesis abstract should consist of no more than five hundred (500) words and should include a title page. The thesis abstract should cover the following items:

1) purpose of study;
2) research materials and methods results; and
3) summary and conclusions.

The approved thesis and thesis abstract must be submitted to the records office at least five (5) days prior to commencement.

**ORAL DEFENSE OF RESEARCH**

Upon completion of a master’s thesis or directed research project, an oral defense/ final comprehensive examination must be scheduled. Application for the oral defense is made to the graduate adviser.

A report of the outcome of the oral defense must be filed with the dean of Admissions and Enrollment Services. The report must be signed by all members of the graduate committee. Students must pass the oral defense to successfully complete their thesis or directed research requirement.

**APPEALS**

All graduate policies, procedures, and regulations may be appealed. Appeals should be made in writing to the Office of the Provost.
PROGRAMS OF STUDY

Master of Business Administration (MBA)

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

The program is open to all applicants with a bachelor’s degree, regardless of the undergraduate field of study, who can demonstrate, through academic or experiential preparation, an appropriate background in the key areas of accounting, economics, finance, quantitative methods, law and ethics, management, and marketing. Students without this background may be required to complete some undergraduate leveling requirements.

All MBA students are required to take the Graduate Management Admissions Test (GMAT). An admission formula of 200 times the undergraduate GPA (4.0 system) plus the GMAT score will constitute a scaled admission GPA. Regular admission will be given to those students who have a scaled admission score of at least 950 and have satisfactory study of the GPA criteria. Conditional admission may be given to students who meet the GPA between 2.90 and 2.70. Undergraduate level courses may be required of students in either regular or conditional status. Graduate students are required to complete all course requirements before finishing 12 hours of graduate work.

The School of Business offers a two-year course curriculum for some business core courses. The School of Business does not offer credit for life experiences.

The MBA degree will be conferred upon students who successfully complete a minimum of 36 hours of approved coursework. The curriculum is composed of two options with 27 semester hours of required core courses which are taken by all candidates. Option one requires the International Business course and six semester hours of approved graduate electives in the School of Business. Option two requires six semester hours of course and directed research and three semester hours of approved graduate electives in the School of Business.

Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCTG</td>
<td>510</td>
</tr>
<tr>
<td>BUSAD</td>
<td>551</td>
</tr>
<tr>
<td>ECON</td>
<td>501</td>
</tr>
<tr>
<td>FIN</td>
<td>530</td>
</tr>
<tr>
<td>MGMT</td>
<td>511</td>
</tr>
<tr>
<td>MGMT</td>
<td>520</td>
</tr>
<tr>
<td>MGMT</td>
<td>560</td>
</tr>
<tr>
<td>MGMT</td>
<td>585</td>
</tr>
<tr>
<td>MKTG</td>
<td>540</td>
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</table>

Requirements for Option I

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>BUSAD</td>
<td>575</td>
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<tr>
<td>Approved Electives</td>
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</table>

Requirements for Option II

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>*580</td>
<td>Business Research Methodology</td>
</tr>
<tr>
<td>*592</td>
<td>Directed Research</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

All graduate courses for the MBA are listed in the Course Descriptions section of this catalog in the prefix areas of accounting (ACCTG), business administration (BUSAD), economics (ECON), finance (FIN), management (MGMT), and marketing (MKTG).

Elementary Education (MA)

Adams State College/University of Southern Colorado Consortium Program.

The University of Southern Colorado cooperates with Adams State College in the delivery of a master of arts in elementary education degree. The continuation of the program is dependent upon student need, and the cooperating institutions reserve the right to cancel courses or the program as a result of insufficient enrollment.

The program is offered over a 24-month cycle. The current cycle began in fall 1991. To accommodate working students, the program is offered entirely in the evenings and summers on the USC campus.

Applicants for this program must have a valid teaching certificate with an elementary education endorsement, a cumulative GPA of 2.75 or higher for all college and university work, and a baccalaureate degree. Students whose grade-point average falls between 2.25 and 2.74 may be admitted conditionally. Those interested should apply to Adams State College.
The MA in elementary education will be conferred upon those students who complete the prescribed curriculum with a minimum of 30 semester hours of approved coursework. Students must maintain a graduate GPA of at least 3.0, submit scores from the aptitude section of the GRE during the first semester of the program, pass the graduate English Usage Exam, and pass a final comprehensive examination. A written plan for the degree must be filed with the adviser. A maximum of six semester hours of graduate work will be accepted in transfer if the transfer credits correspond to courses in the program. Requests to take the comprehensive exam must be filed one semester ahead.

Guidance and Counseling (MA)
Adams State College/University of Southern Colorado Consortium Program.
Through a consortial arrangement with Adams State College, the University of Southern Colorado provides students the opportunity to earn the master of arts degree in either school counseling or community counseling. All courses are offered in the evenings on the USC campus. Courses are taught by instructors from the USC and Adams State psychology departments. Two calendar years, including 36 credit hours of courses, are required for completion of the program. Those interested should apply to Adams State College.

Applied Natural Science (MS)
The graduate program leading to the degree of master of science in applied natural science prepared students to apply basic scientific disciplines to the practical problems encountered in business, industry, government, and education. Graduates from the program will be able to apply the techniques of scientific research to real-world problems.

Coursework emphasizes several important areas of applied natural science, including bio-technology, polymer chemistry, industrial chemistry, mathematical techniques in applied research, environmental concerns, scientific information systems and instrumentation. A unique feature of the program is a course addressing the ethical issues raised by scientific change.

The master of science in applied natural science requires 34 semester credit hours of approved graduate coursework including a research thesis. The program offers three emphasis areas — applied biological sciences, applied chemical sciences, and applied biochemical sciences.

Required Courses
The course of study requires seven semester credits of work common to all students. Each student must select an emphasis area with a core of 13 semester credits, including thesis research. Fourteen credits in elective courses also are required. The program of study for each student must be approved by a college committee.

Courses
| ANS | 510 | 1 |
| ANS | 520 | 1 |
| ANS | 593 | 2 |
| MATH | 544 | 3 |

Required Courses for Each Emphasis

<table>
<thead>
<tr>
<th>Biological Sciences Emphasis Core</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOC</td>
<td>540/540L</td>
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<tr>
<td>BIOC</td>
<td>552/552L</td>
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<tr>
<td>CHEM</td>
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<table>
<thead>
<tr>
<th>Chemical Sciences Emphasis Core</th>
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</thead>
<tbody>
<tr>
<td>CHEM</td>
<td>503</td>
</tr>
<tr>
<td>CHEM</td>
<td>529</td>
</tr>
<tr>
<td>CHEM</td>
<td>550</td>
</tr>
<tr>
<td>CHEM</td>
<td>599</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Biochemical Sciences Emphasis Core</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOC</td>
<td>540/540L</td>
</tr>
<tr>
<td>BIOC</td>
<td>512/512L</td>
</tr>
<tr>
<td>CHEM</td>
<td>599</td>
</tr>
</tbody>
</table>

Elective Courses for Each Emphasis

Biological Sciences Emphasis Electives (A minimum of 14 credit hours must be selected from courses listed below.)

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOC</td>
<td>526/526L</td>
</tr>
<tr>
<td>BIOC</td>
<td>532/532L</td>
</tr>
<tr>
<td>BIOC</td>
<td>541/541L</td>
</tr>
<tr>
<td>BIOC</td>
<td>543/543L</td>
</tr>
<tr>
<td>BIOC</td>
<td>572/572L</td>
</tr>
<tr>
<td>BIOC</td>
<td>579/579L</td>
</tr>
<tr>
<td>BIOC</td>
<td>581/581L</td>
</tr>
<tr>
<td>BIOC</td>
<td>582/582L</td>
</tr>
<tr>
<td>BIOC</td>
<td>585/585L</td>
</tr>
<tr>
<td>CHEM</td>
<td>591</td>
</tr>
</tbody>
</table>

33-36

Chemical Sciences Emphasis Electives (A minimum of 14 credit hours must be selected from courses listed below.)

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM</td>
<td>501</td>
</tr>
<tr>
<td>CHEM</td>
<td>512/512L</td>
</tr>
</tbody>
</table>
CHEM 525 2
CHEM 531 2
CHEM 591 1-4
PHYS 531 4
PHYS 541 4
21-24

Biochemical Sciences Emphasis Electives (A minimum of 14 credit hours must be selected from courses listed below.)

Courses Credits
BIOL 543/543L 4
BIOL 550/550L 4
BIOL 572/572L 4
CHEM 591 or 1-4
CHEM 591 3
CHEM 593 3
CHEM 519/519L 4
CHEM 525 3
CHEM 531 4
PHYS 531 4
PHYS 541 4
38-41

Systems Engineering (MS)

Systems engineering deals with the design and analysis of large-scale, complex, human/machine/software systems. It employs methods and techniques from the engineering disciplines, mathematics, behavioral and physical sciences. It is not necessary to have an undergraduate degree in engineering to be successful in this program.

Students do need a strong foundation in math, a sense of intellectual curiosity and a desire to apply those skills to combine physical, human and monetary resources for the production of quality products or services at competitive prices. Systems engineers bridge the gap between management and operations, dealing with and motivating people, as well as determining what materials and tools should be used and how they should be used. Systems engineering techniques can be applied in commercial, governmental and non-profit organizations.

Admission requirements. The program is open to applicants with a quantitatively based baccalaureate degree from a regionally accredited college or university. Admission to the systems engineering program requires prior admission to graduate study.

Regular status admission will be given to students with a baccalaureate degree from an accredited university or college, an undergraduate GPA of at least 2.80 who show promise of success in graduate study, and who have an adequate preparation in the prerequisite areas listed above. A grade point of 3.0 must be maintained to retain regular status.

Conditional status admission may be given to students whose undergraduate GPA is above 2.50 yet below 2.80 provided that the recommendations and GRE scores indicate that the applicant has the potential to satisfactorily complete graduate work. Students granted conditional status must complete all prescribed prerequisites as determined by the graduate advisor prior to having completed nine semester hours of graduate coursework.

Non-degree-seeking status may be granted to students desiring graduate coursework for career enhancement or other purposes. Students with non-degree-seeking status must document prerequisite background for graduate courses in which they register for professional purposes. Students who later seek admission to the degree program may claim a maximum of nine semester hours of graduate course work earned while in non-degree-seeking status.

International students whose native language is not English are required to demonstrate English proficiency prior to admission. This can be done by achieving a score of 500 or more on the Test of English as a Foreign Language (TOEFL) or by achieving a score of 60 or more on the Michigan Test for English Language Proficiency, or by completing Level 5 competency of the American Language Academy.

Transfer credits. A maximum of nine semester hours earned with grades of B or better may be accepted from another recognized institution if approved by the student's advisor and department chair.

Probation. A student whose cumulative GPA falls below 3.0 will be placed on probation for the subsequent semester. If the student does not achieve the cumulative 3.0 grade-point average by the end of the probationary semester, further enrollment as a degree-seeking student may be denied.

Prerequisite requirements. Students will be required to demonstrate proficiency in engineering by completing prerequisite background courses in engineering, computer science, economics and mathematics, or by documenting previous equivalent course or experiential work. Students who do not possess the specified prerequisite background may be admitted conditionally but will be required to complete prescribed prerequisites. Courses used as prerequisites for required graduate courses must be taken for credit.

Prerequisites: (USC Course Equivalents)
Computer Programming (EN 105)
Engineering Economics (EN 343)
Probability (MATH 256 or 350)
Statistics (MATH 356)
Differential Equations (MATH 337)
Degree requirements. The master of science in systems engineering degree requires the candidate to complete successfully a minimum of 36 semester hours of approved graduate credits (including a thesis) with a cumulative average of 3.0 or better. No more than six semester hours of graduate coursework with a grade of C may be applied toward graduation requirements. Grades of D, F and Incomplete do not fulfill graduation requirements.

The course of study consists of 30 semester hours of required courses and six semester hours of thesis credit. Courses from an approved set of substitutions may be added to the program or substituted for required courses for which a student can demonstrate mastery as a result of previous course work.

### Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 503</td>
<td>Ergonomics</td>
<td>3</td>
</tr>
<tr>
<td>EN 504</td>
<td>Scheduling and Sequencing</td>
<td>3</td>
</tr>
<tr>
<td>EN 520</td>
<td>Engineering Systems Simulation</td>
<td>3</td>
</tr>
<tr>
<td>EN 530</td>
<td>Project Planning &amp; Control</td>
<td>3</td>
</tr>
<tr>
<td>EN 540</td>
<td>Advanced Engineering Economics</td>
<td>3</td>
</tr>
<tr>
<td>EN 565</td>
<td>Stochastic Systems Engineering</td>
<td>3</td>
</tr>
<tr>
<td>EN 571</td>
<td>Engineering Operations Research</td>
<td>3</td>
</tr>
<tr>
<td>EN 575</td>
<td>Engineering Systems Analysis and Design</td>
<td>3</td>
</tr>
<tr>
<td>EN 577</td>
<td>Operations Planning &amp; Control</td>
<td>3</td>
</tr>
<tr>
<td>EN 593</td>
<td>Graduate Seminar</td>
<td>3</td>
</tr>
<tr>
<td>EN 599</td>
<td>Thesis Research</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Semester Hours:** 36

### Additions or Substitutions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCTG 510</td>
<td>Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ECON 501</td>
<td>Managerial Economics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 544</td>
<td>Mathematical Methods of Applied Science</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 560</td>
<td>Management Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 561</td>
<td>Advanced Database Management Systems</td>
<td>3</td>
</tr>
<tr>
<td>EN 500</td>
<td>Logistics, Maintainability and Life-Cycle</td>
<td>3</td>
</tr>
<tr>
<td>EN 590</td>
<td>Special Projects</td>
<td>1-3 var</td>
</tr>
<tr>
<td>EN 591</td>
<td>Special Topics</td>
<td>1-3 var</td>
</tr>
</tbody>
</table>

All of the required courses are offered between 4 and 6:30 p.m. to accommodate students with full-time employment.

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The University of Southern Colorado does not offer all the classes listed in this catalog every semester or every year.

The following pages provide brief descriptions of course offerings, and the career, professional or graduate opportunities open to students who complete degrees in majors. Course listings are subject to change.

Each semester the university publishes a bulletin listing a detailed schedule of courses offered and the times and places of instruction. Courses listed in the bulletin are subject to change.

**EXPLICATORY NOTES**

**NUMBERING OF COURSES**

Course numbering is based on the content level of material presented in courses.

Courses numbered:

- 100-299 primarily for freshmen and sophomores
- 300-499 primarily for juniors and seniors
- 500-599 primarily for students enrolled in master's degree programs or the equivalent. Students may enroll if they have submitted and received approval on graduate planning sheets.
- 600-620 Colorado State University courses offered at the University of Southern Colorado towards a master's degree in social work.
Variable credit courses. (1-3 VAR) indicates variable credit; the minimum and maximum credit limitations per semester are shown. An example:

494 Field Experience (1-5 VAR) (when appropriate).

Cross-listed courses. Courses in which students may earn credit under either of two prefixes (e.g., SOC or HIST) for the same offering.

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

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

Cancellation of courses. The university reserves the right to cancel courses not selected by an adequate number of students or not suitably staffed by qualified faculty.

KEYS TO SYMBOLS

Course descriptions include a variety of symbols conveying essential information. The following standard course description with explanation of symbols serves as a model:

191 Aspects of Biology course number
191 Introduction to microbio tech. course title
191 191L (F,S) number of credits or lecture per week - clock hours in laboratory demonstration or studio experiences per week.

“Introduction to ...” explanation of course content required to be taken concurrently taught fall and spring semesters.

Note: Not all of the above information may be noted in each course. Additional symbols include:

$ Taught fall semester
S Taught spring semester
SS Taught summer session
O Offered upon demand
# Taught 1990-91

UNIVERSITY-WIDE "HOUSE-NUMBERED" COURSES

200, 300, 400, 500 — Workshop
290, 490, 590 — Special Project
291, 391, 491, 591 — Special Topics
292, 392, 492, 592 — Research
293, 393, 493, 593 — Seminar
294, 394, 494, 594 — Field Experience
295, 395, 495, 595 — Independent Study
296, 396, 496, 596 — Cooperative Education
297, 397, 497, 597 — Studio Series
298, 398, 498, 598 — Internship
299, 399, 499, 599 — Thesis Research
600 — Master’s Degree in Social Work

COURSE PREFIXES

Courses of instruction are identified by the following approved prefixes:

ACCTG — Accounting
ANH — Applied Natural Science
ANTHR — Anthropology
APRM — Auto Parts and Service Management
ART — Art
BUSAD — Business Administration
BSEE — Bilingual Bicultural Education
BIOL — Biology
CET — Civil Engineering Technology
CST — Computer Science Technology
CHEM — Chemistry
CS — Chicano Studies
ECON — Economics
ED — Education
EET — Electronic Engineering Technology
ENG — Engineering
ENGL — English
FIN — Finance
FR — French
FRN — Foreign Language
GENED — General Education
GEOG — Geography
GEOG — Geology
GER — German
HIST — History
HPE — Human Performance and Leisure Studies
HUM — Humanities
INT — Interdisciplinary Studies
IST — Industrial Science Technology
ITAL — Italian
ACCOUNTING (ACCTG)

UNDERGRADUATE COURSES

201 Principles of Financial Accounting (3-3-0)
An introduction to accounting as the language and tool of business operations. Emphasis is placed upon the reasoning and logic associated with the accounting cycle. Prerequisite: MATH 121. (F,S,SU)

202 Principles of Managerial Accounting (3-3-0)
Managerial uses of accounting information, including cost-volume-profit analysis, differential accounting, and responsibility accounting. Prerequisite: ACCTG 201. (F,S,SU)

215 Taxes for Individuals (3-3-0)
Federal Income Tax Code with analysis of political, economic and social ramifications of the law with problem material in the tax return preparation solutions. For nonbusiness majors. No graduation credit for accounting majors. (F,S)

301 Intermediate Accounting I (3-3-0)
A study of financial accounting functions and basic accounting theory, recognition and measurement of assets and liabilities, and stockholders' equity. Prerequisite: ACCTG 202. (F,S,S)

302 Intermediate Accounting II (3-3-0)
Pensions, leases, bonds, price changes, presentation and interpretation of financial statements, accounting changes, consolidaions, sales, segment reporting, interim reporting and CPA. Prerequisite: ACCTG 301. (F,S,S)

311 Federal Income Tax (3-3-0)
Rules and regulations of the federal income tax as applied to income recognition, deductions from income, deductions from income and credits pertaining to individuals, partnerships, and corporations. Prerequisite: ACCTG 302. (F,S,S)

312 Corporate, Estate and Gift Tax (3-3-0)
Taxation of corporations, partnerships, estates and trusts. Analysis of mergers and dissolution of corporations. Introduction to estate, gift taxes and international taxation. Prerequisite: ACCTG 201, 202, 301. (F,S)

320 Cost Accounting (3-3-0)
Accounting procedures applicable to industries with emphasis on job order process costs, standard cost
and profit planning including differential costs, internal profit and price policies, and capital budgeting. Prerequisite: ACCTG 202. (F,S,SU)

401 Advanced Financial Accounting (3-3-0)
Application of fundamental theory to partnerships, joint ventures, foreign operations, consolidated statements, and business combinations. Prerequisites: ACCTG 302 and senior standing, accounting majors. (F)

423 Accounting Theory and Ethics (3-3-0)
Current concepts and developments in accounting theory as indicated by AICPA, FASB, and the Code of Professional Ethics applied to the practice of public accounting. Prerequisite: ACCTG 302. (F)

404 CPA Law Review (3-3-0)
Business law as found in the Business Law section of the Uniform CPA Examination. Prerequisite: senior standing, accounting major. (*)

412 Auditing (3-3-0)
A study of the systematic process by which external financial statements and other management assertions are verified and reported upon by independent, internal, and governmental auditors. Prerequisite: ACCTG 302. (F)

429 Accounting Information Systems (3-3-0)
The study of design and implementation of accounting information systems. Attention directed to the traditional accounting model and its relationship to computerized accounting information systems. Prerequisite: ACCTG 302. (S)

440 Forensic Accounting (3-3-0)
A study of advanced accounting topics especially as concerned to-for-profit entities with emphasis on governmental accounting. Prerequisites: ACCTG 302. (F)

450 Small Business Studies (3-3-0)
Integrating prior studies in business into a realistic approach to assist in solving problems faced by the student. Prerequisites: senior standing and permission of instructor. (F)

460 Senior Studies (3-3-0)
A discipline-oriented integration of prior course work into a special project, research paper and/or society that demonstrates proficiency in the major. Prerequisites: senior standing in School of Business and completion of all core courses. (F,S,U)
**ANTHROPOLOGY (ANTHR) UNDERGRADUATE COURSES**

109 Cultural Anthropology (3-0 XHR)  
Introduction to the concepts by which anthropology understands particular cultures, and to the constructs by which it accounts for similarities and differences among lifestyles. (F, S, SS)

201 Peoples and Cultures of the Southwest (3-0 XHR)  
Examination of the region's prehistoric and historic cultures, emphasis on adobe adaptations to dynamic natural and cultural environments. (F)

301 Peoples and Cultures of the Southwest (3-0 XHR)  
Examination of the region's prehistoric and historic cultures, emphasis on adobe adaptations to dynamic natural and cultural environments. (F)

APPLIED NATURAL SCIENCE (ANS) GRADUATE COURSES

501 Ethics of Science (3-0 XHR)  
The main currents of the history of science related to today's ethical issues: stress; critical analysis. (F)

510 Scientific Information Systems (3-0 XHR)  
Techniques of the effective and efficient use of scientific literature, including the current conventions of information retrieval and organization. (F)

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Techniques of the effective and efficient use of scientific literature, including the current conventions of information retrieval and organization. (F)

ART (ART) UNDERGRADUATE COURSES

101 Art History Survey I (3-0 XHR)  
Development of style, iconography and function of art from prehistoric times to the Gothic period. (F)

101 Art History Survey I (3-0 XHR)  
Development of style, iconography and function of art from prehistoric times to the Gothic period. (F)

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101 Art History Survey I (3-0 XHR)  
Development of style, iconography and function of art from prehistoric times to the Gothic period. (F)
GRADUATE COURSES

106 Workshop (1-3 VAR) Using materials and techniques based on advanced concepts and ideas. Prerequisite: permission of instructor and graduate standing. (F,S,SU)

261 Special Topics (1-3 VAR) Prerequisite: permission of instructor and graduate standing. (F,S,SU)

AUTOMOTIVE PARTS AND SERVICE MANAGEMENT (APS&M)

UNDERGRADUATE COURSES

105 Introduction to the Parts and Service Industry (3-0) Introduction to the industry from viewpoints of history, social impact, organization structure, manpower needs, and future growth. (F)

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

120 Automotive Suspension and Brake Systems (3-1) Design and theory of front and rear automotive suspensions, steering, and brake systems. (S)

125 Automotive Suspension and Brake Systems Lab (1-0) Corequisite: APS&M 120. (F)

126 Automotive Fuel Systems and Exhaust Emissions (3-3) Design and theory of automotive fuel systems, carburetors, fuel injection, turbocharging, and supercharging; functions and design of automotive emissions systems. (S)

130 Automotive Fuel Systems and Exhaust Emissions Systems Lab (1-0) Corequisite: APS&M 126. (F)

135 Automotive and Diesel Parts Operation (3-3) Automotive replacement parts books, inventory control systems, stock control levels, and-parts flow to improve stock flow. (F)

163 Industrial Equipment and Heavy Equipment Parts (3-2) Selection of industrial equipment, use of parts catalogs and microfilm in heavy equipment selection. (F)

205 Automotive Jocker Distribution and Merchandising (3-4) Channels of distribution and merchandising for the automotive jobber from the manufacturer to the user. (S)

215 Automotive Power Frames and Drive Lines (3-3) Design and theory of standard and automatic transmissions, clutches, driveshafts, differentials, and transaxles. (S)

216 Automotive Power Trains and Drive Lines Lab (1-0) Corequisite: APS&M 215. (F)

220 Power and Energy Technology (3-2) Current uses of different forms of energy. The technology included in generating power from various sources and the impact on society and the environment. (S)

226 Machine Shop Equipment and Operation (3-2) Functions of automotive machine shop equipment and basic automotive machine shop management. Prerequisite: APS&M 115. (S)

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

245 Automotive Electrical Systems Laboratory I (1-0) Corequisite: APS&M 235. (F)

250 Automotive Electrical Systems II (3-0) Design and operational theory of solid state ignition systems and computer-controlled systems including engine, braking, transmission, emission, and comfort systems. Prerequisite: APS&M 245/246. Corequisite: APS&M 250. (S)

255 Automotive Electrical Systems II Lab (1-0) Corequisite: APS&M 255. (F)

295 Cooperative Education Placement (1-0) Supervised industrial field work. Prerequisite: junior or senior standing, APS&M major. (F,S)

383 Auto Parts and Service Management 335-0 The industry from a management standpoint; 335-0 operations, personnel management, inventory, and expense control. (S)

203 Parts and Lubricant Production, Marketing and Consumer Product Promotion (3-0) Petroleum industry: basic production processes, marketing techniques, ultimate fuel sources, and consumer trends and preferences. Prerequisite: senior standing or permission of instructor. (S)

255 Automotive Shop Practices (3-2) Diagnosis of electrical, fuel, engine, brake and transmission systems; study of service management and service worker duties. Prerequisites: APS&M 115, 125, 135, 245/246, 250/255, and 295. (S)

345 Advanced Automotive Systems (3-0) Theory and application of new concepts in automotive electrical, fuel and emission systems. Prerequisite: junior standing or permission of instructor. (F)

405 Automotive Sales Principles and Practices (3-4) Application of techniques and principles unique to the wholesale selling of replacement parts and accessories. (F)

415 Automotive Expense Control and Analysis (3-4) Introduction to specialized automotive accounting and inventory control methods; analysis of operating expenses and income statements in the retail automotive business. Prerequisite: ACCGT 201 and 202. (S)

491 Special Topics (1-4 VAR) Prerequisite: permission of instructor. (F)

496 Cooperative Education Placement (1-5 VAR) Supervised industrial field work. Prerequisite: junior or senior standing, APS&M major. (F)

BILINGUAL BICULTURAL EDUCATION (BBE)

UNDERGRADUATE COURSES

465 Workshop (1-2 VAR) Development of classroom materials and curriculum in bilingual education. (F)

491 Teaching the Limited English Proficient Student (3-1) Prerequisites: methods and techniques of teaching English to children of linguistically and culturally different backgrounds. Prerequisite: admission to teacher education program. (F)
405 Teaching Elementary Subjects in Bilingual Education (3-3)
Teaching elementary social studies, science, and health in bilingual settings. (F, S)

400 Survey of Language/Cultural Tools in Bilingual Education (3-3)
Introduction to current linguage/cultural instrutments for the prospective bilingual education teacher in the elementary school. (F)

487 Shaded Teaching English (1-1-2 VRA)
For students in elementary bilingual program. Application for student teaching must be submitted or on or before March 1 prior to the semester in which student teaching will commence. (S/U grades) Prerequisite: admission to the teacher education program. (F, S)

456 Independent Study (1-2 VRA)
For the student specializing in bilingual education. (F, S)

GRADUATE COURSES

506 Workshop (1-2 VRA)
Practica in development of classroom mate-rials curriculum bilingual education. Prerequisite: graduate standing. (*)

506 Seminars across Cultures (3-3)
Analysis of multiculturalism in education and adapt-theory to the educational process to the needs of diverse cultural backgrounds. Prerequisite: graduate standing. (*)

541 Survey of Research in Bilingual Education (3-3)
Prerequisite: graduate standing. (*)

595 Independent Study (1-2 VRA)
For the student specializing in bilingual education. Prerequisite: graduate standing. (*)

BIOLOGY (BIO)

UNDERGRADUATE COURSES

193 Principles of Biology 3 (3-3)
Introduction to basic principles common to all facets of biology. Topics include: the scientific method, the diversity of life, cell structure and reproduction, and metabolism. (F, S)

101 Biological Science 4 (4-4)
Principles of biology through outdoor experiences. Mountain survival, native and wild flora, observing and analyzing wildlife, environmental awareness, and ecology. (F, S)

101L Principles of Biology Lab 1 (3-3)
Exposure to the student to problem-solving skills emphasizing the importance of observation and data accumulation. Co-requisite: BIO 101L. (F, S)

112 Nutrition 3 (3-3)
Analysis of personal dietary habits and behaviors in relation to basic human nutritional needs and food composition. (F, S)

111 Environmental Conservation Lab 1 (3-3)
Hydrological review of humankind's interaction with and impact on the natural environment. Basic principles of ecology and current issues relating to the use of natural resources and environmental problems. (F, S)

121 Environmental Conservation Lab 1 (3-3)
Optional field study to augment BIO 121. Co-requisite: BIO 121. (F, S)

132 Human Population and Health Services 3 (3-3)
A non-major course emphasizing the laws and principles of inheritance as they relate to man and the causes of human congenital defects. (F, S)

144 Human Learning 1 (3-3)
Basic behaviors, physiology, dysfunction, relate, alternative relationships, parenting, legal aspects, contraception, and recent research in sexuality. (F, S)

156 School Health 3 (3-3)
The development of knowledge and the scientific basis for the analysis, evaluation and promotion of personal health and wellness. (F, S)

171 Career Planning 1 (1-0-4)
Identifying career options and creating a personalized educational program. (S/U grades). (F, S)

151 Aspects of Biology 3 (3-3)
Introduction to metric measurement, microscopes, cell, form, function, reproduction, biologically important molecules, biogenesis, and taxonomy. Co-requisite: BIO 191L. (F, S)

191L Aspects of Biology Lab 1 (3-3)
Co-requisite: BIO 191. (F, S)

201 Botany 3 (3-3)
Microscope, anatomy, physiology, phylogeny and ecology of major plant groups. Prerequisite: BIO 191L or permission of instructor. Co-requisite: BIO 201L. (F, S)

211 Botany Lab 1 (3-3)
Co-requisite: BIO 201. (F, S)

202 Zoology 3 (3-3)
Anatomy, physiology, ecology and phylogeny of major and minor invertebrates and vertebrate taxa. Prerequisite: BIO 191L or permission of instructor. Co-requisite: BIO 202L. (F, S)

231 Zoology Lab 1 (3-3)
Co-requisite: BIO 201. (F, S)

280 Introduction to Microbiology 3 (3-3)

290 Introduction to Microbiology Lab 1 (3-3)
Co-requisite: BIO 201L. (F, S)

233 Medical Terminology 3 (3-3)
Basic prefixes, word roots, combining forms and syllables of medical terminology and human anatomy are covered. (S)

231 Principles of Human Anatomy and Physiology 3 (3-3)

231L Principles of Human Anatomy and Physiology Lab 1 (3-3)
Co-requisite: BIO 231L. (F, S)

233 Human Physiology and Anatomy 3 (3-3)
Study of human physiology and anatomy designed for students who require or desire a thorough understanding of the functional and structural aspects of the human body. For biology majors. Topics include physiological processes, molecules, cell, tissue, integumentary, skeletal, muscle, nervous system, special tissues, and endocrine. Co-requisite: BIO 233L. (F, S)

224 Human Physiology and Anatomy II 3 (3-3)
A continuation of BIO 233. Topics include the vascular system, respiration, digestion, metabolism, excretion, fluid balance, and reproduction. Co-requisite: BIO 234L. (F, S)

244 Human Physiology and Anatomy Lab II 1 (2-2)
Co-requisite: BIO 224. (F, S)

202 Basic Heredity 3 (3-3)
Principles of heredity. Science applied to propagation and culture of plants and crops. Landscape design and improvement of plants. Prerequisite: BIO 201 or permission of instructor. Co-requisite: BIO 202L. (F, S)

203 Basic Horticulture 1 (2-2)
Co-requisite: BIO 202L. (F, S)

280 Introduction to Botany 3 (3-3)
Introduction and current developments in the use of biological organisms for research and for commercial and industrial processes. (F)

281 Special Topics 1 (1-2 VRA)
(F, S)

294 Field Experience (1-4 VRA)
Volunteer work experience under program director, department coordinator and faculty supervision. (S/U grades). (F, S)

291 General Microbiology 3 (3-3)
Introduction to the bacteria and viruses, including microbial genetics and physiology. Prerequisite: BIO 191 and CHEM 201 and 202L or permission of the instructor. Co-requisite: BIO 291L. (F, S)

291L General Microbiology Lab 1 (3-3)
Co-requisite: BIO 291L. (F, S)

292 Medical Microbiology and Immunology 3 (3-3)
Introduction to immunology and survey of pathogenic bacteria, viruses and fungi. Prerequisite: BIO 202L or permission of the instructor. Co-requisite: BIO 292L. (F, S)

292L Medical Microbiology and Immunology Lab 1 (2-2)
Co-requisite: BIO 292L. (F, S)

330 Emergency Medical Technician (EMT) Training 6 (6-6)
Emergency care and transportation of the sick and injured. Field work in hospital emergency rooms and ambulances. Basic certification. Prerequisite: standard
GRADUATE COURSES

Admission to graduate courses requires approval of the advisor for the graduate program.

521 Histology 22-3
A microscopic study of vertebrate tissues and organs. Prerequisites: BICL 302, 305, 306, 309L, 341, and 342L. Corequisite: BICL 521L. (F, S)

521L Histology Lab 22-4
Corequisite: BICL 521. (F, S)

522 Plant Morphology 22-4
Form, basic structure, relationships, life history, and evolutionary trends of representative of the major autotrophic plant groups. Corequisite: BICL 309L. (S)

525L Plant Morphology Lab 19-2
Corequisite: BICL 525. (S)

527 Entomology 22-4
Development of representative vertebrates and invertebrates with particular emphasis on the early entomology of Bio/Science, frog, clock, and pig. Corequisite: BIOI 550L. (F)

529 Entomology Lab 20-4
Corequisite: BIOI 550. (F, S)

540 Molecular Genetics 22-3
Genetic principles of development. Corequisite: BIOI 540L. (F)

541 Molecular Genetics Lab 18-2
Corequisite: BIOI 540. (F)

542 Freshwater Invertebrate Zoology 22-3
Classification, physiology, systematics, morphology, and natural history of freshwater invertebrates of the United States. Corequisite: BIOI 540L. (F, S)

544 Freshwater Invertebrate Zoology Lab 20-4
Corequisite: BIOI 544. (S, F)

545 Limnology 22-4
Biology, chemistry, and physics of lakes and rivers. Corequisite: BIOI 540L. (S, F)

545L Limnology Lab 19-4
Corequisite: BIOI 545. (S)

571 Theory and Application of Electron Microscopy 22-3
Theory of electron microscopy and image analysis in biological and physical sciences. Preparation of cells and tissues for examination by scanning electron microscopy and transmission electron microscopy. Corequisite: BICL 552L. (F)

573 Electron Microscopy Lab 20-4
Corequisite: BIOI 573. (S, F)

575 Radiation Biology 22-3

575L Radiation Biology Lab 19-2
Corequisite: BICL 575. (F)

578 Hydrogeology 22-4
The morphology, taxonomy and ecology of fish; an introduction to marine and limnological field trips. Credit is given as part of the course. Corequisite: BIOI 578L. (F)

578L Hydrogeology Lab 19-2
Corequisite: BIOI 578. (F)

581 Ornithology 22-4
Structure, classification, ecology, and control of birds. Corequisite: BIOI 581L. (F)

581L Ornithology Lab 19-2
Corequisite: BIOI 581. (F)

582 Parasitology 22-3
Taxonomy, morphology, life cycles, and host relationships of animal parasites. Corequisite: BIOI 582L. (F)

583 Parasitology Lab 19-2
Corequisite: BIOI 583. (S)

585 Physiology 22-4
Evolution, identification, and biology of vernacular species in identifying and preparing specimens. Corequisite: BIOI 585L. (F)

585L Physiology Lab 19-2
Corequisite: BIOI 585. (S)

587 Bioethics 22-3
Scientific, ethical, and social issues in animal research and animal welfare. Corequisite: BIOI 587L. (S)

587L Bioethics Lab 19-2
Corequisite: BIOI 587. (S)

592 Plant Taxonomy 22-3
Identification of common vascular plant families of Colorado and emphasis on the flowering plants. Study of their systematic relationships. Corequisite: BIOI 592L. (F)

592L Plant Taxonomy Lab 19-2
Corequisite: BIOI 592. (F)

591 Special Topics (1-4 YMR)
Corequisites: BICL 550L, 550L (F, S, S)

595 Independent Study (1-4 YMR)
Prerequisite: graduate standing; biology major, permission of instructor and department. (F, S, S)

599 Thesis Research (1-4 YMR)
Prerequisites: 550L, 550L. (F, S, S)

BUSINESS ADMINISTRATION (BUSAD)

UNDERGRADUATE COURSES

101 Introduction to Business 22-3
Introduction to the concepts and practices of business in a free enterprise system, including social responsibilities of business firms. (F, S)

103 Introduction to Computers and Information Processing 22-4
Concepts and applications of computers as used by business and management. Emphasis is given to computer productivity software with hands-on exercises. (F, S)

201 Principles of Business Law 22-4
Law as it relates to business, including contracts, sales, bailments, and personal property. (F, S)

202 General Business 22-3
Basic business problems, including descriptive statistics, probability distributions, sampling, parameter estimation and hypothesis testing, correlation and simple linear regression, and chi-square tests. Prerequisite: MATH 222. (F, S, S)

281 Business Statistics I 22-4
Statistical methods in business, including descriptive statistics, probability distributions, sampling, parameter estimation and hypothesis testing, correlation and simple linear regression, chi-square tests. Prerequisite: MATH 222. (S, S)

305 Introduction to Accounting 22-4
Means of extending management capabilities through effective internal and external communications, including data organization and presentation. Prerequisites: ENG 110 and 211. (F, S)

312 Ethical Issues and the Legal Environment of Business 22-4
Examination of issues addressing ethical, legal, social and environmental responsibilities of businesses toward government, customers, employees, and the general public. Prerequisites: junior standing. (F, S)
475 International Business (3-0-0)
Opportunities and problems of multinational firms including environmental factors and formation of strategies and policies for all functional areas of business. Prerequisites: FIN 300, WRIT 310 and MATH 340. (F,S)

480 Small Business Practice (1-0-0)
Integrating prior studies in business into a realistic approach to assist in solving problems faced by selected firms in the community. Prerequisites: senior standing and permission of instructor. (F,S,SU)

485 Special Projects (1-0-0) (F,S,SU)
Prerequisites: senior standing and permission of department chair. (F,S,SU)

486 Internship (1-0-0) (F,S)
Supervised field work in selected business, social and governmental organizations, supplemented by written reports. (S,U grades. Prerequisites: junior or senior standing in the major of business and permission of internship coordinator. (F,S,SU)

GRADUATE COURSES

551 Business Ethics and Environment (3-0-0)
The impact of continued social, political, economic, technological, and legal pressures upon ethical business issues and managerial decision making. Prerequisite: graduate standing. (F,S)

576 International Business (3-0-0)
Familiarizes students with the differences in management operations domestically and internationally (the scope, activities, managerial problems and decisions) and challenges facing multinational management operations. Prerequisite: graduate standing. (F)

580 Business Research Methodology (2-0-0)
Fundamentals of qualitative and quantitative research design including development of hypotheses and assessment techniques in preparation for undertaking research projects. (SU grading) (S)

591 Special Topics (1-0-0) (F,S)

592 Research (1-0-0) (F,S)
The student will work under the close supervision of a graduate faculty member in basic or applied research resulting in a thesis or report of high academic quality. (F and SU grading). (F,S)

595 Independent Study (1-0-0) (F,S)
Individual study of a subject determined by the instructor and student with permission of the director. Prerequisites: graduate standing, (F,S,SU)

598 Thesis Research (1-0-0) (F,S,SU)

CHEMISTRY (CHEM)
UNDERGRADUATE COURSES

101 Chemistry and Society (5-0-0)
Chemistry as it relates to our culture and society. Drugs, food, pollution, consumer products, energy, and health issues. Prerequisite: one year of high school algebra or equivalent. (F,S)

101L Chemistry and Society Lab (1-0-0)
Experiments using everyday chemical substances and their reactions as topics. (F)

101L Principles of Chemistry (1-0-0)
Principles of chemistry. Prerequisite: chemistry majors or minors. Corequisite: CHEM 111L. (F,S)

111 Principles of Chemistry (3-0-0)
Chemical concepts, the periodic table, and concepts of atomic structure. Prerequisites: CHEM 111L or 111L. (F,S)

120 Introduction to Organic and Biochemistry (3-0-0)
Organic chemistry. Molecular structure, functional groups, carbon-carbon, lipids, proteins, biochemistry. Prerequisite: CHEM 111L or permission of instructor. (F,S)

120L Introduction to Organic and Biochemistry Lab (1-0-0)
Laboratory work in organic chemistry. Prerequisite: CHEM 111L. (F,S)

211L Inorganic Chemistry (3-0-0)
Inorganic laboratory techniques. Corequisite: CHEM 221L. (F)

221L Organic Chemistry (3-0-0)
Prerequisites: permission of Instructor. (F,S)

230L Organic Chemistry II (3-0-0)
Prerequisite: CHEM 300L. Corequisite: CHEM 300L. (F,S)

230L Organic Chemistry II (3-0-0)
Prerequisite: CHEM 300L. Corequisite: CHEM 300L. (F,S)

231L General Chemistry I (4-0-0)
Prerequisite: CHEM 230L. Corequisite: CHEM 231L. (F,S)

231L General Chemistry II (4-0-0)
Prerequisites: CHEM 230L. Corequisite: CHEM 231L. (F,S)

240L Physical Chemistry I (3-0-0)
Chemical thermodynamics, chemical kinetics, quantum chemistry, chemical structure and spectroscopy. Prerequisite: CHEM 212L. Corequisites: MATH 224 and PHYS 201 or 221. (F)

252L Physical Chemistry II (3-0-0)
Prerequisite: CHEM 231L. (F)

303L Physical Chemistry III (3-0-0)
Prerequisite: CHEM 231L. (F)

317L Methods and Techniques of High School Teaching (2-0-0)
Introduction and experience in preparing for and conducting discussion sessions and laboratory exercises in high school chemistry. (F)

401L Advanced Organic Chemistry (3-0-0)
Prerequisites: CHEM 230L or permission of instructor. (F)

402L Advanced Organic Chemistry Lab (1-0-0)
Prerequisites: CHEM 230L. Corequisites: CHEM 230L. (F)

410 Polymer Chemistry (3-0-0)
Prerequisites: CHEM 230L. Corequisites: CHEM 410L. (F)

415 Polymer Chemistry Lab (1-0-0)
Prerequisite: CHEM 230L. (F)

417 Chemistry of Living Matter (3-0-0)
Prerequisites: CHEM 230L. Concurrent: CHEM 300L. (F)
410 Biochemistry II (3-4)
Continuation of 410. Further study of intermediary metabolism of carbohydrates, lipids, and amino acids. Bioenergetics. Prerequisite: CHEM 311, Corequisite: CHEM 412. (3)

411 Biochemistry Lab (1-0-2)
Corequisite: CHEM 412. (2)

416 Instrumental Analysis (3-0-4)
Emission spectroscopy, atomic absorption, gas chromatography, spectrophotometry, X-ray fluorescence, voltammetry, NMR, IR, etc. Prerequisite: CHEM 317 and 521 or permission of instructor. Corequisite: CHEM 416L. (4)

411L Instrumental Analysis Lab (1-0-2)
Prerequisite: CHEM 317 and 521 or permission of instructor. Corequisite: CHEM 416L. (2)

421 Advanced Organic Chemistry (3-0-4)
Structure and bonding, coordination theory, periodic relations, equilibria, kinetics, thermodynamics, descriptive chemistry. Prerequisite: CHEM 321 or permission of instructor. (4)

425 Environmental Chemistry (3-0-4)
Chemical processes in air, water and soil. Air, water analysis and treatment. Pollution. Prerequisite: CHEM 321 or permission of instructor. (*)

412 Radiochemistry (3-0-4)
Nuclear reactions, interaction and detection of radiation, application to chemistry. Prerequisite: CHEM 322 or permission of instructor. (*)

491 Special Topics (1-0-4)
Prerequisite: permission of instructor. (*)

492 Seminar (1-0)
May be repeated once. (S/U grade). Prerequisite: permission of department chair. (1)

495 Independent Study (1-0-4)
Prerequisite: permission of instructor. (*)

GRADUATE COURSES

501 Advanced Organic Chemistry (3-0-4)
Topics of advanced organic chemistry including organobinuclear properties, mechanistic, natural products, spectroscopy, and industrial applications. Prerequisite: CHEM 502 or permission of instructor. (*)

501L Advanced Organic Chemistry Lab (1-0-3)
Molecular structure determination by chemical and instrumental methods. Advanced synthetic techniques. Corequisite: or Prerequisite: CHEM 501. (*)

502 Polymer Chemistry (3-0-4)
Study of synthetic polymers including synthesis, mechanisms of formation, structure, physical properties, and industrial application. Bio- polymers will also be considered. Prerequisite: CHEM 322 or permission of instructor. (*)

511 Biochemistry I (3-0-4)
Chemistry of constituents of living matter, including proteins, carbohydrates, nucleic acids and lipids, an introduction to enzymes and coenzymes. Prerequisite: one year of undergraduate Organic Chemistry. (4)

512 Biochemistry II (3-0-4)
Intermediary metabolism of carbohydrates, fats and amino acids. Bioenergetics. Prerequisite: CHEM 411 or 511. (4)

513 Biochemistry Lab (1-0-2)
Corequisite: CHEM 513. (2)

518 Instrumental Analysis (3-0-4)
Modern methods of chemical analysis, atomic absorption, gas chromatography, XRF, voltammetry, NMR, IR, etc. Prerequisite: CHEM 317 and 521 or permission of instructor. Corequisite: CHEM 518L. (4)

521 Advanced Inorganic Chemistry (3-0-4)
Structure and bonding, coordination theory, periodic relations, equilibria, kinetics, thermodynamics, descriptive chemistry, industrial applications. Prerequisite: CHEM 521 or permission of instructor. (4)

522 Environmental Chemistry (3-0-4)
Chemical processes in air, water and soil. Air, water analysis and treatment. Special emphasis upon the problems and effects of industrial and other pollution. Prerequisite: CHEM 521 or permission of instructor. (4)

522L Advanced Instrumental Lab (1-0-4)
Emphasizes latest developments in the design and application of instrumentation for spectrochemical analysis, electrochemical analysis and separations. Prerequisite: graduate standing. (*)

531 Radiochemistry (3-0-4)
Nuclear properties, interaction and detection of radiation, kinetics of decay, application of chemistry in medicine. Prerequisite: CHEM 322 or permission of instructor. (*)

532 Industrial Chemistry (3-0-4)
The economic importance and special characteristics of the chemical industry. Feedstocks, intermediates and products of the chemical industry including the implications, thermoelectricity, paints and coatings, elastomers, fibers, surfactants, pharmaceuticals, agricultural chemicals, paper, acids, adhesives, water treatment, price and cost factors, sale, research, process chemistry and process control, product development. Case studies illustrating above topics. (4)

591 Special Topics (1-4-4)
Prerequisite: permission of instructor. (*)

595 Independent Study (1-4-4)
(*)

599 Thesis Research (1-4-4)
(S and S/U grading). (*)

CHICANO STUDIES (CS)
UNDERGRADUATE COURSES

101 Introduction to Chicano Studies (3-0-4)
Overview of the historical, political and socio-cultural experience of the Chicano. (F,S,SU)

102 (HIST 135) The Southwest/United States (3-0-4)
This course traces the cultural and historical development of the southwestern United States, including cultural contributions of the American Indian and Hispanic peoples. (*)

200 Survey of Chicano Literature (3-0-4)
Survey of outstanding contemporary Chicano works. Emphasis deals with Chicano theme, including analysis of folklore and myth. (*)

210 Chicano Social and Psychological Studies (3-0-4)
Social and psychological forces based in the Chicano community. (SD)

211 (HIST 204) History of Mexico (3-0-4)
This course surveys the major political, economic, social and cultural developments of Mexico from pre-Columbian times to the present. (*)

201 Special Topics (1-0-4)
Topics in Chicano studies, identified by student/faculty interest. Prior work in Chicano studies desirable. (F,S,SU)

205 Chicano Labor History in the United States (3-0-4)
Chicano experience in the American labor market from 1848 to the present. (*)

215 Health in the Chicano Community (3-0-4)
Health care traditions and current health care systems in the barrio. (*)

408 (HIST 490) Bilingual (4-0-0)
History of the Mexican Conquest to the U.S. from its Indian and Hispanic origins to the present. Prerequisites: CS 201 or HIST 211 or HIST 220 or HIST 202 or permission of instructor. (*)

410 Seminar (1-0-4)
Various problems within the realm of Chicano studies. Independent, integrated approach. Prerequisite: CS 101. (F,S,SU)

495 Independent Study (1-0-4)
Special topics dealing with the Chicanos and society. Prerequisite: CS 101. (F,S,SU)

CIVIL ENGINEERING TECHNOLOGY (CE)
UNDERGRADUATE COURSES

101 Introduction to Civil Engineering Technology (3-0-4)
Acquaints CET students with the university and the engineering profession. Laboratory application of drafting, geometry, trigonometry, and computers as used in CET. (G.S.F)

102 Surveying (3-0-2)
Beginning course in plane surveying, covers proper chaining techniques, care and use of engineering levels, differential leveling, traversing, and construction surveying. (G.S.F)

110 Surveying II (3-0-2)
Introduction to topographic, and construction surveying. Prerequisite: CET 101 or permission of instructor. Corequisite: CET 115. (S,E,S)

115 Drafting I (3-0-4)
Introduction to basic drafting. AutoCAD and Structural Detail drafting. Corequisite: CET 110. (F)
Civil Engineering Technology

116 Civil Drafting B (3-2-4)

An introduction to maps, drafting, construction plans, profiles, and AutoCAD. Prerequisite: CET 115. Corequisite: CET 103. (CS, B)

117 Computer Aided Design (3-2-4)

An introduction to BASIC, FORTRAN, and Computer Aided Drafting. Students will learn to solve CET applications through computer-aided drafting. Prerequisite: CET 103 or permission of instructor. (B)

203 Statics and Dynamics (4-4-4)

Theory and application of action and reaction forces and moments as applied to structures and bodies at rest and in motion. Prerequisite: MATH 130. (B)

205 Strength of Materials (3-2-0)

Basic relations describing properties of materials under mechanical stress. Prerequisite: CET 125. (B)

207 Construction Materials and Methods (3-2-4)

Properties and methods of assembly of building materials as they apply to the construction industry. Prerequisite: CET 125. (B)

210 Concrete and Masonry (3-2-0)

Study of Portland cement concrete and masonry materials and their application to building construction. Prerequisite: CET 125. (B)

210 Civil Engineering Laboratory (1-2-2)

Testing of concrete for both工地和 stresses such as concrete, adhesives, and concrete admixtures. Prerequisite: CET 125. (B)

250 Cooperative Education Placement (1-0-0-0)

Industrial cooperative education work experience under the direction of a field supervisor and faculty member. (CS, B)

302 Structural Analysis (3-2-3)

Analysis of statically determinate structures. Beams, trusses, frames, and rigid frame structures. Deflections, influence lines. Introduction to computer methods in structural analysis. Prerequisite: CET 206. (B)

303 Construction Materials Management (3-2-4)

Job specifications, rights and responsibilities of contractors, organization, bonding, contracts, insurance, and labor relations. Prerequisite: junior standing or permission of instructor. Prerequisite: CET 103 or permission of instructor. (B)

304 Construction Estimating (3-2-4)

Basic estimating techniques for building construction. Quantity takeoff, labor and material costs, records and assembling a general contractor's bid. Prerequisite: CET 103 or permission of instructor. (B)

305 Construction Project Management (3-2-4)

Estimating relating to heavy and highway construction. Coordination, planning, scheduling, use, and protection of labor. Prerequisite: junior standing or permission of instructor. (B)

310 Urban Planning (3-2-4)

Introduction to regional planning process and subdivision design including preliminary and final plat preparation. Prerequisite: CET 103 and 116. (B)

311 Advanced Surveying (1-2-4)

Develops professional latitude and integration, detailed plan coordinates, and engineering astronomy. Prerequisites: CET 103 and MATH 132. (B)

312 Architectural Drafting (1-2-4)

Preparation of complete set of working drawings for a modern residential building. Prerequisite: CET 206. (B)

313 Architectural Drafting II (1-2-4)

Introduction to architectural design, design techniques, and working drawings for a light commercial building. Prerequisite: CET 206. (B)

314 Welding Technology (3-2-3)

Basic principles of arc welding and the welding processes as they apply to design and construction. Prerequisite: CET 206. Corequisite: CET 210. (B)

315 Welding Technology Laboratory (1-2-2)

Basic engineering arc welding lab tests using the American Welding Society standard guide for conducting tests. Corequisite: CET 314. (B)

321 Introduction to Construction Economy (1-2-4)

Economic and financial aspects of investments in construction projects. Prerequisite: junior standing or permission of instructor. (CS, B)

411 Cost Estimating (3-2-4)

Cost management, property descriptions, deeds, subdivisions, emphasizing the legal aspects of land law

415 Architectural Design I (3-2-4)

Perspective and orthographic drawing of buildings and water. Prerequisite: MATH 124 or equivalent. (B)

416 Cost Estimating (3-2-4)

Construction project network scheduling, using CPM and PERT scheduling techniques. Manual and computer solutions. Prerequisite CET 304 or permission of instructor. (B)

417 Structural Steel Design (3-2-4)

Structural steel design of beams, columns, girders and trusses to ASCE standards. Prerequisite: CET 206. (B)

418 Reinforced Concrete Design (3-2-4)

Design of reinforced concrete beams, columns, girders, and floor systems to conform to current ACI code. Prerequisite: CET 206. (B)

419 Hydraulics I (3-2-4)

Introduction to the study of non-compressible fluids at rest and in motion, including the flow of water in pipes and open channels. Prerequisite: CET 206. (B)

419L Laboratory Project I (1-2-2)

The laboratory practices the use of basic hydraulics laboratory instruments to measure wet and dry flows. Prerequisite: CET 411. (B)

420 Hydraulics II (3-2-4)

Hydraulic theory including principles of steady and unsteady flow, and hydraulic jumps. Corequisite: CET 411. (B)

421 Electromechanical Engineering (3-2-4)

Inductive and capacitive reactances, harmonic analysis, and electric power generation and transmission. Prerequisite: CET 206. (B)

422 Building Systems (3-2-4)

Introductory course in energy analysis of building envelopes and building systems, including the distribution of power and energy. Prerequisite: CET 312. (B)

424 Bridge Design (3-2-4)

Design of bridge superstructures, beams, abutments, fill excavation, and drainage. Prerequisite: senior standing or permission of instructor. (CS, B)

425 Water and Sewer System Design (3-2-4)

Fundamental principles of water supply and sewage design. Prerequisite: senior standing. (CS, B)

426 Timber Design (3-2-4)

Fundamental principles of timber design. Prerequisite: CET 206. (B)

427 Masonry Design (3-2-4)

Fundamental principles of masonry design. Prerequisite: CET 206. (B)

431 Architectural Solar Heating (3-2-4)

Passive and active solar heating of building spaces and water. Prerequisite: MATH 124 or equivalent. (B)

450 Structures Scheduling (3-2-4)

Construction project network scheduling, using CPM and PERT scheduling techniques. Manual and computer solutions. Prerequisite: CET 304 or permission of instructor. (B)

451 Special Topics (1-2-2-0)

Prerequisite: permission of instructor. (CS, B)

453 Interior Design (1-2-2)

Seminar where students complete written technical reports and oral presentations covering various topics including design, planning, and maintenance of interior spaces. Prerequisite: EN 305 and senior standing. (B)

460 Cooperative Education Placement (1-9-1-0)

Industrial cooperative education work experience under the direction of a field supervisor and faculty member. Prerequisite: junior or senior standing. (CS, B)

COMPANY SCIENCE

TECHNOLOGY (CST)

UNDERGRADUATE COURSES

101 Computer and Programming (3-2-3)

A general education computer science skills course covering the MS-DOS operating system. Introduction to word processing, Lotus 1-2-3 (Excel) spreadsheets. This is a competency-based course. (CS, B)

102 Programming with BASIC (3-2-3)

Introduction to computer languages, computer hardware and software, computer fundamentals, and computer languages. Focus on an interactive personal computer. Operating system languages, and the operating system commands. (CS, B)

105 (EN 103) FORTRAN 77

Introduction to FORTRAN 77 programming with some emphasis on scientific, engineering, and technology major. Covering computer systems, language specifications, functions, arrays, character strings, subroutines, files, etc. Corequisite: MATH 121 or equivalent (or equivalent). (CS, B)
210 Computer Science 1 (40-4)
A first course in computer science for majors and minors. Teaches problem-solving heuristics, algorithm development using top-down design and structured programming methods concurrently with the syntax and semantics of the PASCAL language. (F, S)

212 Computer Science 2 (40-4)
A continuation of CST 121 for computer science majors and minors. Programming data, debugging, testing and algorithm development and analysis, including sorting, searching, linked lists, strings, recursion, queues, stacks, binary trees. Prerequisite: CST 121. Corequisite: CST 130 (CS Emphasis/Major only). (F, S)

139 Programming Methodologies (10-0-8)
Practical concepts of structured programming design, including functional decomposition, program debugging and use of testing tools. Corequisite: CST 131 or equivalent. (F, S)

131 COBOL Programming I (30-0-3)
ANSI COBOL programming principles for basic business applications, including general program development, coding, execution, and debugging. Prerequisite: CST 121 or equivalent. Corequisite: CST 130. (F, S)

193 Microcomputer Software Applications (20-0-2)
Microcomputer software applications extending and enhancing the concepts taught in CST 101 as well as introducing new software and concepts not used in CST 101. Prerequisite: CST 101. Corequisite: 113. (F, S)

195 Microcomputer Software Applications Lab (10-0-2)
Hands-on microcomputer laboratory instruction. Nationally prominent software packages will be used. Corequisite: CST 195. (F, S)

210 Introduction to Assembly Language (40-0-4)
Practicing assembly language programming techniques on modern 68020-bit processors. Course includes laboratory. Prerequisite: CST 121 or 120 or EET 304. (F, S)

211 C Programming Language (30-0-4)
A comprehensive study of the C Language, emphasizing modern software design and implementation. Prerequisite: CST 120 or equivalent. (F, S)

225 Introduction to C Language Programming (30-0-4)
An introductory course for non-majors in C language programming including compilation, character manipulation, top-down structured programming, sequential files, arrays, records, sorting and searching. Prerequisite: MATH 121 or 122. (F, S)

231 COBOL Programming II (50-0-5)
ANSI COBOL programming for business applications, including sequential disk, direct, and multidimensional sequential access and updating methods, language concepts for file and data manipulation. Prerequisite: CST 121. (S)

246 Systems Analysis and Design I (30-0-3)
Systems analysis and design process, actual systems design layout work and integrated business systems analysis. Prerequisite: CST 105 or CST 121 or CST 131. (F)

253 (CST 322) Advanced C Programming (30-0-3)
An advanced course in C programming extending the concepts of CST 211. Object-oriented programming concepts using the C++ language. Advanced data structures are used. Prerequisite: CST 211. (S)

256 File Processing I (20-0-2)
Foundation for applications of data structure and file processing techniques, including sequential access, data structures, random access storage and file input and output. Prerequisite: CST 122 and CST 123. (F)

260 Special Projects I (1-0-1)
Selected projects in computer programming in cooperation with local business and industry. Maintaining industrial standards in programming documentation is mandatory. Prerequisite: sophomore standing and permission of instructor.* (S, SS)

261 Special Topics I (1-0-1
Prerequisites: CST 122 and one programming language. (F)

266 Cooperative Education Placement (1-0-1)
Industrial cooperative education work experience under the direction of a field supervisor and faculty member. Prerequisite: sophomore standing. (F, SS)

267 Local Area Network Concepts (30-0-3)
Fundamental hardware, software, and data communications concepts necessary to understand a local area network (LAN). Corequisite: MATH 120. (F)

268 Local Area Network Concepts I (30-0-3)
Design, implementation and use of data base management systems. Compares/contrasts available software packages; concepts of query languages and security considerations. Laboratory assignments utilize a relational data base system. Prerequisite: CST 121 or equivalent. (F, S)

301 Local Area Network Concepts II (30-0-3)
Hands-on laboratory experiments designed to illustrate the concepts of CST 301. Prerequisite: CST 301. Corequisite: CST 501. (F)

310 Operating Systems I (30-0-3)
Theory and design of operating systems, concepts of job control and data management, scheduling, opening, swapping, programs and process scheduling. Prerequisites: CST 122 or CST 211. (F)

311 Advanced Data Structures (30-0-3)
A continuation of CST 122, including trees and graphs and their applications, algorithms for sorting and searching of advanced data structures. Prerequisites: CST 270 and MATH 245. (F)

315 Software Engineering and Ada Programming I (30-0-3)
Major features of the Ada programming language and their relevance to software engineering. Prerequisite: CST 270 or permission of instructor. (F)

320 Programming Languages I (30-0-3)
A course exploring fundamental issues of programming language design, including syntax, semantics, grammars, control structures, data types, procedures and parameters, nesting and scope, higher level control structures, functions and subroutines, exception handling and parallel processing. Prerequisite: CST 270. (F)

321 Professional Programming Projects I (30-0-3)
This course has students do major programming projects utilizing the COBOL, C, C++, or Ada languages. Team programming comprises a major part of the course. Prerequisite: CST 221 or CST 231. (S)

341 Systems Analysis and Design II (30-0-3)
Further study of systems analysis and design techniques as developed in CST 240, emphasizing on design and implementation of computer-based systems. Prerequisite: CST 240. (F, S)

342 Data Base Systems (30-0-3)
Design, implementation and use of data base management systems, comparison of available software packages; concepts of query languages and security considerations. Laboratory assignments utilize a relational data base system. Prerequisite: CST 211 or equivalent. (F, S)

368 Digital Computer Concepts II (30-0-3)
Digital techniques including binary code, Boolean algebra, gates, flip-flops, counters, shift registers and arithmetic operations. Prerequisites: MATH 245 and CST 210. (F)

369 Data Communications Systems I (30-0-3)
The fundamentals of data communications explained using the ISO Open Systems Interconnection reference model, including communication media, hardware, message flow with protocols, networking, and analysis and management of data communication systems. Prerequisites: CST 301 and 304. (F)

411 Local Area Networks Administration I (30-0-3)
Concepts necessary to function as a network system supervisor. Topics such as logon scripts, security, directory structure, print servers, and network utilities. Prerequisites: CST 301 and 304. Corequisite: CST 401. (F)

412 Local Area Networks Systems Administration II (30-0-3)
Hands-on laboratory experiments designed to illustrate the concepts of CST 301. Prerequisite: CST 301 and 304. Corequisite: CST 401. (S)

488 Computer Graphics I (30-0-3)
Introduction to the theory and applications of computer graphics, including mathematical principles, DISPLA, hidden line problem and special projects. Graphics images will be produced in two- and three-dimensional representations. Prerequisites: MATH 105 and MATH 130 or permission of instructor. (F)

489 Computer Construction I (30-0-3)
A project-oriented course in which students write the logical analysis of a simplified PASCAL compiler. Prerequisite: CST 321. (F)

490 Artificial Intelligence (30-0-3)
The Lisp and PROLOG languages will be used in understanding problems in the area of machine learning, language comprehension, expert systems, logic, problem-solving, heuristics, searching, pattern matching, machine vision. Prerequisites: CST 321 and 330. (S)

493 Local Area Network Software Development (30-0-3)
Write C language software accessing data structures, libraries and primitives of Novell Netware. Includes networking, object, file structure, queue structure, communications, and NetWare Loadable Modules. Prerequisites: CST 211, 301, and 304L. (F)
400 Special Projects (1-6 VAR)  
Prerequisite: permission of department head. (*F, S, SS)

401 Special Topics (1-6 VAR)  
May be repeated for credit. Prerequisite: junior or senior standing. (*F, S, SS)

403 Seminar (1-3)  
Topics concerning appropriate career topics in computer science. Speakers may include guests, faculty or students. Students should obtain a syllabus. Required of majors. Prerequisite: junior or senior standing. (*F, S, SS)

416 Cooperative Education Placement (1-6 VAR)  
Industrial cooperative education work experience under the direction of the faculty. Prerequisite: junior or senior standing. (*F, S, SS)

ECONOMICS (ECON) UNDERGRADUATE COURSES

102 Economics and Society (3-4)  
An examination of current United States and world political and social problems from an economic perspective. (*F, S)

201 Principles of Microeconomics (3-4)  
Study of fundamental principles with emphasis on microeconomics. Prerequisite: ECON 101. (*F, S, SS)

202 Principles of Macroeconomics (3-4)  
Study of fundamental principles with emphasis on macroeconomics. Prerequisite: ECON 201. (*F, S, SS)

301 Intermediate Microeconomics (3-4)  
Economic theory and policy using the neoclassical approach to explain income, employment, and growth. Prerequisite: ECON 202. (*F)

302 Intermediate Macroeconomics (3-4)  
Study of price system and theory of the firm under varying market structures. Prerequisite: ECON 202. (*F)

367 Current Economic Issues (3-4)  
Critical survey of significant problems of current economic policy and application of economic analysis to important social issues. Prerequisite: ECON 101 or 200. (*S)

368 Money and Banking (3-4)  
Study of money, credit, and banking and its implications for macroeconomic theory. Prerequisite: ECON 202. (*F, S, SS)

373 Public Finance (3-4)  
Principles and issues of government revenue and expenditure policies. Prerequisite: ECON 202. (*S, SS)

380 Comparative Economic Systems (3-4)  
Comparing ideologies which shape economic systems in determining what, how, for whom and the role of economic growth. Prerequisite: ECON 202. (*F)

401 Economics of Labor (3-4)  
The study of labor supply and demand, impact of unions, wage determination, distribution of income and productivity. Prerequisite: ECON 202. (*F)

410 Managerial Economics (3-4)  
Practical application of microeconomic principles to managerial decision making. Prerequisite: ECON 202 and senior standing. (*F, S, SS)

495 Senior Business Studies (3-4)  
Integrating prior studies in business into a realistic approach to assist in solving problems faced by employees in the community. Prerequisite: junior or senior standing and permission of instructor. (*F, S, SS)

496 Senior Studies (3-4)  
A discipline-oriented integration of course work into a special project, research paper and/or activity that demonstrates proficiency in the major. Prerequisite: Senior standing in the School of Business and completion of all core courses. (*F, S, SS)

400 Special Projects (1-6 VAR)  
Prerequisite: permission of department head. (*F, S, SS)

401 Special Topics (1-6 VAR)  
Prerequisite: senior standing. (*F, S, SS)

402 Independent Study (1-6 VAR)  
Prerequisite: junior or senior standing in School of Business and permission of department chair. (*F, S, SS)

409 Internship (1-6 VAR)  
Supervised field work in a selected business, social, and governmental organization(s), supplemented by written reports, oral presentations, and evaluation by advisor. Prerequisite: junior or senior standing in School of Business and permission of department chair. (*F, S, SS)

GRADUATE COURSES

501 Managerial Economics (3-4)  
The application of analytical economic decision-making methods to managerial problems involving productivity, supply and demand, cost, price, profit, and volume. Prerequisite: graduate standing. (*F)

501 Special Topics (3-4)  
Prerequisite: graduate standing. (*F)

502 Research (1-6 VAR)  
The student will work under the supervision of a graduate faculty member in an area of applied research. Prerequisite: ECON 500. (*F, S, SS)

559 Independent Study (1-6 VAR)  
Individual study of a subject determined by the instructor and student with permission of the director. Prerequisite: graduate standing. (*F, S, SS)

EDUCATION (ED) UNDERGRADUATE COURSES

101 Teaching as a Career (1-1)  
Orientation to teaching and teacher education. Course meets and classroom observation required. Not required for teacher certification. (*F, S)

110 Teacher Aid Field Experience (1-3)  
Work in a public school as teacher aid under the supervision of a classroom teacher and an education department instruction. Prerequisite: Initial testing in basic competencies. (*F, S, SS)

115 Methods of Teaching (1-1)  
Methods of teaching and/or techniques used in the classroom. (*F, S, SS)

190 Foundations of Education (3-5)  
Theoretical, philosophical and operational dimensions of education including educational and social studies. Prerequisite: admission to teacher education program. (*F, S, SS)

195 Human Growth and Development for Educators (3-4)  
Physical, mental, social and emotional growth of the individual; provides perspective on the elementary and secondary school student as viewed by the teacher. Prerequisite: admission to teacher education program. (*F, S, SS)

202 Early Field Experience with the Physical Learner (1-3 VAR)  
Development and implementation of principles in teaching physical learners in a tutorial situation. Prerequisite: admission to teacher education program. (*F, S, SS)

402 Workshop (1-3 VAR)  
Designed for special activity-oriented experiences to be conducted in small sections. Each workshop has a subtitle and no subtitle may be repeated for credit. Prerequisite: admission to teacher education program or permission of instructor. (*F, S, SS)

412 Teaching the Special Child (3-5-1)  
Includes history, philosophy and legislation for special education, the nature and definition of exceptionalities and child abuse/abuse on meeting the instructional and social needs of special children in elementary classrooms. Field experience required. Prerequisite: admission to teacher education program. (*F, S, SS)

413 Teaching Social Studies (3-5-1)  
Methods of teaching social studies in the elementary school. Prerequisite: field experience. Prerequisite: admission to teacher education program. (*F, S, SS)
415 Beginning Education 211-3 (3-1.5-1.5) Philosophy and methods of teaching kindergarten through on established best practices as delineated by the National Association for Education of Young Children (NAEYC). Prerequisite: Admission to the teacher education program. (*

417 Teaching Mathematics in Elementary School 331-1 (1-1.5-1) The scope and sequence of elementary school mathematics are examined. Instructional methods are consistent in terms of both the content and the cognitive development levels and other individual differences of children. Prerequisite: MATH 151. Admission to teacher education program. (*

420 Microcomputer Applications in Education 311-2 Current microcomputer applications in the classroom and principles of educational software. Prerequisite: admission to teacher education program. (*

435 Classroom Management 332-3 Includes general teaching methods and strategies. Emphasis is placed on developing discipline, curriculum, educational measurement and evaluation. School organization and school law are irrelevant to discipline. Field experience required. Prerequisite: admission to teacher education program. (*

450 Educational Media and Technology 332-3 Preparation and use of audiovisual materials, equipment and use of computer in instruction. Field experience required. Prerequisite: admission to teacher education program. (*

461 Physical Students in the Secondary School 332-3 Individual differences as they affect the learning process. Instructional alternatives for meeting individual needs including handicapped and gifted. Emphasis on improvement of students. Field experience required. Prerequisite: admission to teacher education program. (*

467 Student Teaching Elementary (1-6) Elementary level. Application must be submitted on or before March 1 prior to the semester in which student teaching will commence. (SU grades). Prerequisite: approved application for student teaching. (*

468 Student Teaching Secondary (1-5) Secondary level. Application must be submitted on or before March 1 prior to the semester in which student teaching will commence. (SU grades). Prerequisite: approved application for student teaching. (*

GRADUATE COURSES

453 Workshop 111-3 (1-1-1) Designed for faculty-oriented experiences to be conducted in short summer sessions. Each workshop has a subtitle and a subtitle may be repeated for credit. Prerequisite: graduate standing. (*

503 Research 332-4 (3-0) Skills and techniques for locating, analyzing, and evaluating educational research. Prerequisite: graduate standing. (*

505 Educational Across Cultures 332-4 Analysis of multicultural and how the educational process can be adapted to obtain the same findings. Prerequisite: graduate standing. (*

512 Teaching the Special Child 332-3-1 (1-1-1) Includes history, philosophy and legislation for special education, the nature of and definitions for exceptionalities and children; focus on meeting the educational and social needs of special children in elementary classroom. Special project required. Prerequisite: graduate standing plus PSYCH 351 or ED 355. (F,S)

520 Microcomputer Applications in Education 332-2 Current microcomputer applications in the classroom and principles of evaluating education software. Prerequisite: graduate standing. (*

527 Issues in Education 332-4 Contemporary problems in education, their historical development and philosophical implications. Prerequisite: graduate standing. (*

534 Advanced Techniques of Teaching Elementary Social Studies 332-4 Analysis of techniques for conceptual approaches to teaching socialization skills, critical thinking and inquiry skills, and helping children develop healthy attitudes and values. Prerequisite: graduate standing. (*

535 Advanced Techniques of Teaching Elementary Science and Health 332-4 Emphasis on the newest concepts, techniques and materials for teaching elementary school science and health. Prerequisite: graduate standing. (*

536 School Health Curriculum 332-3 Training (by grade level) in the use of "Growing Healthy" —the Primary Grades Health Curriculum Project and the School Health Curriculum Project. This is a terminal spread training only, by appointment with the Rocky Mountain Regional Training Center. Prerequisite: graduate standing. (*

539 Instructional Programming 332-3 Principles of curriculum design, educational goals, instructional objectives, and developing long, middle and short-range plans. For elementary and secondary teachers. Prerequisite: graduate standing. (*

540 Contemporary Techniques of Classroom Management 332-3 What research and professional practice say about organizing students, space, information, and resources; motivating, goal setting, communicating, anticipates and solving with student and handling disruption and behavior problems. (*

548 Child Advocacy 332-3 Research study of international child advocacy programs, national movement and local adaptations. Requires the analysis of a model operating agency or institution of student's choice. Prerequisite: graduate standing. (*

580 Foundations of Learning Disabilities 332-3 Emphasizes the role of high-incidence handicaps. Includes recent legislation and identification, referral, staffing and placement procedures. Major intervention strategies examined. Prerequisite: graduate standing. (*

586 Teacher Effectiveness Training (2.0) Emphasizes skill-building in classroom interaction between teacher and students. Skills include active listening, "I" messages and problem solving. Prerequisite: graduate standing. (*

587 Hypodermic Students in the Secondary School (3-0) Individual differences as they affect the learning process. Instructional alternatives for meeting individual needs including handicapped and gifted. Emphasis on maintaining students. Prerequisite: graduate standing. Prerequisite: graduate standing plus PSYCH 351 or ED 355. (F,S)

589 Special Topics (1-3) Prerequisite: graduate standing. (*

592 Research (1-3) Prerequisite: graduate standing. (*

595 Independent Study (1-3) Prerequisite: graduate standing. (*

596 Thesis Research (1-6) Prerequisite: graduate standing and permission of graduate advisor. (*

ELECTRONICS ENGINEERING TECHNOLOGY (EET)

UNDERGRADUATE COURSES

116 Computer Applications 332-3 Introduction to computer applications in engineering technology. MS-DOS operating systems, word processing, spreadsheet applications, and computer-aided drafting. Corequisite: EET 110. (F,S,C)

118 Computer Applications Lab 110-1 Work with the computer under the direct supervision of a faculty member. Corequisite: EET 110. (F,S,C)

111 DC Circuits 44-4 (4-4) Basic DC circuits, energy, power, resistance, loop and nodal network analysis, and Thévenin's and Norton's theorems. Corequisites: MATH 131. (F,S,C)

121 Circuits I Lab 110-1 Building and testing basic electrical circuits. Corequisite: EET 121. (F,S)
125 AC Circuits 4.4-8
Transient analysis. AC circuit analysis. RMS values, impedance, admittance, phasors, network theorems, resonances, transformers, polyphase systems, power, and power factor. Prerequisites: EET 121. Corequisites: MATH 132. (F.S.C.E.)

125L Circuits II Lab 122-2
Verifying basic AC circuit operation. Corequisites: EET 122. (F.S.C.E.)

211 Electronics I 3.9-3
Semiconductor physics, diodes, analysis and design of transistor circuits, biasing, equivalent circuits, multistage amplifiers, frequency effects, field effect transistors. Corequisites: EET 122, 123, and MATH 132. (F.S.C.E.)

211L Electronics I Lab 123-2
Building and testing basic electronic circuits using diodes and transistors. Corequisite: EET 211. (F.S.C.E.)

212 Electronics II 3.9-4
Feedback effects, oscillators, frequency spectra, harmonic. Operational Amplifiers. Linear wave-forming, multivibrators, Schmitt Trigger, and other basic circuits. Prerequisites: EET 211, 211L. Corequisite: MATH 231. (S.S.)

212L Electronics II Lab 124-2
Building and testing advanced electronic circuits. Corequisite: EET 212. (S.C.E.)

280 Basic Electrical Principles 3.0-4
Fundamentals of DC and AC electrical circuits, and an introduction to electronics. For non-electrical majors. Corequisite: MATH 132. (S.C.E.)

280L Basic Electrical Principles Lab 125-4
The use of basic electronic instruments in the measurement of electrical quantities. Corequisite: EET 280. (S.C.E.)

254 Introduction to Digital Systems 3.0-4
Digital techniques, including binary codes, Boolean Algebra, gates, flip-flops, counters, shift registers and arithmetic operations. Prerequisite: EET 121 or 235 or permission of instructor. (F.S.C.E.)

254L Digital Systems Lab 126-4
Building and testing basic digital circuits. Corequisite: EET 254. (F.S.C.E.)

255 Introduction to Microprocessors 3.5-4
Analysis of microcomputer systems including both hardware and software considerations, with emphasis on machine language programming. Includes microcomputer design project. Prerequisite: EET 264. (S.C.E.)

255L Microprocessors Lab 127-2
Writing assembly-language programs and designing, building, and testing a complete microprocessor system. Corequisite: EET 255. (F.S.C.E.)

290 Computer Education Placement 1.4-5
For freshmen and sophomores. Industrial cooperative education work experience under direction of field supervisor and faculty member. (F.S.S.)

311 Control Systems I 3.0-4
System representation, Laplace transforms, solution of differential equations, block diagrams, transfer functions, basic control system operation, system performance. Prerequisite: MATH 252, junior standing. Corequisite: EET 301. (S.C.E.)

311L Control Systems I Lab 128-2
Verifying the Laplace transform and analyzing various closed-loop control systems. Corequisite: EET 311. (S.C.E.)

312 Solid State Theory 3.0-4
Physical electronics of solid state with applications to design and fabrication of current devices and integrated circuits. Crystal growth and structure, energy band theory, transport phenomena, surface effects, device structures and manufacturing techniques. Prerequisites: EET 212, MATH 232, PHYS 205-206. (S.C.E.)

330 Electric Machines and Controls 3.0-4
Analysis and design of AC and DC motors and generators, including both single-phase and threephase AC machines. Prerequisite: EET 162 or 263. (F.S.C.E.)

330L Motors Lab 129-2
Verifying the operation of both AC and DC machines. Corequisite: EET 330. (S.C.E.)

380 Electronics IV 3.0-4
High frequency circuit modeling, feedback amplifiers, steady state pulse responses, and signal propagation at high frequencies. Prerequisite: EET 212. (F.S.)

381 Senior Seminar 1.0-4
Introduction to the senior projects course in which the student formulates the project proposal and makes both a written and an oral presentation of the proposal. Prerequisite: Junior standing. (F.S.C.E.)

415 Laboratory Systems III 3.0-4
An advanced course in computer programming extending the concepts of CSI 290. Object oriented programming concepts using the C++ language. Advanced data structures are used. Prerequisite: EET 291. (F.S.C.E.)

424 Computer Architecture Design 3.0-3
Computer architecture, with emphasis on operation and design of both microprogrammed and randomly designed control units. Students must complete an extensive laboratory project which requires the design, instruction and testing of an operational computer. Prerequisites: EET 255 or equivalent. Corequisite: EET 3544. (F.S.C.E.)

425L Computer Architecture Lab 129-2

426 Advanced Microcomputer Systems 3.0-4
Advanced microcomputer systems, including the use and application of system development tools such as macro-assemblers and relocation utilities, and the comprehensive student lab. Corequisites: EET 355 and EET 225 or equivalent. Corequisites: EET 355L. (S.C.E.)

430 Microcomputer Systems Lab 129-2
Practicing advanced programming techniques and assembly-language programming for 8-bit microprocessors. Corequisite: EET 355. (S.C.E.)

450 Electronics V 3.0-4
Industrial electronics including power supplies, power amplifiers, SCRs, transistors, opto-electronic devices, transducers, instrumentation circuits, and programmable controllers. Prerequisite: EET 391. (S.F.)

464 Electronics VI 3.0-4
Design and application of industrial electronic circuits and systems. Corequisite: EET 395. (S.F.)

464L Electronics VI Lab 129-2
Designing, building, and testing a variety of interfaces to operate with various computers. Corequisite: EET 457. (S.F.)

483 Computer Communications 3.0-4
Computer communications techniques and computer networks including traffic such as topology, protocols, routing and reliability analysis. Prerequisite: EET 255. (S.F.)
ENGINEERING (EN) UNDERGRADUATE COURSES

103 Introduction to Engineering (3-3-3)
Introduction to engineering curriculum and careers. Problem-solving and creativity. Technological, social, and ethical problems and the contributions of engineering to their solution. (S)

105 (211) ORTHAM 1-1-1
Introducing ORTHAM—17 programming with algebraic problem-solving for science, engineering, and technology majors. Covering computer systems, language basics, functions, arrays, character strings, subroutines, files. Corequisite: EN 212, 124 or 131. (F, S)

107 Engineering Graphics 3-2-4
Introduction to the preparation of engineering drawings using freehand sketching and computer-aided graphics software. (S)

211 Engineering Mechanics I 3-3-3
Introduction to the relationship between forces and moments acting on an object that is in equilibrium. Corequisites: PHYS 221 or permission of instructor. (F)

212 Engineering Mechanics II 3-3-3
Introduction to the relationship between forces and moments acting on rigid objects and the motion of objects (dynamics). Corequisite: EN 211. (S)

231 Circuit Analysis I 4-4-0
Circuit concepts, conventions and network equations, node conditions, and electrical methods of obtaining transient and steady-state solutions. Corequisites: PHYS 221, PHYS 222, EN 212. (F)

233 Circuit Analysis I Lab 1-0-0
Observation and analysis of electrical circuits involving resistance, inductance and capacitance. Corequisite: EN 231. (F)

235 Circuit Analysis II 4-4-0
Continuation of EN 231 including network synthesis, network theorems, Fourier series, pole-zero diagrams and two-port network theory. Introduction to Laplace transforms. Corequisite: EN 231. (S)

241 Computer Programming 3-2-3
Computer programming using Pascal language, application in engineering and science areas, practical programming exercises. (*

273 Material and Energy Science 3-3-0
Materials and energy science: Introduction to various mechanical, thermal, and chemical processes. Corequisite: CHM 121, PHYS 222 and EN 105. (*

291 Special Topics (1-1-1)
Special topics in engineering. (*

293 Cooperative Education Placement (1-1-1)
Work experience under direction of a field supervisor and a faculty member. Prerequisite: freshman or sophmore standing. (F, S)

295 Fluid Mechanics 4-4-0
Introduction to the relationship between forces applied to a fluid, the motion of the fluid, and the mechanical properties of the fluid. Corequisite: EN 212. (*

310 Materials Science 3-2-4
The nature of engineering materials, emphasizing the relationship between microstructure and atomic and mesoscopic structures. Corequisites: PHYS 221, CHEM 121, Corequisite: EN 212. (*

311 Material Science Lab 1-0-0
Experimental studies of material properties, characteristic and microscopic structure. Effects of plastic deformation and heat treatment. Corequisite: EN 312. (*

316 Introduction to Industrial and Systems Engineering 3-3-0
Engineering viewpoints of the principles of organization for production and the operations applicable to accomplishing organizational tasks. Corequisite: EN 105. Corequisite: MATH 224. (F)

317 Thermodynamics I 3-3-0
Introduction to energy systems and flows, entropy, kinetic theory and statistical mechanics. Corequisite: PHYS 221. (S)

318 Thermodynamics II 4-4-0
Application of laws of thermodynamics to chemically reacting thermo-fluid systems, vapor cycles, gas engine cycles, population systems, refrigeration and air-water vapor mixtures. Corequisite: EN 321. (*)

328 Mechatronics 3-3-3
Synchronizing relationships, fundamentals of electricity, control laws, numerical control, and vibrational and mechanical systems. Corequisite: EN 324, (S)

329 Mechanics of Materials Lab 1-0-2
Measurement of stress in real building and other ductile and non-ductile testing. Corequisite: EN 211. Corequisite: EN 324. (S)

330 Computer Components Engineering 3-3-3
Computer design and construction of semiconductor and microprocessor systems. Corequisite: EN 324 and 342. (F)

340 Human Performance Engineering 4-3-3
Introduction to human factors in the design of computer systems. Corequisite: PSYCH 101 and BIO 221. (S)

341 Engineering Economy 3-3-3
Economic and financial aspects of engineering projects. Corequisites: Junior standing. (*

342 Engineering Management Processes 3-3-3
Principles and techniques of managing engineering processes: design, modeling and control. Prerequisites: EN 107, CHEM 121, and PHYS 222. (S)

343 Industrial Engineering Economy 3-3-3
Modeling, analysis and decision making involving time value of money, depreciation, income taxes and replacement analysis. Corequisites: EN 315 or permission of instructor. (F)

391 Heat Transfer 3-3-0
Heat transfer by conduction of heat, convection heat transfer in boundary layer and duct flows, forced and free convection. Corequisite: EN 212. (*

421 Structural Analysis 3-3-0
Analysis of load-bearing structures, frames and trusses by methods of moment of distribution, slope-deflection, real work, virtual work and least work. Corequisite: EN 224. (F)

433 Microprocessor Control Systems 3-3-3
Components of a microprocessor control system, digital systems, computer systems, control of automatic systems, and software. Corequisite: EN 333. (*)

434 Computer Systems Engineering 3-3-3
Analysis, mathematical modeling and design of integrated control and physical systems used in product and process design engineering. Corequisite: EN 333 and MATH 337. (*)

463 Safety Engineering 3-3-2
Industrial safety using a systems approach: failure tree, risk and decision making. Environmental hazards and accident causes, cost analysis and prevention. Prerequisites: EN 340, 343 and MATH 356. (F)

442 Manufacturing Processes II 3-3-0
Materials and processes for manufacturing including sheet metal forming, welding, machining and advanced manufacturing processes. Corequisite: EN 342. (*)

443 Quality Control and Reliability 3-3-3
Control charts, acceptance sampling, rectifying inspection, standard sampling plans. Failure-time distribution models, reliability estimation, hazard function, reliability of systems. Prerequisites: EN 105 and MATH 566. (F)

486 Applied Statistics 3-3-0
Probability space, discrete and continuous random variables, distributions, mathematical expectation, sampling, statistical inference. Regression analysis and linear regression. Prerequisites: MATH 256 and 556. (*)
GRADUATE COURSES

500 Logistics, Materialhandling and Life-Cycle Support (3-0-3)
Application of management systems analysis to problems of system maintainability and maintenance. Models of repair and failure, wear out processes, maintenance and inspection policies and spare parts policies. Prerequisite: Graduate standing. (*)

501 Computer Engineering Systems (3-0-3)
Techniques for analysis and solution of problems in industrial and management systems. Linear and nonlinear programming, network analysis techniques, and dynamic programming. Prerequisites: MATH 337 and 366. (F)

472 Production and Computer-Aided Engineering (3-0-3)
Engineering design, modeling and applications in production automation, factories, robotics, computer control, computer usage in manufacturing. Simulation and validation. Prerequisites: EN 340 and 342. (F)

475 Engineering Systems Analysis and Design (3-0-3)
Application of industrial and systems engineering techniques to problems related to an organization's technical, human, and institutional resources. Facilities planning and plant layout, material handling, site selection and facility location. Prerequisites: EN 471 and 475. (S)

477 Operations Planning and Control (3-0-3)
Techniques for analysis and management of manufacturing operations and production with emphasis on inventory systems and forecasting. Prerequisites: EN 471 and 477. (S)

484 Industrial Engineering Design Projects (1-3-0 VA)
Application of industrial engineering principles to a design project. Comprehends EN 475 and 477. (F, S)

491 Special Topics (1-0-3VA)
Graduate junior standing. (*)

493 Independent Study (1-0-3VA)
Graduate junior standing. (*)

495 Cooperative Education Placement (1-0-3VA)
Work experience under direction of a field supervisor and a faculty member. Prerequisite: Graduate junior or senior standing. (F, S)

ENGLISH (ENG)

UNIVERSITY REQUIREMENTS

500 Thesis Research (1-0-3VA)
Preparation of thesis to meet degree requirements. Arranged with major advisor. May be repeated. (F, S) and (D, I grading). Prerequisite: graduate standing and senior approval. (F, S)

501 Electronic Engineering Systems (3-0-3)
Analysis and design of systems containing elements of uncertainty in demand and performance capability. Time varying measures and approximations are emphasized. Additional work required of graduate students. Prerequisites: MATH 238 and 306. (F)

571 Engineering Operations Research (3-0-3)
Techniques for analysis and solution of problems in industrial and management systems. Linear and nonlinear programming, network analysis techniques, and dynamic programming. Additional work required of graduate students. Prerequisite: MATH 337 and 356. (F)

572 Engineering Systems Analysis and Design (3-0-3)
Application of industrial and systems engineering techniques to problems related to an organization's technical, human, and institutional resources. Facilities planning and plant layout, material handling, site selection and facility location. Additional work required of graduate students. Prerequisite: EN 571. (S)

573 Operations Planning and Control (3-0-3)
Techniques for analysis and management of manufacturing operations and production with emphasis on inventory systems and forecasting. Additional work required of graduate students. Prerequisites: EN 571. (S)

580 Special Projects (1-3-0 VA)
Individual project selected, outlined and pursued by student. May be repeated. Prerequisite: Graduate standing and senior approval. (*)

581 Special Topics (1-0-3 VA)
Selected topics in systems engineering. Stochastic processes, Markov chain decision analysis, analytical facility location and site selection models. Not every topic offered each year. May be repeated. Prerequisite: Graduate standing. (*)

590 Seminar Seminar (1-0-3 VA)
Seminar for students pursuing the systems engineering program. Theoretical, methodological and ethical issues in systems engineering are discussed. (S, I grading) Prerequisite: Graduate standing. (F, S)

592 Total Research (1-0-3VA)
Preparation of thesis to meet degree requirements. Arranged with major advisor. May be repeated. (F) and (S, I grading). Prerequisite: graduate standing and senior approval. (F, S)

593 Total Research (1-0-3VA)
Preparation of thesis to meet degree requirements. Arranged with major advisor. May be repeated. (F, S) and (D, I grading). Prerequisite: Graduate standing and senior approval. (F, S)

594 Total Research (1-0-3VA)
Preparation of thesis to meet degree requirements. Arranged with major advisor. May be repeated. (F, S) and (D, I grading). Prerequisite: Graduate standing and senior approval. (F, S)

595 Total Research (1-0-3VA)
Preparation of thesis to meet degree requirements. Arranged with major advisor. May be repeated. (F, S) and (D, I grading). Prerequisite: Graduate standing and senior approval. (F, S)

ENGLISH (ENG)

UNIVERSITY REQUIREMENTS

500 Thesis Research (1-0-3VA)
Preparation of thesis to meet degree requirements. Arranged with major advisor. May be repeated. (F, S) and (D, I grading). Prerequisite: Graduate standing and senior approval. (F, S)
FINANCE (FIN)
UNDERGRADUATE COURSES

310 Corporate Financial Management (3-0-0)
Principles of finance involved in understanding business organizations. Prerequisites: ACCTG 320, BUSAD 200 and ECON 202. (F,S,SU)

311 Managerial Finance: Policy, Planning and Control (3-0-4)
Financial management, planning, policy formulation and financial decision making. Prerequisite: FIN 310. (F)

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

335 Real Estate (3-0-0)
Principles of real estate with emphasis on residential markets, including economics, government and local factors, appraising, financing, and real estate transactions. Prerequisite: FIN 330. (F)

377 Insurance (3-0-0)
Principles of insurance with emphasis on the issues and contributions of the insurance industry. Prerequisite: FIN 330. (S)

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

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

450 Small Business Studies (3-0-0)
Integrating prior studies in business into a realistic approach to assist in solving problems faced by selected firms in the community. Prerequisite: senior standing and permission of instructor. (F,S,SU)

486 Sector Studies (3-0-0)
A discipline-oriented evaluation of prior course work into a special project, research paper and activity that demonstrates proficiency in the major. Prerequisite: senior standing in the School of Business and completion of all core courses. (F, S,SU)

490 Special Projects (1-4 VAR)
(*)

491 Special Topics (1-3 VAR)
Prerequisites: permission of instructor. (*)

495 Independent Study (1-3 VAR)
Prerequisites: senior standing in School of Business and permission of the department chair. (F,S,SU)

496 Internship (1-6 VAR)
Supervised full-time work in selected business, social and governmental organizations. Satisfactory/unsatisfactory grading. Prerequisites: junior or senior standing in School of Business and permission of internship coordinator. (F,S,SU)

GRADUATE COURSES

520 Financial Management (3-0-0)
Theory and application of investment, financing and dividend decisions to maximize shareholder wealth. Use of analytical (case) study of financial problems facing business firms. Prerequisite: graduate standing. (*)

521 International Financial Management (3-0-3)
Financial theory and practice as applied to the financial management of multinational corporations. Prerequisite: graduate standing. (*)

522 Management at Financial Institutions (3-0-4)
Policies and techniques used by financial institutions to manage liquidity, capital, credit risk, and interest rate risk. Prerequisite: graduate standing. (*)

533 Investment Portfolio Management (3-0-0)
A rigorous analysis of theory, practice, and strategy leading to the construction, management, and evaluation of investment portfolios by individual and institutional investors. Prerequisite: graduate standing. (*)

591 Special Topics (1-0-4)
(*)

592 Research (1-4 VAR)
The student will work under the close supervision of a graduate faculty member in basic or applied research resulting in a report of high academic quality. (F and S grading). (F,S,SU)

595 Independent Study (1-3 VAR)
Individual study of a subject determined by the instructor and student with permission of the director. Prerequisite: graduate standing. (F,S,SU)

596 Thesis Research (1-4 VAR)
(F and S grading). (*)

FOREIGN LANGUAGE (FL)
UNDERGRADUATE COURSES

101 Introduction to Comparative Linguistics (3-0-0)
Basic concepts in linguistics: comparison of languages. (F-S)

102 Introduction to a Critical Foreign Language I (3-0-0)
Study of a foreign language not offered regularly. Different languages are offered when enrollment permits. (*)

103 Introduction to a Critical Foreign Language II (3-0-0)
Prerequisite: FL 101 or permission of instructor. (*)

110 Foreign Language for Travel (1-0-0)
Fundamental vocabulary for basic tourist communications. (*)

270 Foreign Language Field Trip (3-0-0)
Communication by written or oral exercises. Prerequisite: permission of instructor. (*)

291 Special Topics (1-0-3)
(F, S)

308 Materials and Techniques in Teaching Foreign Languages (3-0-0)
Preparation of materials and techniques of teaching foreign languages in grades K-12. Teacher's aid training and related applied linguistics. (F)

494 Field Experience (1-1 VAR)
Communication, lectures by writers, artists, political leaders and specialists. Visit to museums, attendance at movies, theater and concerts. Prerequisite: two years of college study in the language of the country or countries studied and permission of instructor. (*)

495 Independent Study (1-3 VAR)
Specific topics which address particular problems of literature or civilization. May be repeated for credit with approval of major advisor. Prerequisite: two years of college study of the language used for project. (*)

GRADUATE COURSES

591 Special Topics (1-0-3)
(*)

FRENCH (FRN)
UNDERGRADUATE COURSES

101 Beginning French I (4-3-2)
Grammar and pronunciation with oral and aural training to develop skills in understanding and speaking. Written exercises to develop reading and writing skills. Introduction to French culture. (F-S)

102 Beginning French II (4-3-2)
Students are placed by the department. Practice in oral, aural, reading and writing exercises. Prerequisite: FRN 101 or equivalent. (F)

201 Intermediate French I (4-3-2)
Grammar review, idioms and writing of compositions. Selected readings with oral and written exercises. Prerequisite: FRN 102 or equivalent. (F)

202 Intermediate French II (4-3-2)
Grammar review, idioms and writing of compositions. Selected readings with oral and written exercises. Prerequisite: FRN 201 or equivalent. (S)

301 Advanced French Grammar (3-0-4)
Systematic review of grammar; presentation of the more sophisticated syntactical patterns to enable student to write correctly. Required for teacher certification. Prerequisite: FRN 202 or permission of instructor. (*)

311 Advanced French Conversation (3-0-3)
Emphasis on acquisition of vocabulary and idiomatic expressions. Advanced oral practice. Required for teacher certification. Prerequisite: FRN 202 or permission of instructor. (*)
104 Urban Geography (3-0-4)
The geography of urbanization, including problems, theories, and comparisons between urban areas in Western and other cultures. Selected cities will be used as case studies. (*)

113 Geography of Food and Hunger (2-0-4)
Analysis of the world's food and consumption patterns; emphasis on increasing production and improving food distribution to meet the requirements of a rapidly growing population. (*)

201 Economic Geography (3-0-4)
Analysis of economic activities in human activities related to producing, exchanging, and consuming resources. (*)

219 Cultural Geography (3-0-4)
Description, distinction and significance of cultural differentiation based upon language, religion, political organization, urbanization and population. (*)

219 Field Trip (1-0-1 VAR)
Field experience and assignments in selected geographic areas. The student is expected to participate fully in the planning and field trip, submit a report on experiences, and provide their research and data collected. (*)

230 Historical Geography (3-0-4)
Geological features of the earth's surface and distribution of population and economic activity in the region. (*)

263 Historical Geography (3-0-4)
Reconnaissance of past environments and social systems of the great civilizations, cultures, life styles, national development and political structures. (*)

421 Historical Geography (3-0-4)
Geological conditions and influences affecting the life and development of man; mineral, oil, stream erosion, agriculture, subsurface, earthquakes, Pre-requisite: GEOG 101 or 123. (*)

304 Microbiology and Paleohistory (3-0-4)
The physical and chemical properties of minerals. The study of rock origins and methods of identification by use of microscopic and macroscopic methods. (*)

291 Historical Geography (3-0-4)
Identification, classification, morphology and stratigraphic significance of fossils and minerals; plus micro and large scale prehistoric mapping. (*)

211 Geomorphology and Remote Sensing (3-0-2)
Classification and analysis of landscapes of earth's surface; includes fluvial and glacial processes. Pre-requisite: GEOG 101 or 123. (*)

310 Geographic Field Techniques (3-4-1)
Use of Brunton compass, airfoil, aerial photography and geographic interpretation. Introduction to thematic mapping. Pre-requisite: permission of instructor. (*)

485 Ground Water (3-0-4)
Principles of ground water exploitation. Methods of constructing and interpreting ground water surveys. Ground water case histories, especially California's. Pre-requisite: GEOG 101 or 123 and two years of high school algebra. (*)

410 Geomorphology and Sediments (3-0-2)
Methods of transportation and environments of deposition of sediments. Geologic formations, facies and teclocotonic framework. Pre-requisite: GEOL 125. (*)

411 Structural Geology and Tectonics (3-0-2)
Structural geology and tectonics of the earth's crust. Pre-requisite: GEOG 101 and permission of instructor. (*)

415 Exploration Geophysics (3-0-2)
A discussion and analytical interpretation of geostatistics, magnetic, seismic, electrical, and electromagnetic exploration methods as applied in the petroleum industry and water resource governmental agencies. Pre-requisites: GEOG 101, PHYS 251, 351, and MATH 236 or 232. (*)

GERMAN (GER)

101 Beginning German I (3-0-2)
Introduction to the German language and culture. (*)

102 Beginning German II (3-0-2)
Students are placed by the department. Practice in oral, reading, and writing skills. Pre-requisite: GER 101 or equivalent. (*)

201 Intermediate German I (3-0-2)
Review and expansion of four-year grammar. Composition, reading, and discussion of contemporary German literature. Pre-requisite: GER 102 or equivalent. (*)

202 Intermediate German II (3-0-2)
Pre-requisite: GER 201 or equivalent. (*)

301 Advanced German I (3-0-2)
Pre-requisite: GER 302 or permission of instructor. (*)

302 Advanced German II (3-0-2)
Pre-requisite: GER 302 or permission of instructor. (*)

302 Advanced German III (3-0-2)
Pre-requisite: GER 302 or permission of instructor. (*)
HISTORY (HIST)

UNDERGRADUATE COURSES

201 World Civilizations to 1500 (3-0-3)
Cultural and political growth of civilizations from prehistoric times to 1500, emphasis on the unique contributions of independent cultures to world history. (F)

202 World Civilizations since 1500 (3-0-3)
Cultural and political interaction of civilizations from 1500 to the present, emphasis on common problems and goals of mankind. (S,SU)

203 World Civilizations to 1900 (3-0-3)
Cultural and political growth of civilizations from prehistoric times to 1900, emphasis on the unique contribution of independent cultures to world history. (F)

204 World Civilizations from 1900 to 1998 (3-0-3)
Cultural and political interaction of civilizations from 1900 to 1998, emphasis on common problems and goals of mankind. (S)

205 World Civilizations Since 1900 (3-0-3)
Cultural and political interaction of civilization since 1900, emphasis on conflict and resolution. (S)

220 (CS 180) The Southwest United States (3-0-3)
This course traces the culture and historical development of the southwestern United States, including cultural contributions of the American Indian and Hispanic peoples. (F)

221 U.S. History I (3-0-3)
United States History from the founding of North American colonies to 1877 Reconstruction era. (F)

222 U.S. History II (3-0-3)
United States from 1877 to the present, emphasis on contemporary era. (S)

211 Colonial History (3-0-3)
History, government, and economic factors important to the settlement and development of Colorado. (F)

240 (CS 240) History of Mexico (3-0-3)
The course surveys the major political, economic, social and cultural developments of Mexico from pre-Columbian times to the present. (F)

230 Historiography (3-3-0)
Enhances student knowledge of historical profession through developing historical research skills. (F)

231 U.S. Emergence: Building a Nation (3-0-3)
The trends, events and people involved in the shaping of the United States and its national character. (F)

230 Development of a World Power (1850-1920) (3-0-3)
The growth of U.S. politically, economically and socially into a major power. (F)

230 20th-Century America (3-0-3)
United States from the New Deal to the present. (S)

211 History of the United States Foreign Policy (3-0-3)
United States foreign policy from the founding of the republic to the present. (S)

212 American West (3-0-3)
Role of the individual and the group in the development of the frontier up to the 20th century. Prerequisite: permission of instructor. (F)

212 (POL 271) American Constitutional Development (3-0-3)
Origins, development, broadening of the American Constitution by legal decisions, customs, political parties, executive agreements, legislative interpretation. Pre-requisite: HIST 222 or POLS 101. (F)

262 History of Russia XIX (3-0-3)
Cultural and political development of Russian and Soviet history from 1800 to the present, emphasis on the impact of the Bolshevik Revolution on history. (S)

372 History of Modern China (3-0-3)
Cultural and political developments in modern China, emphasis on the interplay between Chinese tradition and western challenges. (F)

415 Historical Biographies (3-0-3)
Introduction to biography as a form of history. Students select, study and critique the lives of great men and women. (S)

446 History of Empire (530-1600) (3-0-3)
Survey of the rise of great empires of the world, including Arab, Gupta, T'ang, Seng and Yuan empires to 1800. (F)

447 History of the Decline of Empire (1500-Present) (3-0-3)
Survey of the decline of empires and the impact of Europeans' conquests on all parts of the world. WWII and WWIII are included in this course. (S)

450 20th-Century Europe (3-0-3)
Events and personalities from World War I to the present. (S)

489 (CS 469) Bureaucracy (3-0-3)
History of the American Bureaucracy to the United States from its British and Hispanic origins to the present. Prerequisite: CS/HIST 109 or HIST 201 or HIST 202 or HIST 211 or permission of instructor. (F)

499 Special Topics (1-3-0)
Prerequisites: junior or senior status with adequate preparation and permission of instructor. (F,S,SU)

520 Seminar (3-0-0)
Seminar devoted to special topics and issues in history, emphasis on research paper. Prerequisite: advanced standing with a minor in minor in history or permission of instructor. (F)

GRADUATE COURSES

501 U.S. Emergence: Building a Nation (3-0-3)
The trends, events and people involved in the shaping of the United States and its national character. Prerequisite: graduate standing. (F,S)

511 American West (3-0-3)
Role of the individual and the group in the development of the frontier up to the 20th century. Prerequisite: graduate standing. (F)

538 20th-Century Europe (3-0-3)
Events and personalities from World War II to the present. Prerequisite: graduate standing. (F)

539 History of the Middle East (3-0-3)
History of the Biblical nations to the United States from its Islamic and indigenous origins to the present. Prerequisite: graduate standing. (F)

581 Special Topics (1-3-0)
Prerequisite: graduate standing. (F,S)

593 Seminar (3-0-0)
Seminar devoted to specific areas and issues in history, emphasis on research paper. Prerequisite: graduate standing. (F)

HUMAN PERFORMANCE AND LEISURE STUDIES (HP)

UNDERGRADUATE COURSES

10111 Social Skills (3-0-3)
(FA)

1031 Military Fitness (2-0-2)
(FA)

1454 Personal Fitness (1-0-2)
(FA)

1461 Stress (3-0-2)
(FA)

1661 Supervision (3-0-2)
(FA)

2001 Stafting (1-0-2)
(FA)

2031 Recreation (3-0-2)
(FA)

2051 Work Training (1-0-2)
(FA)

2101 Health and Fitness (3-0-2)
(FA)

2111 Weight Training (1-0-2)
(FA)
HUMANITIES (HUM)
UNDERGRADUATE COURSES

150 Fine Art and Technology (3-0)
Study of development of style and subject matter of a significant art form which reflects the impact of technology on the film industry. (F)

153 Humanities Traditions: From the land of Men (3-0)
Study of the historical interrelationship between the two arts and the humanities and contemporary social and technological developments from antiquity to the Renaissance. (F,S)

155 Journalism and Technology (3-0)
Study of the historical interrelationship between the two arts and the humanities and contemporary social and technological developments from the Renaissance to the present. (F,S)

INDUSTRIAL SCIENCE AND TECHNOLOGY (IST)
UNDERGRADUATE COURSES

110 Wood Technology (3-0)
Safe and efficient selection, utilization and manufacture of raw materials to produce basic products material in construction and manufacturing. (F)

112 Wood Fractional Technology (3-0)
Construction of cabinets, furniture, and juvenile furniture; design, construction detail; production methods; structure characteristics and physical properties of wood; strength reduced grading and measure relationship. Prerequisite: IST 101. (S)

109 Fundamentals of Carpentry (3-0)
Tools and tools of building materials essential in planning and building houses and furniture. Prerequisite: IST 101. (S)

107 Introduction to Industrial Science Technology (3-0)
Qualifications, opportunities, preparation, and duties of workers in teaching technology and facilities management careers. (F)

110 Industrial Materials Technology (3-0)
Study of common and innovative industrial materials. Properties and application of metals, polymers, composites, and other materials. (F)

120 Building Materials (3-0)
Properties and application of popular and innovative construction materials, including ceramics, forest product materials, metals, textiles, insulations, coatings, and others. (S)

120 Period and Modern Architecture (3-0)
Classification of European and American architectural masterpieces. Particular emphasis on functional aspects of structure. Some field experience may be required. (F,S)

120 Period and Modern Furniture Design (3-0)
The history and practical application of period and modern styles of furniture. (F)

305 Wood Turning (3-0)
Basic skills in wood turning and the use of the lathe to supplement bench and machine wood working. (F,S)

306 Issues and Trends in Technology (3-0)
Current artistic, aesthetic, environmental, ethical, global, ideological, legal, personal, societal, etc., impacts, issues and trends of technology. (F)

310 Commercial and Residential Construction (3-0)
Concepts and procedures used to construct commercial, manufacturing and residential buildings: public works, and transportation and power systems. Prerequisites: IST 101, (S)

314 Commercial Plumbing Materials (3-0)
Specialized activities related to the finishing of wood and metal products. New materials are used and tested. Prerequisite: IST 101 or equivalent. (F)

312 Sheet Metal (3-0)
Shear metal, rework, roll, rule. Joining of sheet metal by bending, riveting and soldering. (F)

310 Cooperative Education Placement (1-0)
For freshmen and sophomores. Work experience under direction of a field supervisor and faculty member. (F)

383 Environmental Science Technology (3-0)
Study of industrial means by which humans extend their capacities through the invention and use of communication systems, both electronic and graphic. Prerequisites: MCT 111 and EET 250. (F)

304 Transportation Technology (3-0)
A systems analysis of transportation technologies. Study of transpiration systems: resources, processes and implementation. Participants develop a degree of technological literacy pertinent to transportation systems. Prerequisites: IST 120 and APWM 225. (F)

312 Construction Manufacturing (3-0)
Modern techniques in the manufacturing of prefabricated cabinets and accessories. Theory applied through the implementation of new tools available in the cabinet industry. Prerequisite: IST 102. (F)

320 Industrial Manufacturing (3-0)
Industrial processes and techniques. Focus on cutting, material removal and plastics, inclusive manufacturing systems and cost estimating. Prerequisites: IST 121 or 122. (F)

321 Industrial Manufacturing (3-0)
Industrial processes and techniques. Focus on adhesive and cohesive joining, hot and cold forming, and heat treatment, inclusive operations planning, and process and quality control. Prerequisites: IST 103. (F)

302 Facilities Management (3-0)
The basic understanding of personnel services, building and renovations in physical plant. (F)

303 Facilities Management (3-0)
Industrial processes and techniques. Focus on adhesive and cohesive joining, hot and cold forming, and heat treatment, inclusive operations planning, and process and quality control. Prerequisites: IST 103. (F)

346 Career Education (3-0)
Design, implementation and supervision of career education programs. Selection and preparation of teaching materials for career education programs. Prerequisites: IST 222, IST 300, (S)

302 Building Systems (3-0)
The basic applications of building services in typical structures, including heating, water, plumbing, drainage, ventilation, air conditioning, vertical transportation, acoustical control, basic electrical controls, and code requirements. Prerequisites: IST 211 or 212, (F)

375 Facilities Layout/Organization (3-0)
The principles of shop planning as applied to location and type of shops, flow of materials, selection and equipment, layout of working areas, installation of machinery and tool management. (F)
GRADUATE COURSES

450 Materials Science (3-0-12)
Offered in any of the three areas for special group of individuals who have similar interests and needs. Investigating specific trends and problems. May be repeated. Prerequisite: Graduate standing. (F)

454 Career Education (3-0-2)
Design, implementation, and conducting career education programs. Selecting and preparing teaching materials for career education programs. Prerequisite: ETE 340 or equivalent and graduate standing. (F)

456 Problems in Career Education (3-0-2)
To develop in-service instructional materials for career education programs. May be repeated. Prerequisite: Graduate standing. (F)

457 Career and Vocational Education (3-0-2)
To A study of teaching aids and collecting occupational information. Review of textbooks, equipment and supply needs of career education programs. Prerequisite: ETE 340 or 546 and graduate standing. (F)

458 Trends and Practices in Industrial Science and Technology (3-0-2)
To study the trends and practices in industrial science and technology. Prerequisite: Graduate standing. (F)

459 Organization and Administration in Industrial Science and Technology (3-0-2)
To study the organization and administration of industrial science and technology. May be repeated. Prerequisite: Graduate standing. (F)

460 Special Problems in Woodworking (3-0-4)
To study new tools, equipment, materials and processes for improved program development and teaching techniques in woodworking. Prerequisite: Graduate standing. (F)

461 Materials and Processes in Teaching Woodworking (3-0-4)
A study in selected areas of the woodworking industry. Prerequisite: Graduate standing. (F)

477 Materials and Techniques of Teaching Industrial Science and Technology in the Secondary Schools (3-0-2)
Practical methods and techniques in teaching technology education classes. Prerequisite: Graduate standing. (F)

480 Problems in Industrial Science and Technology (3-0-2)
To study study by one or more students who wish to enrich their teaching ability in specific area of technology education. May be repeated. Prerequisite: Graduate standing and permission of instructor. (F)

491 Curriculum Development in Industrial Science and Technology (3-0-6)
To study the development of objectives, selection and arrangement of instruction units and materials for technology education classes. Prerequisite: Graduate standing. (F)

502 History of Industrial Education (3-0-2)
To study the history of industrial education. May be repeated. Prerequisite: Graduate standing. (F)

505 Visual AIDS in Industrial Science and Technology (3-0-2)
To study the use of visual aids in industrial science and technology. May be repeated. Prerequisite: Graduate standing. (F)

506 Philosophy of Industrial Science and Technology Education (3-0-2)
A study of the philosophy of industrial science and technology education. Prerequisite: Graduate standing. (F)

507 Organization and Administration of Industrial Science and Technology (3-0-2)
A study of the organization and administration of industrial science and technology programs. Prerequisite: Graduate standing. (F)

509 Special Topics (1-0-4)
Individual and small-group activities in industrial education. Prerequisite: Graduate standing. (F)

510 Research (1-0-4)
A study of research in industrial education. Prerequisite: Graduate standing. (F)

513 Seminar (1-0-4)
A seminar in industrial education. Prerequisite: Graduate standing. (F)

514 Independent Study (1-0-4)
A study of independent study in industrial education. Prerequisite: Graduate standing. (F)

INTERDISCIPLINARY STUDIES (IS)

UNDERGRADUATE COURSES

101 Freshman Seminars (1-0-1)
A seminar for students in the interdisciplinary studies program. Prerequisite: Freshman standing. (F)

102 Freshman Seminars (1-0-4)
A seminar for students in the interdisciplinary studies program. Prerequisite: Freshman standing. (F)

103 Freshman Seminars (1-0-4)
A seminar for students in the interdisciplinary studies program. Prerequisite: Freshman standing. (F)
ITALIAN (ITAL)
UNDERGRADUATE COURSES
101 Introduction to Italian I (3-0-2)
Pronominal and prenominal with small-scale training.
Easy reading and conversation. (F,S)
102 Repeating Italian I (3-0-2)
Students are placed by the department. Practice in oral, aural, reading and writing experiences. Prereq:
ute: (101 or equivalent). (F,S)
201 Intermediate Italian I (4-2-2)
Reading and conversation in Italian. Review of gram-
mar; study of idioms, theme writing in Italian. Prereq-
ute: (101 or equivalent). (F,S)
202 Intermediate Italian II (4-2-2)
Prerequisite: (101 or equivalent). (F,S)
205 Advanced Italian Grammar I (3-0-2)
Linguistic analysis, vocabulary-building and composition. Prerequisite: (101 or permission of instructor. (F,S)
207 Advanced Italian Grammar II (3-0-2)
Linguistic analysis, vocabulary-building and composi-
tion. Prerequisite: (101 or permission of instructor. (F,S)
291 Italian Civilization I (3-0-2)
Italian geography, culture and history from the Roman Empire to the present. Prerequisite: (101 or permis-
sion of instructor. (F,S)
382 Italian Civilization II (3-0-2)
Prerequisite: (101 or permission of instructor. (F,S)
456 Field Experience (1-1-2)
Communication, lectures by writers, artists, political
leaders and specialists. Visits to museums, operas and
culture events related to the course's theme. Prerequisite: 2 years of college Italian. (F,S)
488 Independent Study (1-2-2)
May be repeated for credit with approval of major adviser. (F)
KINESIOLOGY (KIN)
UNDERGRADUATE COURSES
254 Anatomical Kinesiology 307-2
Fundamentals of anatomical and structural compo-
nents of human movement. (F,S)
258 Musculoskeletal Physiology 314-2
Study of the muscular components of human move-
ment with emphasis on analyzing movement problems. (F)
267 Psychological Kinesiology 327-2
Study of neuropsychological components of human
movement. (F)
386 Mechanical Kinesiology 339-2
Fundamental body movements and the primary mus-
cles involved in those movements. Prerequisite: KIN
254. (F)
442 Physiological Kinesiology 337-2
Effects of musculoskeletal activity on the various organs and
systems of the body; an analysis of intramuscular and
extramuscular adaptations which occur with training.
Prerequisite: KIN 254. (F)
MANAGEMENT (MGMT)
UNDERGRADUATE COURSES
310 Principles of Management 339-2
Decision-making communication and leadership prin-
ciples in business and not-for-profit organizations. (F,S,SU)
311 Production/Operations Management 345-2
Technology and procedures for efficient operations
and problem solving. Prerequisites: BUSAD 305 AND
MGMT 310. (F,S,SU)
215 Personal Management 353-2
Recruiting, training, interviewing, training and evalua-
ting workers; planning for personal needs; establishing
personnel functions; employment laws; establishing
pay plans. Prerequisite: MGMT 310. (F,S)
223 Organizational Behavior 337-2
Behavior of individuals and small groups in organiza-
tional settings: Managerial style; social system analy-
sis, motivation and communication. Prerequisite:
MGMT 310. (F,S)
MS in Business Administration (MBA) - 60 credits

1. Marketing and Sales

- Principles of Marketing (3 credits)
- Management of Sales and Marketing (3 credits)
- Marketing Research (3 credits)
- Customer Relationship Management (3 credits)

2. Human Resources

- Human Resource Management (3 credits)
- Labor Law and Business Ethics (3 credits)
- Labour Relations (3 credits)

3. Finance

- Financial Management (3 credits)
- Corporate Finance (3 credits)
- Financial Reporting and Analysis (3 credits)

4. Strategic Management

- Strategic Management (3 credits)
- Operations Management (3 credits)
- International Business (3 credits)

5. Information Technology

- Information Systems (3 credits)
- Project Management (3 credits)
- Data Analytics (3 credits)

6. Entrepreneurship and Innovation

- Entrepreneurial Thinking (3 credits)
- Innovation Management (3 credits)
- Innovation and New Product Development (3 credits)

TOTAL CREDITS: 60
MASS COMMUNICATIONS (MACOM)

UNDERGRADUATE COURSES

181 The Mass Media (3 CR)
Mass media in American society, their growth, development and impact on contemporary culture. (F, S, SS)

185 Mass Communication (3 CR)
Survey covers media industries and the role of media in American society. (SS)

201 News Writing (3 CR)
Instruction and practice in basic news writing skills, including research techniques and the use of graphics. (F, S)

203 Public Relations (3 CR)
Principles of public relations, including: the philosophy of public relations, the history of public relations, the role of public relations in business, the relationship of public relations to marketing, and the use of public relations techniques for internal and external communications. (F, S)

204 Media and Public Relations (3 CR)
Principles of media relations, including: the role of the media in society, the relationship of media to public relations, and the role of media in marketing. (F, S)

205 Mass Communication (3 CR)
Mass media in American society, their growth, development and impact on contemporary culture. (F, S)

206 Advertising Writing (3 CR)
Principles of advertising, including: the role of advertising in society, the role of advertising in business, and the role of advertising in marketing. (F, S)

207 Mass Communication (3 CR)
Mass media in American society, their growth, development and impact on contemporary culture. (F, S)

208 Public Relations (3 CR)
History and development of the field of public relations, including: the philosophy of public relations, the role of public relations in business, and the use of public relations techniques for internal and external communications. (F, S)

209 Advertising Writing (3 CR)
Copywriting, design, and layout for print, broadcast and digital media. (F, S)

210 Media and Public Relations (3 CR)
Principles of media relations, including: the role of media in society, the relationship of media to public relations, and the role of media in marketing. (F, S)

211 Mass Communication (3 CR)
Mass media in American society, their growth, development and impact on contemporary culture. (F, S)

212 Sports Writing and Statistics (3 CR)
Studying the role of sports in society, including the role of sports in the mass media. (F, S)

213 History of Journalism (3 CR)
History of the press in America from colonial times to the present day, with special emphasis on the role of the press in American society. (F, S)

214 News Writing (3 CR)
Instruction and practice in basic news writing skills, including research techniques and the use of graphics. (F, S)

215 Media and Public Relations (3 CR)
Principles of media relations, including: the role of media in society, the relationship of media to public relations, and the role of media in marketing. (F, S)

216 Advertising Writing (3 CR)
Copywriting, design, and layout for print, broadcast and digital media. (F, S)

217 Mass Communication (3 CR)
Mass media in American society, their growth, development and impact on contemporary culture. (F, S)

218 Public Relations (3 CR)
History and development of the field of public relations, including: the philosophy of public relations, the role of public relations in business, and the use of public relations techniques for internal and external communications. (F, S)

219 Advertising Writing (3 CR)
Copywriting, design, and layout for print, broadcast and digital media. (F, S)

220 Media and Public Relations (3 CR)
Principles of media relations, including: the role of media in society, the relationship of media to public relations, and the role of media in marketing. (F, S)
303 Broadcast Studio Programming (3-0-0)
Program types used on broadcast stations; analysis of network structure and local station programs; ethical requirements in programming. Prerequisites: MACOM 222, 223, and 236. (F,S,Sr)

309 Advanced Television Production (3-0-4)
Television studio and control room operations, emphasis on video cassette equipment, cameras, microphones, stagecraft and lighting. Prerequisite: MACOM 205. (F) (S,R)

300 Advanced Media Laboratory (3-0-4)
An advanced laboratory course for students involved in university publications and campus broadcast operations. May be repeated for up to 10 credits. Prerequisites: Junior or senior standing, permission of instructor. (F,S,R)

431 Photography Procedures (3-0-3)
Practical course in pictorial reporting; emphasis on sport news features, picture stories and photographic essays. Prerequisite: Junior or senior standing. (F)

422 Public Relations Campaigns (3-0-0)
Simulated independent public relations agency approach to developing and implementing public relations campaigns; emphasis on practical application of agency-client relations and problem solving. Prerequisite: MACOM 421. (S)

431 Writing for Public Relations (3-0-3)
A specialized writing course for students planning careers in public and corporate relations, with emphasis on news releases, press releases, product manuals, annual reports, brochures and multimedia presentations. Prerequisites: MACOM 201 and 202. (S)

432 Audiences Research Methodology (3-0-3)
Game-and research methodology courses. Effective and appropriate research tools to define and describe various publics considered within the mass audience. Emphasis on sampling practices, encoding and interpretation of results. Pragmatic test activities via Nielsen, Arbitron, SRI, content analysis and related data sources. Prerequisite: Junior or senior standing. (F)

459 TV Documentary Production (3-0-4)
Actual experience in planning, shooting and producing documentary video production on location throughout southeastern Colorado for broadcast and public service agencies. Prerequisite: MACOM 326. (S)

445 (EN 445) Magazine Writing (3-0-3)
Instruction and practice in writing non-fiction magazine articles, with emphasis on story research and market selection. Prerequisites: MACOM 201 and 202. (F)

446 Reporting Public Affairs (3-0-3)
Instruction and practice in reporting public affairs, including crime, the courts, and news involving city and county governments, state legislature, and school boards. Emphasis on investigative reporting skills. (F,S,R)

450 Film Criticism in the Media (3-0-3)
The role and function of the film critic in the entertainment and print journalism, with emphasis on writing the critical review. Prerequisite: Junior standing. (F,S)

485 Special Projects (3-0-3)
Individualized instruction within a special research area. Under supervision of a member of the department. Repeatable once. Prerequisite junior or senior standing or permission of instructor. (F,S,R)

491 Special Topics (1-0-3 VA)
Prerequisite: Junior or senior standing or permission of instructor. (F,S)

492 Seminar (3-0-0)
Seminar devoted to special problems in mass media; emphasis on internships of media, understanding media, and the role of criticism. Prerequisite: Junior standing. (F,S)

494 Field Experience (3-0-0)
A semester-long internship to help student perform the professional duties required by the cooperating commercial mass medium, business or public service agency. May be taken for a maximum of 10 hours. Prerequisite: Junior or senior standing, minimum of 30 hours in major, or permission of program chair. (F,S,R)

495 Independent Study (3-0-3)
Prerequisite: Junior or senior standing or permission of instructor. (F,S)

GRADUATE COURSE

501 Special Topics (1-0-3 VA)
Prerequisite: Graduate standing. (F)

MATHEMATICS (MATH)

UNDERGRADUATE COURSES

901 Intermediate Algebra (4-0-4)
A course designed to teach and develop algebraic problem solving skills. Topics include systems of equations, polynomials, radicals, complex numbers, quadratic equations, factoring polynomials, functions, linear equations and graphs (SU grading). (F,S)

109 Mathematical Explorations (3-0-3)
Emphasis on quantitative reasoning and connections between mathematics and society. Topics chosen from management science, social decision making, statistics, probability, growth models and game theory. Prerequisite: Two years of high school algebra. (F,S,R)

100 A Survey of Mathematics (4-0-4)
This course focuses on quantitative reasoning and problem solving. Topics will be selected from logic, sets, algebra, probability, statistics, number theory, mathematics systems, geometry, and counting techniques. Prerequisite: one year of high school algebra. (F,S)

121 College Algebra (4-0-4)
Functions, solution of polynomial and radical equations, exponential and logarithmic functions, systems of equations, matrices, and determinants. Prerequisite: MATH 1006 or three years of high school mathematics. (F,S,R)

122 College Trigonometry (3-0-3)
Trigonometric and circular functions, identities, inverse functions, vectors, complex numbers. Prerequisite: MATH 121 or equivalent. (F,S)

124 Precalculus Math (5-0-5)
Polynomial, rational, exponential and logarithmic functions; solutions of systems of equations; trigonometric, circular and inverse functions; prerequisites: two years of high school algebra or equivalent. (F,S)

130 Calculus and Analytic Geometry I (5-0-5)
Introduction to analytic geometry, functions, limits, continuity, differentiation and integration of algebraic functions, the theory of calculus and selected applications. Prerequisites: MATH 124 or equivalent. (F,S)

136 Advanced Placement for Engineering Technology II (4-0-4)
Integrated sequence (136-137) covering topics in algebra, trigonometry, and analytic geometry, with engineering applications. Prerequisite: two years of high school algebra or equivalent. (F,S)

137 Advanced Placement for Engineering Technology II (4-0-4)
Integrated sequence (137-138) covering topics in algebra, trigonometry, and analytic geometry, with engineering applications. Prerequisite: MATH 121 or equivalent. (F,S)

231 Methods and Applications (3-0-3)
Introduction to data analysis, statistical and normal models. Sample statistics, confidence intervals, hypothesis tests, linear regression and correlation, and chi-square tests. Prerequisite: MATH 120 or equivalent. Recommended prerequisites: MATH 120. (F,S,R)

237 Math and Numerical Analysis with Application (3-0-3)
Systems of equations, matrix representation of systems, solution of systems, linear algebra, and Gaussian elimination. Prerequisite: MATH 121, 124 or equivalent. Corequisite: MATH 125. MATH and numerical analysis courses taken concurrently are not acceptable for the mathematics major. (F,S,R)

240 Introduction to Statistics (3-0-3)
Introduction to data analysis, statistical and normal models. Sample statistics, confidence intervals, hypothesis tests, linear regression and correlation, and chi-square tests. Prerequisite: MATH 120 or equivalent. Recommended prerequisite: MATH 120. (F,S,R)

247 Math and Numerical Analysis with Application (3-0-3)
Systems of equations, matrix representation of systems, solution of systems, linear algebra, and Gaussian elimination. Prerequisite: MATH 121, 124 or equivalent. Corequisite: MATH 125. MATH and numerical analysis courses taken concurrently are not acceptable for the mathematics major. (F,S,R)
224 Quantitative Analysis for Business 3 (2-2-2) An algebra-based introduction to quantitative methods needed for business. Prerequisite: MATH 121 or equivalents. (F, S, SS) 225 Applied Calculus: An Intuitive Approach 3 (2-2-2) Non-algebraic introduction to calculus with emphasis on applications and modeling in the life sciences, social and behavioral sciences, and business. Prerequisite: MATH 121 or equivalent. (F, S)

224 Calculus and Analytic Geometry II (2-2-2) Applications of differential and integral calculus, operations on trigonometric functions, inverse functions, and infinite sequences. Prerequisite: MATH 120. Corequisites: MATH 121 and MATH 122. (F, S)

225 Calculus for Engineering Technology I (3-3-3) Three-semester sequence (225-226-227) covering topics in differential and integral calculus with emphasis on engineering applications. (F, S)

226 Calculus for Engineering Technology II (3-3-3) Continuation of MATH 225. (F, S)

226 Introduction to Technical Mathematics 3 (3-3-3) Serves as the introduction to applied probability and statistical processes. An introductory study of random variables, special distributions, expectation, and first and second moment theorems. Prerequisite: MATH 224 or permission of instructor. (F)

230 Special Topics (1-1-1) VARIOUS Prerequisites: permission of instructor and approval of the department chair. (F, S)

230 Introduction to Linear Algebra (3-3-3) Vectors, vector spaces, linear transformations, and change of basis. Application topics are included. Prerequisites: MATH 121 and 122 or equivalent. (F, S)

230 Introduction to Mathematical Thought (3-3-3) A rigorous introduction to sets, logic, mathematical proof, functions, and equivalence relations. Prerequisites: MATH 224, MATH 307 or MATH 325 recommended. (F, S)

230 Mathematical Analysis (3-3-3) Continuation of MATH 224. Vector-valued functions and multivariable calculus. Prerequisites: MATH 207 and 224. (F, S)

232 Introduction to Algebraic Systems (3-3-3) Introduction to various algebraic systems such as groups, rings, fields, and their elementary properties. Properties of the integers and other common number systems. Prerequisite: MATH 220 or permission of instructor. (S)

235 Introduction to Metric Geometry (3-3-3) Euclidean, hyperbolic, elliptic, and non-Euclidean geometries, models, and constructions. Prerequisite: MATH 224 or permission of instructor. (F)

236 Differential Equations I (3-3-3) First-order differential equations, homogeneous and nonhomogeneous linear differential equations, introduction to the Laplace transform, applications. Prerequisite: MATH 224 or equivalent. (S)

236 Differential Equations II (3-3-3) Linear systems, existence and uniqueness of solutions, non-linear equations, series solutions, orthogonal series, functions, Fourier series, boundary value problems, partial differential equations and applications. Prerequisites: MATH 220 and 225. (F)

241 Introduction to Numerical Analysis (4-4-4) Finding numerical solutions to polynomial, differential, integral, and other equations using the computer. Prerequisites: MATH 307 and a programming language or permission of instructor. (F)

241 Numerical Methods (3-3-3) Solutions and development of programs to solve linear and non-linear equations of systems, to use eigenvalues and eigenvectors to solve systems of differential equations and boundary value problems, to apply linear methods and obtain function approximations and to use other related concepts and techniques. Prerequisites: MATH 224, 225 and 307 or permission of instructor. (F, S)

252 Probability for Engineers and Scientists 3 (3-3-3) A calculus-based introduction to applied probability and stochastic processes. An introductory study of random variables, special distributions, expectation, and first and second moment theorems. Prerequisite: MATH 307 or permission of instructor. (F)

253 Advanced Calculus I (3-3-3) Rigorous development of concepts of elementary calculus, sequences and series, uniform convergence, partial derivatives, line integrals and metric spaces. Prerequisites: MATH 307 and 225. (F)

253 Advanced Calculus II (3-3-3) Continuation of MATH 421. Prerequisites: MATH 421. (F)

305 Linear Algebra (3-3-3) Vector spaces, matrices, eigenvectors, linear transformations and matrix operations. Linear independent. Prerequisite: MATH 325. (F)

307 Statistics for Engineers and Scientists 3 (3-3-3) Calculus-based introduction to statistical methods. Sampling, distributions, hypothesis testing, linear regression, design of experiments using ANOVA. Data analysis with MINITAB. Prerequisite: MATH 255 or MATH 350. (F)

309 Elementary Concepts of Mathematics I (3-3-3) Sets, numeration systems, whole numbers, algorithms, number theory, integers and interactive geometry. Prerequisite: SAT/ACT math requirement. (F)

311 Elementary Concepts of Mathematics II (3-3-3) Metric geometry, rational numbers, real numbers, logic, mathematical systems, axiomatic systems, probability and statistics. Prerequisite: MATH 309. (F)

371 Materials and Techniques of Teaching Secondary School Mathematics 3 (3-3-3) Instructional materials, methods, evaluation and other related topics. (S)

412 Introduction to Topology (3-3-3) Introduction to topological concepts, connected and metric spaces. Continuous functions and separation properties. Prerequisite: MATH 325. (F)

416 Modern Algebra (3-3-3) Divisibility, prime numbers, linear congruences, multiplicative functions, cryptography, primitive roots, and finite fields. Prerequisite: MATH 330 or permission of instructor. (F, S)

417 Advanced Calculus I (3-3-3) Rigorous development of concepts of elementary calculus, sequences and series, uniform convergence, partial derivatives, line integrals and metric spaces. Prerequisites: MATH 307 and 225. (F)

418 Advanced Calculus II (3-3-3) Continuation of MATH 421. Prerequisite: MATH 421. (F)

420 Complex Variables (3-3-3) Complex numbers, sequences and series, derivatives and integrals, analytic functions, conformal mappings. Prerequisite: MATH 325. (S)

420 Optimizations Techniques (3-3-3) Linear programming and its derivatives, network optimization and their applications to practical problems. Prerequisites: MATH 307 and knowledge of a programming language. (S)

446 Discrete Mathematics (3-3-3) Topics selected from mathematical reasoning, combinatorial techniques, set theory, binary relations, functions and sequences, algorithm analysis, and discrete analysis. Prerequisite: MATH 255 or MATH 307 and knowledge of a programming language. (S)

451 Design and Analysis of Experiments (3-3-3) Design and analysis of experimental studies, including randomized block, Latin square and factorial experiments; general regression analysis of variance. Prerequisite: two semesters of statistics. (F)

452 Applied Statistics I (3-3-3) Probability space, discrete and continuous random variables, distributions, mathematical expectations, sampling, statistical inference; Bayesian and multiple regression. Prerequisite: MATH 224. (S)

453 History of Mathematics (3-3-3) Survey of the origins of important mathematical concepts and of the mathematicians responsible for these discoveries. Prerequisite: MATH 320. (S)

491 Special Topics (1-1-1) VARIOUS Prerequisite: permission of instructor. (F, S)

492 Seminar (1-1-1) VARIOUS Prerequisite: senior standing, permission of instructor. (F, S)

495 Independent Study (1-1-1) VARIOUS Prerequisite: senior standing, permission of instructor. (F, S)

GRADUATE COURSES

511 Foundations of Mathematics 3 (3-3-3) Sets, logic, axiomatics, mappings and the various subsystems of the real axis for beginning graduate students. Prerequisite: graduate standing. (F)

517 Linear Algebra 3 (3-3-3) Vector spaces, matrices, eigenvalues, linear functionals and dual space and tensorial applications. Prerequisite: graduate standing. (F)

517 Advanced Calculus I (3-3-3) Rigorous development of concepts of elementary calculus, sequences and series, uniform convergence, partial derivatives, line integrals and metric spaces. Prerequisites: MATH 307 and 225. (F)

521 Advanced Calculus II (3-3-3) Continuation of MATH 421. Prerequisite: MATH 421. (F)

520 Complex Variables (3-3-3) Complex numbers, sequences and series, derivatives and integrals, analytic functions, conformal mappings. Prerequisite: MATH 325. (S)

520 Optimizations Techniques (3-3-3) Linear programming and its derivatives, network optimization and their applications to practical problems. Prerequisites: MATH 307 and knowledge of a programming language. (S)
164 Welding Technology (3-0-4)
Welding and cutting processes including arc welding techniques for shielded metal, gas tungsten and gas metal, and automatic welding, brazing and cutting, electrode and gas selection, suitability of metals, joint design, welding defects, distortion control and wind heading.

159 Materials for Engineering Applications (3-0-3)
Atomic structure, bonding and arrangement of atoms in metallic, ceramic, and organic materials, properties of engineering materials including ceramics, polymeric and composite materials. Phase diagrams, microstructure, deformation and recrystallization, transformations and properties of engineering materials. Prerequisites: CHEM 111 (GSE).

150, Materials Lab (1-0-0)
Demonstrating material properties and characteristics through experimentation. Contributes to MET 105 (GSE).

111 Introduction to Drafting (2-0-4)
Professional drafting techniques, lettering, line quality, standards and measurement to include metric, geometric constructions, orthographic projections, technical sketching, sectioning, isometric and auxiliary views. (GSE/B)

112 Computer Aided Drafting (2-0-4)
Computer-aided drafting to include geometric constructions, orthographic projections, sectioning and dimensioning. Prerequisites: MET 111 (GSE/B).

127 Applied Physical Metallurgy (2-0-4)

152 Metallurgy Lab (2-0-2)
Experiments in metallurgical experiments and examining metallic properties. Contributes to MET 152. (GSE/B).

202 Statistics (3-0-4)
Basic concepts and application of basic statistical tools, including basic layout work, cutting tool geometry, and machining locations. (GSE/B).

250 Manufacturing Processes (1-0-4)
Introduction to the processing of materials into useful products. The selection and processing of metal, plastic, and ceramic materials in manufacturing operations. Prerequisites: MET 105 (GSE/B).

254 Manufacturing Processes I Lab (1-0-0)
Demonstrating manufacturing processes, tools, and equipment. Contributes to MET 254 (GSE/B).

254 Manufacturing Processes II (3-0-0)
A continuation of MET 254. Prerequisites: MET 253 or permission of instructor. (GSE/B).

254 Manufacturing Processes II Lab (1-0-0)
Manufacturing process equipment experimentation. Contributes to MET 254 (GSE/B).

256 Strength of Materials (2-0-4)
Stress-strain relationships, elastic and plastic, tension, compression, shear, torsion, bending and combined stresses. Prerequisites: MET 252. (GSE/B).

256 Strength of Materials Lab (2-0-2)
Demonstrating the relationship that governing the strength properties of materials. Contributes to MET 256 (GSE/B).

251 Special Topics (1-2-2X)
Applications of special topics.

254 Industrial Robotics (2-0-4)
Principles and operating of X-ray and gamma ray sources for radiographic examination. Development of radiographic techniques using a 250 KVP X-ray unit. Prerequisite: MET 100. (GSE/B).

246, Radiography Lab (1-0-2)
Developing X-ray and gamma ray techniques for non-destructive testing. Contributes to MET 246. (2X).

200 Computer Programming and Algorithms (3-0-4)
Scientific programming languages and techniques. Languages supported dependent on equipment on hand. Prerequisite: MATH 132 (GSE/B).

211 Quality Control (2-0-4)
A study of quality control, process planning and production analysis. Prerequisite: BUSAD 263 (GSE/B).

254 Nondestructive Testing (2-0-2)
Determination of quality without damage to the material by using appropriate nondestructive testing technologies. Prerequisites: MET 120. Contributes to MET 215L. (GSE/B).

271 Nondestructive Testing Lab (1-0-0)
Conducting nondestructive testing using X-ray current, liquid penetrant, magnetic particle, leak testing and radiography. Contributes to MET 215. (GSE/B).

302 Design of Machine Elements (3-0-4)
Fundamental concepts in the correct design of the separate elements which comprise machines, application of principles and mechanics of materials modified by practical considerations. Prerequisite: MET 206. (GSE/B).

303 Machine Elements Lab (1-0-2)
Conception of machine design projects. Contributes to MET 303. (GSE/B).

256 Basic Design Principles (2-0-4)
A study of the progressive stages of investigating, designing, developing, building and testing of a mechanical process or product. Prerequisite: junior standing. (GSE/B).

261 Computer Integrated Manufacturing (3-0-4)
A study of the systematic involvement of computer control in all phases of manufacturing. Prerequisite: MET 204 and MATH 132 (GSE/B).

261 Manufacturing Lab (1-0-2)
Demonstrating applications of computer technologies in manufacturing. Contributes to MET 261. (GSE/B).

271 CNC Machine Tools (2-0-4)
Principles of numerical control (NC) and computer-aided numerical control (CNC) machine tool programming and operations. Prerequisite: MET 306. (GSE/B).

271 CNC Machine Tools (2-0-4)
Programming and programming using a CNC lathe and CNC milling machine. Contributes to MET 271. (GSE/B).

411 Thermal and Fluid Principles (3-0-4)
A study of the controlling factors that influence the design of thermal and fluid systems. Prerequisite MET 341. (GSE/B).
440: Thermal and Fluid Principles II (Lab 190-2)
Experiments with thermal and fluid systems. Corequisite: MET 441. (F)

441: Design of Energy Systems (32-3)
Applied technology topics in the conversion, storage, and use of a variety of energy sources. Prerequisite: MET 441. (S)

442: Energy Systems Lab 190-2
Overhead power energy technology applications. Corequisite: MET 442. (S)

450: Industrial Robots (2,2-2)
History, basic theory, kinematics, geometry, control, and application. Prerequisite: permission of instructor. (*)

452: Robotics Lab 190-2
Programming various types of robots to perform different types of tasks. Corequisite: MET 452. (*)

482: Heating, Ventilating and Air-Conditioning (3,2-2)
Principles and applications of heating, ventilating and air-conditioning. Prerequisite: MET 340. Corequisite: MET 482L. (*)

482L: Heating, Ventilating and Air-Conditioning Lab 190-2
Using a climate controlled room to measure and observe the various effects of heating, ventilating, and air-conditioning. Corequisite: MET 482. (*)

579: Senior Project 111-4
The completion of an individual mechanical engineering technology project. Prerequisite: MET 356. (F)

440: Project Lab 190-2
Work on senior project. Corequisite: MET 405. (F)

400: Instrumentation and Control Systems (3,2-2)
Experimental transducers, methods of laboratory instrumentation, logic circuits and feedback control of experimental processes. Prerequisite: EET 230. (F)

400L: Instrumentation Lab 190-2
Electronic instrumentation in instrumentation and control systems. Corequisite: MET 400. (S)

413: Special Topics (1-3 WKR)
Prerequisite: Junior standing in MET. (*)

432: Seminar (1-1 WKR)
Prerequisite: Junior standing in MET. (*)

410: Independent Study (1-3-0-0-0)
Prerequisite: Junior standing in MET. (F,J,S,0)

490: Cooperative Education Placement (1-0-0-0-0)
Work experience under the direction of field supervisor and faculty mentor. Prerequisite: permission of co-coordinator; junior or senior standing in MET. (F,J,S,0)

MUSIC (MUS)
UNDERGRADUATE COURSES
100: Fundamentals of Music (3,3-4)
An in-depth study of the elements and basic principles that make music music, the structure and function of musical composition. (F,S)

101: Theory I (3,3-4)
A re-creative course in composition and analysis of four-part harmony. A detailed study of the relationship of diatonic chords within major and minor tonalities. Corequisite: MUS 101. (F)

102: Theory II (3-4-0)

103: Theory III (2-3-0)
Keyboard harmony, sight singing, ear training, keyboard harmony, sight singing, ear training. Prerequisite: MUS 102. Corequisite: 102S. (S)

105: Introduction to Music and Computers (1-4)
Introduction to Apple Macintosh and IBM computer hardware and software dedicated to composing, sequencing, performing and printing music. (F)

110: Career Planning in Music (1-0-0-0-0)
Identifying career options in music and obtaining a personal educational program. (F)

110: Music Appreciation (3-0-0)
Significant musical compositions and their composers, placed within the historical era in which they appear; analysis and description of music forms and terms. (F,J,S,0)

119: How to Read Music (3-0-0)
Music notation in its various idioms and pitch patterns related to the treble and bass clefs. (F)

120: Jazz and Rock Music (3-0-0)
Beginning and development of music and style music in the United States. (F)

125: Introduction to Opera (3-2-0)
A survey of operatic works performed by major opera companies today. (F)

144: Woodwind Class (1-2-0)
Techniques employed and problems encountered in teaching and playing woodwind instruments. (F)

145: Brass Class (1-2-0)
Techniques employed and the problems encountered in teaching and playing brass instruments. For S-12 music education students. (S)

147: Functional Piano Class (1-2-0)
For students with little or no background in keyboard instruments. Explores the basic fundamentals of piano playing. Additional rehearsals and performance activities may be required. (F)

151: Applied Music Major (1-2-0)
In-depth study of the performance techniques of keyboard, brass, woodwinds, percussion, string instrument, or voice. One hour per week. (F)

152: Applied Music Minor (1-2-0)
In-depth study of the performance techniques of keyboard, brass, woodwinds, percussion, or voice. One hour per week. (F)

155: Applied Music Minor (1-2-0)
In-depth study of the performance techniques of keyboard, brass, woodwinds, percussion, or voice. One hour per week. (F)

156: Applied Music Minor (1-2-0)
In-depth study of the performance techniques of keyboard, brass, woodwinds, percussion, or voice. One hour per week. (F)

157: Applied Music Minor (1-2-0)
In-depth study of the performance techniques of keyboard, brass, woodwinds, percussion, or voice. One hour per week. (F)

158: Applied Music Minor (1-2-0)
In-depth study of the performance techniques of keyboard, brass, woodwinds, percussion, or voice. One hour per week. (F)

160: Advanced Music Class (1-2-0)
In-depth study of the performance techniques of keyboard, brass, woodwinds, percussion, or voice. One hour per week. (F)

161: Advanced Music Class (1-2-0)
In-depth study of the performance techniques of keyboard, brass, woodwinds, percussion, or voice. One hour per week. (F)

162: Applied Music Major (1-2-0)
In-depth study of the performance techniques of keyboard, brass, woodwinds, percussion, string instrument, or voice. One hour per week. (F)

163: Advanced Music Class (1-2-0)
In-depth study of the performance techniques of keyboard, brass, woodwinds, percussion, or voice. One hour per week. (F)

164: Advanced Music Class (1-2-0)
In-depth study of the performance techniques of keyboard, brass, woodwinds, percussion, or voice. One hour per week. (F)

165: Advanced Music Class (1-2-0)
In-depth study of the performance techniques of keyboard, brass, woodwinds, percussion, or voice. One hour per week. (F)

166: Advanced Music Class (1-2-0)
In-depth study of the performance techniques of keyboard, brass, woodwinds, percussion, or voice. One hour per week. (F)

167: Advanced Music Class (1-2-0)
In-depth study of the performance techniques of keyboard, brass, woodwinds, percussion, or voice. One hour per week. (F)

168: Advanced Music Class (1-2-0)
In-depth study of the performance techniques of keyboard, brass, woodwinds, percussion, or voice. One hour per week. (F)

169: Advanced Music Class (1-2-0)
In-depth study of the performance techniques of keyboard, brass, woodwinds, percussion, or voice. One hour per week. (F)

170: Band (1-2-0)
Prerequisite: permission of instructor. (F)

171: Choir (1-2-0)
Prerequisite: permission of instructor. (F)

172: Percussion Ensemble (1-2-0)
Prerequisite: permission of instructor. (F)

173: Guitar Ensemble (1-2-0)
Ensemble specializing in the performance of appropri- ate music literature. May be repeated for credit. Additional rehearsals and performance activities may be required. Prerequisite: permission of instructor. (F)

174: Orchestral (1-2-0)
Ensemble specializing in the performance of appropriate string chamber music literature. Additional rehearsals and performance activities may be required. Prerequisite: permission of instructor. (F)

175: Private Lessons (1-2-0)
Applied music study for the non-music major. Prerequisite: permission of instructor. (F)

176: Flute Choir (1-2-0)
Ensemble specializing in the performance of appropriate flute music literature. May be repeated for credit. Prerequisite: permission of instructor. (F)

177: Drum Choir (1-2-0)
A lab choir in which students of varied performance backgrounds can gain experience in performance with an instrumental ensemble. (F)

178: Jazz Band (1-2-0)
A consist band in which students of varied performance backgrounds can gain experience in performance with an instrumental ensemble. (F)

179: Beginning Guitar Class I (2-2-3)
For the non-specialist. Application of both melodic and chordal (rhythmic) melody. Introduction to the basic facts of music. Prerequisite: permission of instruc- tor. (S)

180: Beginning Guitar Class II (2-2-3)
For the student with slight knowledge of the instru- ment. Finger-picking techniques and chordal harmony; chords covering the entire spectrum of the instrument. Prerequisite: MUS 106 or permission of instruc- tor. (F)

181: Jazz Band (1-2-0)
Open to all regularly enrolled university students by audition. May be repeated for credit. Prerequisite: permission of instructor. (F)

182: Bass Choir (1-2-0)
Ensemble specializing in the performance of appropri- ate bass music literature. May be repeated for credit. Prerequisite: permission of instructor. (F)

183: Bass Choir (1-2-0)
Ensemble specializing in the performance of appropri- ate bass music literature. May be repeated for credit. Prerequisite: permission of instructor. (F)
193 Percussion Ensemble (1/2-2)  
Exploration of unique percussion literature. May be repeated for credit. Prerequisites: permission of instructor. (F,Sp)

195 Small Ensemble (1/2-2)  
For students desiring to perform in a small group other than the major ensemble. (F,Sp)

201 Theory II (3-3-0)  
Music fundamentals: basic diatonic harmony in small homophonic forms. Analysis and application of the concepts of musical style. Prerequisite: MUS 102. Corequisite: MUS 201L. (F)

203 Theory III Lab (1-2-0)  
Development of keyboard skills, keyboard harmony, sight-singing and ear training exercises to accompany appropriate analytical/compositional techniques. Prerequisite: MUS 102, 103L. Corequisite: MUS 201L. (F)

202 Theory IV (3-4-0)  
Combination of MUS 201L. Use of chromatic harmony in Baroque, Classical, Romantic and 20th-century musical styles. Prerequisites: MUS 201 and 201L. Corequisite: MUS 201L. (F)

205 Theory IV Lab (1-2-0)  
Combination of MUS 201L. Prerequisites: MUS 201 and 201L. Corequisite: MUS 201L. (F)

210 Electronic Music (3-2-0)  
Scientific and aesthetic practices employed in sound recording studio and electronic studio. Intensive exploration with various types of synthesizers. Several computer music software programs are introduced. (F,Sp)

241 String Class (1-2-0)  
Techniques employed and problems confronted in teaching string instruments. For K-12 music education majors. (F)

242 Percussion Class (1-2-0)  
Techniques employed and problems confronted in teaching and playing percussion instruments, tuned and untuned. (F)

246 Piano Class (1-2-0)  
Fundamental approach to beginning techniques of playing presented in a group situation. (F,Sp)

261 Applied Music Major (2/0-1)  
In-depth study of performance practices of keyboard, brass, woodwind, percussion or string instruments. One hour per week symposium attendance required. Prerequisite: MUS 162. (F)

262 Applied Music Major (2/0-1)  
Combination of MUS 262. One hour per week symposium attendance required. Prerequisite: MUS 262L. (Sp)

263 Applied Music Minor (0-3-0)  
One-half hour per week private lesson designed for music minors or music majors studying a secondary instrument. One hour per week symposium attendance required. (F)

264 Applied Music Minor (0-3-0)  
A combination of MUS 263. One hour per week symposium attendance required. (F)

273 Beginning Jazz Improvisation (2-3-0)  
For students with little or no background in performing jazz. Explores the basic fundamentals of playing jazz. May be repeated for lower division credit. (F)

278 Jazz Improvisation II (3-3-0)  
Prerequisite: MUS 275. May be repeated for lower division credit. (Sp)

291 Special Topics (1-3-0 VAR)  
(*)

205 Computer and Electronic Technology in Music (1/2-0-3)  
Study of computer hardware and software involved in composing, sequencing, performing and mixing music. Prerequisite: MUS 101, 102 or permission of instructor. (F,Sp)

210 Music History (3-0-2)  
A comprehensive survey of music history from the Medieval Era, with consideration of ancient sources, through the Baroque Era and Pre-Classical Style. Prerequisite: MUS 118. (F)

222 Music History II (3-0-2)  
A comprehensive survey of music history from the Classical Era through the present. Prerequisite: MUS 321. (F)

234 Piano Literature (3-0-2)  
Survey of piano literature from the 18th-century to the present. (F,Sp)

247 Piano Pedagogy (1/2-0)  
Introduction to the pedagogy in teaching private and class piano. (F)

248 Piano Pedagogy II (1-2-0)  
Combination of MUS 248. Prerequisite: MUS 247. (Sp)

249 Conducting I (2-3-0)  
Techniques and methods of conducting choral ensembles. Prerequisite: MUS 181 or 381 or MUS 377. (F)

250 Conducting II, Instrumental (2-3-0)  
Techniques and methods of conducting instrumental ensembles. Prerequisite: MUS 349, Corequisite: MUS 182 or 362 or MUS 379. (Sp)

251 Principles of Music in the Elementary Classroom (1-2-0)  
A lecture course dealing with the principles and methods of teaching music in the elementary school, for the elementary education major. (F,Sp)

252 Music in the Elementary Classroom (2-2-0)  
A course for music education majors in total steps in developing music skills and music appreciation throughout the elementary grades. (F)

261 Applied Music Major (2/0-1)  
Combination of MUS 261 for the junior music major. One hour per week symposium attendance required. Prerequisite: MUS 162. (F)

262 Applied Music Major (2/0-1)  
Combination of MUS 262. One hour per week symposium attendance required. Prerequisite: MUS 262. (Sp)

263 Applied Music Minor (0-3-0)  
One-half hour per week private lesson designed for music minors or music majors studying a secondary instrument. One hour per week symposium attendance required. (F)

264 Applied Music Minor (0-3-0)  
Combination of MUS 264. One hour per week symposium attendance required. (Sp)

275 Advanced Synthesis (2-3-0)  
A continuation of MUS 275. May be repeated for lower division credit. (Sp)

278 Jazz Improvisation II (3-3-0)  
Prerequisite: MUS 275. May be repeated for lower division credit. (Sp)

301 Advanced Synthesis (3-3-0)  
A continuation of MUS 278. May be repeated for lower division credit. (Sp)

302 Advanced Synthesis II (3-3-0)  
A continuation of MUS 278. May be repeated for lower division credit. (Sp)

322 Music History II (3-0-2)  
A comprehensive survey of music history from the Classical Era through the present. Prerequisite: MUS 221. (F)

324 Piano Literature II (3-0-2)  
Survey of piano literature from the 18th-century to the present. (F,Sp)

325 Piano Pedagogy I (1-2-0)  
Introduction to the pedagogy in teaching private and class piano. (F)

326 Piano Pedagogy II (1-2-0)  
Combination of MUS 248. Prerequisite: MUS 247. (Sp)

344 Conducting I, Choral (2-3-0)  
Techniques and methods of conducting choral ensembles. Corequisite: MUS 181 or 381 or MUS 377. (F)

346 Conducting II, Instrumental (2-3-0)  
Techniques and methods of conducting instrumental ensembles. Prerequisites: MUS 349, Corequisites: MUS 182 or 362 or MUS 379. (Sp)

351 Principles of Music in the Elementary Classroom (1-2-0)  
A lecture course dealing with the principles and methods of teaching music in the elementary school, for the elementary education major. (F,Sp)

352 Music in the Elementary Classroom (2-2-0)  
A course for music education majors in total steps in developing music skills and music appreciation throughout the elementary grades. (F)

361 Applied Music Major (2/0-1)  
Combination of MUS 362 for the junior music student. One hour per week symposium attendance required. Prerequisite: MUS 362. (F)

362 Applied Music Major (2/0-1)  
Combination of MUS 361. One hour per week symposium attendance required. Prerequisite: MUS 361. (F)

363 Applied Music Minor (0-3-0)  
One-half hour per week private lesson designed for music minors or music majors studying a second instrument. One hour per week symposium attendance required. (F)

364 Applied Music Minor (0-3-0)  
Combination of MUS 364. One hour per week symposium attendance required. (Sp)

376 Band (0-2-0)  
Combination of MUS 376. May be repeated for credit. Prerequisite: MUS 170 or permission of instructor. (F)

377 Choir (0-2-0)  
Combination of MUS 377. May be repeated for credit. Prerequisite: MUS 172 or permission of instructor. (F)

378 Orchestra (0-2-0)  
Ensemble specializing in performance of appropriate string chamber literature. Continuation of MUS 178. May be repeated for credit. Prerequisite: MUS 174 or permission of instructor. (F)

379 Folk Choir (0-2-0)  
Continuation of MUS 179. May be repeated for credit. Prerequisite: MUS 172 or permission of instructor. (F)

379 Materials and Techniques of Teaching Choral Music (2-3-2)  
Comprehensive study in materials, techniques, methods and problem-solving necessary for the teacher of choral music in the public schools. Prerequisites: MUS 144, 145, 241, 242, 245 and 246. (F)

379 Materials and Techniques of Teaching Instrumental Music (2-3-2)  
Continuation of MUS 377. Comprehensive study of materials, methods and problem-solving techniques necessary for the teacher of instruments music in the public schools. (F)

381 Lab Choir (1-0-2-0)  
Combination of MUS 181. Prerequisite: MUS 181. Corequisite: MUS 349 or 379. (F)

382 Lab Band (1-0-2-0)  
A course based in which students of varied performance backgrounds gain experience in performance with an instrumental ensemble. May be repeated for credit. Prerequisite: MUS 182 or permission of instructor. (F,Sp)

392 Percussion Ensemble (2-0-2)  
Combination of MUS 352. May be repeated for additional credit. Prerequisite: MUS 182 or permission of instructor. (F)

392 Jazz Ensemble (2-0-2)  
Combination of MUS 352. May be repeated for credit. Prerequisite: MUS 182 or permission of instructor. (F,Sp)

394 Brass Choir (1-0-2)  
Combination of MUS 156. May be repeated for credit. Prerequisite: MUS 156 or permission of instructor. (F,Sp)
383 Small Ensemble 1 (3-2-3) For students desiring to perform in a small group other than the major ensemble. (F,S)

403 Arranging/Orchestrating I (3-0-3) Techniques of scoring for all instrumental combinations. Prerequisites: MUS 101, 102, 201 and 202. (F)

451 Arranging/Orchestrating II (3-0-3) Continuation of MUS 402. Prerequisite: MUS 400. (S)

455 Counterpoint 1 (3-0-3) A re-creative course in 16th- and 17th-century contrapuntal styles. Composing music in two, three and four voices as appropriate to the three periods. Prerequisite: MUS 202. (F)

421 Analytical Techniques 3 (3-0-0) A study of form and style in music in a historical context. Analysis of music from several style periods, Middle Ages into the 20th century. (S)

428 Practices in Music I (3-0-3) For the advanced music student to practice the teaching of music by assisting in the teaching of applied music groups within the department. (F)

429 Practices in Music II (3-0-3) Continuation of MUS 430. (S)

461 Applied Music Major 1 (3-0-3) Continuation of MUS 352 for the senior music student. One hour per week symposium attendance required. Prerequisite: MUS 362. (F)

462 Applied Music Major 2 (3-0-3) Continuation of MUS 401. One hour per week symposium attendance required. Prerequisite: MUS 401. (S)

463 Applied Music Minor 1 (1-0-3) One-half hour per week private lesson designed for music majors or music minors studying a second instrument. One hour per week symposium attendance required. (F)

464 Applied Music Minor 2 (1-0-3) A continuation of MUS 403. One hour per week symposium attendance required. (S)

475 Symphonic Jazz Ensemble 1 (3-0-3) Open to all regularly enrolled university students and majors in music. Participation by audition only. May be repeated for credit. Additional rehearsals and performance activities may be required. Prerequisite: permission of instructor. (F,S)

495 Independent Study (1-0-4) Varies

GRADUATE COURSES

501 Special Methods in Music Education 3 (3-0-3) Combination of lecture and lab appropriate to the project. For graduate students. In-depth study of techniques and methods for teaching music in the elementary and middle school. Involvement in research and practical application of approved methods. Prerequisite: graduate standing. (F)

560 Seminar 2 (2-0-2) Practical application of current music techniques to secondary teaching. Prerequisite: graduate standing. (S)

NURSING (NSG) UNDERGRADUATE COURSES

321 Introduction to Professional Nursing 4 (4-0-4) Historical and theoretical basis for professional nursing practice. Introduction to the health care system, philosophy of the nursing program, the nursing process and human needs. Prerequisites: admission to BSN program. (F)

322 Fundamentals of Nursing 6 (6-0-6) Theory for utilization of the nursing process in meeting the primary needs of individuals. Basic nursing interventions and therapeutic communications are emphasized. Prerequisite: admission to BSN program. Corequisites: NSG 324L, Prerequisite: NSG 231. (S)

326 Fundamentals of Nursing Lab 4 (0-0-4) Lab for NSG 322. Laboratory practice activities experience students in developing fundamental competencies for providing basic nursing care to individual clients. Corequisite: NSG 320. (S)

275 Nursing Pathophysiology 3 (3-0-3) Introductions to some basic physiological processes of individual body systems. Incorporates nursing assessment with knowledge specific to pathophysiological processes. Prerequisites: (BIO 208/208L, 220/220L, 240/240L, CHIN 122/222, or 121/221. (F)

320 Special Topics I (1-4 VARY) Topics and/or nursing skills for enrichment of required nursing courses, and which serve the interest of 10 or more students will be considered. Prerequisite: permission of instructor. (*)

322 Health Assessment 3 (3-0-3) Systematic assessment of individuals across the life span. Provides principles necessary to determine potential deviations from normal in evaluating the health status of individuals. Prerequisites: NSG 231, 230/232L, 270 or RN. Corequisites: NSG 300L, CE,F,S. (F)

305 Health Assessment Lab 1 (1-0-2) Application of NSG 305. Provides the student with the opportunity to collect and record complete health histories and practice skills of physical assessment. Corequisites: NSG 300. CE,F,S. (F)

360 Care Interactions in Nursing 3 (3-0-3) Includes theory to provide the principles and practices for basic nursing skills essential to implement nursing process. Prerequisites: NSG 301. Corequisite: NSG 304L. (F)

394 Care Interactions Lab 4 (0-0-4) Laboratory course for practice and development of fundamental nursing care skills in the provision of basic nursing care. Corequisite: NSG 304. (F)

363 Ethical Issues in Health Care 3 (3-0-3) Selected theories which influence ethical choice in nursing are presented. Issues of the law and legal systems which affect the public health are included. Current ethical issues related to nursing practice. Prerequisite: permission of instructor. (F)

306 Introduction to Levels of Prevention 3 (3-0-3) Introduction to levels of prevention. Focus is on primary prevention and role of the community nurse in health promotion, effects of nutrition, lifestyle, activity and health of the well person and selected community health problems are explored. Prerequisite: NSG 301. (F)

370 Health and Disease System 3 (3-0-3) Allopathic and alternative approaches to disease processes. Prerequisites: BIO 208/208L, 220/220L, 240/240L, CHIN 111/211L, 121/221L. (F)

399 Professional Nursing Practice 4 (4-0-4) Introduces regulated nurses to the theoretical basis for professional nursing practice and the philosophy of the nursing program family and group theories. Prerequisite: Registered Nurse license. (F)

311 Advanced Concepts in Nursing 3 (3-0-3) Concepts for professional nursing practice including nursing roles and values, group and family theory. Prerequisite: Registered Nurse License. (F)

315 Nursing Care of Childbearing Families 3 (3-0-3) Theory for nursing care of the expectant and prospective family during the perinatal period. Includes family theory and human sexuality. Prerequisites: NSG 231, 230/232L, 270. Corequisite: NSG 312, Prerequisite: NSG 300L, CE,F,S. (F)

316 Nursing Care of Childbearing Families Lab 3 (3-0-0) Application of NSG 315. Clinical experiences emphasize use of the nursing process in meeting needs of the woman and family during the perinatal period. Corequisite: NSG 312. (F)

322 Nursing Care of the Adult I 3 (3-0-3) Nursing process directed toward principles of therapeutic nursing care of adults with common health problems. Prerequisites: NSG 231, 230/232L, 270. Corequisite: NSG 300L, CE,F,S. (F)

323 Biochemical Genetics 3 (3-0-3) Application of NSG 322. Clinical experiences emphasize use of the nursing process in meeting needs of adults with genetic diseases. Corequisite: NSG 322. (F)

324 Nursing Care of Children and Adolescents 3 (3-0-3) Theory for nursing care of children and adolescents. Emphasizes the nursing process related to health promotion, maintenance and rehabilitation for the child and adolescent family. Prerequisite: NSG 233/232L, 270, 300/300L, 310/310L. Corequisite: NSG 324. (F)

333 Nursing Care of Children and Adolescents Lab 3 (3-0-0) Application of NSG 333. Clinical experiences emphasize use of the nursing process in meeting health-related needs of children and adolescents. Corequisite: NSG 324. (F)

331 Research in Nursing 3 (3-0-3) Introduction to the steps of research methodology. Analysis of research studies provides the basis for determining integration of appropriate research into practice. Prerequisites: WATH 109, NSG 231, 230/232L, 270, 300/300L, 310/310L. (F)
354 Core Interventions in Nursing II (3-3-3)
Introduction of pharmacology as a method of secondary prevention and includes drug classifications related to concurrent nursing course content. Prerequisites: NSG 301, 302, 302/303, 304/304L and 305. Corequisite: NSG 305. (F,S)

354a Core Interventions II Lab (1-1-1)
Focus is on application of interventions using pharmacology in client treatment plan with primary emphasis on development of skills used in calculation and administration of drugs and solutions. Principles and techniques for surgical neoplastic, medication administration, radiographic insertion, and irrigation of tubes are included. Corequisite: NSG 304. (F,S)

357 Nursing Process in Secondary Prevention (3-3-3)
Principles of secondary prevention for selected short-term acute and chronic conditions of children and adults related to fluid and electrolyte imbalance, skin conditions, lung, cancer and gastrointestinal conditions. Prerequisites: NSG 310/320, 310/320L, 310, 317. Corequisite: NSG 310/320L.

357a Nursing Process in Secondary Prevention Lab (3-3-3)
Application of nursing process with children and adults experiencing acute and chronic conditions. Emphasis is on conditions related to topics covered in NSG 310. Prerequisites: NSG 310, 310L, 317, 317L. Corequisite: NSG 310L.

372 Clinical Practice (4-4-4)
An elective course which provides an opportunity for a concentrated clinical practice experience. Includes elective patient care settings. Prerequisites: Completion of all junior level nursing courses.

382 Psychiatric Nursing (3-3-3)
Nursing process directed toward care of individuals and families experiencing mental illness. Includes concepts of mental health, group process and group leadership. Prerequisites: NSG 302/303, 302/303L. Corequisite: NSG 302/303L.

382a Psychiatric Nursing Lab (3-3-3)
Application of NSG 382. Clinical experiences emphasize all components of the nursing process in meeting the needs of individuals and families experiencing mental illness. Prerequisite: NSG 382. (F,S)

391 Special Topics (1-4-4)
Prerequisite: permission of instructor. (*)

401 Professional Issues in Nursing (3-3-3)
Exploration of professional ethical and legal issues related to professional nursing. Prerequisite: Completion of all junior level nursing courses.

404 Core Interventions in Nursing III (4-4-4)
Continuation of pharmacokinetics, drug classifications related to concurrent nursing course content in NSG 410. Prerequisite: NSG 320/320L, 320/320L and 375, 370. Corequisites: NSG 404 and 410. (F,S)

404a Core Interventions III Lab (1-1-1)
Practice of principles and techniques related to intravenous medications, intracutaneous and subcutaneous and chest tubes. Includes introduction to various patient monitors. Prerequisites: NSG 320/320L, 320/320L, 370, and 375. Corequisites: NSG 404 and 410. (F)

426 Nursing and Psychosocial Wellness (3-3-3)
Concepts of psychosocial processes as they relate to mental health and illness of individuals and groups. Levels of Psychosocial intervention receive special emphasis. Prerequisite: NSG 352 or 362 and 404/404L. (F)

426a Nursing and Psychosocial Wellness Lab (3-3-3)
Practicum course to apply principles and techniques of psychosocial nursing concurrent with NSG 426 and content. Prerequisite: NSG 352/362, or 362/362L. Corequisite: NSG 362/362L.

438 Nursing Care of the Adult II (3-3-3)
Builds on content in NSG 332. Includes complex acute and chronic health problems of individuals and continuity of care within the health care system. Prerequisite: Completion of all junior level nursing courses. Corequisite: NSG 438. (F)

438a Nursing Care of the Adult II Lab (3-3-3)
Application of 438. Students utilize an expanded data base and action strategies to meet complex health needs of individuals. Includes two laboratory days for nursing interventions. Prerequisite: NSG 438. Corequisite: NSG 438L.

441 Genecological Nursing (3-3-3)
An elective theory course which focuses on nursing interventions for older adults. Prerequisite: completion of all junior level nursing courses. (F)

442 Community and Family (4-4-4)
Theory in application of the nursing process, public health principles and concepts related to families and communities. Prerequisite: Completion of all junior level nursing courses. Corequisite: NSG 441, 442L. (F,S)

440 Community and Family Nursing Lab (3-3-3)
Application of NSG 441. Selected experiences in community health settings. Corequisite: NSG 441. (F)

451 Nursing Management II (3-3-3)
Theories and skills which enhance the nurses role as leader and manager in health care and community systems. Prerequisites: NSG 411, 410/410L, 410/410L. Corequisites: NSG 451, 451L. (F,S)

452 Nursing Process: Synthesis III (3-3-3)
Synthesis of previous course work with integration of theories. Research and the nursing process in meeting complex health needs of clients from diverse cultural backgrounds. Prerequisites: NSG 404, 404/404L, 404/404L. Corequisites: NSG 452, 452L. (F,S)

463 Nursing Process: Synthesis IV (3-3-3)
Application of NSG 452. Synthesis of process and content of nursing in managing client groups in acute and rehabilitation settings. Corequisite: NSG 452. (F)

464 Promotions of Health in Individuals, Families, and Groups (3-3-3)
Nursing process related to family and community systems with a major emphasis on primary and tertiary levels of prevention. Includes concepts of community, large group behavior, health education, epidemiology, community mental health, and interprofessional coordination. Prerequisites: NSG 320/320L, 320/320L, 304/304L, Corequisite: NSG 464. (S)

464a Promotions of Health in Individuals, Families, and Groups Lab (3-3-3)
Practicum in community health settings with emphasis on application of nursing process to family units. Primary emphasis on family and community assessment and intervention. Corequisite: NSG 464. (F)

470 Clinical Practice II (4-4-4)
Concentrated practice course consisting of immediate application of the nursing process in patient care settings with clients of all age groups in complex care settings. Prerequisite: permission of instructor. (F,S)

PHILOSOPHY (PHIL)
UNDERGRADUATE COURSES

191 Introduction to Philosophy (3-3-3)
Some of the crucial problems in philosophy, with selections from the major philosophers. (F,S)

192 Philosophical Literature (3-3-3)
Philosophical literature that focuses on such questions as what is the nature of reality, what a kind of life should we strive for? (*)

193 Civilization I (3-3-3)
Kenneth Clark's acclaimed film series "Civilization." Thirteen gripping hours exploring the concept of civilization from the primary viewpoints of the arts and philosophy. (*)

195 Philosophy of Religion I (3-3-3)
A philosophical survey of some of the main concepts of the world's religious traditions through discussions on the thought of outstanding philosophers and theologians with respect to such topics as the existence of God and other supernatural entities, the problem of evil. (F)

195 Philosophy of Religion II (3-3-3)
A philosophical study of some of the main concepts of the world's religious traditions through discussion on the thought of outstanding philosophers and theologians with respect to such topics as the afterlife, perceptions of afterlife, visions, etc. (F,S)

110 Philosophy of Religion III (3-3-3)
A philosophical examination of some of the main concepts of the world's religious traditions through discussion on the thought of outstanding philosophers and theologians with respect to such topics as the problem of evil, personality, ethics, etc. (F)

120 World Religions (3-3-3)
A study of major world religions including Buddhism, Confucianism, Hinduism, Islam, Judaism, Brahman, Shinto, Taijitsu, Zenism, Zoroastrianism. (*)

200 Plato and the Greeks (3-3-3)
Introduces students to the theories of philosophical thinking through a study of select dialogues by Plato. Special emphasis on "The Republic." (*)

204 Critical Reading (3-3-3)
Survey of the principles of current research with emphasis on the role of language in the reasoning process. Major concern with induction and fallacy detection. (*)

209 Dialogic Logic (3-3-3)
Study of the principles and methods used to distinguish valid from invalid patterns of deductive reasoning. Especially useful for students in computer and mathematics-related fields. (F)

267 Nursing/Philosophy
GRADUATE COURSE

180 Advanced Philosophical Psychology (3-0-0)
Advanced philosophical study of the concept of mind, of human consciousness, of such mental phenomena as emotions, and of the dynamics of how people think. Prerequisite: Graduate standing. (*)

PHYSICS/PHYSICAL SCIENCE (PHYS)
UNDERGRADUATE COURSES

100 Physical Science (3-0-0)
Hands-on approach to developing an understanding of the basic concepts of contemporary physical science. Integrated lecture, lab, discussion periods. (F, S)

111 Astronomy (3-0-0)
Solar system, including motions of the planets, eclipses, and satellite exploration; classification and evolution of stars; nebulae, galaxies, and the expanding universe. (F, S)

112 Principles of Physics I (3-0-0)
Electromagnetism, light, atomic, and nuclear physics. Prerequisite: PHYS 101. Corequisite: PHYS 201. (F, S)

113 Principles of Physics II (3-0-0)
Cosmology, nuclear physics. Prerequisite: PHYS 102. Corequisite: PHYS 202. (F, S)

401 Optics (3-0-0)
Optical systems, interferometry, diffraction, polarization of light, optical properties of materials, optical instruments including lenses, and holography. Prerequisites: PHYS 222/223, and MATH 225. (F, S)

402 Thermodynamics (3-0-0)
Introduction to thermodynamic laws and principles. Prerequisite: Algebraic analysis. (F, S)

201 Physical Laboratory (1-0-0)
Introduction to special relativity, atomic theory, quantum mechanics, nuclear structure, atomic physics, and spectroscopy. Prerequisites: PHYS 222/223, and MATH 224. Corequisites: PHYS 301, (S)

203 General Physics Lab (1-0-0)
Cosmology, nuclear physics. Prerequisite: PHYS 201. Corequisite: PHYS 202. (F, S)

211 General Physics I (4-0-0)
Newtonian mechanics, including linear and rotational dynamics, momentum, energy, gravitation, fluid mechanics, wave motion and thermodynamics. Uses the calculus as a tool. Prerequisites: Mathematics, graduation, and experience with physics. (F, S)

212 General Physics II (4-0-0)
Cosmology, nuclear physics. Prerequisite: PHYS 211. Corequisite: MATH 175. (S)

215 General Physics Lab (1-0-0)
Cosmology, nuclear physics. Prerequisite: PHYS 201. Corequisite: PHYS 202. (F, S)

217 General Physics Lab (1-0-0)
Cosmology, nuclear physics. Prerequisite: PHYS 211. Corequisite: PHYS 212. (S)

220 Special Topics (1-4-0)
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181 American Political Parties (3-0-3)
Basic processes in American politics. Principles and structure of political parties. (P)

182 State and Local Government and Politics (3-0-4)
Behavioral aspects, government organization and interrelationships of state and local politics, relations with federal government and other states. Special attention to Colorado government. (S)

185 Understanding Human Diversity (3-0-4)
American life is a complex and diverse society. This course examines the nature, impact and strategies for dealing with diversity in personal and social contexts. (S)

188 The Human Experience (3-0-3)
Human efforts to organize social activity and relationships for group development and survival through political, economic, and social institutions. (F)

201 Comparative Politics (3-0-3)
Introduction to comparative political analysis through study of selected political systems. Emphasis on basic political functions and processes in developed countries. (P)

202 World Politics (3-0-3)
Study of political problems and issues which affect the world. Emphasis on conflict, arms races, economic change and world communism. (S)

250 Scope and Methods in Political Science (3-0-3)
Introduction to the discipline of political science and its methodology as well as to the basic methods and tools of research in political science. (F)

281 Special Topics (1-0-3)
Independent study involving specialized reading and research. (S, SS)

282 Political Parties and Elections (3-0-3)
Examines the organization and function of political parties and the roles of political parties, pressure groups, and public opinion in American elections. Prerequisite: POLSC 101. (F)

285 International Relations (3-0-3)
Study of international systems and organizations. Special emphasis is given to the sources of conflict and the study of conflict management. Prerequisite: POLSC 201 or 202. (S)

310 Legal Research Methods (3-0-3)
Introduction to the basic reference materials of legal research, the use of law libraries, research on statutes and judicial decisions and preparation of legal memoranda. (P)

311 (HIST 311) American Constitutional Development (3-0-3)
Political context of the origins of the U.S. Constitution, Supreme Court procedures, court decisions defining the scope of powers of the court, the Congress and the presidency. Prerequisite: POLSC 101. (F)

320 American Constitutional Law (3-0-3)
Survey of American constitutional law, emphasis on Supreme Court decisions defining the extent and limits of governmental authority and the rights and liberties of individual citizens. Prerequisite: POLSC 201 or permission of instructor. (S)

330 Criminal Law and Procedure (3-0-3)
Content and characteristics of criminal law and procedure. Roles and functions of persons and agencies involved in the judicial administration. Prerequisite: POLSC 101. (F)

334 Federal Law (3-0-3)
Survey of legal issues concerning domestic relations, Supreme Court decisions and legislative enactments. Prerequisites: POLSC 101 and 202. (S)

338 Introduction to Public Administration (3-0-3)
Role of public bureaucracy in modern society. Principles and processes of public administration, personal management and administrative responsibility. Prerequisite: POLSC 101. (F)

340 Public Policy (3-0-3)
Introduces the processes of formulation, implementation, and evaluation of public policy. Examines program development and execution in the context of political, economic, and institutional environments. Prerequisite: POLSC 101. (F)

370 Political Thought (3-0-3)
Systematic survey of political thought from beginnings in Ancient Near East to present. Emphasis on contributions relevant to contemporary political theory. Prerequisite: previous work in political science or philosophy. (P)

458 The American Presidency (3-0-3)
Analysis of the powers and politics of the American presidency and those who have held the office. Presidential decision making, legislative and judicial relationships, elections. Prerequisite: POLSC 101. (F)

411 Legislatures and Legislation (3-0-3)
Organization, function, and process of American legislatures at national, state and local levels. Party organization, legislative procedures, lobbying and legislative negotiation. Prerequisite: POLSC 101. (S)

440 Area Study: Europe and the Soviet Union (3-0-3)
Introduction to the political, economic, and military strategies and processes of the region. (W)

442 Area Study: Latin America (3-0-3)
Introduction to the political, economic, and military strategies and processes of the region. (S)

444 Area Studies: Asia and the Pacific (3-0-3)
Introduction to the political, economic, and military strategies and processes of the region. (F)

446 Area Study: Africa/Middle East (3-0-3)
Introduction to the political, economic and military strategies and processes of the region. (S)

448 Area Study: Latin America (3-0-3)
Introduction to the political, economic, and military strategies and processes of the region. (F)

453 American Political Thought (3-0-3)
Development of American segment of modern political thought from colonial times to present. Interspersing of individuals, ideas and institutions shaping modern American political responses. (F)

468 Practices in Politics and Public Service (3-0-3)
For advanced students. Practical experience in local government agencies, political parties or legal offices. Prerequisite: departmental permission. (P,S, SS)

481 Special Topics (1-0-3)
Independent study involving seminars and research. Prerequisites: junior or senior status with adequate preparation and approval of instructor. (F)

482 Research (1-0-3)
Application of research methods and materials. Emphasis on indepth study of specific political topics. Involve writing and discussion of research papers at advanced level. (S)
217 Eustice and Bexis in Anatomy (3-4)
Dynamics of prejudice and discrimination in terms of sex and race; special attention to analysis of strategies for improving relations. (S)
220 Drugs and Behavior (3-4)
Use and misuse of drugs; analysis of causes of drug abuse. Different modalities used in the treatment of drug abuse. (F,S)
221 Psychology of Creativity (3-4)
Creative behavior from a variety of approaches. Criteria for identifying creative processes and methods for fostering and developing creative behavior. (*)
222 Understanding Animal Behavior (3-4)
Basic comparative and ontological perspectives regarding animal behavior. Scientific techniques for observation of animal behavior are demonstrated at the Feline Zoo. (F,S)
223 Psychology of Family Behavior (3-4)
A consideration of the unique features of the family at each of the developmental life cycle stages. Special attention will be given to the interaction between family behavior and individual characteristics of its members. (F)
241 Human Sexuality (3-4)
Psychological and biological aspects of human sexual behavior. Prerequisite: PSYCH 101 and two years of high school algebra or equivalent. (F)
241I Introduction to Data Analysis (3-4)
Introduction to descriptive and inferential statistics. Probability and hypothesis testing procedures will be considered. Prerequisite: PSYCH 101 and two years of high school algebra or equivalent. (F)
243I Sports Psychology (3-4)
The effect of important psychological constructs such as anxiety, motivation, personality, arousal and cognition on performance in athletics and athletics. (S)
241 Women and Society (3-4)
Statistical overview of the current status of women, followed by examination of theories concerning equality of the sexes. (F)
250 Independent Study (1-3 VARY)
Prerequisite: psychology major or minor; prior written permission of instructor required. (F,S)
256 Superficial Education Placement (1-4 VARY)
Arrangements between schools 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. Prerequisite: permission of instructor. (F,S,S)
261 Introduction to Psychological Experimentation (3-4)
Introduction to basic methods and procedures for data collection and analysis of psychological experiments. Both survey and laboratory-based research designs will be described. Prerequisite: PSYCH 101, and 201. (F,S)
261I Introduction to Psychological Experimentation (Lab 1-2)
Concurrent: PSYCH 301. (F,S)
261I Theories of Personality (3-4)
Major theories of personality and the methods of personality investigation. Prerequisite: PSYCH 201. (F,S)
261I Environmental Psychology (3-4)
The influence of the physical and social environment on the individual. Variables considered include architecture, city size, noise, pollution and allocation of resources. Prerequisite: PSYCH 101. (F)
261I Organizational and Administrative Psychology (3-4)
Application of psychological principles and methods of selection, placement, evaluation, motivation of personnel to work, and problems of human relations in business and industry. Prerequisite: PSYCH 101. (F,S)
271I Physiological Psychology (3-4)
Structure and function of the brain, nervous and endocrine systems, biological basis of sensation, perception, sleep and arousal, motivation, learning and memory, and drug action. Prerequisite: PSYCH 101, or BIOL 103, 204, or permission of instructor. Concurrent: PSYCH 301. (F)
271I Physiology and Psychology Lab (1-2)
Concurrent: PSYCH 301. (F,S)
274 Perception (3-4)
The senses and how they cooperate with the brain to provide awareness and knowledge of the world about us. Emphasis on theoretical and experimental analyses of the processes of seeing, hearing, tasting, smelling, and touching. Role of learning in normal and sensory perception is considered. Prerequisite: PSYCH 101, or permission of instructor. Concurrent: PSYCH 304. (F,S)
274 Perception Lab (1-2)
Concurrent: PSYCH 304. (F)
274 Methods in Design (3-4)
Graduate-directed behavior, survey of historical approaches to motivation: Behavioral, cognitive and biological perspective applied to eating, sexual behavior, aggression, affiliation and attachment, defense, achievement and cooperation. Prerequisite: PSYCH 101. Concurrent: PSYCH 300, or permission of instructor. (F)
274 Methods in Design Lab (1-2)
Concurrent: PSYCH 300. (F)
274 Learning (3-4)
Principles of learning and memory. Empirical findings and theoretical frameworks of topics including conditioning, reinforcement and punishment. Laboratory research and application. Prerequisite: PSYCH 101. Concurrent: PSYCH 300 in permission of instructor. (F)
274I Learning Lab (1-2)
Concurrent: PSYCH 300. (F)
275 Memory and Cognition (3-4)
Theory and research on current topics in cognition, including attention, concept formation, imagery, memory, decision making, language acquisition, problem solving and test construction. Prerequisite: PSYCH 101. (F)
275I Memory and Cognition Lab (1-2)
Concurrent: PSYCH 300. (F)
275I Psychobiology of the Emotionally Abnormal (3-4)
Survey of characteristics of those individuals considered significantly above or below the norm of the population. Emphasis on behavioral identification and modification of the forms, school and social environment. Prerequisite: PSYCH 101. (F,S)
277I Social Psychology (3-4)
General and applied psychological principles of the individual's interaction with a group. Prerequisite: PSYCH 101, or permission of instructor. (F,S)
277I Theory and Research in Developmental Psychology (3-4)
Emphasis on theoretical foundations of developmental psychology. Research emphasizes used in conducting developmental research. Prerequisite: PSYCH 151 or PSY 251 and 252. (F)
GRADUATE COURSES

515 Psychology of Women (3-0-3) Designed to provide a systematic analysis of the forces that shape the behavior of minorities and consequence counseling methods with this population. (F, S)

524 Philosophy and Theory of Counseling (3-0-3) Designed to acquaint students with the range of theories currently directing the work of the counselor and to facilitate the development of a personal model of counseling. Personal professional ethics emerge as a major class focus. (W)

525 Tests and Techniques of Guidance Services (3-0-3) Open to graduate students in the secondary school counseling program. A study of materials and methods used in secondary schools and of the counselor as a consultant and coordinator. The importance and role of the secondary school counselor will be the focus of this class. (F, S)

530 Educational Development (3-0-3) Designed to provide the graduate student with experience and skills necessary to improve programs and organization. (F, S)

527 Drug Counseling (3-0-3) Leads to an understanding of the function of group methods in the guidance program and assists the student in developing group facilitation skills. (F, S)

529 Career Development (3-0-3) Designed to help students gain insight and understanding of the development process of occupational desires. Explores career counseling provided by counselors for clients in the areas of future education and in the world of work. (F, S)

522 Child and Adolescent Psychology (3-0-3) Leads to an broad understanding of the impact of external influences on a person from conception through adolescence. Format includes exploration of topics of interest, discussion of research and active class participation. (F, S)

532 Behavior Therapy (3-0-3) A study of the various factors precipitating disruptive behavior in the classroom both from the standpoint of individual psychological patterns and conditions unique to the individual student. (F, S)

538 Personology (3-0-3) Designed to provide the beginning counseling student with basic interpersonal relating experience. Individual and group contact focuses on personal growth and skill development. (F, S)

538 Elementary Counseling (3-0-3) Designed to provide methods and techniques for elementary school counselors. (F, S)

583 Psychopathology of Childhood (3-0-3) Unusual conceptual models of etiology, assessment, and therapy appropriate to psychological disorders of childhood. Graduate students complete an independent project and consider treatment and management techniques. Prerequisites: graduate standing, permission of instructor and PSYCH 362 or equivalent. (W)

587 Research (3-0-3) Designed to assist students with the knowledge and skills necessary for a consumer of research. The fundamentals of research procedure and analysis of statistics are stressed. (F)

599 Internship (3-0-3) Designed for the student with actual field work experience in counseling and guidance. (F)

READING (RDG)

UNDERGRADUATE COURSES

501 Reading and Language Arts in the Elementary School (3-0-3) Foundations of reading and language arts including psychology of reading, language development, emergent literacy, word attack, comprehension strategies, vocabulary, handwriting, spelling, written and oral language skills. (F, S)

310 Current Approaches to Reading and Writing Instruction (3-0-3) Various approaches to teaching reading and writing including research findings and classroom application of the reading and writing process. Prerequisite: RDG 351 or 425. (S)

368 Pedagogy (3-0-3) Work with small groups and individual pupils in the public school preparing materials and lessons under the supervision of a reading teacher. Applies to both elementary and secondary schools depending upon the instructor's assignment. Prerequisite: DDG 301 or 425 and initial testing in basic comprehension. (F, S)
405 Teaching Reading in Content Areas 229-1 (F)
Reading skills, strategies, and activities to improve comprehension of textual material in various content areas such as mathematics, science, history, social sciences, and industrial education. (F) (S)

407 Developing Creative Centers 227-5 (F)
Involves planning, developing, and implementing the use of learning centers in the classroom. Prerequisites: RGO 301 or 425. (S)

408 How Directives in Reading Comprehension 225-5 (F)
Examination of and simulations of research-based strategies to increase students’ comprehension of reading in elementary and secondary classes. Prerequisites: RGO 301 or 425. (F, S)

307 Newspaper as a Teaching Resource 111-6
Strategies and procedures for using the newspaper as a supplementary resource in content area classrooms at all grade levels. (K-12). (S)

426 Reading Across Cultures 327-8 (F)
Examination of adopting reading instruction for the linguistically and culturally different child. Problems of many minority groups are analyzed. Prerequisites: RGO 301 or 425. (F)

450 Diagnostic and Remediation of Reading Problems 328-2 (F)
Diagnostic and evaluation procedures used in assessing and remediating problems and individualized instruction approaches for elementary and secondary teachers. Field experience required. Prerequisites: RGO 301 or 425. (F, S)

491 Special Topics (1-3 VQR) (*)

495 Independent Study (1-4 VQR) (*)
Individual projects and problem-solving experiences designed to meet students’ special needs. With instructor’s permission, graduate program requirements may be completed through independent study. (F, S)

GRADUATE COURSES

510 Foundations of Reading Instruction 328-4 (F)
Basic course for other graduate reading courses, including reading skills, sequence, materials, psychology of reading and relationships to other language arts. Prerequisites: graduate standing. (*)

523 Teaching Reading in the Content Area 328-4 (F)
Reading skills specifically used in mathematics, science, social studies and humanities, including specific techniques for teaching. Prerequisite: graduate standing. (F, S)

531 Developing Creative Centers 111-4 (S)
Students will investigate various types of learning centers in diagnostic and remediation classes. Development of individualized, non-dominant reading and writing strategies which will result in a complex reading center. Prerequisites: graduate standing. (S)

536 How Directives in Reading Comprehension 225-5 (F)
Current research-based theory and practical classroom strategies and procedures for increasing comprehension of reading in elementary and secondary classes. Prerequisites: graduate standing. (F, S)

537 Newspaper as a Teaching Resource 111-6 (S)
Strategies and procedures for using the newspaper as a supplementary resource in content area classrooms at all grade levels. Prerequisites: graduate standing. (S)

543 Reading Across Cultures 327-8 (F)
Techniques of adopting reading instruction for the linguistically and culturally different child. Prerequisites: graduate standing. (F, S)

558 Diagnostic and Remediation of Reading Problems 328-2 (F)
Formal and informal diagnostic procedures for the classroom teacher including standardized testing, informal inventories, cloze, validation-researched testing and Reading/Mental Inventory, prescriptions, remediation strategies based on strategies. Prerequisites: a beginning reading course, graduate standing, and teacher certification or initial testing in basic comprehension. (F, S)

559 Psycholinguistic Perspectives on Reading: Process in Practice 328-1 (F)
Introduction to psycholinguistic perspectives through reading. Maier as a framework for investigating reader’s strengths and weaknesses. Strategies for remediating poor quality reading. Prerequisites: beginning course in reading, graduate standing, and teacher certification or initial testing in basic comprehension. (*)

560 Practicum in Reading 330-4 (S)
Minimum of 150 hours of practical experience in a selected recreation agency. Prerequisite: permission of director of recreation program. (F, S)

569 Practicum in Special Populations 330-4 (S)
Work with special groups and individual pupils in the public school preparing materials and lessons under the supervision of a reading teacher. Applied to both elementary and secondary classes. Prerequisites: an instructor’s assignment. Prerequisites: RGO 301 or 425, graduate standing, and teacher certification or initial testing in basic competencies. (F, S)

591 Special Topics (1-3 VQR)
Prerequisite: graduate standing. (*)

595 Independent Study (1-4 VQR)
Prerequisite: graduate standing. (*)

RECREATION (REC)

UNDERGRADUATE COURSES

243 Recreation Program Planning 328-2 (F)
Basis for supporting and methods of conducting recreation programs in a wide variety of public, private, voluntary and commercial recreation agencies. (S)

368 Leadership and Supervision in Recreation 328-2 (F)
Leadership functions and value of supervisors in professional recreation services. Addresses construct leadership techniques and styles, leadership theories, personnel selection, and group dynamics. Prerequisite: permission of instructor. (F)

369 Outdoor Education 328-2 (S)
Conducts and methods of outdoor education and interpretation. Students learn to teach outdoor living skills and natural history using experiential methods in an outdoor setting. Prerequisite: permission of instructor. (S)

370 Outdoor Leadership 421-4 (F)
Intensive field course in wilderness expedition leadership. Topics include planning, equipment, survival, group dynamics, and decision making. Leads to certification through the Wilderness Education Association. Prerequisite: permission of instructor. (S)

376 Practicum in Recreation 330-1 (S)
Minimum of 150 hours of practical experience in a selected recreation agency. Prerequisites: permission of director of recreation program. (F, S)

400 Recreation for Special Populations 330-4 (S)
Community and clinical recreation services for the mentally retarded, law offenders, physically impaired, legally disabled, disturbed or aging. Prerequisite: permission of instructor. (F)

401 Recreational Recreation 330-3 (S)
Evaluation of the outdoor recreation experiences, the organization of resource recreation management and key outdoor recreation policy issues. Prerequisite: permission of instructor. (F)

410 Recreation Management 328-2 (F)
Administration and management considerations in public and voluntary recreation and leisure-oriented agencies. Contemporary issues in budget and personal management, employee relations, management styles and theory, public relations and government legislation affecting the leisure field. Prerequisite: permission of instructor. (F)

491 Special Topics (1-6 VQR) (*)

493 Seminar 328-2 (F)
Advanced in-depth examinations of contemporary issues in leisure recreation. Includes student-led discussions, independent study projects and comprehensive examinations. Internship and senior preparation are emphasized. Prerequisite: REC 324. (S)

495 Independent Study (1-6 VQR) (*)

496 Internship 328-2 (F)
400 hours of supervised, fulltime experience in a selected recreation agency. Management supervision level experience expected. (300 hours). Prerequisite: permission of department chair. (F, S)

RUSSIAN (RUS)

UNDERGRADUATE COURSES

101 Introduction to Russian 1 330-4 (F)
Introduction to Russian. (4, S)

102 Beginning Russian 2 330-4 (S)
Practice in oral, aural, reading and writing exercises. Prerequisite: RUS 101 or equivalent. (F, S)
SOCIAL SCIENCE (SOCSC)

UNDERGRADUATE COURSES

111 Career Orientation (1-1-0)
Current trends and developments in professional career fields. Provide students with a knowledge of job opportunities in modern occupational categories. (F,S)

131 Sociology and Technology (3-0-3)
Role of technology as a 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. (S)

135 Afro-American Studies (3-0-3)
Analysis of black cultural experiences from African origins and civilization to the present. (F)

136 Books in America Today (3-0-3)
Analysis of books in today’s literature, including problem areas and contemporary issues. (S)

221 Contemporary Affairs (3-0-1)
Current problems in world and national affairs for the purpose of developing habits in, and perspectives on current events. (F)

277 Teaching Social Studies in Secondary Schools (3-0-3)
Curriculum, methods, and techniques for teaching social studies in junior and senior high schools. (F)

416 Revolution (3-0-4)
General historical development of revolutions, emphasis on one major revolutionary movement in world history. (F)

425 Seminar (3-0-0)
Various problems within the realm of social science utilizing an integrated approach. For majors in broad areas of social science disciplines. (F)

GRADUATE COURSES

501 Technology and Society (3-0-4)
An analysis of the impact of technology on society and the implications of technological development on individuals, groups, societies, nations and governments. Prerequisite: Graduate standing. (F)

527 Technology and Society (3-0-4)
Study of processes involved with forecasting technological growth and need. Quantitative and qualitative procedures and processes. Assumptions underlying logical process. Study of case histories. Term project. Prerequisite: Graduate standing. (F)

580 Research (2-2-0)
General historical development of research, emphasis on one major revolutionary movement in world history. Prerequisite: Graduate standing. (F)

590 Seminar (2-0-0)
Various problems within the realm of social science utilizing an integrated approach. For majors in broad areas of social science disciplines. Prerequisite: Graduate standing. (F)

SOCIAL WORK (SW)

UNDERGRADUATE COURSES

120 Introduction to Social Welfare (3-0-4)
Exploration of social welfare as a major institution in contemporary society, immunity to the field of social work, the roles, professional skills and philosophy of practice. (F)

132 Understanding Human Diversity (3-0-3)
American life is a complex and diverse society. This course examines the nature, impact and strategies for dealing with diversity in personal and social contexts. (F)

211 Human Behavior and Social Environment I (3-0-0)
Focus on the person in the environment, with an examination of the interrelationship of psychological, biological, social, and cultural systems and their impact on social functioning. Introduction to systems theory as an organizing framework. Prerequisites: SOC 101, PSY 201 and an approved human biology course. (F)

212 Human Behavior and Social Environment II (3-0-3)
Focus on an understanding and analysis of larger social systems including the family, groups, communities and organizations. Emphasis on social systems as an organizing theoretical framework for understanding social functioning and change. Prerequisite: SW 201. (S)

213 Social Work in the United States (3-0-3)
Examines the historical development of social welfare and social work. Emphasis on social values and structures as they affect human and economic security in America. Prerequisite: SW 101. (F)

216 (SOC 216) Techniques of Analysis (3-0-0)
Introduction to the methods of scientific investigation in social work. (F-S)

222 Social Work Practice (3-0-4)
Foundation course for the social work major, presentation of basic elements of general professional practice. Specific attention is given to professional values, interviewing skills, relationship building, and communication and development. Prerequisites: SW 101 and 201. (F)

290 Special Projects (1-4-0)
Prerequisites: permission of instructor. (F)

318 Human Diversity in Practice (3-0-3)
Examines the history and culture, attitudinal, social, and emotional needs of ethnic minority groups in the United States. Identifies skills required for "ethnic competence" in practice. Prerequisites: SW 100, 201 and 322. (F)

322 Social Work Internship I (3-0-3)
Elements of general social work practice with a focus on individuals. Assessment, intervention, evaluation, and skill development and practice are emphasized. Prerequisites: SW 100, 201 and 202. (F)

323 Social Work Internship II (3-0-3)
Practice methods of social group work with a generalist model, relationship to group structures and processes, leadership functions, group process and interpersonal relationships. Prerequisite: SW 322. (S)

224 Social Work Internship III (3-0-3)
Nature and scope of social work intervention at the community level, distinctive characteristics of the community as a social system and implications for group intervention. Prerequisite: SW 322. (S)

340 Social Work Policy and Program Evaluation (3-0-3)
Nature of social policy, process of policy formulation, sources of influence, role of social work objectives, values and standards of social work practice. Prerequisites: SW 105 and 205. (F)

409 Social Work Theory (3-0-3)
A comparative approach to explanatory theories of human behavior, especially as they relate to the helping process in social work practice. Prerequisites: program permission, SW 320, 329 and 324. (F)

490 Social Work Seminar (3-0-3)
An examination of stresses/fields of social work practice. Focus on knowledge and skills needed to effectively practice in these settings. Prerequisite: program permission. (F)

491 Field Seminar (3-0-0)
Field seminar in conjunction with agency field placement to integrate practice and theory. Corequisites: SW 486. (F)

492 Field Seminar II (3-0-3)
Field seminar in conjunction with agency field placement to integrate practice and theory. Corequisites: SW 486. (S)

499 Field Placement I (3-0-3)
Studies the nature of the social work role and social work agencies. Orientation to the agency field placement. Prerequisites: permission of instructor. Corequisite: SW 491. (F)

499 Field Placement II (3-0-3)
Studies the nature of the social work role and social work agencies. Orientation to the agency field placement. Prerequisites: permission of instructor. Corequisite: SW 491. (F)
423 Sociology of Violence 253-4

The extent, uniqueness, and impact of the major forms of domestic violence. (*)


Social and structural implications of science and technology on society. (*)

486 Victimology 354-5

Study of the victims role in criminal transactions: Examination of individuals and groups as victims of officially defined crimes, as well as other social injuries, not officially defined as crime. Prerequisite: SOC 304. (*)

410 Structural and Elite Crime 334-5

Examination of crimes and social injuries perpetrated by organizational structures that do physical or economic harm to the environment, their employees, and their customers. Prerequisite: SOC 304. (*)

436 Criminological Theory 354-6

Examination of major theories of crime and their policy implications; focus on sociological factors in theory development. Prerequisites: SOC 104 and 316. (*)

430 Industrial Organizations 334-6

Modern industrial society, emphasis on industry as a type of social organization including roles of management and labor. (*)

431 Working in Modern America 334-6

Examination of the changing patterns, structure, and attitudes toward work in the United States today. (*)

432 Organization Theory 334-6

Prevailing theoretical model of large organizations and suggested alternatives. (*)

451 (ANTH 411) Culture/Science/Prehistory 33-4

Analysis of the relationship between culture and the causes and manifestations of deviance and pathology. (*)

461 Special Topics 1-4 (VAR)

Topics identified by syllabus taught. Students may enroll as often as new topics are introduced. (*)

491 (ANTH 480) Research 33-4

Qualitative and quantitative methods and designs in sociological research. (*)

201 Spanish Pronunciation and Conversation 233-4

Required of all Spanish majors. Prerequisite: SPN 202. (F)

202 Advanced Spanish Pronunciation and Conversation 331-2

Required of all Spanish majors, except bilingual track. Prerequisite: SPN 202. (F)

231 Masters of Spanish Literature 323-4

Major literary works of Spanish literature; essential techniques of literary criticism using a cultural approach. Prerequisite: two years of college Spanish or equivalent. (*)

326 19th-Century Spanish Literature 323-4

Emergence of romanticism in Spain and its gradual development toward realism and realism. Prerequisite: two years of college Spanish or equivalent. (*)

341 Masters of Spanish American Literature 323-4

Major works of Spanish America with emphasis on cultural aspects of 20th-century literature. Prerequisite: two years of college Spanish or equivalent. (*)

342 Spanish American Novel 323-4

Outstanding Spanish American novels, concentrating on their artistic and social significance. Prerequisite: two years of college Spanish or equivalent. (*)

391 Contemporary Hispanic American 323-4

Sociology, geography, internal and external politics, economics, and the role of the United States in Spanish America and Brazil. Prerequisite: two years of college Spanish or equivalent. (S)

The Spanish American Short Story 323-4

Major works of Spanish Americans with emphasis on cultural aspects of 20th-century literature. Prerequisite: two years of college Spanish or equivalent. (S)

391 Masters of Spanish Literature 323-4

Reading, analysis and discussion of contemporary Spanish literature. May be repeated for credit as content changes. Prerequisite: two years of college Spanish or equivalent. (*)

411 Modern Spanish Literature 323-4

Major current of Mexican literature, primarily of the 20th century. Prerequisite: two years of college Spanish or equivalent. (*)

443 Correlation: Des Goulet 222-3

Primary research in Des Goulet, history and cultural analysis of the characters Des Goulet and Savacko. Prerequisite: two years of college Spanish or equivalent when class is conducted in English. (S)

410 Spanish Thought 233-4

Epistolary, Prerequisite: two years of college Spanish or equivalent. (S)

480 Spanish Literature 233-4

Reading, analysis and discussion of contemporary Latin-American literature. May be repeated for credit as content changes. Prerequisite: two years of college Spanish or equivalent. (F)

456 Field Experiences 1-7 (VAR)

Communication, lectures by writers, artists, political leaders and specialists, visits to museums, attendance at movies, theater and conferences. Prerequisite: two years of college Spanish and permission of instructor. (F)

450 Independent Study 1-12 (VAR)

Specific themes which address particular problems of literature or culture. may be repeated for credit with approval of major advisor. Prerequisite: two years of college Spanish. (F)

SPEECH COMMUNICATION

SPEECH COMMUNICATION (SPCOM)

163 Speaking and Listening 33-4

Introduces principles of speaking and listening with emphasis on exposition and the application to public speaking. (F,S,SU)

110 Speech Activity 1-12 (VAR)

On and off-campus activities which include colleges, intramural competition, programs for students and public. Communication skill and experience development. May be repeated for credit. (F, S)

SPHEN SPANISH/SPANISH COMMUNICATION

282 Sociology/SPANISH

423 Family Violence 354-5

The extent, uniqueness, and impact of the major forms of domestic violence. (*)


Social and structural implications of science and technology on society. (*)

486 Victimology 354-5

Study of the victims role in criminal transactions: Examination of individuals and groups as victims of officially defined crimes, as well as other social injuries, not officially defined as crime. Prerequisite: SOC 304. (*)

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Prevailing theoretical model of large organizations and suggested alternatives. (*)

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411 Modern Spanish Literature 323-4

Major current of Mexican literature, primarily of the 20th century. Prerequisite: two years of college Spanish or equivalent. (*)
119 Beginning Sign Language (3-3) A introduction to the fundamentals of communicative interaction with and among the deaf by means of hand symbolization. (F)

211 Public Speaking (3-3-VA) Emphasis is placed upon audience analysis, proof, and speaker credibility in order to persuade audiences. Application made through classroom presentations and analysis of models. (*)

212 Argumentation (3-3-VA) Argumentation focuses on the methods advocates employ to make relevant decisions and is in an essay to others’ arguments. Particular emphasis on the nature and skills of reasoned discourse. (*)

216 Intermediate Sign Language (3-3-VA) Study and application of the American Sign Language, including conversational skills, gestures and deaf culture. Prerequisites: SPCCOM 116 or permission of instructor. (F)

231 Interpersonal Communication (3-3-VA) The principles and skills of speaking applied to interpersonal speaking situations. Topics covered include openness, pronunciation, and talking to and about people. (*)

232 (MACOM 234) Business Faxing (3-3-VA) Study and application of the principles of oral communication to radio and television announcing. Prerequisite: MACOM 102. (F)

233 Oral Interpersonal Interactions (3-3-VA) Basic principles and techniques of oral reading, designed to aid the student in discovering and sharing with an audience the meaning and meaning in literature. (*)

241 Organizational Communication (3-3-VA) Study of the dynamics of communication within the context of complex human organizational systems. Understanding how theories of organization, leadership, information flow, and interpersonal communication contribute to creating communication problems in the organization. (*)

242 Interview and Communication Techniques (3-3-VA) Principles and techniques of interviewing is a variety of situations and concepts of participation and leadership in task-oriented groups. (*)

250 Introduction to Communications Disorders (3-3-VA) Survey course of communicative disorders. Emphasis on classification and descriptions. Covers certification requirements, licensure and professional opportunities. (*)

281 Voice and States (3-3-VA) Voice improvement course for teachers, actors, broadcasters, professional speakers. Emphasis on breath support, vocalization, resonance, articulation and pronunciation. Individual attention stressed. (F)

281 Special Topics (3-3-VA) (*)

283 Independent Study (1-3-VA) Prerequisites: permission of instructor. (*)

284 (EN 334) Language Awareness (3-3-VA) Topics include oral and written language in the classroom. Students are encouraged to explore language as a social and cultural phenomenon. (F, S)

292 Permission (3-3-VA) Examination of the principles and theories of perception and their application to praxic devices. Emphasis is on using language to secure belief and action. Prerequisites: SPCCOM 211, 212 or permission of instructor. (F)

293 Speech Activity (3-3-VA) Advanced speech activities including intercollegiate and forensic competition, programs for students, and completion of SPCCOM 115. May be repeated twice for credit. (F, S)

299 Group Discussion (3-3-VA) Performance course emphasizing discussion skills and communication disclosure. Prerequisites: SPCCOM 121, 212 or permission of instructor. (F)

281 Articulation Disorders (3-3-VA) Classification, diagnosis and clinical management of articulation disorders. Prerequisites: SPCCOM 290 or permission of instructor. (F)

282 Voice Disorders (3-3-VA) Classification, diagnosis and management of voice disorders. Prerequisites: SPCCOM 290 or permission of instructor. (F)

283 Stuttering (3-3-VA) Nature and theories of stuttering with an introduction to therapeutic and counseling procedures utilized in clinical management. Prerequisites: SPCCOM 290 or permission of instructor. (F)

300 Language Acquisition and Development (3-3-VA) Normal processes of development of language in children, growth of language, including structure, comprehension, use of oral and written language, other symbolic behavior. (F)

301 Phonetics (3-3-VA) Designed to teach the student to identify speech sounds and to transcribe them according to the International Phonetic Alphabet (IPA). Prerequisite: SPCCOM 281 or permission of instructor. (S)

302 Basic Audiology (3-3-VA) Introduction to the field of audiology, the ear and hearing. Emphasis on initial battery testing and interpretation of test results. Overview of selected clinical diagnostic tests. Practice in hearing testing is required. Prerequisites: SPCCOM 250 or permission of instructor. (F)

376 Speech-Saying Activities (1-3-VA) Methods of relating competitive and non-competitive speech activities, management of speech tournaments, administration of secondary school forensic, prophase and intercollegiate speech programs. Prerequisites: Junior or senior standing. (F)

377 Speech Education Methods (3-3-VA) Designed to teach the principles of teaching speech. Coached to foster a thoroughly professional teacher. Prerequisite: Junior standing and permission of instructor. (F)

401 The Nature of Disorder (3-3-VA) Theory course; stresses the process of articulatory movement, structurally worded in human language. Focuses on the human capacity of relying in kind. Prerequisite: SPCCOM 280. (*)

442 Conflict Management (3-3-VA) The nature of conflict and its resolution in organizations. The communication attitudes, strategies and tactics that are useful in managing conflict and the principles of guilt and resolution. Prerequisite: SPCCOM 241 or permission of instruction. (*)

447 Audial Frustration (3-3-VA) Detailed study of auditory training procedures and speech reading methods. Discussion of hearing aid included. Prerequisite: SPCCOM 295 or permission of instructor. (S)

448 Signs and Methods in Speech Pathology (3-3-VA) Clinical principles and methods with emphasis on diagnosis and evaluation. Discussion of Federal Law PL 94-142 and the Individual Education Program (IEP) for the communicatively handicapped in the public schools. Experience with clinical tests, therapy materials and diagnostic equipment. Prerequisite: six semester hours in speech pathology or permission of instructor. (S)

452 Oral Speech Disorders (3-3-VA) Study of the causes, nature, and diagnosis of language disorders in children, introduction to clinical management. Prerequisites: SPCCOM 380 or permission of instructor. (F)

491 Clinical Experience in Communication Disorders (1-1) Clinical practicum. Fifty clock hours must be completed to earn credit. May be repeated three times for credit. (S) Prerequisite: permission of instructor. (F, S)

491 Special Topics (1-3-VA) When appropriate Prerequisite: permission of instructor. (*)

250 Seminar (1-1-VA) Clinical study as directed by the department, carrying an advanced level of core aspect of discourse. Credit value assigned according to course objectives. Prerequisites: Junior or senior standing and permission of instructor. (S)
491 Independent Study (1-3 hr.)
Prerequisite: permission of instructor. (*)

499 Cooperative Education Programme (1-4 hr.)
Arrangement between employees and faculty members to provide students with an opportunity to earn academic credit and monetary reimbursement for off-campus 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 total each placement term. Twelve credits maximum allowed toward graduation. Prerequisite: permission of instructor. (*)

GRADUATE COURSES

578 Directing Speech Activity (3-0 hr.)
Identical in content with SPCOM 276 but higher quality of work and greater understanding of course objectives must be attained. Research report is required. Prerequisite: graduate standing, permission of instructor. (*)

581 Special Topics (1-0 hr.)
Prerequisite: graduate standing. (*)

582 Independent Study (1-0 hr.)
Prerequisite: graduate standing. (*)

THEATRE (TH)

UNDERGRADUATE COURSES

101 Summer Theatre Production (1-0 hr.)
A workshop in producing plays in the summer stock situation. Four to six one-acts are presented during an eight-week summer theatre term. Prerequisite: permission of theatre director. (SB)

111 Theatre Appreciation (3-0 hr.)
A course emphasizing the understanding of theatre art from the audience's point of view. (*)

120 Fundamentals of Theatre (3-0 hr.)
An introduction to all aspects of creating a work of theatre art from the contributing artists' point of view. (*)

130 Beginning Acting (3-0 hr.)
An introduction to the principles of acting for stage and screen. (*)

150 Company Class (1-3 hr.)
Theatre production laboratory for beginning students. Credit is offered in the areas of rehearsal and performance, technical areas, and front-of-the-house operation. May be repeated for additional credit. (*)

215 History of Theatre (3-0 hr.)
An overview of the major historical eras, plays, playwrights, and other contributing artists in Western Theatre. (*)

220 Acting Problems (3-0 hr.)
Exploitation of a major concern for the actor such as characterization, dialects, acting styles, film and TV acting. May be repeated for credit. Prerequisites: TH 125 or equivalent. (*)

291 Special Topics (1-0 hr.)
(*)

291 Summer Theatre Problems (1-0 hr.)
A workshop in theatre production. Four to six one-acts are presented during an eight-week summer theatre season. Prerequisite: permission of theatre director. (SB)

331 Play Direction (3-2 hr.)
An introduction to directing theory and practice. Students select and analyze scripts and direct one-act plays. Prerequisite: TH 131 and 155 or permission of instructor. (*)

332 Design for the Theatre (3-2 hr.)
Principles and practices of designing scenery, lighting and costumes for the theatre. Prerequisites: TH 131 or permission of instructor. (*)

391 Company Class (1-0 hr.)
Theatre production laboratory for advanced students. Credit is offered in the areas of rehearsal and performance, technical areas and front-of-the-house operation. May be repeated for additional credit. Prerequisites: junior or senior standing. (*)

393 Creative Dramatics (1-0 hr.)
Classroom: techniques in drama for the teacher. (FSS)

481 Special Topics (1-0 hr.)
(*)

GRADUATE COURSES

378 Creative Dramatics (1-0 hr.)
Graduate level creative dramatics for the classroom teacher. Prerequisite: graduate standing. (*)

581 Special Topics (1-0 hr.)
(*)

PRIOR TO FALL 1992

GENERAL EDUCATION REQUIREMENT COURSES

Students who entered the University prior to Fall Semester, 1992 may satisfy General Education requirements from the following list of courses.

APPENDIX I

Group I (Humanities)

Subgroup
A ART 100, 101, 102, 103, 105, 106
B FL 100
FRN 101, 102
GER 101, 102
LANG 102
ITAL 101, 102
RUS 101, 102
SPAN 101, 102, 281, 282
C ENG 101, 210, 211, 221, 222, 223, 231, 232, 240, 254, 260
D MACOM 101, 102, 215
E MUSC 101, 118, 119, 120, 126
F PHIL 101, 102, 103, 108, 110, 119, 121, 122, 123, 200, 201,
204, 205, 210, 220
G SPCM 106, 211, 212, 221, 231, 241, 242
H TH 111, 131, 135, 216
I HUM 100, 152
J IST 130, 135
K CS 220
L HUM 150, 151
M IS 101, 104, 201, 204

Group II (Social Science)

Subgroup
A PSYCH 100, 101, 101L, 105, 110, 121, 121L, 130, 151, 152, 211, 212, 220,
231, 232
B ANTHR 100, 103, 105, 106, 107, 108, 251, 252
MACOM 290
NBIS 117
SOC 100, 101, 102, 105, 152, 153, 201, 202, 203
SOCSC 151, 208, 209, 231
C GEOG 104, 113, 201, 210
HIST 101, 102, 103, 104, 105, 185, 201, 202, 203, 204, 211, 300
POLSC 100, 101, 103, 184, 105, 150, 180, 200, 201, 202, 250
SW 100, 105, 201
D ACCTG 210
E BUSAD 100
FINC 101, 102, 201, 202
E CS 101, 135, 201, 252, 230
F IS 102, 105, 202, 205
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1992-93

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OFFICE OF THE PROVOST
Bruce F. Grube, provost
Teshome Abebe, associate provost
William J. Askvig, dean, School of Business
Lawrence W. Byrnes, director, Center for Teaching and Learning
Dan DeRose, director, Athletics
Richard Hill, dean, Student Services
Beverly Moore, director, University Library
J. Michael Ortiz, dean, Continuing Education
Greg Sinn, general manager, KTSC-TV
Jack A. Seilheimer, dean, College of Science and Mathematics
Ray Sisson, dean, College of Applied Science and Engineering Technology
Martha G. Wade, dean, Admissions and Enrollment Services
Friederike Wiedemann, dean, College of Liberal and Fine Arts

OFFICE OF THE VICE PRESIDENT FOR BUSINESS SERVICES
Billie J. Brandon, vice president for Business Services
Anita Kendall, director, Personnel
Ted Loyba, sergeant, Campus Police
Sally McGill-Eagan, director, Communication Services
Smith, Ed, executive director, Facilities Management
Everett E. Stenby, director, Purchasing
Bruce Zimmerman, director, Auxiliary Services

ADMINISTRATIVE FACULTY

Teshome Abebe (1983) professor of finance, and associate provost; BA, MA, Illinois State University; Ph.D., Northern Illinois University

William J. Askvig (1962) professor of economics, and dean, School of Business; BSBA, MBA, University of Denver; Ph.D., Texas Tech University

Stephen D. Brunn (1971) professor of mathematics, and executive director of Planning and Budgets; BS, University of Nebraska; MBA, Purdue University; MS, Ph.D., Northwestern University

Lawrence W. Byrnes (1991) professor of education, and director of The Center for Teaching and Learning; BA, MA, and Ph.D., Michigan State University

Dan DeRose (1991) instructor of economics, and director of Athletics; BSBA, MBA, University of Southern Colorado

Bruce F. Grube (1992) professor of political science, and provost; AB, University of California-Berkeley; MA, California State University; Ph.D., University of Texas-Austin

Beverly A. Moore (1970) professor of library services, and director, the University Library; AA, Hutchinson Junior College; BA, University of Northern Colorado; MA, University of Denver

J. Michael Ortiz (1990) professor of education, and dean, Continuing Education; BS, MA, University of New Mexico; Ph.D., University of North Carolina

Jack A. Seilheimer (1963) professor of biology, and dean, College of Science and Mathematics; BS, Western Michigan University; Ph.D., University of Louisville

Robert C. Shirley (1984) professor of business administration, and president; BBA, MBA, University of Houston; Ph.D., Northwestern University

Ray Sisson (1960) professor of engineering, and dean, College of Applied Science and Engineering Technology; AA, Pueblo College; BSSE, University of Colorado; MS, Colorado State University; Ed D., University of Northern Colorado

Friederike Wiedemann (1989) professor of foreign language, and dean, College of Humanities and Social Sciences; BA, Johann Wolfgang Goethe-Universitat, Frankfurt, Germany; MA, Faculte des Lettres, Lyon, France; Ph.D., Northwestern University
PROFESSIONAL STAFF

Alley, Lorna (1976) assistant budget director; BSBA, University of Southern Colorado

Amelia, Gary (1960) assistant director, Upward Bound; BA, MA, Colorado State University

Anglin, Sean P. (1986) promotions manager, KTSC-TV; BA, University of Northern Colorado

Arveschoug, Steve (1991) assistant director, Athletics; BS, Montana College of Mineral Science and Technology

Aube, Thomas R. (1980) chief engineer, KTSC-TV

Blatt, Randi (1989) coordinator, Employee Assistance; BA, University of Colorado, Colorado Springs; MSW, University of Denver

Brandon, Billie J. (1988) vice president, Business Services; BA, Slippery Rock State College; JD, Chase College of Law, Northern Kentucky University

Breen, Patricia (1988) conference director; BS, University of Southern Colorado

Clay, Samuel O., Jr. (1971) assistant director, Counseling and Career Services, and director, Academic Advising and Coordinator of Internships; BA, University of Southern Colorado; MA, University of Denver

Cornellius, Andrew (1987) director, Affirmative Action; BS, Metropolitan State College

Cumbee, Richard (1990) associate vice president, Business Services; BA, The College of William and Mary

DeFore, Richard A. (1981) learning resources specialist, University Library; BA, University of Wisconsin; MA, University of Northern Colorado

Dehn, Ronald E. (1970) manager, Systems and Operations, Computer Center; BS, University of Southern Colorado

DeNiro, Jean (1986) coordinator/counselor, Educational Opportunity Center; BSW, University of Southern Colorado

DiPrinzio, Linda S. (1970) assistant director, Financial Aid; BS, University of Southern Colorado

Elsom, Donna (1990) safety and environmental health officer, Business Services; BS, University of Southern Colorado

Fadely, Manuela (1991) assistant director, Personnel; MA, University of Oregon; MS, Central Michigan University

Folda, Joseph (1987) head coach, men's basketball; BS, University of Northern Colorado; M.Ed., Eastern Washington University

Gallino, Victoria (1991) loan coordinator/counselor, Financial Aid; BA, Adams State College

Girton, Marcy (1969) head coach, women's basketball; BA, Taylor University; MS, Indiana State University; MA, Ball State University

Hearing, Charles L. (1971) head coach, men's and women's cross country/track; BA, The Colorado College; MA, Western State College

Herrera, Veronica (1989) financial aid, veterans and job locator counselor, Financial Aid, BSW, University of Southern Colorado

Hill, Richard H. (1982) dean, Student Services; BA, University of Northern Colorado; M.Ed., Colorado State University; Ph.D., University of Wyoming

Hilfritz, Joni (1990) development specialist, KTSC-TV

Jones, Scott A. (1984) master control operator supervisor, KTSC-TV; BS, University of Southern Colorado

Kelly, Todd (1991) sports information director, Athletics; BS, University of Southern Colorado

Kendall, Anita L. (1981) director, Personnel; BA, MA, Western State College

King, Karel S. (1989) director, Counseling and Career Services; BS, M.Ed., Bowling Green State University

Leyhe, Theodore (1973) sergeant, University Police

Lundahl, Sandra L. (1985) financial director and education TV coordinator, KTSC-TV; AAS, University of Southern Colorado

Maldonado, Carlos (1993) counselor, Student Support Services Program; BS, University of New Mexico

Martinez, Deborah A. (1983) assistant director, Admissions, and coordinator, Recruitment of Minorities and Women; BA, University of Southern Colorado

Mason, Robert (1981) director, University Computing; BS, MS, Ph.D., Southern Illinois University

McGill-Eagan, Mary L. (1974) director, Communication Services; BS, University of Southern Colorado

Medina, Mike (1998) counselor, Upward Bound; AA, Trinidad State Junior College; BA, MA, Adams State College
Medina, Nancy (1989) counselor, Upward Bound; AAS, BS, University of Southern Colorado

Mellin, Carl (1985) assistant director, Admissions, and coordinator, Transfer and International Student Recruitment; BA, Adams State College; MS, University of Southern California

Mestas, Gina T. (1979) director, Financial Aid; AA, Trinidad State Junior College; BA, Adams State College

Mestas, Richard (1991) counselor, Admissions, BA, University of Southern Colorado

Moses, Douglas J. (1985) head coach, wrestling; BA, Adams State College; MA, Colorado State University

Nardin, Ted (1989) counselor, Admissions, BS/BA, University of Southern Colorado

Ortega, M. Donald (1991) sponsored programs manager, Office of Accounting; BA, College of Santa Fe

Perez, Cynthia M. (1977) assistant director, Student Support Services; BA, University of Southern Colorado

Pinola, Juan N. (1974) assistant director, Educational Opportunity Programs; BS, University of Albuquerque; MA, University of Northern Colorado

Sinn, Gregory B. (1985) general manager; KTSC-TV; BA, University of Arizona

Schwartz, Ralph (1989) assistant coach, men’s basketball; BA, Augustana College; MS, Eastern Washington University

Skahan, Patricia (1985) assistant director, Admissions, and coordinator, on campus programs; BA, University of Colorado

Smith, Ed executive director, Facilities Management

Slatney, Everett E. (1988) director, Purchasing; BA, University of Colorado

Stubenrouth, Roger E. (1983) program director, Continuing Education; BS, Troy State University; MS, University of Northern Colorado

Sullivan, Wymona (1989) auction coordinator, KTSC-TV

Thompson, Larry D. (1991) director, Development and Alumni Relations; BS, University of Southern Colorado

Vunovich, Lesa-Kidd (1991) membership manager, KTSC-TV; BS, University of Southern Colorado

Wade, Martha (1996) dean, Admissions and Enrollment Services; AB, University of Tennessee; M.Ed., Indiana University; Ph.D., Vanderbilt University

Ward, Mary Jane (1991) program director, Continuing Education; BA, MA, Marshall University; Ph.D., Catholic University of America

Weekes, Ronald C. (1984) production manager, KTSC-TV; BA, Brigham Young University

Weiss, Elmer E. (1974) director, International Student Services; BA, Iowa Wesleyan College; M.Ed., University of Alaska; Ph.D., University of New Mexico

Whatley, Nancy (1988) program assistant, Educational Opportunity Center

Whitley, Belinda (1988) coordinator, Academic Computing; BS, MS, Arkansas State University

Zimmer, Cathy A. (1988) promotions coordinator, KTSC-TV; BA, University of Southern Colorado

Zimmerman, Bruce (1986) director, Auxiliary Services; BS, Rhode Island College; MS, Indiana University

Zolowski, Jeff (1991) production specialist, KTSC-TV; BS, University of Southern Colorado
EMERITUS FACULTY

Bialla, Boyd J. (1964-1988) BS, MA, Ed.D., professor emeritus of computer science technology
Bartlett, Thomas J. (1967-1977) BS, MA, professor emeritus of mathematics
Blake, Marvin (1949-1978) BE, professor emeritus of manufacturing engineering technology
Blandford, Robert D. (1965-1989) BS, MA, DA, professor emeritus of mathematics
Blessing, James A. (1956-1984) AA, BS, MS, professor emeritus of physical education
Bond, John A. (1967-1984) BS, MA, Ph.D., professor emeritus of political science
Bradley, Lawrence B. (1966-1988) BA, MA, professor emeritus of speech communication/theatre
Brassil, Joann A. (1967-1987) BA, MA, MFA, professor emeritus of art
Caduff, Gerald F. (1947-1978) BSEE, ME, Ph.D., professor emeritus of electronics
Connelly, Jerald (1979-1990) BS, Ph.D, professor emeritus of chemistry
Coltner, Jane (1960-1976) AB, BBLs, professor emeritus of library sciences
Dawson, Earle (1955-1975) BS, professor emeritus of industrial technology
Ervin, Dwayne T. (1964-1984) BA, MA, Ph.D., professor emeritus of history
Farwell, Hermion W. (1965-1984) AB, MA, professor emeritus of speech communication
Fouts, Kenneth B. (1962-1985) AA, BFA, MA, Ph.D., professor emeritus of speech communication
Hobbs, Harold C. (1966-1984) BA, MA, Ph.D., professor emeritus of psychology
Hobson, Henry (1948-1978) BE, professor emeritus of air conditioning/refrigeration
Howard, John R. (1967-1986) BA, MA, professor emeritus of geography
Ihrig, Paul R. (1946-1971) BS, MA, professor emeritus of fine arts
Jurie, Carl A. (1956-1980) BA, MA, professor emeritus of geology
Kellogg, William (1969-1990) BA, MS, MM, professor emeritus of music
Kenyon, Gordon R. (1960-1980) BA, MA, Ph.D., professor emeritus of history
Kurtin, Alfred D. (1945-1969) BA, MA, emeritus registrar
Li, Hung C. (1969-1990) BA, MS, Ph.D., professor emeritus of mathematics
Lund, Carl (1957-1978) professor emeritus of welding
Middleton, Donald S. (1948-1980) BA, M.Ed., professor emeritus of electronics
Miller, Margaret (1976-1990) BA, MS, Ph.D., professor emeritus of teacher education
Miller, Robert E. (1952-1983) BS, MS, professor emeritus of chemistry
Miller, Wilbur C. (1967-1988) BA, MBS, Ph.D., professor emeritus of mathematics
Prater, Joseph C., Jr. (1956-1986) BS, MS, professor emeritus of mathematics
RANKED FACULTY

The following individuals were ranked faculty members in the 1991-92 academic year. The date in parentheses indicates the initial year of regular appointment to the ranked faculty.

Abrahamson, Gayle (1985) assistant professor of library services; AA, Golden Valley Lutheran College; BA, Concordia College; MAR, Iliff School of Theology; MA, University of Denver

Agullar, M. Kay (1964) professor of human performance and leisure studies; BS, Lock Haven State College; MA, Adams State College; Ed.D., University of Northern Colorado

Ahmadian, Ahmad (1986) associate professor of management; BA, Tehran University; MBA, Ph.D., North Texas State

Aichle, Ronald G. (1972) associate professor of philosophy; BA, MA, Ph.D., University of Missouri

Allen, Ernest E. (1963) professor of mathematics, and director, Accountability and Faculty Development; BS, Wayne State University; MA, Michigan State University; MAT, University of Detroit; Ed.D., University of Northern Colorado

Anderson, Dayrol E. (1983) professor of mass communications; BA, Washington State University; MA, San Francisco State University; Ph.D., University of Denver

Audrey, Laura (1989) assistant professor of art; BA, Colorado State University; MA, California State University, San Diego

Baca, Judy M. (1981) associate professor of social work; BS, University of Southern Colorado; MSW, Arizona State University

Bandy, Thomas J. (1991) assistant professor of industrial science and technology; BS, Utah State University; MS, Colorado State University

Banks, Jessie F. (1966) assistant professor of human performance and leisure studies; BS, Central State University; MA, Adams State College

Barnett, Janet H. (1990) assistant professor of mathematics; BS, Colorado State University; MA, Ph.D., University of Colorado

Beck, J. Michael (1970) associate professor of music; BA, University of Southern Colorado; MA, Western State College; DA, University of Northern Colorado

Benton, Johnny (1968) professor of speech communication; BA, Panhandle A & M; MA, University of Arkansas; Ph.D., University of Oklahoma

Redman, Ralph J. (1965-1989) BA, MA, MAT, professor emeritus of mathematics

Reff, Glenn A. (1978-1989) BS, MS, professor emeritus of electronics engineering technology

Rehner, Edward R. (1964-1968) BS, MA, professor emeritus of management

Rosch, George F. (1966-1989) AB, MM, professor emeritus of music


Sadler, George (1965-1997) BS, MS, Ph.D., professor emeritus of economics

Sajdel, Edward (1955-1989) AA, BA, MA, professor emeritus of art

Sanderson, James M. (1947-1976) BS, MA, professor emeritus of history


Shih, Tsang Yu (Tom) (1964-1984) BSM, professor emeritus of metallurgical engineering technology

Simms, Houston C. (1947-1975) BA, MA, professor emeritus of biology

Smith, John E. (1962-1989) AA, BA, Ph.D., professor emeritus of chemistry

Socha, Frances J. (1967-1982) BSN, MA, professor emeritus of nursing

Tausaig, Anna (1900-1977) AB, MA, professor emeritus of foreign language

Tilley, Lewis L. (1965-1983) BFA, MFA, professor emeritus of art


Vunovich, Bogdan (Bob) (1967-1988) AB, MA, professor emeritus of mathematics


Watkins, Sallie A. (1966-1988) BS, MS, Ph.D., professor emeritus of physics


Billington, Peter J. (1969) associate professor of management; BS, Worcester Polytechnic Institute; MBA, Northeastern University; Ph.D., Cornell University

Binkly, Gail N. (1966) assistant professor of mass communications; BS, University of Southern Colorado; MA, The Ohio State University

Bonetti, Sandra J. (1991) assistant professor of chemistry; BS, Ph.D., Georgia Institute of Technology

Borton, John M. (1993) assistant professor of computer science technology; BA, Purdue University; MS, University of Northern Colorado

Bottini, Patrick W. (1969) associate professor of industrial science and technology; BS, Southern Colorado State College; MA, Adams State College

Bridges, Gary (1986) assistant professor of accounting; BA, Baylor University; MBA, University of Texas; CPA

Bright, A. Leon (1963) professor of foreign language; BS, Central Missouri State College; MA, University of Kansas; Ph.D., University of New Mexico

Brown, James H. (1991) associate professor of management; BA, MA, Ph.D., Western Illinois University

Buckley, William G. (1965) professor of anthropology; BA, MA, Ph.D., University of Colorado

Burgos, Fernando (1968) assistant professor of mathematics; BS, Universidad De Yucatan; MS, Instituto Politecnico Nacional De Mexico; Ph.D., Northeastern University

Burton, Peter (1988) associate professor of electronics engineering technology; BSEE, University of London; MSEE, Southern Methodist University

Cain, Robert L. (1970) associate professor of library services; BA, Baylor University; MLS, Louisiana State University

Cameron, James T. (1970) professor of psychology; BA, The Colorado College; MA, Ph.D., University of Colorado

Carleo, John A. (1991) assistant professor of automotive parts and service management; BS, Southern Colorado State College; MED, Colorado State University

Chacon, Paul R. (1992) assistant professor of mathematics; BS, University of British Columbia; Ph.D., Georgia Institute of Technology

Chandler, William D. (1982) assistant professor of management; BS, Massachusetts Institute of Technology; MBA, University of San Francisco

Chen, Frank T. (1982) associate professor of mechanical engineering technology; BSME, Chung Cheng College of Science and Engineering, Taiwan; MSME, Clemson University; Ph.D., North Carolina State University

Cheng, Joseph K. (1973) professor of civil engineering technology; BS, Taiwan Christian College; MS, University of Massachusetts; Ph.D., University of Oklahoma

Cobaugh, Robert (1966) associate professor of mechanical engineering technology; BS, University of Pittsburgh; MS, Colorado State University

Cockrell, David (1989) assistant professor of human performance and leisure studies; BA, MS, University of Pennsylvania; Ph.D., University of Idaho

Cook, Robert N. (1981) professor of computer science technology; BSEE, General Motors Institute; MSE, University of Michigan; M.Sc., Ph.D., University of Western Ontario

Covi, Silvio (1966) associate professor of foreign language; B.Th., Universitas Urbaniana, Rome, Italy; MA, Ph.D., State University of New York at Buffalo

Croxton, Carol I. (1978) associate professor of English; BA, MA, Ph.D., Ball State University

Darby, Ronald L. (1991) assistant professor of automotive parts and service management; AAS, BS, Southern Colorado State College; MA, University of Southern Colorado

Dawson, Roseanne (1984) associate professor of library services; BA, Drake University; MA, University of Iowa; MA, University of Denver

Deer, James B. (1984) professor of mathematics; BA, College of St. Thomas; Ph.D., Michigan State University

Dhatt, Yashwant S. (1983) associate professor of finance; B.C., MA, University of Delhi; MBA, McGill University; Ph.D., Georgia State University

D'Incinio, Carol L. (1992) assistant professor of accounting; BSBA, University of Southern Colorado; MS, Colorado State University

Dille, Ralph G. (1976) professor of English; BA, BS, MA, Bowling Green State University; Ph.D., Ball State University

Dorach, John A. (1965) professor of biology; BA, Willamette University; MS, Ph.D., Oregon State University

Driscoll, Donald J. (1965) professor of philosophy; BA, Sophia University; MA, Ph.D., New School for Social Research

Duellinger, Melvin L. (1984) professor of chemistry, and director, Research and Sponsored Programs and Creative and Scholarly Activities; BS, Indiana University; Ph.D., University of Wisconsin
Duncan, James L. (1968) professor of music; BM, Central College; MM, Eastman School of Music

Eagan, William T. (1962) professor of history; BA, University of Denver; MA, Claremont Graduate School

Ebersole, Samuel (1990) associate professor of mass communications, and producer director, KTSC; BA, Southern California College; MA, Regent University

Ehrenbein, H. Richard (1988) associate professor of management; BA, Lafayette College; MS, University of Montana; MS, Ph.D., The University of Arizona

Epstein, Susan (1991) instructor of speech communication; BA, MA, University of Northern Colorado

Farley, Mary J. (1991) professor of nursing; BSN, Metropolitan State College; MSN, University of Colorado Health Sciences Center, Ph.D., University of Denver

Farrar, Gerald C. (1967) professor of biology; BA, Dakota Wesleyan University; MS, University of Utah; MS, Ph.D., Colorado State University

Forsyth, Dan W. (1984) associate professor of anthropology; BA, University of California; MA, University of Chicago; Ph.D., University of California, San Diego

Giffin, Walter C. (1987) professor of engineering; BIE, MSc, Ph.D., The Ohio State University

Gill, John P., Jr. (1971) professor of mathematics; BS, University of Georgia; MA, University of Alabama, Ph.D., Colorado State University

Graham, Robert E. (1980) associate professor of physics; BS, University of Texas; MS, Ph.D., University of Arkansas

Green, Pearl (Penny) (1982) assistant professor of sociology; BA, City College of New York; MA, Ph.D., Southern Illinois University

Greer, Richard J. (1985) professor of mechanical engineering technology; BEE, Rensselaer Polytechnic Institute; MS, Ph.D., Harvard University

Griffin, John R. (1983) professor of English; BA, MS, Xavier University; Ph.D., Ottawa University; Ph.D., Trinity College, Dublin

Guillen, James M. (1978) assistant professor of education; BA, University of Southern Colorado; MA, New Mexico Highlands University

Hammer, Charles R. (1964) associate professor of chemistry; BA, Ph.D., University of Utah

Harrell, Jill (1990) instructor of library services; BA, Benedictine College; MS, University of Illinois

Hearn, June L. (1967) assistant professor of psychology; BA, Rice University; MS, Iowa State University

Henchen, Robert W. (1965) associate professor of art; BFA, University of Denver; MA, The Colorado College

Hermann, Scott J. (1968) professor of biology; BS, Northern Illinois University; Ph.D., University of Colorado

Hill, Kathy L. (1982) assistant professor of business administration; BA, Oklahoma Baptist University; MBE, Ph.D., University of Oklahoma

Hirth, Alan (1978) assistant professor of civil engineering technology; BA, University of Colorado

Hochman, Will (1991) instructor of English; BA, Hobart College; MFA, University of Montana

Holderness, Ward L. (1969) assistant professor of civil engineering technology; AAS, BS, Southern Colorado State College

Hughes, Cornelius G. (1976) associate professor of sociology; BA, Belmont College; MA, California State University at Northridge; Ph.D., The Pennsylvania State University

Illick, Peter M. (1971) assistant professor of English; BA, University of Vermont; MA, University of Wyoming

James, Donald W. (1963) professor of biology; BA, Baker University; MA, University of Kansas, Ph.D., Kansas State University

James, Vicky (1990) assistant professor of nursing; BSN, University of Colorado; MSN, University of Colorado at Denver

Jenkins, Robert B. (1972) professor of electronics engineering technology; BS, University of Washington; ME, The Pennsylvania State University

Jansen, Carl G. (1970) professor of art; BS, Indiana Central College; MAT, Indiana University; MFA, University of New Mexico

Johnson, Roger W. (1977) associate professor of mathematics; BS, Fort Lewis College; MS, DA, Idaho State University

Johnston, Rhonda (1990) ATL labor coordinator and lecturer of nursing; BS, University of Phoenix

Kaplan, Steve (1989) associate professor of English; BA, University of California, Los Angeles; MA, Ph.D., University of Tuebingen
Keller, Robert L. (1974) professor of sociology; BA, University of Colorado; MS, Colorado State University; Ph.D., University of Montana.

Knight, Douglas W. (1969) associate professor of computer science technology; BS, MS, Ph.D., Arizona State University.

Krinksky, Richard (1968) professor of psychology; BA, MA, Michigan State University; Ph.D., University of Washington.

Krinksky, Suzanne G. (1968) associate professor of psychology; BA, Wayne State University; MA, Michigan State University; Ph.D., University of Washington.

Kulkoisky, Paul J. (1964) professor of psychology; BA, Columbia College; MA, Columbia University; Ph.D., University of Washington.

Lamb, Therese (1987) assistant professor of library services; BA, Stanford University; MA, University of Denver.

Lassen, Karen (1991) instructor of library services; BS, University of Utah; MLS, Brigham Young University.

Levy, Patricia (1961) assistant professor of psychology; BS, University of Bridgeport; MA, University of Colorado; Ph.D., Oklahoma State University.

Louisell, James (1989) assistant professor of mathematics; BS, Ph.D., University of Minnesota.

Madrid, L. Dennis (1976) associate professor of psychology; BA, University of Southern Colorado; MS, New Mexico Highlands University; Ph.D., University of California-Santa Barbara.

Mahan, Kent L. (1969) professor of chemistry; BS, Southwest Missouri State University; Ph.D., University of Missouri.

Marino, Charles J. (1966) associate professor of art; BA, St. John’s College; BFA, Pratt Institute; MA, Columbia Teacher’s College.

Martinez, Lee Anne (1992) assistant professor of biology; BA, MA, University of California; Ph.D., Cornell University.

Massey, Frank A., Jr. (1963) associate professor of engineering; B.S, BBA, MS, University of Minnesota; Ph.D., University of Wisconsin.

Mata, Fernando (1990) assistant professor of engineering; BS, Instituto Tecnologico de Monterrey, Mexico; MBA, The American University; Ph.D., The Ohio State University.

May, Alan M. (1984) associate professor of computer science technology; BS, Wilmington College; Ph.D., University of Cincinnati.


Meena, Gary (1989) professor of social work; BA, MA, San Diego State University; Ph.D., University of Denver.

Miller, Glenn W. (1974) assistant professor of mass communications; BA, University of Southern Colorado; MA, University of Denver.

Mills, Nancy (1968) assistant professor of engineering; BSE, MSE, Arizona State University; MBA, Ph.D., Oregon State University.

Mills, Donald C. (1965) associate professor of foreign language; BA, MA, University of Utah; Ph.D., Brigham Young University.

Mo, Suchoon S. (1973) professor of psychology; BS, Idaho State College; MA, Indiana University; Ph.D., University of Pennsylvania.

Moffatt, Tony A. (1976) associate professor of library services; BS, Oklahoma State University; MLS, University of Oklahoma.

Morales, Heriberto (1987) assistant professor of foreign language; seminars in Las Casas, Monteumza, and Puebla, Mexico; Ph.D., Gregorian University, Rome.

Mulier, Doyle K. (1963) associate professor of music; BM, BA, Huron College; MM, University of Colorado.

Murray, Hal (1969) associate professor of biology; BA, MS, University of Arizona; Ph.D., Purdue University.


Nichols, Janet G. (1977) assistant professor of mathematics; BA, Adelphi University; MS, Lehigh University.

Nickolaus (Ratjies), Mary E. (1991) associate professor of nursing; BSN, Loretto Heights College; MPH, University of North Carolina; Dr.P.H., University of Texas-Houston.

Noreika, Gary (1964) associate professor of finance; FA, MA, California State University at Los Angeles; Ph.D., University of Southern California.

O’Leary, Emmett L. (1972) associate professor of speech communication; BA, Adams State College; MA, Central Michigan University; Ph.D., University of Nebraska.
Opitz, Michael F. (1990) assistant professor and director of reading minor; BA, MA, University of Northern Colorado; Ph.D., University of Oregon

Orman, Patricia (1978) associate professor of mass communications; BA, University of New Hampshire; MA, University of Northern Colorado

Orr, Gilbert F. (1977) associate professor of mathematics; BA, St. John’s University; MS, Ph.D., University of Miami

Osborn, Neal L. (1965) professor of biology; BA, Baldwin-Wallace College; BA, University of Southern Colorado; MS, Ph.D., University of New Mexico

Otis, Paula (1988) assistant professor of political science; BA, MA, University of Northern Colorado; MA, Ph.D., University of Denver

Padgeti, John H. (1969) associate professor of computer science technology; BS, University of Southern Colorado; M.B.A, University of Colorado

Pavlik, Richard E. (1965) professor of mass communications; BS, MA, The Ohio State University

Parker, David M. (1978) professor of electronics engineering technology; BS, M.S., The Pennsylvania State University; MSE, Princeton University

Peters, Edward L. (1963) associate professor of accounting; BS, University of Colorado; MA, University of Northern Colorado; CPA

Phillips, David L. (1971) professor of mathematics; BS, Ball State University; MS, Ph.D., Purdue University

Pionkey, Kenneth D. (1968) professor of theatre; BA, University of Northern Colorado; MA, Ph.D., Southern Illinois University

Post-Gorden, Joan C. (1970) professor of psychology; BS, Manchester College; MS, Ph.D., University of Georgia

Proctor, Kristina G. (1989) assistant professor of chemistry; BS, University of Southern Colorado; Ph.D., Colorado State University

Ragasa, Haulu (1990) assistant professor of accounting; BBA, Haile Selassie University; MBA, Ph.D., University of Oregon

Ribai, John L. (1998) assistant professor of economics; BA, Adams State College; MS, New Mexico State University; Ph.D., University of Notre Dame

Ryan, John E. (1980) associate professor of interdisciplinary studies, and director, Special Academic Programs; BA, University of California-Los Angeles; MA, California State University at Northridge; MA, Ph.D., Claremont Graduate School

Sabo, Barbara J. (1974) associate professor of nursing; RN, St. Mary Corwin Hospital School of Nursing; AA, Pueblo College; BS, MS, University of Colorado

Sandoval, David A. (1980) professor of Chicano studies and history; BS, Eastern New Mexico University; MA, Southern Methodist University; Ph.D., University of Utah

Sarper, Hussein (1968) assistant professor of industrial engineering; BS, The Pennsylvania State University; MS, Ph.D., Virginia Polytechnic Institute

Sarves, P. M. (1965) professor of economics; AA, Lamar State College; BA, MA, University of Texas; Ph.D., University of Nebraska

Sasai, Haruo L. (1984) professor of computer science technology; DIC, Imperial College of Science and Technology, (University of London); MA, Punjab University; Ph.D., Indian Institute of Technology

Saul, Roger E. (1983) associate professor of chemistry; BS, MS, Michigan Technological University; DA, University of Northern Colorado

Schmukler, Paul (1978) professor of psychology; BA, Queens College; MA, North Carolina State University; Ph.D., Indiana University

Safcov, Paul A. (1989) assistant professor of automotive parts and service management; AAS, BS, MA, University of Southern Colorado

Senatore, Margaret L. (1964) assistant professor of English; BA, The Colorado College; MA, University of Colorado

Shah, Abhay (1988) assistant professor of marketing; BA, St. Xavier’s College (Calcutta University); MBA, University of Evansville; Ph.D., Ohio State University

Sherman, John R. (1971) professor of speech communication; BA, Hunter College; MA, Ph.D., Southern Illinois University

Slocum, Duane R. (1991) assistant professor of electronics engineering technology; BS, University of Nebraska-Omaha; MSE, University of Nebraska-Lincoln

Smith, Robert L. (1974) assistant professor of computer science technology; BS, University of Southern Colorado

Solis, Jose J. (1973) associate professor of social work; BS, University of Southern Colorado; MSW, University of Denver

Soto-Johnson, Hortencia (1989) director, Math Learning Center; BS, MS, Chadron State University

Spann, David L. (1960) professor of physics; BS, Wittenberg University; Ph.D., University of Colorado

Steen, Melva (1992) associate professor of nursing; BSN, Northern Michigan University; MA, University of Missouri-Kansas City; Ph.D., University of Texas-Austin
Stiernholm, Kirstine (1967) associate professor of library services; BA, Augustana College; MA, University of Denver

Strader, Robert L. (1969) professor of education; AA, Pueblo College; BA, MA, University of Northern Colorado; Ed.D., University of Idaho

Strobel, John D. (1960) professor of music; BME, Fort Hays State College; MM, DMA, University of Michigan

Sublette, James E. (1964) professor of biology; BS, MS, University of Arkansas; Ph.D., University of Oklahoma

Sullivan, Daniel R. (1970) associate professor of library services; BA, University of Kentucky; MLS, University of Oregon

Sweet, Jerry L. (1976) associate professor of mechanical engineering technology; AAS, Pueblo College; BS, University of Southern Colorado; MS, Colorado State University

Tappen, John B. (1982) associate professor of computer science technology; BA, Wesleyan University; BS, University of Utah; MS, University of Arizona; Ph.D., University of Tennessee

Taylor, Cynthia (1989) instructor of English; BA, MA, University of Idaho

Taylor, Kenneth B. (1969) assistant professor of English; BA, University of Southern Colorado; MA, University of Texas at El Paso

Taylor, Milllicent M. (1991) assistant professor of economics; BA, Vanderbilt University; MA, Ph.D., University of Tennessee

Taylor, Ted (1990) instructor of English; BA, University of Idaho; MA, University of Minnesota

Tedrow, Charles E. (1968) associate professor of industrial science and technology; AB, MA, University of Northern Colorado

Thomas, Larry G. (1968) associate professor of biology; BS, Oklahoma State University; M.Ed., Ph.D., Colorado State University

Torres, Luis (1991) assistant professor of English; BA, University of Colorado; MA, Ph.D., University of Washington

Valerio, Luis G. (1975) associate professor of education; BA, University of Southern Colorado; MA, New Mexico Highlands University; Ph.D., University of Northern Colorado

Wellin, Marta J. (1987) assistant professor of physics; MS, Jagiellonian University, Cracow, Poland; Ph.D., University of Wyoming

Wells, Robert J. (1963) associate professor of art; BFA, MA, University of Denver

Warfield, Stephen O. (1991) assistant professor of business administration; BBBA and MBA, University of Southern Colorado

Warnock, Stuart H. (1991) assistant professor of management; BS, Midwestern State University

Watkins, Donna M. (1986) associate professor of management; BBA, Sul Ross State University; MAT, Angelo State University; Ph.D., New Mexico State University

Weinhouse, Donald S. (1991) assistant professor of education; BA, MA, University of California-Los Angeles; M.Ed., Ph.D., Oregon State University

Whitney, Shawnalee (1990) instructor of speech communication; BA, MA, University of Northern Colorado

Wilkes, Linda M. (1983) associate professor of chemistry; BA, California State University; Ph.D., University of Nevada at Reno

Wintermute, Wendy (1991) assistant professor of social work; BA, Swarthmore College; MA, Columbia University; MSW, Ph.D., University of Michigan

Withnell, Melvin C. (1967) professor of mathematics; BS, Valley City State College; MS, University of North Dakota; MA, University of Illinois; Ph.D., University of Michigan

Womack, Larry D. (1972) associate professor of civil engineering technology; AA, University of Southern Colorado; BSCE, Colorado State University; MSCE, University of Missouri

Wright, Will (1966) associate professor of sociology; BA, University of Oregon; MA, University of Rochester; Ph.D., University of California-Berkeley

Zais, Charles (1987) assistant professor of business administration; BA, University of St. Thomas; MS, Ph.D., Texas A & M University

ARTIST-IN-RESIDENCE

Cedrone, Frank J. (1969) artist-in-residence; artist diploma in piano, Boston Conservatory

Chi, Jacob (1991) artist-in-residence and conductor, Pueblo Symphony Orchestra; BA, Sienna Heights College; MA, University of Michigan

Markowski, Victoria (1969) artist-in-residence; BM, Boston Conservatory

Mendoza, Dorothy (1990) artist-in-residence; BA, University of Southern Colorado

Mendoza, John (1990) artist-in-residence; AA, Pueblo Junior College; BA, MA, University of Northern Colorado.
ACADEMIC CALENDARS
1992-93

FALL AND SPRING SEMESTERS
Regular academic semesters consist of 15-week terms, including official holidays and the final examination period. Specific information about each academic semester is available in the bulletins published prior to the beginning of each term.

SUMMER COLLEGE
Summer College consists of two five-week sessions and one 10-week session. Specific information about Summer College is available in the bulletin published prior to the beginning of the first five-week session term, from the Office of Continuing Education.

Fall Semester 1992
April 6-17  Advisement
April 20-24  Early Registration
April 24  Fall 1992 Graduation Planning Sheets Due
August 25, 26  Orientation (Tu, W)
August 27  Registration (Th)
August 31  Classes Begin (M)
September 7  Labor Day (**)
September 14  End Drop/Add

*To be announced, based upon School District 89's schedule.
**No holiday . classes will be held.
Spring Semester 1993

November 2-13: Advisement
November 16-20: Early Registration
January 20: Orientation (W)
January 21: Registration (Th)
January 25: Classes Begin (M)
February 8: End Drop/Add
March 12: Summer 1994 Graduation Planning Sheets Due
March 22-26: Spring Break
April 23: Fall 1993 Graduation Planning Sheets Due
May 7: Classes End
May 10-14: Final Exams
May 14: Finals End
May 15: Commencement

Summer Semester 1993

March 12: Summer 1993 Graduation Planning Sheets Due
April 23: Fall 1993 Graduation Planning Sheets Due
May 26-30: Early Registration
June 4: First 5-10 Week Classes Begin
June 7: Independence Day (observed)
July 5: First 5-Week Classes End
July 12: Second 5-Week Classes Begin
August 13: Second 5-10 Week Classes End

Fall Semester 1993

April 15-16: Advisement
April 19-23: Early Registration
April 23: Fall 1993 Graduation Planning Sheets Due
August 24, 25: Orientation (Tu, W)
August 26: Registration (Th)
August 30: Classes Begin (M)
September 6: Labor Day (**)
September 13: End Drop/Add
October 8: Spring 1994 Graduation Planning Sheets Due
November 22-26: Thanksgiving
December 10: Final Exams
December 17: Finals End

**No holiday - classes will be held
(These calendars are planned in advance and are subject to change.)

Summer Semester 1994

March 11: Summer 1994 Graduation Planning Sheets Due
April 22: Fall 1994 Graduation Planning Sheets Due
April 25-29: Early Registration
June 3: Registration
June 6: First 5-10 Week Classes Begin
July 4: Independence Day (observed)
July 8: First 5-Week Classes End
July 11: Second 5-Week Classes Begin
August 12: Second 5-5 & 10-Week Classes End

**To be announced, based upon school District 10's schedule
**No holiday - classes will be held
(These calendars are planned in advance and are subject to change.)
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