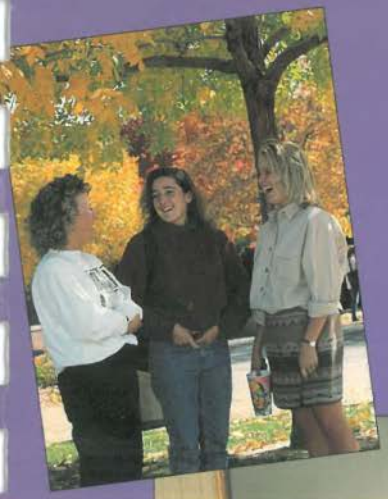
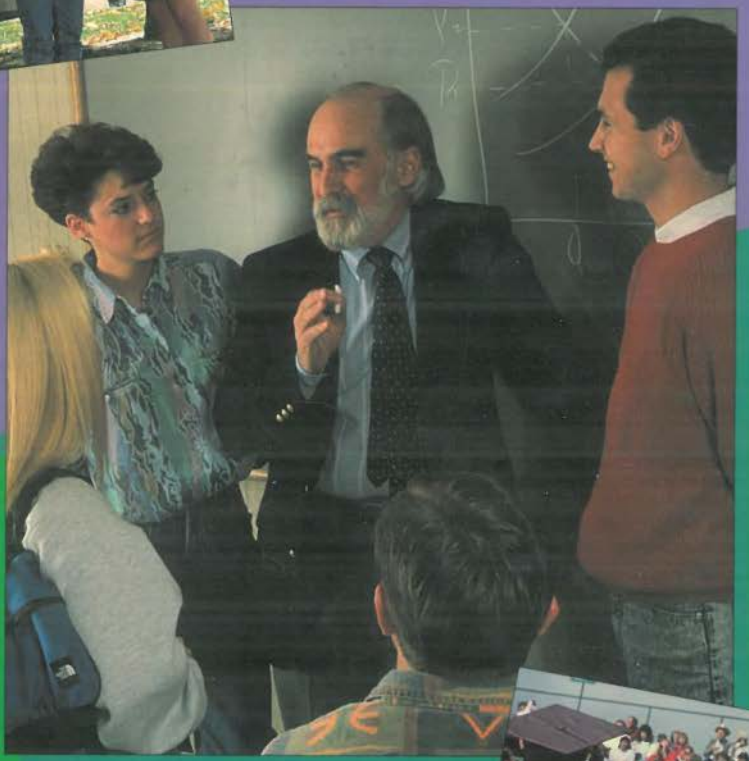
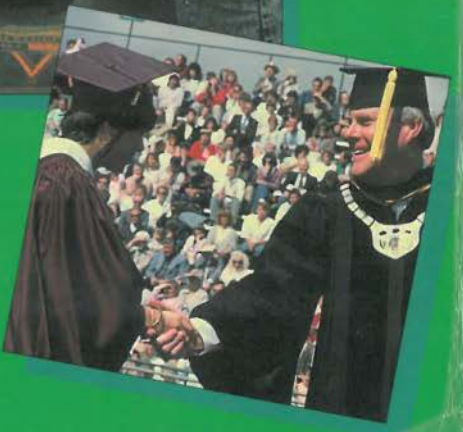
MESA STATE COLLEGE

GRAND JUNCTION, COLORADO







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1993-94 ACADEMIC CALENDAR

SUMMER SEMESTER 1993

May	14 (Fri.)	Registration for 12-week session and first 6-week session
May	14 (Fri.)	Orientation
May	17 (Mon.)	Classes begin
May	31 (Mon.)	Memorial Day holiday
June	24-25 (Thur., Fri.)	Final exams for first 6-week session
June	28 (Mon.)	Registration for second 6-week session Classes begin
July	5 (Mon.)	Independence Day holiday
Aug.	5-6 (Thur., Fri.)	Final exams for 12-week session and second 6-week session
Aug.	6 (Fri.)	Summer Session ends

FALL SEMESTER 1993

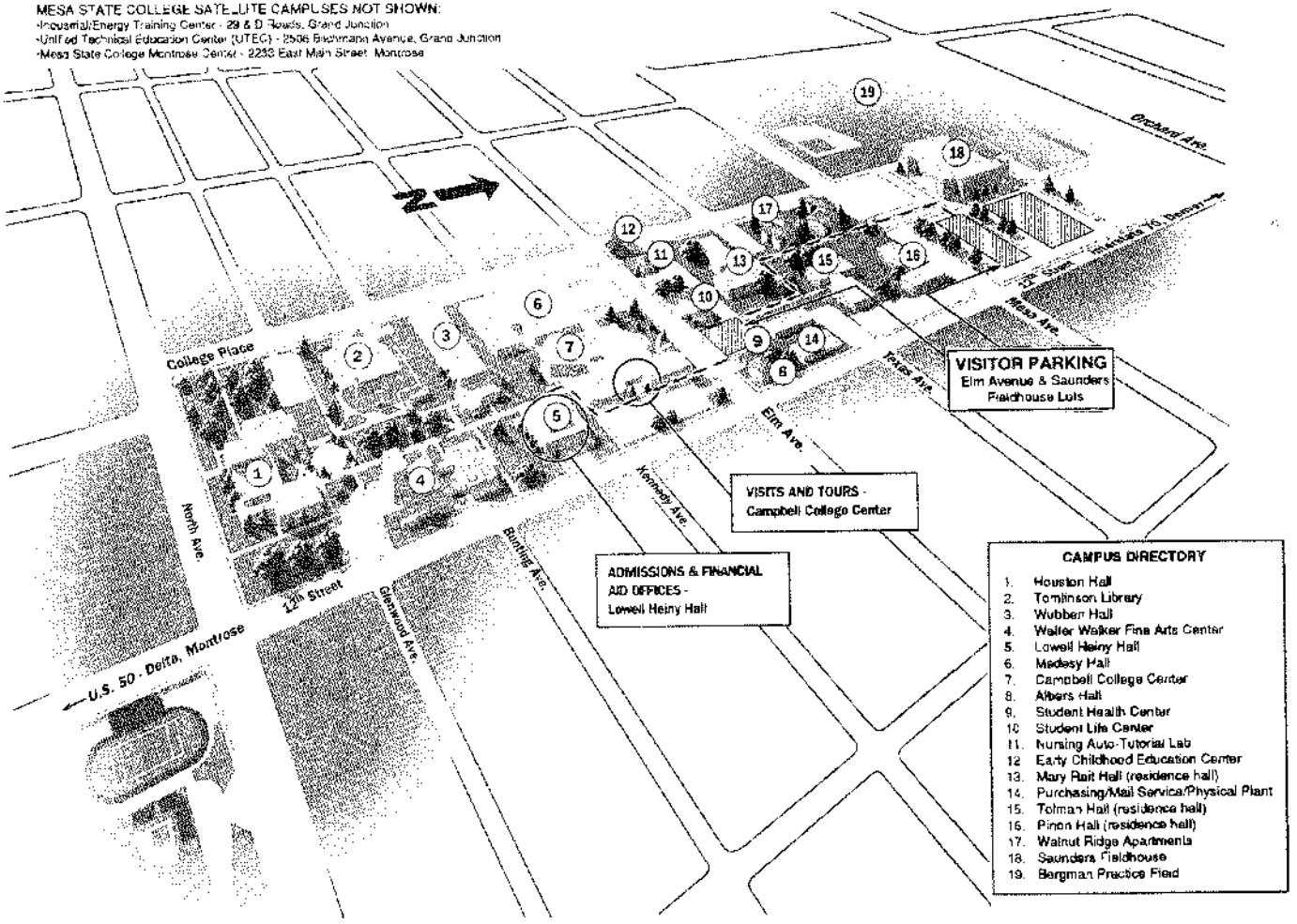
Aug.	19 (Thur.)	New Faculty Workshop
Aug.	20 (Fri.)	Faculty Welcome
Aug.	21 (Sat.)	ACT Testing (Residual) 8:00 am, Houston
Aug.	23 (Mon.)	Orientation
Aug.	24 (Tues.)	Registration
Aug.	25 (Wed.)	First day of classes
Sept.	6 (Mon.)	Labor Day - *classes in session*
Sept.	6 (Mon.)	Last day to add classes
Sept.	9 (Thur.)	Last day to drop classes without a "W"*
Oct.	18-19 (Mon., Tues.)	Fall Break
Oct.	20 (Wed.)	Second module begins
Nov.	5 (Fri.)	Last day to withdraw from classes**
Nov.	24-26 (Wed., Fri.)	Thanksgiving vacation
Dec.	10 (Fri.)	Last day of classes
Dec.	13,14,15,16 (Mon.-Thur.)	Final examinations
Dec.	16 (Thur.)	Fall Semester ends

SPRING SEMESTER 1994

Jan.	6 (Thur.)	ACT Testing (Residual) 8:00 am, Houston
Jan.	7 (Fri.)	Registration and Orientation
Jan.	10 (Mon.)	First day of classes
Jan.	20 (Thur.)	Last day to add classes
Jan.	25 (Tues.)	Last day to drop classes without a "W"*
Mar.	7-11	Spring Vacation
Mar.	14 (Mon.)	Second module begins
Mar.	18 (Fri.)	Last day to withdraw from classes**
Apr.	29 (Fri.)	Last day of classes
May	2,3,4,5 (Mon.-Thur.)	Final examinations
May	5 (Thur.)	Spring Semester ends
May	6 (Fri.)	Commencement
May	7 (Sat.)	Commencement

*DROP: The class(es) will not show on a student's transcript or record.
**WITHDRAW or W: The class(es) will show on a student's transcript with a "W" in the place of a grade.

MESA STATE COLLEGE SATELLITE CAMPUSES NOT SHOWN:
-Industrial/Energy Training Center - 29 & D Roads, Grand Junction
-Unified Technical Education Center (UTEC) - 2508 Blichmann Avenue, Grand Junction
-Mesa State College Montrose Center - 2233 East Main Street, Montrose



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FOREWORD

MESA STATE COLLEGE is a comprehensive coeducational institution operated under the governance of the Trustees of the State Colleges in Colorado.

This catalog is intended for the guidance of students and faculty but does not constitute a guarantee that all courses listed will actually be offered during any particular academic year. Mesa State College reserves the right to withdraw or add courses prior to the beginning of any semester or summer term. In some programs certain courses may be offered on an alternate-year basis or as determined by apparent demand. All program offerings are contingent upon adequate appropriations by the Colorado General Assembly.

MESA STATE COLLEGE

P. O. Box 2647
Grand Junction, Colorado 81502

CATALOG

1993-94

NEED MORE INFORMATION?

Please feel free to contact Mesa State College for any additional information. For assistance in specific areas, write or telephone:

Associate Director of Admission . . . . . Scott Smiley—(303) 248-1376
in Colorado, Toll Free 1-800-982 MESA

Billing Information (tuition, fees, etc.) . . . . . Kathy Riblet—(303) 248-1661

Records Office . . . . . (303)248-1555

Center for Coordination of Graduate Education . . . . . Velda Bailey—(303) 248-1476

Continuing Education. . . . . (303) 248-1476

Financial Aid Director (scholarships, loans, grants) . . . . . Phil Swille—(303) 248-1396

Housing Director . . . . . Michael D. Black—(303) 248-1536

Non-Traditional Coordinator . . . . . Gabe DeGabriele—(303) 248-1847

Pre-College Counseling . . . . . .Kim Crosby—(303) 248-1875

Address: MESA STATE COLLEGE, P. O. Box 2647, Grand Junction, CO 81502
Telephone: (303) 248-1020

Mesa State College does not discriminate on the basis of race, color, creed, national origin, sex, age, or handicap in admission or access to, or treatment or employment in, its educational programs or activities. Inquiries concerning Title VI, Title IX, and Section 504 may be referred to the Affirmative Action Office at Mesa State College, P. O. Box 2647, Grand Junction, CO. Phone (303) 248-1498.

Mesa State College is a Drug-Free Workplace. All employees and students of the College agree to abide by the requirements in the Federal Drug-Free Workplace Act.

As required by the Campus Security Act, Mesa State College publishes campus safety policies and statistics annually. Copies of the annual report are available upon request.

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GENERAL INFORMATION

How to Use This Catalog:

The table of contents lists each section of the catalog and the information contained within each section. For information on a specific topic, refer to the table of contents or the subject index in the back of the catalog. For additional information, contact the College toll free in Colorado at 1-800-982-MESA (outside Colorado 303 248-1376).

This catalog is divided into four main sections in the following order:

General Information about Mesa State
A brief list of degrees and programs offered, admission requirements, registration procedures, expenses, financial aid, student services, academic regulations and honors, and graduation requirements.

Instructional Programs
Academic programs offered by the College are listed separately for each of the six schools, followed by the degrees and certificates offered in alphabetical order with the general requirements for earning each degree or certificate.

Course Descriptions
A brief description of each course at Mesa State College listed alphabetically by prefix.

Class schedules are published before each semester and are available from the Records Office (303 248-1555). Not all classes described in this catalog are offered every semester or every year.

Index, Academic Programs, Campus Personnel
The governing board, administrative staff, and faculty are listed at the end of the catalog. Indexes to the catalog, a calendar, a campus map, and a blank admission application are also included.

Policy Statement:

The programs, policies, statements, and procedures contained in this catalog are subject to change by the College without prior notice. Mesa State College reserves the right to withdraw courses at any time, rules, calendar, curriculum, graduation procedures, and any other requirements affecting students. While the information contained in this catalog is current and correct insofar as possible at the time of printing, students are advised to check with appropriate College officials and current program sheets for up-to-date information.

Mesa State College Role and Mission

The threefold mission of the College is in accord with the statement of the Colorado Legislature C.R.S. 23-53-101:

> There is hereby established a College at Grand Junction, to be known as Mesa State College, which shall be a general baccalaureate institution with moderately selective admissions. Mesa State College shall offer liberal arts and sciences programs and a limited number of professional and technical programs but shall not offer any graduate programs. Mesa State College shall also maintain a community college role and mission, including vocational and technical programs. Mesa State College shall receive resident credit for two-year course offerings in its commission-approved service area.

The Mesa State College community aspires to provide an environment which promotes a wellness lifestyle free of addictive behaviors. It shall be a goal of Mesa State College to maintain a healthy campus atmosphere conducive to learning and personal safety.

Background on Mesa State College

Mesa State College was founded in 1925 as Grand Junction State Junior College and on July 1, 1974, was authorized to offer baccalaureate degree programs as an institution under the State Colleges in Colorado. Enrollment, now over 4,500, provides a favorable student-faculty ratio and a high-quality learning environment.

Mesa State College is a democratic center of learning dedicated to the improvement of human capability. The College extends its services to anyone regardless of age, race, color, national origin, sex, or handicap. Committed first to instruction, as well as service and research, the College seeks to improve the unique talents and sense of social responsibility of each student.

By promoting the acquisition of skills as well as the discovery and application of knowledge, the College develops the intellectual, ethical, and aesthetic sensibilities that enable a student to pursue a rewarding career and assume a responsible and productive role in society.

The College seeks to liberate persons from narrow interests and prejudices, to help them observe reality precisely, to judge opinions and events critically, to think logically, and to communicate effectively.

The College offers programs of value in areas of civic and cultural life, research, and recreation and desires to play a constructive role in improving the quality of human life and the environment.

In order to implement this philosophy, the College shall offer:

1) Programs leading to baccalaureate degrees and associate degrees in liberal arts, sciences, business, and professional areas;
2) Vocational technical programs leading to certificates and associate degrees;

3) Continuing education programs directed toward personal, civic, vocational, and professional self-improvement;
4) A sufficiently wide range of lower division courses to assure smooth, successful transfer by students to other institutions with programs not offered by Mesa State College;
5) Community services, including intellectual, civic, and cultural activities, advisory services, and research programs;
6) Sufficient courses in all degree programs in general education areas to insure that students can be conversant in areas of general knowledge.

Accreditation

Mesa State College is accredited by the North Central Association of Colleges and Schools. Accreditation by this agency places credits earned at Mesa State College on a par with those earned at other similarly accredited institutions throughout the United States. Various programs at Mesa are approved by appropriate state and national agencies, including the Colorado Board of Nursing, National League for Nursing, Colorado State Board of Accountancy, and the Committee on Allied Health Education of the American Medical Association (Radiologic Technology).

Location

The Mesa State College campus is located within the city limits of Grand Junction, the largest city in western Colorado with an area population of 85,000. The campus is bordered by an attractive and modern residential neighborhood. Stores and other conveniences are located within walking distance of the campus. Mall shopping and the Main Street shopping district are both nearby.

Grand Junction has been noted for having more opportunities for outdoor recreation within a 100 mile radius of its boundaries than any other city in the Western U.S. The climate is one of the mildest in Colorado, with fewer days below 32 degrees than cities in the front and central ranges of Colorado. Powderhorn ski resort (1,600 feet vertical, 220 inches annual snow fall) is located 35 miles from campus and offers season passes at a discount to students in addition to instructional ski courses offered in conjunction with the Human Performance and Wellness department.

Lincoln Park, across from the campus, features a nine-hole golf course, swimming pool, tennis courts, track, football and baseball stadiums, and tennis courts. All are available to students.

College Community Relations

As the center for business, government, and medicine in western Colorado, Mesa State students have access to an outstanding variety of hands-on learning experiences offered through many academic departments in cooperation with community businesses and public agencies. Faculty members are available for lectures and discussions of interest to the community, and student groups appear before both public and private audiences for information or entertainment programs. The artistic, cultural, and athletic programs conducted by Mesa State College together with those devoted to public affairs and international relations enjoy broad community interest and support. Special programs of community-wide interest are presented in College facilities from time to time by community groups.

Wayne N. Aspinall Foundation

In cooperation with the Wayne N. Aspinall Foundation, Inc., Mesa State College students have an opportunity to participate in several cooperative programs. These include a course and public lecture offered by a distinguished visiting lecturer

honored as the occupant of the Wayne N. Aspinall Chair of History, Political Science and Public Affairs; and a number of scholarships are awarded to students whose courses of study are directed toward careers in public affairs. Details of these programs may be obtained from the Dean, School of Social and Behavioral Sciences.

The State Colleges in Colorado

The institutions governed by the Trustees of the Office of State Colleges in Colorado (OSC), Adams State College, Mesa State College, Metropolitan State College of Denver, and Western State College, are joined to identify and facilitate cooperative efforts among the institutions.

Mesa State College is also authorized to enter into consortium agreements with other public institutions of higher education in the state to make additional programs and services available to students. For details about these programs, refer to the "Center for Graduate Education" section of this catalog.

Inter-Institutional Students

One purpose of the OSC is to establish procedures for facilitating superior programs through shared resources—physical, professional, organizational, and curricular.

A student in good standing at any of the four OSC schools will be accepted as a student at any of the other three colleges. The Registrar's office at each college can provide a form for the student to use for inter-institutional registration. Before a student registers at another school, agreements must be reached by the home and host schools concerning the exact application of earned credits toward degrees, majors, and electives. A student should contact the home institution registrar to obtain further information on arrangements.

The terms "home institution" and "host institution" are defined as follows:

1. Each student shall have a "home institution," which is defined as that institution at which the student has matriculated, has earned academic credit, and is classified as a student in good standing. The home institution shall maintain all educational records and administer all student services, including financial aid. The home institution shall have responsibility for academic advising.
2. A "host institution" is defined as any of the four institutions, other than the home institution, at which a student enrolls in courses.

Institutions of the OSC have agreed on the following:

1. Credit for inter-institutional courses as defined above shall be treated as resident course credit and not as transfer credit for purposes of fulfilling program requirements and for graduation.
2. Grades shall be awarded by host institution faculty in the normal manner. The host institution shall provide the grades of students to the home institution registrar for posting to students' educational records.

Area Vocational School

Recognizing the national need for better vocationally-trained persons, Mesa State College, as an approved Area Vocational School, provides a variety of training opportunities for individuals who wish to become more highly job-skilled. Numerous jobs await those who have the skills and abilities demanded by business and industry.

Programs and course offerings are structured to provide job entry, retraining, or skill upgrading. The further the student progresses in a program area, the greater the degree of job skill development experienced.

Students who wish to earn a degree or a certificate must have a high school diploma or a General Education Development (GED) certificate and take the American College Test (ACT) or the Scholastic Aptitude Test (SAT) before enrollment in programs. They must also meet all general education requirements and follow the suggested curriculum for the skill training in which they enroll. Students not seeking a degree or certificate may enroll in individual courses with the consent of the instructors.

Occupational Education Courses and Programs include:

- Accounting Technician
- Automotive Collision Repair
- Automotive Service
- Automotive Technology
- Business Computer Information Systems
- Commercial Art
- Computer Drafting Technology
- Electric Lineworker
- Electronics Technology
- Environmental Restoration Engineering Technology
- Farm and Ranch Business Mgmt.
- Heavy Equipment/Diesel Mechanics
- Machine and Manufacturing Trades
- Medical Office Assistant
- Nursing, Associate of Applied Science
- Printing Technology
- Radiologic Technology
- Secretarial Programs and Upgrading
- Travel, Recreation and Hospitality Management
- Welding

Courses designed to meet special employment needs are offered at various locations and times throughout Mesa County if minimum enrollment requirements can be met.

Continuing Education and Extended Studies

The Extended Studies program offered through the Mesa State College Office of Continuing Education is part of a state-wide outreach education program sponsored by the Colorado Commission on Higher Education. The system, which consists of public colleges and universities, encourages development of instructional programs to meet the needs of Colorado citizens who cannot regularly enroll in classes on a college campus. Mesa State College's program currently offers both credit and non-credit classes and programs on campus and in several neighboring cities. The program is entirely self-funded by the fees charged for the classes.

Continuing Education is defined as "learning efforts undertaken by persons whose principal occupations are no longer as students, but who see learning as a means of developing their potential or resolving problems." The continuing education program addresses five areas of adult learning needs: (1) Basic and secondary educational skills required for high school equivalency for those lacking them. (2) Job-level entry and skill upgrading occupational and vocational courses for individuals seeking employment, upgrading their competencies, changing employment, or attempting to enter the work force for the first time. (3) Workshops, teleconferences, and seminars for professionals who need to upgrade their knowledge and skills to remain in good standing in their professions. (4) Programs for adults seeking self-enrichment/liberal arts/leisure time skills and activities. (5) Credit classes for working persons who cannot take classes at regular daytime hours.

Most of the Continuing Education classes are scheduled in the evenings and non-credit offerings are usually less than a semester in length. Registration is conducted through the Office of Continuing Education, phone (303) 248-1476 or FAX (303) 248-1923. During the academic fall and spring semesters, the Continuing Education office is open Mondays through Thursdays from 8:00 a.m. until 7:30p.m. On Fridays the offices are open from 8:00 a.m. until 5:00 p.m.

The Office of Continuing Education provides several special offerings. Among these are a summer dance program, Elderhostel, teleconferences, classes for children, graduate programs, hot line school, and the Senior Silvercard Program.

Center for Graduate Education

There are a number of masters degrees that may be obtained on the Mesa State College campus. These programs from other universities and colleges are brokered by Mesa State College. Therefore the degree earned will be from the "home" university. They are offered on a non-traditional format, usually weekends. For further information regarding the following master's degree programs, contact the Office of Continuing Education, Albers Hall, Room 205, phone (303) 248-1476.

Master of Arts (M.A.)
- Elementary Education (Adams State College) phone (303) 248-1026
- Counseling (Adams State College)
- Reading (University of Northern Colorado)
- Special Education - Moderate Needs (University of Northern Colorado)
- Whole Learning Education (Regis University)

Master of Business Administration (M.B.A.) (University of Southern Colorado)
Master in Public Health (M.P.H.) (University of Northern Colorado)
Master of Public Administration (M.P.A.) (University of Colorado-Denver)
Master of Education in Vocational Education (M.Ed.) (Colorado State University-Denver)
Master of Library Science (M.L.S.) (University of Arizona)
Master of Science in Nursing (M.S.N.) (University of Colorado Health Science Center)
Type D Certificate (University of Northern Colorado)
SURGE (video tape programs from Colorado State University)

Mesa State College Montrose Center

Located at 2233 East Main in Montrose, the Center houses two classrooms, a microcomputer lab, a conference room, a reception area, and offices. The Center is open from 9:00 a.m. to 4:30 p.m. Monday through Thursday. The telephone number for the Center is (303) 249-7009. Due to the high demand for evening classes, some classes are held at Montrose High School and Centennial Junior High School. The Center offers credit and non-credit classes and also brokers graduate classes from other institutions.

The focus of the center is on general education requirements that can be transferred to the main campus or another institution as a beginning toward a degree. Students can also work toward an associate or baccalaureate degree by taking classes at the Montrose Center.

Tutorial and Learning Center

For information about the Tutorial and Learning Center, see the Student Services section of this catalog.

Physical or Learning Disabled

Information regarding Mesa State College services for the physically or learning disabled student is found in the Student Services section of this catalog.

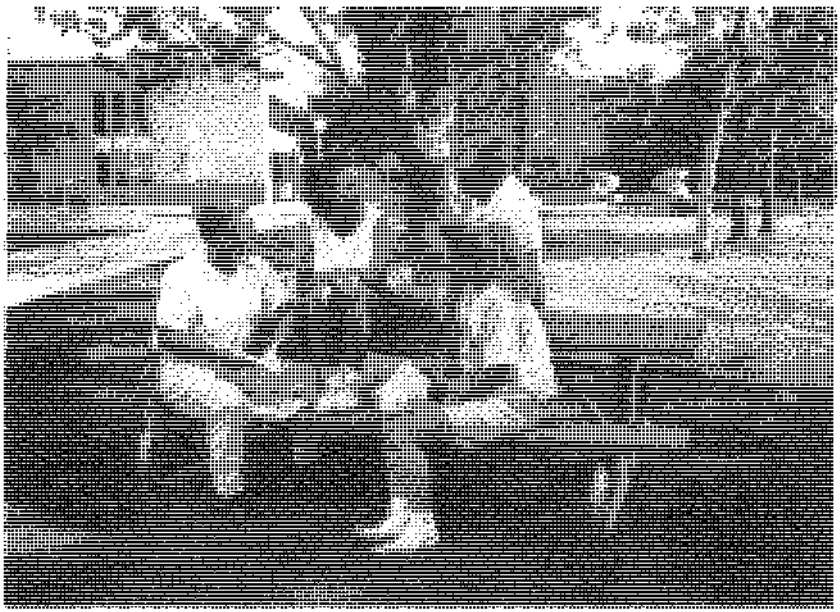
Summer Session

Mesa State College offers a summer program based upon needs and wishes expressed by students and residents of the community. Typical offerings in previous summers have included courses in biology, business, data processing, engineering, fine arts, humanities, mathematics, physical education, physical science, social science, and occupational education.

The typical summer session consists of a twelve-week term held concurrently with two six-week terms. Courses may be taken in more than one term if scheduling permits. Tentative bulletins on summer offerings are usually available in early January.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT OF 1974

Mesa State College's practice in regard to student record keeping is based on the provisions of the Educational Privacy Act of 1974 (the Buckley Amendment). Intended to be a safeguard against the unauthorized release of information, this act applies to all enrolled students, former students, and alumni. For details, see the Mesa State College Student Handbook.



DEGREES AND PROGRAMS

Mesa State College grants the Bachelor of Business Administration, Bachelor of Science in Nursing, Bachelor of Arts and Bachelor of Science degrees. The College awards Associate of Arts and Associate of Science degrees as well as Associate of Applied Science degrees and certificates of proficiency in occupational (vocational-technical) areas. General requirements for each degree and certificate program are listed in the Graduation Requirements section as well as in the text devoted to each degree. While these general requirements are as correct and current as possible at the time of publication, some changes may occur. Each degree or certificate seeking student must obtain a program sheet from the appropriate School detailing specific and current requirements for the degree or certificate sought and is responsible for meeting these requirements.

The several academic schools at Mesa State College and their respective subject matter areas are:

School of Business – Accounting; Administrative Office Management; Business Administration; Business Computer Information Systems; Business Economics; Finance; Legal Assistant; Management; Marketing; Office Administration; Office Supervision and Management: Accounting Technician, Administrative Secretary, Legal Secretary, Medical Secretary, Parks and Recreation, Personnel Management; Travel, Recreation, and Hospitality Management.

School of Humanities and Fine Arts – Early Childhood Education; English; Fine and Performing Arts: Art, Music, Music Theatre, Theatre; Foreign Languages; Liberal Arts; Mass Communications; Philosophy; Speech; Teacher Education and Certification.

School of Natural Sciences and Mathematics – Biology; Computer Science; Engineering; Environmental Restoration Engineering Technology; Geology; Health Related Studies; Mathematics, Physics; Medical Technology, Pharmacy, Physical Therapy, Pre-Forestry.

School of Nursing and Allied Health – Nursing, Radiologic Technology.

School of Social and Behavioral Sciences – Administration of Justice; Anthropology; Criminology; Counseling Psychology; Economics; General Social Science; History; Human Performance and Wellness; Dance; Human Services; Political Science; Psychology; Sociology.

School of Technology – Agriculture; Automotive Collision Repair; Automotive Service; Automotive Technology; Commercial Art; Computer Drafting Technology; Electric Lineworker; Electronics Technology; Electronic Engineering Technology; Farm and Ranch Management; Heavy Equipment-Diesel Mechanics; Machine and Manufacturing Trades; Machining Technology; Manufacturing Technology; Printing Technology; Welding.

Other Mesa State College service areas include:

Area Vocational School – Coordinates various secondary, post-secondary and occupational programs taught in the different schools of the College and Mesa County.

Continuing Education – Coordinates credit and non-credit adult education classes, off-campus classes, and graduate courses/programs from other institutions which are delivered on the Mesa State College campus.

Degrees and Programs of Study

Studies undertaken by a student at Mesa State College depend upon career plans and educational objectives. The College offers baccalaureate degrees, associate degrees and certificates. Baccalaureate degrees offered by Mesa State College are the listed B.A., B.B.A., B.S. and B.S.N. degrees.

Some students may choose to take courses at Mesa State College which will fulfill lower-division requirements for transfer to a college or university offering baccalaureate or professional programs not currently available at Mesa State College. Others may prefer to work toward one of the associate degrees, either as preparation for immediate employment upon graduation or as the first phase in their total educational goals.

Mesa State College offers a variety of occupational education programs for students whose immediate plans do not include completion of a baccalaureate degree. These specialized programs of a terminal, technical, or semiprofessional nature are designed to help students develop the specific skills required for employment in various technical occupations.

Degrees and Certificates offered at Mesa State College

Bachelor of Arts (B.A.)
- Economics
- English
- Fine and Performing Arts
  - Art
  - Music
  - Music Theatre
  - Theatre
- History
- Liberal Arts
- Mass Communications
- Political Science
- Psychology
- Selected Studies
- Social Science
- Sociology

Bachelor of Business Administration (B.B.A.)

Bachelor of Science (B.S.)
- Accounting
- Biological Sciences
- Computer Science
- Mathematics
- Parks and Recreation Resource Management
- Physical Sciences
  - Geology
  - Physics

Bachelor of Science in Nursing (B.S.N.)

Associate of Arts (A.A.)
(Emphases available in numerous disciplines)

Associate of Science (A.S.)
(Emphases available in numerous disciplines)

Associate of Applied Science (A.A.S.)
- Automotive Collision Repair
- Automotive Technology
- Business Computer Information Systems
- Commercial Art
- Electronics Technology
- Environmental Restoration Engineering Technology
- Machining Technology
- Nursing
- Office Supervision and Management
  - Accounting Technician
  - Administrative Secretary
  - Legal Secretary
  - Medical Secretary
- Printing Technology
- Radiologic Technology
- Travel, Recreation, and Hospitality Management
- Welding

Certificate of Occupational Proficiency Programs
- Automotive Collision Repair
- Automotive Services
- Business Computer Information Systems
- Computer Drafting Technology
- Early Childhood Education
- Electric Lineworker
- Electronics Technology
- Farm and Ranch Business Management
- Heavy Equipment/Diesel Mechanics
- Machine and Manufacturing Trades
- Office Supervision and Management
  - Clerical
  - Medical Office Assistant
- Welding

Certificate of Completion

Engineering Methods (to be completed prior to an A.S. in Engineering)

Legal Assistant Program (offered through Continuing Education, requires a baccalaureate degree or three years related work experience).

Teacher Certification in elementary, secondary and K-12 in certain academic disciplines.

ADMISSION INFORMATION

Admission to Mesa State College

How to Apply

To be considered for admission, applicants should submit the application attached at the back of this catalog along with a $20 non-refundable application fee. The application deadline is one month prior to the beginning of the fall semester and two weeks prior to the spring semester or summer term. Upon receipt, the application will be processed immediately, and the applicant will be notified of his or her admission status. Applications may also be obtained from the Admission Office of Mesa State College or from any Colorado high school counselor. To request an application from Mesa State, call toll free 1-800-982-MESA (in Colorado) or (303) 248-1376 (outside Colorado).

High school students may apply as early as the completion of their junior year. In general, applicants applying for a baccalaureate program having earned a minimum grade point average of 2.50, a composite score of 21 on the ACT, or 810 combined on the SAT may be admitted to Mesa State.

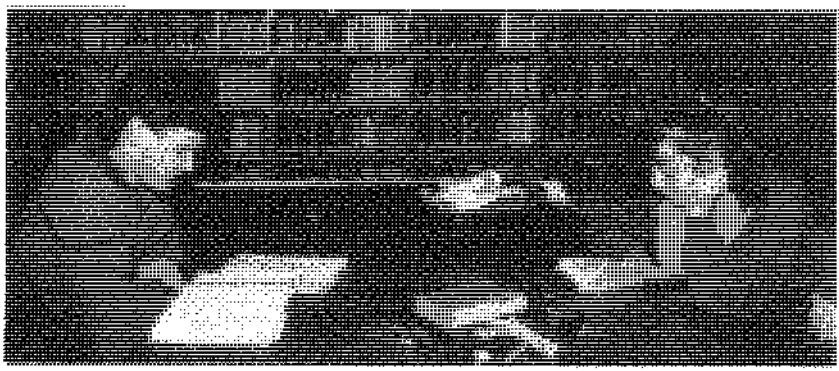
Admission does not assure acceptance of an individual student in a particular course or program. Admission to the College does not, therefore, imply entry into any program which has selective admission standards. Some students may be requested to enroll in special courses for correction of scholastic or other deficiencies. Minimum skill levels are required for admission to even basic courses.

Students not accepted into a baccalaureate program may be admitted into a Mesa State associate degree or certificate program for which they qualify. Students may re-apply for admission into a baccalaureate degree program after completing 12 semester hours of college level course work with a cumulative grade point average of 2.00 or better or after earning an associate degree.

Orientation and Registration for Classes

New students are required to meet with a registration adviser, who registers the new student for classes. This may be done with an individual appointment or at a scheduled orientation session. Information on both will be mailed to students when they are admitted to Mesa State College, along with step-by-step procedures.

New students are encouraged to attend an orientation program to be introduced to the campus. The student-run orientation programs are held throughout the year. A $75 non-refundable confirmation deposit must be received, by the published deadline, for the student's schedule to be retained. (The deposit applies in full towards the tuition costs.)



Degree-seeking students who have not completed the admission process will not be allowed to register for classes. (To be considered for admission students must, before the published deadline, complete an application for admission, submit the application fee, and have all credentials on file, including transcripts and test scores.) Nondegree status is not an option for degree seeking students. First-time freshman students and students transferring to Mesa State with fewer than 30 semester credit hours are required to have ACT or SAT scores and high school transcripts on file before their file is considered complete and they are accepted.

Admission Procedures by Student Classifications

Specific admission procedures for high school students, GED certificate students, transfer students, and other student classifications are as follows:

High school students

1. Obtain and complete an application for admission to Mesa State College.
2. Request that a high school counselor complete and sign the high school information section of the application.
3. Submit the completed application along with a non-refundable $20 application fee.
4. Request that the high school counselor forward official transcripts directly to the Mesa State College Admission Office. Mesa State College requires a final high school transcript showing a graduation date.
5. Take either the American College Test (ACT) (preferred) or Scholastic Aptitude Test (SAT) and have the results sent directly to Mesa State College.

General Educational Development (GED) Certificate Students

1. Obtain and complete an application for admission to Mesa State College.
2. Submit the application along with a non-refundable $20 application fee.
3. Take the American College Test (ACT) or Scholastic Aptitude Test (SAT) and have the results sent directly to Mesa State College.

Applicants who successfully complete the GED with a minimum score of 45 and appropriate ACT or SAT test scores may be admitted to Mesa State College. Admission to particular programs is contingent on meeting specific admission requirements for those programs.

Transfer Students

1. Obtain and complete an application for admission to Mesa State College.
2. Submit the application along with a non-refundable $20 application fee.
3. Request that *each* previously attended college or university send official transcripts to the Mesa State College Admission Office. **Mesa State College will not accept any transcripts from applicants under any circumstance.** All transcripts must be sent from the issuing institution to Mesa State College.
4. If transferring fewer than 30 semester hours of college course work,
   (a) request that the high school send official transcripts directly to the Mesa State College Admission Office. (GED scores will be required if applicant did not graduate from high school.)
   (b) ACT or SAT test scores must be on file before the admission process is complete. Until the admission process is complete, a student may not register for classes, be awarded financial aid, etc.

Transfer students may be admitted into most baccalaureate degree programs if they are in good standing at another regionally accredited college or university and have a minimum cumulative grade point average of 2.00 for 12 or more semester credit hours or an associate degree.

Transfer students who are on probation or suspension from another college or university cannot be admitted into a baccalaureate degree program. Transfer students who are on probation or suspension from another college will automatically be placed on probation at Mesa State College, if admitted.

Students may request an evaluation of transfer courses to determine applicability toward their degree program. General education evaluations are completed in the Records Office; specific degree requirements are determined by the faculty adviser.

It is Mesa State College's policy to accept academic credits from:

1. All public colleges and universities in the state of Colorado, provided they are currently accredited. This applies regardless of the institution's accreditation status at the time the credit was earned.
2. Private and out-of-state colleges and universities, provided the institution is currently accredited and was accredited or was a candidate for accreditation at the time the credit was earned.
3. Accredited two-year community or junior colleges.
4. Institutions that award "S" or "P" grades, if the granting institution states that such grade is equal to a grade of "C" or better.

Only credits with a grade of "C" or better are eligible to be used toward a degree or certificate.

Mesa State College reserves the right to evaluate, on a course-by-course basis, any credits earned 15 years prior to enrollment. Initially only courses used to fulfill general education requirements will be accepted in transfer. Other courses will be transferred upon acceptance by the adviser or dean.

Returning Students

A returning student (any student who has previously attended Mesa State College and has been out for at least one semester, summer term excluded, is a returning student) must complete a returning student application form. The form may be obtained at the Mesa State College Admission Office. If the student has attended another institution since last attending Mesa State College, official transcripts of all work must be sent directly to Mesa State College from *each* institution attended. See "Catalog Under Which a Student Graduates" section to determine the catalog to be followed for graduation.

Students returning after being on suspension must schedule an appointment with the Director of Admission at Mesa State College to discuss the conditions for re-admission.

Academic Renewal

A student who re-enrolls at Mesa State College following an absence of at least five years may be eligible for "academic renewal." If "academic renewal" is approved, *none* of the course credits and grades earned at Mesa State College prior to the five-year minimum absence will be used for meeting graduation requirements or in determining the student's grade point average.

Among the requirements to be eligible to apply for "academic renewal" is that the student *not* have taken any course for credit at any college at any time during the five year period immediately preceding re-enrollment.

A student has one year from the date of re-enrollment at Mesa State College in which to petition the Director of Academic Records for "academic renewal."

Non-Degree Seeking Students

Students who do not wish to pursue a degree or certificate at Mesa State College may register without being formally admitted to the college. Students wishing to enter Mesa State College as non-degree seeking must be at least 20 years of age and cannot have been enrolled at Mesa State College previously as a degree seeking student. Non-degree seeking students must consistently earn a minimum

semester grade point average of 2.00. Students who fail to achieve the minimum must apply for admission as a degree seeking student to continue taking classes. Non-degree seeking students working to become degree seeking or non-degree seeking students who earn thirty semester hours must apply for admission to Mesa State College. A non-degree seeking student must complete the Non-Degree Seeking Student application.

Non-degree seeking students **have not** been admitted to Mesa State College and are not guaranteed admission should they later make formal application. Once non-degree seeking students apply for formal admission to Mesa State College, the admission policies in effect at the time of application will be used to determine admissibility into the college in general and/or specific academic programs. This includes satisfying all requirements for Admission Assessment tests such as the ACT or SAT or, for certificate students, the alternative assessment test. Non-degree seeking students are not eligible for financial aid and will not be assigned an adviser. Degree seeking students will have priority over non-degree seeking students regarding registration.

Concurrent Students

High school students in the eleventh or twelfth grades who attend a high school within commuting distance to Mesa State College may be eligible to take one or more classes at Mesa State College. High school students interested in enrolling for classes at Mesa State College must first contact their individual high school counselors. Concurrent students must submit the following before they will be allowed to register for classes:

1. A Concurrent Enrollment form.
2. An official high school transcript. (ACT or SAT scores are preferred at this time, but not required.)

Concurrent students are not admitted to Mesa State College. When concurrent students wish to become degree seeking students at Mesa State College, they must complete the admission process and will be subject to the admission policies in effect at the time of application. Students seeking concurrent student status and seeking financial support from their school district must begin the procedure 60 days prior to the term in which they wish to enroll.

International Students

To be considered for admission, students who are not U.S. citizens must complete and submit the following to the Admission Office at Mesa State College prior to August 1 for fall semester and at least two weeks prior to spring semester and summer session:

1. Application form with $20 non-refundable application fee.
2. Copy of their American College Test (ACT) scores or Scholastic Aptitude Test (SAT) scores and results from the Test of English as a Foreign Language (TOEFL).
3. High school transcript (must be translated into English).
4. Transcripts from all other colleges or universities attended (must be translated into English).
5. Affidavit of financial support.
6. Evidence of medical insurance. Students who do not have proof of medical insurance will be required to purchase Mesa State College student health and accident insurance.
7. For registration purposes, all international students are required to comply with the Colorado law on measles, mumps and rubella. A Mesa State College official form must be completed and returned to the Admission Office.

Prospective international students whose primary language is not English seeking regular admission to Mesa State College must provide documented evidence of ability to read, write, speak, and understand the English language. This requirement may be fulfilled in one of the following ways:

1. Submission of scores of Test of English as a Foreign Language (TOEFL) with an average of 525 or higher.
2. Submission of results of Michigan Test of English Language with a minimum score of 80.
3. An international student who has been enrolled as a full-time student at another college or university in the United States may request consideration of fulfillment of this requirement on an individual basis.
4. Successful completion of the Colorado International Education and Training Institute of Grand Junction, Colorado, intensive English program (signature of director required).
5. Other evidence will be considered on an individual basis.

Before admission is granted, an international student must provide proof of financial ability to meet cost of tuition, fees, books, living accommodations, and incidental expenses for at least one full year. The total cost per student is approximately $11,100 per calendar year (12 months).

Additional information and forms may be obtained from the Admission Office.

Admission to Specific Programs

Certain baccalaureate, associate, and certificate programs may have specific entrance requirements in addition to general college admittance. Prospective students should check with the Dean of the School in which the desired program is offered for special requirements or call 1-800-982-MESA in Colorado or (303) 248-1376 outside Colorado. Two examples follow:

School of Nursing and Allied Health

Students applying to the School of Nursing and Allied Health must submit additional material. *ACT or SAT scores are required for all Nursing and Allied Health applicants.* The only students for whom the ACT/SAT requirements is waived are those applying to the B.S.N. program who have earned 60 or more college level credit hours. Students applying for admission into the School of Nursing and Allied Health may be admitted into the general college. Admission to Mesa State College does not guarantee admission into the School of Nursing and Allied Health, which requires a separate application. Please contact the Dean of the School of Nursing and Allied Health for additional information by calling toll free 1-800-982-MESA in Colorado or 303-248-1398 outside Colorado.

Selected Studies Program

Entering freshmen are not eligible for admission to the Selected Studies Program. Once a student has completed twenty-four (24) college-level hours with a minimum cumulative grade point average of 2.50, he or she may apply to the Selected Studies Program by contacting the Dean of the School in which his/her major area of study will be undertaken.

Transfer students who are applying for academic programs in Selected Studies will receive an application from the Admission Office. The application must be completed and presented to the appropriate Dean within two weeks. Students will be notified in writing as to their acceptance or denial into the Selected Studies Program. Transfer students must have earned at least 24 college level semester hours with a minimum cumulative grade point average of 2.50 to be considered for admission into the Selected Studies program. For further information, see "Selected Studies" under the "Program" section of this catalog.

Selective Service

Any male student born on or after January 1, 1960 wishing to attend classes at Mesa State College must attest to his registration or exemption from registration with the Selective Service. This attestment must be done prior to his initial registration.

Immunization Policy for Measles or Rubella

All students who attend classes on the Mesa State College campus must have on file an Immunization Documentation form in the Admission or Records office before they will be permitted to register for classes. Forms are available in the Health Service office, the Office of Continuing Education, the Office of Admission, and the Records Office. Students who do not have Immunization Documentation on file will not be allowed to register for classes.

Veterans

Programs offered by Mesa State College, 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 public laws. A veteran or dependent planning a course of training in a special program not described in the College catalog or identified as approved for veterans' benefits should check with the veterans certification officer before enrolling in such a program, if benefit assistance is desired.

Veterans and dependents who plan to apply for VA benefits while attending Mesa State College should contact the Office of Veterans Affairs as soon as the decision to enroll is made. Application for benefit assistance must be made at least two months prior to initial registration if the advance benefit check is to be received on the first day of class. Without this advance application, the student must make other financial arrangements and be prepared to finance tuition and fees, books, supplies, and living expenses for at least two months. Six weeks is the normal processing time required for Veteran's Administration to establish an applicant's file. Further information may be obtained from the Office of Veterans Affairs in the office of the Director of Academic Records.

Credit may be granted for experience and training gained during active duty in the armed forces. Students must submit appropriate discharge papers and certificates of completion to the Office of the Director of Academic Records. All credit granted will be lower division credit.

Admission Assessment and Counseling Tests

ACT or SAT

Scores from either the ACT (preferred) or the SAT are required of all degree-seeking students attending Mesa State College. Test scores must be on file in the Admission office before official acceptance is granted. Certificate seeking students are required to have ACT or SAT scores on file or to have taken the alternative assessment test (see "Alternative Admission Assessment Device" section). A student's attainment of a certain ACT composite score, or SAT combined score is one of several criteria considered for admission to a baccalaureate degree program. Certain other programs, including programs offered by the School of Nursing and Allied Health, have a minimum ACT or SAT score requirement. For specific requirements, refer to the Dean of the appropriate school. ACT and SAT test results also are used by the student and adviser as the basis for planning a course of study and as an aid in academic placement. Supplemental academic assistance is provided on a limited basis for those whose test scores indicate weaknesses or deficiencies in certain areas such as English and mathematics. ACT and SAT scores also may be used for scholarship consideration and institutional research.

The only exemptions to this admissions requirement are for:

1. Students enrolled *only* in non-credit classes offered through Continuing Education.
2. Transfer students to Mesa State College from other accredited colleges or universities with 30 or more semester hours of credit. This does not apply to applicants to the School of Nursing and Allied Health and any other programs that may require a specified ACT or SAT score as an entrance requirement.
3. Students who have already earned an associate or baccalaureate degree at another accredited institution.
4. Non-degree seeking students.

Prospective students are encouraged to take the ACT or SAT during their high school senior year. Transfer students (unless exempt) are required to have their ACT or SAT scores on file in the Admission Office prior to registration. ACT or SAT scores from a previous college or university are acceptable. Students are encouraged to retake the ACT/SAT test if their scores are three or more years old.

A special residual ACT test is scheduled prior to registration each semester for applicants seeking admission to Mesa State College who did not take the ACT on one of the national test dates. A testing fee of approximately $30.00 will be collected from the student immediately prior to taking the test. Test results will be available to the student's adviser during registration. Contact the Testing office for further details (303) 248-1215.

Alternative Admission Assessment Device

Assessment tests are required of students *before* they may enroll: (1) in certificate programs of one year or less or (2) as non-degree seeking students. These students may choose:

1. The ACT or SAT.
2. An alternative assessment device. Certificate and non-degree seeking students who wish to use this alternative must see the Dean of the School of Technology for details and cost information.

Should a certificate-seeking student want to become a degree-seeking student, he or she must comply with all entrance requirements for the new program. This will include taking the ACT or SAT if the student has not done so.

Assessment and Evaluation after Enrollment

Students are required to participate in testing and other programs necessary for evaluation and assessment purposes. Please see the "Evaluation" section of "General Academic Requirements" in this catalog.

Non-Traditional Credit

Non-traditional credit can be earned from sources such as the following:

Advanced Placement/Credit Program

Students wishing academic credit or advanced placement for college level work done while in high school should take the appropriate College Board Advanced Placement examination. These examinations are administered several times each year at numerous locations throughout the United States. College Board Advanced Placement examination scores currently accepted at Mesa State are American history; art: history; art: studio; biology; chemistry; computer science; English language and composition; English literature and composition; European history; French language*; French literature; German literature*; mathematics: calculus AB; mathematics: calculus BC; music listening and literature; music theory; physics B; physics C: mechanics; physics C: electricity and magnetism; Spanish language*; Spanish literature*. The Admission Office will supply information

concerning the scores required for earning academic credit or advanced placement in the various subject areas.

College Board Advanced Placement credit will not be entered on a student's transcript until the student has achieved 12 hours of credit at Mesa State College.

* Level 3

College Credit by Examination

Students attending Mesa State College may earn college credit by examination in certain subject areas on the College Level Examination Program (CLEP). Credit may also be earned by subject matter tests offered through various departments at Mesa State College. Students must have completed 12 credit hours before challenge credits will be recorded on a transcript.

For more information contact the appropriate College Dean or the College Testing office at (303) 248-1215.

Limitation on Non-Traditional Credit

The faculty and Dean of each School determine if and under what conditions non-traditional credit is allowed. If allowed, the following limits apply:

1. Military credits—maximum of 20 lower division credit hours.
2. CLEP and department challenge examinations—maximum of 20 credit hours for a baccalaureate degree or an Associate of Applied Science degree, a maximum of 12 credit hours for an Associate of Arts or an Associate of Science degree and a maximum of six credit hours for a certificate of occupational proficiency.
3. Advanced placement—maximum of 30 credit hours for a baccalaureate degree, 15 credit hours for an associate degree or a maximum of six credit hours for a certificate of occupational proficiency.
4. Competency credit—maximum of 30 credit hours towards a baccalaureate degree or 25 percent of the total credits required for the program towards an associate degree or a certificate of occupational proficiency at the prerogative of the Dean of the School. Further restrictions apply. See the Director of Academic Records for details and guidelines.
5. Cooperative Education, Internships, Practicums, etc.—non-classroom oriented course such as cooperative education, internships, practicums and other courses determined to be of this type are subject to the following limits: a maximum of 12 semester hours of credit may be used to satisfy the required academic semester credits for a baccalaureate degree. A maximum of 6 semester hours may be used to satisfy the academic semester hours for an A.S. or A.A. degree. The maximum of 12 semester hours may apply toward the 40 upper division hour requirement. No restriction on the maximum number of credits above and beyond any degree requirement is intended. These restrictions do not apply to the A.A.S. degree or certificate programs.

The total combination of any non-traditional credit cannot exceed:

1. Baccalaureate - 30 credits
2. Associate of Science or Associate of Arts - 15 credits
3. Associate of Applied Science - 20 credits
4. Associate of Applied Science-Nursing - 18 credits
5. Certificate - twenty-five percent of the credits required in the program

Acceleration of College Study

It is possible for students to satisfy requirements for baccalaureate degrees in less than the traditional four years (eight regular academic year semesters). Ways of accomplishing this include: enrolling in college classes while a senior in high

school; exceeding the normal course load at Mesa State College or elsewhere; challenging by examination courses in which competence has previously been attained; earning credit by testing through the College Level Examination Program (CLEP); obtaining credit for work experience (competency credit). Additional information may be obtained from faculty advisers and the Testing office.

No-Credit-Desired Courses

A student who desires to attend certain classes regularly, but does not wish to receive grades or credit, should register for "no credit desired" in these classes.

Tuition charges for classes taken for non-credit are the same as for classes taken for credit. Exceptions to this policy will be made for senior citizens.

Senior Passport to Education Program

Mesa State College provides individualized support, including academic and scheduling decisions, for persons 60 years and older.

Classes for No Credit

Persons 60 years of age or older who do **not** wish to earn college credit may attend resident instruction classes, on a space-available, instructor-approved basis, at Mesa State College without cost. (This policy does not apply to laboratory, Continuing Education and certain other courses for which special charges normally are assessed.)

Interested persons should obtain a registration form from the Continuing Education office in Albers Hall or telephone (303) 248-1476 or (303) 248-1847. The registration form must be signed by the instructor granting approval and returned to the Coordinator of Non-Traditional Adult Students. No College records of participation will be maintained.

Classes for Credit

Person 60 years or older who wish to enroll for credit must submit required admission and registration materials to the Office of Admission. The same deadlines, costs, etc., as for other students will apply.

EXPENSES AT MESA STATE COLLEGE

Mesa State College reserves the right to adjust any and all charges, including fees, tuition, and room and board, at any time deemed necessary by the Trustees.

Determination of Residence Status for Tuition Purposes

A person moving to Colorado must be domiciled in the state for 12 continuous months before being eligible to apply for in-state resident status. To qualify for in-state tuition, however, a person must do more than merely reside in Colorado for the preceding 12 months. "Residency" in this context means legal "domicile" which requires intent to remain in Colorado indefinitely, regardless of enrollment at Mesa State College. For a student under the age of 21, the residency classification is based on the parents' residency unless the student can prove emancipation. Students 21 years of age or under, if emancipated, must demonstrate that they themselves have met the residency requirements.

Examples of actions which can establish residency intent are: payment of Colorado state income tax, registration of a vehicle in Colorado, and possession of a Colorado driver's license. The final decision regarding tuition status rests with the College. Questions regarding residence (tuition) status should be referred only to the Director of Admission. Opinions of other persons are not official or binding upon the College.

Tuition and fees for the 1993-94 academic years had not been determined when this catalog was printed. The following estimated rates are presented for planning purposes only. Students are invited to write for the most current rates, available in July each year.

Tuition and Fee Schedule

(Estimate for 1993-94)

Full-Time Students, Regular Academic	Semester	Year
Colorado Residents (enrolled in 10 or more hours)		
Tuition	$ 709.00	$1,408.00
Student Services Fees	173.00	346.00
TOTAL	$ 882.00	$1,764.00
Non-Colorado Residents (enrolled in 10 or more hours)		
Tuition	$2,300.00	$4,600.00
Student Services Fees	173.00	346.00
TOTAL	$2,473.00	$4,946.00
Part-Time Students, Regular Academic Year:		
Colorado Residents (enrolled in 9 or fewer hours)		
Tuition per semester hour		$ 71.00
Student Services Fees per semester hour		13.30
TOTAL		84.30
Non-Colorado Residents (enrolled in 9 or fewer hours)		
Tuition per semester hour		$ 192.00
Student Services Fees per semester hour		13.30
TOTAL		$ 205.30

A surcharge equal to the appropriate credit hour tuition rate will be assessed per semester for each credit hour over 21.

Non-Refundable Confirmation Deposit

A $75 confirmation deposit is required prior to the beginning of fall and spring semesters in order for the registered student's class schedule to be retained. The deposit applies, in full, to tuition and fees. It is not refundable.

Summer Session

Tuition charges equal those for the regular fall or spring semesters; however, student services fees are $11.30 per semester hour regardless of the number of hours taken.

Payment of Tuition and Fees

Students, by the act of registration and confirmation, automatically incur a financial obligation to the College. This means that students who register for one or more classes (unless they officially withdraw from the College within the time specified for a partial refund), are obligated to pay the full amount of their tuition and fees, whether or not they attend class. No student having unpaid financial obligations of any nature due the College will be allowed to register for classes, graduate, or receive a transcript of credits.

Tuition is due in full on or before the 12th day of classes. A late fee of $50 will be assessed if this payment is not made.

Refunds of Tuition and Fees

Beginning with the first day of classes and continuing through the sixth day, if students officially withdraw, the College will retain 25% of their tuition and fees; if tuition and fees have been paid, the remainder will be refunded; if tuition and fees have not been paid, the students will be billed for 25% of their incurred debts.

From the 7th through the 12th day of classes, students who choose to withdraw will forfeit 50% of tuition and fees.

From the 13th through the 20th day of classes, students who choose to withdraw will forfeit 75% of tuition and fees.

There are no refunds for withdrawals after the 20th day of classes.

The Department of Continuing Education operates under a different refund policy. Please contact that office for specific information.

Room and Board

Freshman and sophomore students who are under 21 years of age and not residing with their parents in Mesa County are required to live on campus. A student may qualify for exemption from the on-campus requirement for definite reasons expressed in writing and approved by the Director of Housing if he or she is:

1. Married; or
2. 21 years of age or older; or
3. A part-time student (enrolled for less than 10 hours per semester); or
4. Residing at the permanent address of parents or step-parents; or
5. Of junior class standing since the preceding semester; or
6. Not of junior standing but has resided in the residence halls for four semesters; or
7. Medically excused (with written documentation from a medical doctor).

On-campus living offers many advantages. Its location, just steps away from classrooms, student services, and the library, makes on-campus living very convenient for Mesa State students. In addition, living on campus relieves the students of many time-consuming chores such as preparing meals, washing dishes, and driving to and from the campus. With this extra time, students are able to devote more energy to their studies, to recreational activities, and to making new friends.

Each residence hall and apartment complex is staffed with a resident director, assistant director, and resident assistants who are trained to assist students. These staff members aid residents in dealing with programs, policies, and other matters associated with college life.

The Student Housing Office serves as a clearinghouse of housing service opportunities. In the Student Life Center, students can make arrangements for room and board, receive assistance with personal matters, explore job opportunities, make suggestions for improvements, and receive assistance for a variety of related housing concerns and interests.

The Facilities

There are two types of on-campus housing available: (1) College residence halls with cafeteria meal plans (most rooms are designed for two students, although there are a limited number of single rooms); (2) College apartments, available for sophomores, juniors, and seniors.

The apartments are modern living units for three or four students and each consists of bedrooms, bath, kitchen and living room. The residence halls are furnished with standard twin beds, desks, chairs, closets, and drawer space. Each room in the residence halls and each apartment is equipped with a telephone. A student may call within the local Grand Junction area without charge. If the student wishes to call long distance (other than collect), a long distance system must be obtained from a private company.

Student Housing Contract

Students who wish to apply for accommodations on campus are required to submit a $150 deposit with their signed contract. The deposit includes a $25 nonrefundable application fee. Rooms/apartments will be assigned in the summer and each student will be notified by late July as to assignment.

The student housing contract is a legal agreement between the student and Mesa State College covering room and board on campus. Both parties assume the rights and responsibilities outlined in the "Housing Contract" and all supporting documents upon acceptance of the contract by Mesa State College.

Questions concerning housing on campus should be directed to the Housing Office located in the Student Life Center at 1152 Elm, across from the W.W. Campbell College Center.

Off-Campus Housing

The College has no jurisdiction over off-campus housing but attempts to assist students in locating housing.

Food Service

Food services, offered through Marriott Corporation to students at Mesa State College, include a choice of two meal plans: Plan A, unlimited meals between 7:00 a.m. and 6:30 p.m., or Plan B, unlimited meals between 10:30 a.m. and 6:30 p.m. Multiple entrees are served with unlimited seconds. Only two meals are served on Saturday and Sunday (brunch and dinner) Both meal plans have full access to brunch and dinner 11:00 a.m. to 1:00 p.m. and 5:00 p.m. to 6:30 p.m. Meals are planned with special needs in mind also, such as for the weight conscious or vegetarian.

Students living in the residence halls may select the meal plan of their choice but are required to choose one. Students not living in the residence halls may, if they wish, purchase meal plans and/or munch money (prepaid coupon books with savings on snacks and various meals on campus). Meals are served seven days a week during the academic year but are not served during Thanksgiving, Christmas and spring break when classes are not in session.

Call (303) 248-1742 for more information on dining services at Mesa State.

Payment of Room and Board

Room and board are contracted on a yearly basis and are payable each semester at the time of registration. Special deferred payments can be arranged through the Business Office. Registration is not complete until the student's obligation is met in full. The total charge for one year is divided into 60% fall term and 40% spring term. Room and board rates for the 1993-94 academic year had not been determined when this catalog was printed. **The following schedule reflects estimated rates for 1993-94.**

	Fall	Spring	Total
Apartments:			
Single Room (per student)	$1,350.00	$ 900.00	$2,250.00
Double room (per student)	1,050.00	702.00	1,752.00
Residence Halls:			
Double occupancy (per student)	$ 912.00	$ 618.00	$1,547.00
Single occupancy (per student)	1,212.00	810.00	2,022.00

Board: (Available to all students; mandatory for dorm residents)	Per Semester	Total
Plan A - unlimited, 7:00 a.m.-6:30 p.m.	$ 913.00	$1,826.00
Plan B - unlimited, 10:30 a.m.-6:30 p.m.	$ 869.00	$1,738.00

Room Refunds

The schedule for room refunds is outlined in the Housing Contract.

Board Refunds

Departing students are charged thirty (30) percent of the cost of the total meal plan plus meals through the week in which formal check-out occurs. Students leaving the last two weeks of the semester are charged the full semester rate for meals.

Other Fees and Expenses

Books and Supplies

Required text books and supplies are sold at the College Bookstore, located in the W. W. Campbell Center. Other items sold at the bookstore include general books, art and engineering supplies, basic school supplies, calculators, imprinted and non-imprinted clothing, magazines, non-prescription medicine, and gift items.

The approximate cost of textbooks for a single semester is $250 to $275 but varies with the program of study. Supply costs vary depending upon student preference and course requirements.

Textbooks may be returned during the first four weeks of the fall semester and the first three weeks of spring semester, provided the cash register receipt is shown as proof of purchase and the books have not been defaced.

The bookstore sponsors a book buy-back program which is conducted during the final examination week of fall and spring semesters only. Used books may be available for some classes and are sold on a first-come, first-served basis.

The College bookstore hours are:

Monday, Tuesday and Thursday	7:45 a.m. to 4:30 p.m.
Wednesday	7:45 a.m. to 6:30 p.m.
Friday	7:45 a.m. to 4:00 p.m.
Saturday and Sunday	Closed

Private and Special Instructional Fees

When certain private and special instructional services are required, additional charges will be incurred by the student. Fees vary with the nature of the instruction. Private instruction in applied music is available from instructors approved by the College. Cost of this instruction is $140 per semester for one lesson each week and is offered through Continuing Education. Other special instructional services available to students for extra fees may include lab and transportation fees, human performance and wellness classes with locker and towel facilities and classes such as bowling, skiing and golf.

Application and Evaluation Fees

Application and Evaluation Fee (non-refundable)	$ 20.00

Valid only for the semester for which the student makes application.

Preparatory Courses

Students in a baccalaureate major who enroll in preparatory courses (sub 100 numbered) will be charged an additional $100 fee for each preparatory course taken.

Miscellaneous Fees

Graduation (diploma, application processing)	$ 20.00
Room damage deposit	$150.00
Parking permit (per year)	$ 18.00
Student health insurance per semester (subject to change)	$108.00
I.D. card fee	$ 5.00

Student Health Insurance

Student health insurance fees will be billed to every student (enrolled for ten or more hours) who does not complete a waiver form in the Business Office by the established deadline. For anyone enrolled for less than ten hours, insurance is available upon request (by the established deadline). Insurance coverage is also available for spouse and children.

FINANCIAL AID

Financial aid at Mesa State College consists of a balanced program of scholarships and grants-in-aid awarded for outstanding academic achievement or outstanding performance in special skill areas including vocational skills, athletics, drama, music, etc. Mesa State College also participates in federal and state programs of grants, loans, and student employment, the awarding of which is based primarily on need as determined by a needs analysis system approved by the Federal government. The application used to determine need is the Free Application for Federal Student Aid.

Financial aid awards that are based on the needs analysis system consider family resources as the primary source of funding for education, with federal and state sources considered secondary and supplemental. Because prospective students always apply for more financial aid than there is money available, the following priority order is used:

1. As stated in federal law, a parent is primarily responsible for payment of educational expenses of a child. Thus, parents of students attending college are expected to make every effort to assist the student financially.
2. The student, as the benefactor of the educational experience, is the next most responsible person for payment of educational expenses.
3. The third level of responsibility is from outside sources such as communities, clubs, corporations, etc.
4. The last resort is federal and state financial aid programs. There has never been enough funding to assist all needy students. Therefore, students should make every effort to obtain assistance at one of the three levels listed above.

Accurate and timely information from the student and parents to the Financial Aid office is the responsibility of the student. Failure on the part of the student to supply all required information on the application may result in reduction or total loss of aid.

Colorado Student-Aid Programs

(Available to full-time, half-time and part-time students. Part-time students will be considered for assistance if funds are available and only for the amount of tuition and fees.)

1. *Colorado Grants* - Grants, usually amounting to $1,000, are awarded to Colorado resident students on the basis of documented financial need. Financial aid packages which include Colorado Grants may not exceed the documented financial need of the student.
2. *Colorado Scholarships* - These scholarships represent an effort by the state of Colorado to recognize Colorado resident students for outstanding achievement in academic and talent areas. The awards shall not exceed tuition and fees. Need is not a factor in determining recipients. However, students who receive Colorado Scholarships will be encouraged to submit a financial aid application.
3. *Colorado Work-Study* - The Work-Study program is designed to provide employment, both on and off campus, for students with documented need and who meet the residency requirement for tuition purposes.
4. *Colorado Student Incentive Grant (CSIG)* - This is a program wherein half of the grant to a student is provided by the state of Colorado and the other half by the federal government. Awards are made only to Colorado resident students with extreme need, and the average CSIG awarded is $1000.
5. *Diversity Grant* - Mesa State College will consider a student for this grant if the student meets at least one of the following five criteria: first generation student, handicapped student, ethnic minority student, dependent student from low income family, or single parent. The recipients must be Colorado residents, accepted for enrollment under a degree-seeking program, and be enrolled full-time. A cumulative G.P.A. of 2.00 or better is required. Financial need is also used as a consideration. Awards will vary according to need and criteria met.

Mesa State College Foundation Programs

The Mesa State College Foundation is a non-profit organization comprised of prominent citizens of the area who wish to aid deserving students at Mesa State College. This group, which functions independently of the College, conducts an annual drive to raise funds for scholarships and student loans. The organization also serves as a receiving and clearing agency for many established scholarships and for those received from clubs and organizations. All scholarships are designed to apply toward tuition and fees.

1. *Community Clubs and Organizations Scholarships* - In addition to the institutional scholarships described above, many scholarships and awards have been established for students of the College by individuals and organizations in the Grand Junction area. The amounts of these awards vary but all are designed to be applied toward tuition and fees.
2. *Student Loans* - Mesa State College provides emergency short-term loan funds from which students may borrow to help meet temporary financial obligations. By definition, short-term loans are repayable within 90 days or by the end of the semester, whichever comes first. Inquire at the Financial Aid Office for applications and additional information.

Non-Resident Scholarship

In an effort to encourage outstanding students from states other than Colorado to attend Mesa State College, a tuition waiver equal to one-half the non-resident tuition may be available to students who have achieved a cumulative minimum grade point average of at least 2.80 and an additional $250 per semester if the

minimum grade point average is 3.00 or higher. Students will be required to live in Mesa State College housing in order to qualify for one of these grants unless permission is granted to live off campus by the Housing Director.

The grade point average achieved while in high school will be used to determine eligibility if the applicant is a first time college student. If the applicant is a transfer student, the cumulative grade point average of all college hours completed will be used to determine eligibility.

Federal Student-Aid Programs

1. *Federal Pell Grant Program* - This is a grant program available to needy students enrolling in an eligible institution of post-secondary education. Application forms are available from high schools or the financial aid office at any eligible post-secondary institution. The student applies through an approved needs analysis agency as described before and upon receipt of a Student Aid Report (SAR) from that center, submits it to the financial aid officer of the college of the student's choice for the grant determination. Full-time and half-time students enrolling in an institution of postsecondary education who are high school graduates or equivalent are eligible to apply. The Pell Grant Program is the base program for financial aid at Mesa State College.
2. *College Based Programs* - Mesa State College participates in many other federal student-aid programs. These include the: (1) Federal Perkins Loan Program, (2) Federal Supplemental Educational Opportunity Grant Program, (3) Federal College Work Study Program, (4) Federal Family Educational Loan Program (formerly the Guaranteed Student Loan Program) consisting of the Federal Stafford Student Loan Program, the Unsubsidized Federal Stafford Student Loan Program, the Federal Parent Loan for Undergraduate Students (PLUS) and the Federal Supplemental Loan for Students (SLS). Details concerning these programs may be obtained from the Financial Aid office.

General Guidelines

Financial need for educational expenses is an essential requirement to qualify for assistance from most programs. Students who must have financial aid in order to secure a college education are encouraged to contact the Financial Aid Office of the College for necessary information and application forms. Both full-time and less than full-time students will receive consideration.

Since financial need is the primary requirement for determining eligibility for assistance under any of the federal student aid programs, Mesa State College requires that the student applicant **submit the proper application to the federal processor as soon as possible after January 1**. This form should be available at either the high school principal's or counselor's office, or may be obtained by writing the Office of Financial Aid at Mesa State College.

Stafford Student Loans are obtained in the same manner as other campus based aid and require a separate application which is available from participating banks, savings and loan associations, credit unions, and the Office of Financial Aid.

STUDENT SERVICES

Mesa State College has an environment that encourages and allows students to develop socially as well as educationally. Learning is not confined to the classroom and the library. Student Services provides quality opportunities for students to increase skills and competencies in academic and vocational areas as well as areas related to developing and improving self-understanding, interpersonal relations, realistic decision-making, value clarification abilities, and the establishment of life goals.

Orientation

New students to Mesa State may participate in one of the college orientation programs offered on several dates throughout the year. The program is organized by upperclass Mesa State students who will introduce new students to the campus, fellow classmates, and the College's programs and facilities. Students attending an orientation program are permitted to register for classes during their orientation. Parents of graduating high school students are encouraged to attend the orientation program. Upon acceptance to Mesa State College, students will receive further details of the orientation being held for them. For more information contact the Admission Office.

Academic Advising

All students are assigned faculty advisers on the basis of program interest. A faculty adviser helps the student plan a program of study, complete the registration process, and continues to provide assistance in these matters during the student's entire enrollment at Mesa State. Academic advising also takes place during the orientation program. Students who wish to receive pre-college advising in selecting a major may contact the Coordinator of Career/Placement Services at (303) 248-1366.

Adult Re-entry Program

This program, coordinated by the Office of Continuing Education, provides adults a one-stop center for coordinating all the necessary steps to enroll at Mesa State College including academic advising, financial aid, and course registration. For more information, contact the Office of Continuing Education at (303) 248-1847.

John U. Tomlinson Library

The John U. Tomlinson Library supports the educational mission of the College by providing a diverse collection of materials for use by the students and faculty.

Housed in a new building, the library collection contains over 170,000 volumes which includes books, periodicals, nonprint materials, maps, newspapers, audio and video cassettes, slides, records, CD ROM discs, films, software and other items. The library is a partial depository for federal government documents and also contains special collections which include the College archives, manuscripts and papers, and book collections in the areas of George Armstrong Custer, theatre, Western Colorado history and other subjects.

Services provided by the library include reference and information desk assistance, quiet group study rooms, photocopy and microform machines, and bibliographic instruction to classes. The Media Center provides a post production TV studio, instruction materials consultation, equipment distribution, and media production services to students and faculty. Assisted computer search services are also available.

Access to the collection is through the MARMOT on-line catalog which is composed of the holdings of the Tomlinson Library, and includes holdings in other libraries throughout Colorado and the United States. Should materials not be available locally, the Interlibrary Loan Department obtains needed materials for students and faculty from other libraries.

Tutorial and Learning Center

The Tutorial and Learning Center provides a free peer tutorial service for students needing extra help in a class difficult for them. The goal of the Center is to help students to succeed in improving their grades and to learn skills for high academic achievement.

Qualified tutors are recommended by faculty and are available at conveniently scheduled times at the Center in Houston Hall 110. Also, one-hour study skills workshops and seminars are offered the first month of each semester.

College Reading and Study Skills (DEVL 090) is a three-credit hour course offered through the Center that teaches students college level academic skills, such as effective note taking, test taking, time management, and reading efficiency. (See "Developmental Studies")

Support Services for the Physically and Learning Disabled program is also a program function of The Tutorial and Learning Center.

Physical and Learning Disabled Program

Mesa State College provides free support services for students with documented physical or learning disabilities. Services available, depending upon individual needs, include volunteer note takers, content tutoring, monitored testing and taped textbooks (eight weeks notice required). Prospective students are encouraged to contact the Coordinator of the Physically and Learning Disabled office to discuss special needs. The office, located in Houston Hall, Room 110, is closed from mid-June to mid-August.

Writing Center

Students can improve their writing skills through one-on-one assistance from the staff of the Writing Center located in Lowell Heiny Hall (248-1832).

Student Life Center

The Student Life Center staff is available to provide counseling and referral services to students seeking personal, career or substance abuse counseling and resources (248-1366).

1. *Counseling.* Psychological counseling services and academic supportive counseling is available to all students at no charge. Assessment and referral to the PsycHealth Center is provided for those students requiring more extensive counseling.
2. *Career/Placement.* Career development services are provided for those students needing assistance in choosing a career. Various career inventories are used to help the student assess his/her job-related strengths. Skill development workshops are available to help students wanting assistance with resume writing, interviewing and job application procedures. A job placement file service is available for graduates. Listings for part-time job employment, summer employment and full-time employment are available for all enrolled students seeking employment.
3. *Alcohol/Drug Education (AWARE Program).* Counseling services, in partnership with PsycHealth Center, provides alcohol and drug education presentations for staff, faculty and students. The AWARE program staff is available to make presentations to student groups, classes, and faculty or departments, on topics related to substance abuse.

Mesa State College Day Care Center

Day care is available for children of Mesa State College students on a limited basis. A minimum fee is charged by the hour or by the day for children two to five years of age. For further information, contact the Mesa State College Day Care Director at (303) 248-1318.

Student Activities

To broaden students' educational experience and to enrich the campus environment, the College offers a wide variety of student activities available for student involvement.

Over fifty student organizations exist at Mesa State College. The student activities brochure, available at the Admission Office, contains a detailed listing of student organizations at Mesa State.

Student organizations include professional and academic clubs (accounting club, geology club, Phi Beta Lambda) which allow students to explore their interests beyond the classroom as well as to interact with their professors and other professionals in their fields of interests.

There are over twenty special interest student organizations at Mesa State, including sports clubs (such as skiing, karate, and rodeo), support groups, and religious organizations which allow students to meet other students who share similar interests.

A number of funded campus organizations are administered by Mesa State students including the following:

Student Body Association (SBA) - SBA is the representative body and official voice of the students. The SBA operates through the General Assembly, a legislative body composed of students elected by the student body and club-appointed representatives. Students involved in SBA have an opportunity to gain leadership skills by representing student opinion and organizing student services such as

funding clubs, printing the student handbook, and offering student orientation programs.

Mesa State Activities Council (MSAC) - MSAC is responsible for organizing entertainment activities including concerts, films, speakers and dances. Past events have included musician Robert Palmer, comedians Dennis Miller and Judy Tenuta, jazz artists Spyro Gyra, and speakers such as Joe Clark, the principal featured in the film, *Lean on Me*.

Fine Arts Organizations - All Mesa State College students are encouraged to audition to join a musical group, participate in theatre or be a part of a dance performance. Performances in the arts are highly regarded at Mesa State and are well-attended by students and the community.

Media Organizations - These organizations include the student newspaper, *The Criterion*, the student radio station, KMSA 91.3 FM, and the literary and art publication, *Literary Review*. Each of these groups is professionally advised by campus faculty members and utilizes the latest equipment employed in their fields.

Outing Program - This student group organizes trips and classes including whitewater rafting, rock climbing, and skiing. The rental center, located in the College Center, rents mountain bikes, canoes, kayaks, cross-country skis, backpacks and other gear.

Cultural Awareness Board - This student organization offers leadership experiences for students and organizes programs to educate students regarding multicultural concerns and issues.

Intramural-Recreation Services

The Intramural-Recreational Sports program at Mesa State College offers the student a variety of organized activities ranging from competitive and non-competitive team and individual sports (including basketball, softball, racquetball and volleyball) to group and individual fitness activities (including aerobics and fitness program design). In addition, non-organized recreational activities, such as swimming and weight lifting are provided. Many other activities are offered and students are encouraged to suggest new activities.

Participation in the program is a key to positive growth experiences at Mesa State College and to acquiring skills and knowledge that will be of value throughout life. In addition to opportunities for physical activity and fitness, other benefits include social interaction with friends and fellow students of both sexes as well as work-study job opportunities for those with experience in recreation. All students who are currently enrolled in credit courses at Mesa State College are eligible for all activities within the Intramural-Recreational Sports program.

A yearly calendar of intramural and recreational sports activities is available at the Intramural Office located in the lower-level of Saunders Fieldhouse (248-1592).

Student Health Center

Good health, both physical and emotional, is an important factor in successful college work. It is the intent of the College Health Service to provide competent medical care. Similar to the family doctor, the Health Center serves as a source of medical assistance for the student who is away from home.

An out-patient Health Clinic provides health services for all students who have a valid student I.D. card regardless of number of credit hours carried or insurance status. Primarily, these services are limited to: first aid; dispensing simple medicines; recommending proprietary drugs; making referrals to physicians and dentists; providing counsel for personal health problems; and doing limited lab tests for a minimal fee.

The Clinic is staffed with a full-time registered nurse and employs a medical doctor on a four-hour daily schedule during class days. The medical doctor provides

students with an initial health assessment and evaluation, treats minor illnesses or conditions, and refers students for hospitalization and special treatment as needed. The Health Clinic is located in a separate building on the north side of Elm Avenue immediately across the street from the College Center and is operated by St. Mary's Hospital. Office hours for receiving students are Monday through Friday from 8:00 a.m. through 5:00 p.m.

The Student Health Center is not open on Saturdays, Sundays or holidays. For illnesses or accidents which occur after hours or on weekends, students should report for emergency treatment at an area hospital. In extreme emergencies, help should be obtained by dialing 911. Extended coverage for minor emergencies is provided by St. Mary's Family Practice Center during the academic school year. Arrangements must be made by calling 248-1487. During breaks and the summer semester, call 244-2800.

St. Mary's Emergency Department is available for extreme emergencies. A physician is always on duty in St. Mary's Hospital, 24 hours a day, 7 days a week. In an emergency situation, students who are unable to see the campus physician or a physician at St. Mary's Emergency Department can request the on-call Family Practice Center physician or call 244-2800.

The Mesa State College Health Center is operated by St. Mary's Hospital, the Regional Medical Center. For additional information on the Health Center, call 248-1487.

The College Center

Located in the main artery of the campus, the W. W. Campbell College Center, recently remodeled, features over two million dollars in facility improvements and serves as a meeting place for students, faculty, and staff members.

The College Center houses the bookstore, copy center, art gallery, outing program, student government offices, radio station, school paper, gameroom, snack bar, information desk, dining hall, outdoor cafe (1993), student lounges, and meeting rooms. The gameroom includes pool tables and video games. Liff Auditorium is the center of many of the entertainment programs organized weekly by the student-run Activities Council.

Student organizations may arrange for the use of the College Center meeting room facilities through the College Center Scheduling Office.

Campus Parking

Students and College staff members who wish to park on campus may purchase parking permits for designated areas. A parking sticker does not guarantee a parking space, but permits on-campus parking when such space is available.

GENERAL ACADEMIC REGULATIONS

System of Grades

Grades at Mesa State College are indicated as follows: A, excellent to superior; B, good to excellent; C, satisfactory; D, passing but not satisfactory; F, failed; I, incomplete; W, withdrawn; NC, no credit; IP, in progress.

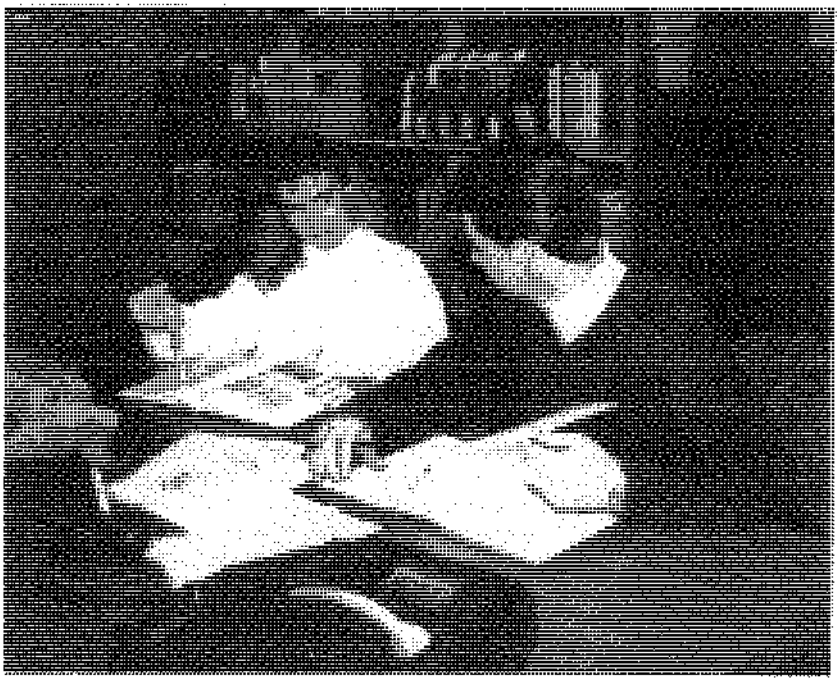
Academic Standards

The scholastic standing of a student at Mesa State College is computed on the basis of all courses attempted (unless Academic Renewal has been approved - see "Admission Information"). This includes only those grades earned at Mesa State College. Grades awarded from any other institution will not be utilized in the grade point average calculation. A student must achieve a cumulative grade-point average of 2.00 (C), or higher, to graduate at the certificate, associate or baccalaureate level.

Mesa State College uses the four point system in computing the grade-point average (GPA) of its students. Under this system, a student receives four quality points for each semester hour of A; three points for each semester hour of B; two points for each semester hour of C; one point for each semester hour of D; and no quality points for an F. An example follows:

3 Semester Hours of . . . A	=	12 points
3 Semester Hours of . . . B	=	9 points
3 Semester Hours of . . . C	=	6 points
3 Semester Hours of . . . D	=	3 points
3 Semester Hours of . . . F	=	0 points
15 Semester Hours		30 points

30 points divided by 15 semester hours = 2.00 GPA



Minimum GPA

Students are considered to be making "satisfactory progress" toward a degree if they attain a cumulative GPA consistent with the table listed below. Incomplete ("I") and In Progress ("IP") grades are tentative grades and until changed are not considered in computing either the cumulative grade-point average or the grade-point average for the particular semester concerned.

Credit Hours	Cumulative GPA
0 - 15	1.70
16 - 30	1.80
31 - 45	1.90
46 and above	2.00

Students failing to achieve the minimum GPAs listed above will be placed on academic probation. The student will remain on probation until the minimum GPA is achieved, providing the student earns a minimum semester GPA of 2.00. If a student already on academic probation fails to earn a semester GPA of 2.00, the student will be placed on academic suspension. The student will be prohibited from further attendance at Mesa State College for a minimum of one semester; i.e., those suspended following fall semester may not attend Mesa State College until the subsequent fall; those suspended following spring semester will not be allowed to attend Mesa State College until the subsequent spring. (See "Academic Probation and Suspension")

Grade Improvement

Any course which is taken more than once for academic credit at Mesa State College is done so only for "grade improvement" (i.e., academic credit is awarded only once and the last grade received is that used to compute the student's cumulative grade point average and to fulfill requirements for the degree). The only exceptions to this policy are MUSL (music lessons) and MUSP (performing music) classes, each of which may be taken twice for academic credit; Independent Studies (a maximum of six credit hours may be taken for credit - see "Independent Study" in the "Program" section of this catalog); and in some cases Topics, Practicums, Seminars, Internships, and Cooperative Education (see program sheets and the appropriate dean for these exceptions).

The option of repeating a course for grade improvement is available to a student only if the course he or she wishes to repeat is still offered at Mesa State and is scheduled to be offered in the semester in which the student wishes to take it. If a student wishes to repeat a course for grade improvement, a "Grade Improvement" form must be filed with the Director of Academic Records after repeating the class. The last grade earned will be the grade used (whether better or worse than the original).

Courses taken at Mesa State College may not be repeated at another college for improvement of the original grade and courses taken at another college may not be repeated at Mesa State College for improvement of the original grade.

Incomplete and In-Progress Grades

Incomplete ("I") and In Progress ("IP") grades are temporary grades given to a student *only in an emergency case* and at the discretion of the instructor.

At the end of the semester following the one in which an "I" is given, the "I" becomes the grade that is submitted by the instructor to the Records Office. If the instructor does not submit a grade by the deadline for that semester, the grade becomes an "F." An "I" grade given spring semester becomes a permanent grade at the end of the following fall term.

At the end of two semesters following the one in which the "IP" grade is given, the "IP" becomes the grade that is submitted by the instructor to the Records

office. If the instructor does not submit a grade by the deadline for that semester, the grade becomes an "F". An "IP" grade given spring semester becomes a permanent grade at the end of the following spring semester.

Extension of the time to complete work may be made in exceptional circumstances at the discretion of the instructor. A student with an "I" or "IP" grade, however, may not change the "I" or "IP" by enrolling in the same course another semester.

Honor Lists

The President's List is made up of those students who earn a GPA of 4.00 while enrolled in a minimum of 12 semester hours for a particular fall or spring semester.

The Dean's List includes students who achieve a grade point average of between 3.50 and 3.99 while enrolled in a minimum of 12 semester hours fall or spring semester.

The lists are based on semester grades, not cumulative grade point averages. Regardless of grade point average, a student who receives a failing grade (F) in any course is not eligible for the Dean's List.

Honor Societies

Membership in **Alpha Chi** is the highest academic honor which Mesa State College can bestow upon its scholars. To be eligible for election, students must have completed at least 75 semester hours toward the baccalaureate degree with a GPA of 3.75 or better and be fully recognized by their faculty and deans as having the qualities of character pertaining to the true scholar. Alpha Chi is the second oldest and second largest of those national scholastic honoraries which elect from all fields.

Alpha Phi Sigma is an honor organization with the declared objective of promoting a greater fraternal relationship among students and professionals in Administration of Justice program. The local chapter, Lambda Alpha Epsilon, broadens this objective by promoting a better understanding by the public of the aims and ideals of the Mesa State College Administration of Justice program and encouraging interest and personal involvement in the activities afforded by Mesa State College and the surrounding area. Students must have a cumulative minimum GPA of 3.00 and a 3.20 in the Administration of Justice Program.

The National Honor Society in Biology at Mesa State College is **Beta Beta Beta**. For full membership in Beta Beta Beta, a biology major must have completed at least three classes in biology and have a minimum GPA of 3.00. With these qualifications, a student may be nominated to membership.

Kappa Mu Epsilon is an honor society for students of mathematics. Its chapters are located in colleges and universities of recognized standing which offer a strong mathematics major. The nominated and inducted members are selected from students of mathematics and other closely related fields who have maintained high standards of scholarship, have professional merit, and have attained academic distinction. The local chapter, Colorado Delta, is a working organization throughout the academic year. It functions as an integral part of the Computer Science, Mathematics, and Engineering Department of Mesa State College.

Nu Kappa Chapter, Sigma Theta Tau International, recognizes achievement in nursing. The purposes of the society are to recognize superior achievement and leadership qualities, foster high professional standards, encourage creative work and strengthen commitment to the ideals and purposes of the profession. Students must have a minimum GPA of 3.00 and rank in the upper 35 percent of their class to be eligible for membership. Nurses

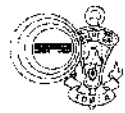
from the community may also be nominated for membership if they have demonstrated marked achievement in nursing education, practice, research or publication.

Phi Alpha Theta is the International Honor Society in History. The objective of this professional honor society is the promotion of the study of history through the encouragement of research, good teaching, publication, and the exchange of learning and thought among historians. To be eligible for membership, a student must have completed twelve or more hours of history with a minimum GPA in history of 3.10 and a minimum overall GPA of 3.00. The Mesa State Phi Alpha Theta Chapter is a co-sponsor of the *Journal of the Western Slope.*

Psi Chi, the National Honor Society in Psychology, is open for membership to the undergraduate student who meets certain minimum qualifications and for whom the study of psychology is a major interest. The purpose of Psi Chi is to promote and maintain excellence in scholarship in the field of psychology and to advance the science of psychology.

Sigma Gamma Epsilon, a National Honor Society for the Earth Sciences, has for its objectives the scholastic and scientific advancement of its members and the extension of friendship and assistance among colleges, universities, and scientific schools for the advancement of the Earth Sciences. Membership in Zeta Nu Chapter of Sigma Gamma Epsilon is open to continuing Earth Science majors with at least twelve credit hours of Earth Science coursework completed with a minimum GPA of 3.00. Qualified students are reviewed and may be nominated each semester.

The National Honor Society in Physics is **Sigma Pi Sigma.** For membership in Sigma Pi Sigma, a physics major or other student who has completed at least three classes in physics must maintain an overall GPA of 3.00 and a 3.25 GPA in physics. A qualifying student may then be nominated for membership by the combined physics faculty.



Sigma Tau Delta, the National English Honor Society, endeavors to encourage, promote, and recognize scholarship and achievement in English language and literature. Membership is open to sophomore, junior, and senior English majors with a minimum GPA of 3.00 in English.

Graduation with Honors

To graduate with Honors or Distinction, a student must be awarded credit hours from Mesa State College that amount to at least 51 percent of the credits used for meeting degree requirements. Only Mesa State College credits will be used for calculation of the grade point average used in the recognition of honors. Each year during formal commencement ceremonies Mesa State College recognizes the following categories of academic achievement:

With Distinction - Associate degree graduates with cumulative grade point averages of 3.50 averages of 3.50 to 3.74.

With High Distinction - Associate degree graduates with cumulative grade point averages of 3.75 to 4.00.

Cum Laude - Baccalaureate degree graduates with cumulative grade point averages of 3.50 to 3.74.

Magna Cum Laude - Baccalaureate degree graduates with cumulative grade point averages of 3.75 to 3.89.

Summa Cum Laude - Baccalaureate degree graduates with cumulative grade point averages of 3.90 to 4.00.

Registration Procedure

Once admitted to Mesa State College, a student will meet with a registration adviser. Not all courses available in this catalog are offered every semester or every year. Schedules of course offerings for the upcoming semester are available in the Records Office, along with step-by-step registration procedures.

Each student must obtain, from his or her adviser or from the Dean of the School, a program sheet detailing requirements of the program of study the student is beginning. The program sheet is used throughout the student's enrollment by the faculty adviser and student to track the student's progress towards the degree or certificate the student is pursuing. The student is responsible for fulfilling all requirements of the program sought.

Schedule Adjustments - Add/Drops

Students may make adjustments to their schedules according to specified deadlines and procedures as announced in each semester's published course schedule. Students dropping all of their courses should refer to the "Withdrawal" section of this catalog.

Student Load and Limitations

The normal student load is 15 semester hours (some disciplines require a higher number). The minimum load required for a student to be recognized as a full-time student is 12 semester hours. If students register for fewer than 12 semester hours, they are classified as part-time students.

Students receiving scholarships and/or financial aid are generally expected to complete 12 hours of credit courses each semester. In order to receive full Veteran's Administration financial benefits, veterans must be enrolled in 12 or more semester hours each semester of attendance.

It is recommended that students limit their academic load to 21 semester hours or less. Students should consult with their advisers before attempting an overload of more than 21 semester hours in a regular semester or more than 16 semester hours in summer term. A surcharge, equal to the appropriate credit hour rate per semester, will be assessed for each credit hour over 21.

Grade Reports

Individual grade reports are mailed to the permanent home address of every student at the end of each semester. Special reports may be obtained at any time upon application to the Records Office. An official grade report is withheld, however, until all fees owed the College are paid.

Evaluation

The evaluation of student learning progress in a course is considered to be a planned and continuous process and consists of a variety of activities including judgment, observation, testing, etc. Final examinations are a part of the evaluation process.

Article 13 of House Bill 1187, enacted in July of 1985 by the Colorado General Assembly, established that institutions of higher education in Colorado are to be held accountable for demonstrable improvements in student knowledge, capacities, and skills between entrance and graduation.

Students are required by Mesa State College to take part in testing and other programs deemed necessary for compliance with this legislation. Students who do not abide by these requirements may be denied registration and/or graduation privileges. Portions of the assessment process may require time outside the normal class periods.

Attendance

Students are expected to attend all sessions of each course in which they are enrolled. Failure to do so may result in a lowered grade or exclusion from class at the discretion of the instructor. At any time during a semester, a student who fails to attend regularly may be dropped from class rolls.

Attendance during the first two class periods is required. Any instructor has the option of dis-enrolling from class any student who fails to attend the first two class meetings so that other students may enroll. Not all instructors will exercise this option; therefore, a student should not assume that non-attendance will result in automatic dis-enrollment from a class.

It is the responsibility of the student to arrange in advance with the instructors for the making up of missed classwork, assignments or tests incurred because of a student's participation in required field trips, intercollegiate games, or other trips. The coach, instructor, or other official whose activities require students to be absent from classes should give each participating student an "official" roster and schedule of events for the semester or other appropriate time span which may result in classes being missed. The student is responsible for contacting the instructor of each of his/her classes affected, at least 24 hours in advance of each class that will be missed.

Absences due to serious illness or strictly unavoidable circumstances may be excused if the instructor in charge of the course is satisfied as to the cause. In the case of an emergency, the student may contact the Office of the Vice President for Student Affairs and that Office will contact the student's instructors to let them know of the emergency.

Being excused for an absence in no way relieves the student of responsibility for completing all work associated with the course to the satisfaction of the instructor in charge.

Being late to a class or leaving a class early is disruptive and is not acceptable except in extreme circumstances or with prior approval of the instructor. Prior approval is also required of the instructor if a student wishes to bring a guest (or a child) to class.

Late Registration

Late registering students must check with the Business Office for their Statement of Account before registration is considered to be complete. Late fees will be charged on the same schedule as for all other students.

Students who register late (after classes begin) must complete all work missed. Students who register after the first week of classes are advised to enroll for less than a normal 15 semester-hour load.

Student Conduct

Mesa State College is a community consisting of students, faculty, support staff, and administrators. The College does not attempt to define all "student conduct." It relies on students to assume the responsibility and obligation of conducting themselves in a manner compatible with the purpose of the College as an educational institution and the community as a place of residence. In addition to College rules and regulations, all students are subject to the same local, state, and federal laws as non-students and are beneficiaries of the same safeguards of rights as non-students.

The academic community has a long and cherished tradition of expecting its members to conduct themselves in accordance with the highest standards of personal behavior. The following are among those acts of misconduct which are not consistent with the educational goals of Mesa State College or with the traditions of the academic community.

1. Academic dishonesty, such as cheating, plagiarism, or knowingly furnishing false information to the College.
2. Forgery, alteration, misuse or mutilation of College documents, records, identification materials, or educational materials.
3. Obstruction or disruption of teaching, research, administrative, or public service functions of the College.
4. Intentional interference with an individual's rights to free speech, freedom to make academic inquiry, or freedom of conscience.
5. Aiding, abetting or inciting others to commit any act of misconduct set forth in 1 through 4 above.

Penalties for acts of misconduct including, but not limited to, those set forth above can range from official warning to expulsion from college, depending upon the seriousness of the misconduct. Detailed disciplinary procedures are available from the Office of the Vice President of Student Affairs.

Withdrawal Procedures

Withdrawal from One or More Classes

Withdrawal from all classes (full semester duration, modular, and summer) is permitted up to the mid-point of those classes. Proper forms and signatures are required and must be submitted to the Office of the Director of Academic Records. Forms are available at the Office of the Director of Academic Records or the Deans' Offices. Students who officially withdraw from class(es) by the deadline are given a "W" grade.

In addition to regular withdrawal from class(es) by the student, an instructor may initiate a withdrawal from his or her class for failure to attend class, failure to turn in assignments over an extended period of time, or for disciplinary reasons. In such cases, the instructor must observe regular withdrawal deadlines.

Withdrawal from College

Students who desire to withdraw from the College should notify their faculty advisers and report to the Office of the Director of Academic Records. (See refund policy.) **The necessary withdrawal papers must be filled out by the student and officially signed by the appropriate staff from the Director of Academic Records.** Such withdrawal may be made up to the mid-point of the term of classes being taken. Grades of "W" will be given **only if all withdrawal procedures have been satisfied.** Exceptions to the withdrawal deadline are possible only at the discretion of the instructor, Dean, and Director of Academic Records. Requests of students who must withdraw after the deadline due to emergency situations beyond their control will be considered individually.

Academic Probation and Suspension

"**Good Standing**" signifies that the student is making satisfactory academic progress (see "Academic Standards") and is eligible to continue studies at Mesa State College.

"**Academic Probation**" indicates a student is not in good standing and constitutes a warning to the student that the student's scholastic achievement needs improvement or suspension will result. Students will be placed on academic probation if their cumulative grade point averages fall below the minimums listed under "Academic Standards" in this catalog.

Upon being placed on academic probation, students are permitted to continue studies for one term, during which time they are expected to improve their cumulative grade point averages to the minimum required levels. Those who succeed will be removed from academic probation.

Students on academic probation will remain on academic probation until they raise their cumulative grade point averages to the required level. Once on probation, a student must maintain a minimum semester grade point average of 2.00 to avoid being placed on academic suspension.

"Academic Suspension" indicates the student is not in good standing and represents a temporary, involuntary separation of the student from the College for a minimum of one semester for failure to meet minimum academic standards.

Following an Academic Suspension, a student must apply for readmission to Mesa State College. For degree programs that do not have separate admission policies, the readmission to Mesa State College is also readmission to the degree program. For degree programs having admission policies over and above admission to Mesa State College, the student must also reapply to the degree program.

A student may be suspended and readmitted to Mesa State College a maximum of two times. The first suspension shall be for a period of one semester (fall or spring). The second suspension shall be for a period of two semesters (fall and spring, or spring and fall). Students may not enroll in any credit classes whatsoever (including summer school) during the period of suspension.

GRADUATION REQUIREMENTS

Students are expected to assume responsibility for planning their academic programs in accordance with College and department policy. **Each student is responsible for obtaining a program sheet, available from the appropriate School, at the beginning of his or her work detailing the exact requirements for the degree or certificate being pursued.** Students are urged to consult with their academic advisers. The College assumes no responsibility for difficulties arising when a student fails to establish and maintain contact with his or her faculty adviser and department chairperson.

THE STUDENT IS ULTIMATELY AND SOLELY RESPONSIBLE FOR KNOWING THE REQUIREMENTS FOR A PARTICULAR DEGREE AND FOR FULFILLING THOSE REQUIREMENTS.

Requirements for All Degrees

Some requirements may vary with the program and School. Students must abide by the rules set forth in the program sheet which may be obtained from the School offering the degree they are seeking. Candidates for all degrees must accomplish or be governed by, as appropriate, the following:

Petition

A completed petition to graduate and the program sheet must be filed with the Director of Academic Records before the beginning of the term in which final requirements are to be met.

Deficiencies

All academic and financial deficiencies must be removed (i.e., incomplete grades and/or unpaid financial obligations).

Transferring in Final Credit Requirements from Another College

Mesa State College generally accepts academic credits from regionally accredited colleges and universities. When a student intends to earn a Mesa State College degree and the final credits for completing that degree program are earned at another institution, the following restrictions apply:

1. No more than 15 semester hours of credit will be accepted in transfer.
2. Credit must be earned in no more than one calendar year immediately following final enrollment at Mesa State College.
3. Specific approval of the proposed institution and courses must be given by the appropriate Dean and the Director of Academic Records at Mesa State College during the time of the student's last enrollment at Mesa State College, and the student must receive grades of "C" or better in each course.

English Requirement

Mesa State College requires that English Composition (ENGL 111 and ENGL 112) or approved substitutes be completed successfully before a student can exceed sixty accumulated credit hours. The courses must be taken in sequence, and students are encouraged to take them in consecutive semesters. Students are generally expected to take these courses as freshmen. Students who have completed 45 credit hours, but have not completed ENGL 112, will not be permitted to register for the next semester unless ENGL 112 is included as part of that next semester's course work. Students who are completing 60 hours of course work will not be permitted to enroll in any additional courses until they have passed ENGL 112 (or its approved substitutes). Exceptions to the policy for a student will require the written permission of the Department Chairperson.

Human Performance and Wellness

Classes with "HPWE" prefix are human performance and wellness activity classes. Each course is scheduled for an eight-week module and includes lectures on the history, rules, techniques and strategies of the activity and participation in the activity. Students are examined both on knowledge of the activity and proficiency in the activity. Prerequisites for all "Intermediate" or Part II classes: the corresponding beginning course or consent of instructor.

1. To graduate with a baccalaureate degree, a student must earn three semester credit hours in Human Performance and Wellness. Each student must take HPWA 100 together with two activity courses: one course from the list entitled "Aerobic/Fitness Activity" and one additional course either from the list entitled "Aerobic/Fitness Activity" or "Lifetime Activity."

   To graduate with an associate degree, a student must earn two semester credit hours in Human Performance and Wellness. Each student must take HPWA 100 together with one activity course from the list entitled "Aerobic/Fitness Activity."

   The only exception to taking HPWA 100 will be for those who request and pass a proficiency test at least at the 75 percent level.
2. Only one HPWE class may be taken for credit during any given module. Any additional HPWE classes in that module must be taken for "no credit."
3. A course may be taken for credit only once, except for "grade improvement."
4. No more than a total of eight HPWE classes of any kind may be taken for credit. Any HPWE classes taken beyond the eight for which credit is received must be taken for no credit. There is no limit to the number of HPWE classes a student may take for "no credit."
5. HPWE classes may not be used to satisfy elective course requirements for any degree program.

See the next pages for the lists of courses from which to choose for the HPWE Aerobic/Fitness Activity courses and the HPWE Lifetime Activity courses.

Varsity Athletics

HPWE 180-189 designates the first year of varsity athletics; 280-289, the second; 380-389, the third; and 480-489, the fourth. These courses must be taken in sequence. In addition to the rules above for all HPWE courses, the following apply:

Only one varsity sport activity course, numbered HPWE 180-189, may be used to meet the baccalaureate HPWE Aerobic/Fitness activity requirement.

A student may elect to register for a particular varsity sports class for credit as many as four times (once at each level).

Varsity sports activity credit at the 300 and 400 level may not be counted towards the 40 credit hour upper division requirement for graduation unless they are a required part of a degree program.

HPWE Aerobic/Fitness Activity Courses

HPWE 101 Beginning Swimming
HPWE 102 Intermediate Swimming
HPWE 104 Water Polo
HPWE 112 Hiking
HPWE 121 Beginning Tennis
HPWE 122 Intermediate Tennis
HPWE 123 Racquetball
HPWE 124 Intermediate Racquetball
HPWE 125 Handball

HPWE 127 Physical Conditioning
HPWE 128 Intermediate Weight Training
HPWE 129 Weight Training
HPWE 130 Fitness
HPWE 132 Aerobics
HPWE 133 Skiing
HPWE 135 Cross-Country Skiing
HPWE 139 Roller Skating
HPWE 141 Bicycling
HPWE 145 Wrestling
HPWE 147 Track and Field
HPWE 156 Soccer
HPWE 158 Speedball
HPWE 160 Field Hockey
HPWE 164 Beginning Basketball
HPWE 165 Intermediate Basketball
HPWE 166 Flag Football
HPWE 175 Modern Jazz Dance I
HPWE 178 Tap Dance
HPWE 179 Dance Performance Group
HPWE 180 Varsity Football
HPWE 181 Varsity Basketball
HPWE 182 Varsity Baseball
HPWE 183 Varsity Wrestling
HPWE 184 Varsity Tennis
HPWE 185 Varsity Volleyball
HPWE 186 Varsity Softball
HPWE 189 Varsity Cross Country

HPWE Lifetime Activity Courses

HPWE 103 Diving
HPWE 106 Scuba
HPWE 108 Canoeing
HPWE 110 River Rafting
HPWE 113 Beginning Bowling
HPWE 114 Intermediate Bowling
HPWE 115 Beginning Golf
HPWE 116 Intermediate Golf
HPWE 117 Badminton
HPWE 119 Archery
HPWE 137 Horseback Riding
HPWE 143 Orienteering
HPWE 149 Gymnastics
HPWE 152 Softball
HPWE 154 Beginning Baseball
HPWE 155 Intermediate Baseball
HPWE 162 Volleyball
HPWE 163 Intermediate Volleyball
HPWE 168 Hatha Yoga & Relaxation I
HPWE 169 Hatha Yoga & Relaxation II
HPWE 170 Beginning Modern Dance
HPWE 172 Square Dance
HPWE 173 Folk Dance
HPWE 174 Social Dance
HPWE 176 Beginning Ballet

Preparatory Courses

Preparatory courses are available in several subjects at Mesa State. Numbers of such courses are below the 100 level (e.g., DEVL 090). These courses are designed for students needing to strengthen their backgrounds before entering college level classes, and are not intended for transfer purposes. They will not usually fulfill degree requirements. Students are urged to consult their advisers about the need to register in these classes.

Students who have passed any ENGL class numbered 100 or above will not be permitted to register *for credit* in any ENGL class numbered below 100. Only the Dean of the School of Technology may approve exceptions to this for students in vocational programs.

Students who have passed any MATH class numbered 100 or above will not be permitted to register *for credit* in any MATH class numbered below 100.

Baccalaureate students taking preparatory classes will be charged $100 for each preparatory class in addition to normal tuition charges.

Catalog under which Student Graduates

Anyone admitted to a baccalaureate major at Mesa State College after fall semester of 1992 must choose a program listed in the 1993-94 or a subsequent catalog. Because of a change in baccalaureate degree structure, the degrees offered in previous years will no longer be available to new students or continuing students changing majors. A student currently declared in and working on a baccalaureate degree offered prior to 1993-94 may complete that degree provided he or she remains "continuously enrolled" (excepting summer session) until graduation and completes all requirements for graduation by May of 1999. A student shall be considered to be "continuously enrolled" if he or she does not have an interruption in enrollment of more than one contiguous semester (excluding summers).

The requirements for graduation with an associate degree or certificate are those stated in the Mesa State College catalog which is in effect at the time the student first registers at a Colorado public institution of higher education. This is true provided (1) a student remains continuously enrolled (as defined above) until graduation, and (2) the associate degree, emphasis or certificate area is still accepting students into the program.

If an interruption in enrollment occurs so that the student is no longer "continuously enrolled" as described above, the requirements applicable at the time of re-enrollment shall apply. If any requirements change while a student is enrolled, the student may elect to meet the new requirements. However, the old and the new requirements cannot be combined; one complete set or the other must be elected.

If a candidate for a degree is unable to meet requirements because of an event such as the removal of a required course from the offerings of the College or some other unforeseen academic change, it shall be the candidate's responsibility to arrange an exception or understanding approved by the Director of Academic Records and the appropriate dean.

Calculation of Grade Point Average for Graduation

Only the grades and credits awarded at Mesa State College will be used in calculating the student's grade point average for graduation. Grades awarded from any other institution will not be utilized in the grade point average calculation.

Baccalaureate Degree Requirements

Mesa State College offers baccalaureate degrees in the traditional liberal arts and sciences disciplines, professional fields of study, and interdisciplinary fields. Candidates for baccalaureate degrees must accomplish or be governed by, as appropriate, the following:

Credit Hour Requirements

A minimum of 123 semester credit hours is required in every baccalaureate degree program. The distribution of the 123 minimum credit hour requirement is:

General Education	33 credit hours
Degree Distinction	6 credit hours
Human Performance and Wellness	3 credit hours
Major Requirements	36-60 credit hours*
Unrestricted Electives	21-45 credit hours

*Some professional programs may exceed 60 hours.

Students need to work closely with their faculty advisers and obtain a program sheet from that faculty adviser or the dean **at the time they begin their baccalaureate degree program at Mesa State College.** The student is ultimately and solely responsible for knowing the requirements for a particular degree and for fulfilling those requirements.

The program sheet lists all requirements for the degree program for the catalog under which the student is working. It is to be kept up-to-date by the student and adviser as the student progresses in meeting requirements.

At least 40 semester hours must be earned in courses numbered 300 or higher. A cumulative grade point average of 2.00 or higher for all courses taken and for the courses which comprise the area of the major field of study must be achieved. Some baccalaureate degree programs have additional GPA and other requirements. See a faculty adviser for a program sheet listing specific requirements for the degree and major sought.

Degree Distinctions

The six semester credit hour degree distinction for the B.A. and the B.S./B.B.A. degrees MUST be outside the general education requirements.

Bachelor of Arts Distinction. Candidates for the B.A. degree shall complete at least six semester hours of *one* modern foreign language which may include:

FLAF 111, FLAF 112
FLAG 111, FLAG 112
FLAS 111, ~~FLAF 111~~ FLAS 112
FLAS 117, FLAS 118
(FLAS 114 AND 115 will *not* fulfill this requirement)

Students may **not** satisfy this requirement by taking two beginning level courses in the same language (e.g., FLAS 111 and FLAS 117).

The department may approve courses in other modern languages than those listed. Students must complete the courses with a grade of "C" or higher. At the discretion of the foreign language faculty, the requirement may be satisfied by demonstration of equivalent competency. Students who have completed four semesters of a single high school language with a grade of "C" or higher may have their language requirement waived by the Dean of the School of Humanities and Fine Arts.

Bachelor of Science/Bachelor of Business Administration Distinction. Candidates for the B.S. and B.B.A. degrees shall complete at least six semester hours of the following: a combination of any computer science (CSCI) courses, any statistics (STAT) courses, and/or any college mathematics (MATH) courses at or above the college algebra (MATH 113) level. Students must complete the courses with a grade of "C" or better. At the discretion of the mathematics and computer science faculty, the requirement may be satisfied by a demonstration of equivalent competency.

Selected Studies. Candidates for a B.A. in Selected Studies degree must choose either the B.A. distinction or the B.S./B.B.A. distinction consistent with their primary area of study and in consultation with their advisers.

The above requirements are separate from and in addition to the General Education requirements (i.e., the same course cannot be used for general education, degree distinction and/or two major requirements.)

Major

The specific discipline area program requirements must be completed as required by the appropriate academic school with a grade point average of 2.00 or higher.

Residency

A minimum of 28 semester hours credit must be earned in no fewer than two semesters of study at Mesa State College with at least 15 semester hours in major discipline courses numbered 300 or higher taken at Mesa State College.

General Education

Each student must complete the 33 semester credit hour general education requirement as specified by the Mesa State College faculty. See the following for specific course requirements and choices.

Any college-wide general education course required in a student's major will be replaced with a general education course from some other discipline. The same course may not be counted to satisfy both requirements. Students may select their general education courses from the designated list according to their own preference. The following are guidelines for General Education:

1. The English composition requirement must be satisfied by the time a student has completed 60 credit hours of course work.
2. Those students who qualify may substitute Honors English (ENGL 129) for ENGL 111 and ENGL 112. When Honors English is substituted for the ENGL 111 and ENGL 112, only ten General Education courses would be required (30 credit hours).
3. The math competency is required of B.A. students only. It may be satisfied by completing any college mathematics course at or above the MATH 110 level with a grade of "C" or higher. Students may challenge MATH 110 for the purpose of proving competency. Also, students will be deemed mathematically competent if they receive at least a "4" on the Advanced Placement examination in calculus given by the College Entrance Examination Board. All students who receive a baccalaureate degree from Mesa State College must have at least one college mathematics course on their transcript.
4. A student may satisfy a General Education requirement with an appropriate CLEP test, if a CLEP is available for the course and the department at Mesa State approves.
5. No General Education course, except sequential courses, can have a specific course as a prerequisite or co-requisite, unless the prerequisite or co-requisite is in a different discipline.

General Education Requirements for Baccalaureate Students Under the 1993-94 and Subsequent Catalogs

English	6 semester hours
Mathematics	3 semester hours (for B.A. students)
Humanities	6 semester hours chosen from history, literature, philosophy

Social and Behavioral Science	6 semesters hours chosen from anthropology, economics geography, political science, sociology, psychology

NOTE: B.S. and B.B.A. students must choose three additional semester hours from either the Humanities or the Social/Behavioral Sciences.

Fine Arts	3 semester hours chosen from art, dance, music, theatre
Natural Sciences	6 semester hours chosen from biology, chemistry, geology, physics (At least one of the two courses must have an associated lab or field component and both the lecture and laboratory must be taken in all courses listed which have both if general education credit is to be received.)
Applied Studies	3 semester hours chosen from foreign language, computer science, business, applied fine arts, speech, occupational courses.

Minimum number of general education credit hours: 33 (except when Honors English is taken)

Courses Approved for General Education Baccalaureate General Education Requirements

English

ENGL 111	English Composition *and*
ENGL 112	English Composition
	or
ENGL 129	Honors English

Mathematics

MATH 110*	College Mathematics

*NOTE: This requirement is for B.A. students only. All B.A. students must take MATH 110 or a higher level math class with a grade of "C" or better. Students may challenge MATH 110 for the purpose of proving competency. Also, students will be deemed mathematically competent if they receive at least a "4" on the Advanced Placement examination in calculus given by the College Entrance Examination Board. All students who receive a baccalaureate degree from Mesa State College will have at least one college level mathematics course on their transcripts.

Humanities

ENGL 131, 132, 133	Survey of Western World Literature I, II, and III
ENGL 150	Introduction to Literature
ENGL 222	Mythology (Classical)
ENGL 242	Introduction to Poetry
ENGL 254, 255	Survey of English Literature I and II
ENGL 261, 262	Survey of American Literature I and II
HIST 101, 102	Western Civilization
HIST 131, 132	United States History
PHIL 110*	Introduction to Philosophy

*NOTE: Approval of this course for general education is pending.

Social and Behavioral Sciences

ANTH 201	Cultural Anthropology
ANTH 222	~~New World Archaeology~~
ECON 201	Principles of Macroeconomics
ECON 202	Principles of Microeconomics

GEOG 103	World Regional Geography
POLS 101	American Government
POLS 261	Comparative Politics
PSYC 121	General Psychology
PSYC 233	Human Growth and Development
SOCO 144	Marriage and the Family
SOCO 260	General Sociology
SOCO 264	Social Problems
Fine Arts	
ARTE 101	Two-Dimensional Design
ARTE 102	Three-Dimensional Design
ARTE 115	Art Appreciation
ARTE 211	Art History: Ancient-1300
ARTE 212	Art History: Europe 1300-1900
FINE 101	Man Creates
MUSA 110	Standard Notation
MUSA 220	Music Appreciation
MUSA 266	History of Popular Music
MUSP 101, 201	Music Performance Experience
THEA 117, 118 217, 218	Play Production
THEA 119, 120 219, 220	Technical Performance
THEA 141	Theatre Appreciation
THEA 145	Introduction to Dramatic Literature
THEA 241	Oral Interpretation
Natural Sciences	
BIOL 101, 101L	General Biology and Laboratory
BIOL 102, 102L	General Biology and Laboratory
BIOL 105, 105L	Attributes of Living Systems and Laboratory
CHEM 100	Chemistry and Society
CHEM 121, 121L	Principles of Chemistry and Laboratory
CHEM 122, 122L	Principles of Organic Chemistry and Laboratory
CHEM 131, 131L	General Chemistry and Laboratory
CHEM 132, 132L	General Chemistry and Laboratory
GEOL 100	Survey of Earth Science
GEOL 103	Weather and Climate
GEOL 105	Geology of Colorado
GEOL 111, 111L	Principles of Physical Geology and Laboratory
GEOL 112, 112L	Principles of Historical Geology and Laboratory
GEOL 203	Introduction to Environmental Geology
PHYS 100	Concepts of Physics
PHYS 101	Elementary Astronomy
PHYS 111, 111L	General Physics and Laboratory
PHYS 112, 112L	General Physics and Laboratory
PHYS 121	Classical Physics I
PHYS 122, 122L	Classical Physics II and Experimental Mechanics Laboratory

Applied Studies

ACCT 201	Principles of Accounting I
BUGB 101	Introduction to Business
BUGB 231	Survey of Business Law
BUGB 249	Personal Finance
CISB 101	Business Data Processing
CISB 105	Introduction to Business Software
CSCI 100	Computers in Our Society
CSCI 120	Technical Software
ELCT 232, 232L	Personal Computers I and Laboratory
ENGR 105, 105L	Basic Engineering Drawing and Laboratory
ENGR 149	Introduction to Space Flight
ENGS 110	Environmental Restoration Survey
FLAF 111, 112	First-Year French I, II
FLAG 111, 112	First-Year German I, II
FLAS 111, 112	First-Year Spanish I, II
FLAS 117, 118	Career Spanish I, II
HPWA 265	Standard First Aid/CPR
INSA 100	Machine Shop Studies
INSA 102	Machine Theory
INSA 110, 110L	Basic Electronics and Laboratory
INST 220	Industrial Safety Practices
MAMT 160, 160L	Properties of Materials and Laboratory
MAMT 165	Manufacturing Processes
MATH 121	Mathematical Foundations of Business
MATH 127	Mathematics of Finance
MECD 115, 115L	Heavy Equipment Maintenance and Laboratory
MECH 105, 105L	Introduction to Shop Practices and Diagnostic Equipment
MUSL 130-238	Applied Music Lessons
MUSA 130	Class Piano I
MUSA 131	Class Piano II
MUSA 137	Class Voice I
MUSA 138	Class Voice II
MUSA 236	Electronic Instrument Technique and Materials
OFAD 151	Keyboarding
SPCH 101	Interpersonal Communication
SPCH 102	Speechmaking
SPCH 112	Voice and Diction
STAT 214	Business Statistics
PHIL 275	Introduction to Logic
WELD 117, 117L	Oxy-Fuel Welding and Cutting I and Laboratory
WELD 118, 118L	Oxy-Fuel Welding and Cutting II and Laboratory
WELD 151, 151L	Industrial Welding and Laboratory

In addition, the Human Performance and Wellness requirement must be met – see "Human Performance and Wellness" under this "Graduation Requirements" section.

Vocational Credits

Vocational credits are defined by each school and may count in varying amounts toward B.A., B.B.A., and B.S. degrees. Appropriate deans should be consulted.

Double Concentration Within a Degree

Students wishing to receive a double concentration or option within one degree must satisfy all the requirements for each concentration or option. Only one degree will be awarded. Both concentrations and options desired must be declared on the petition to graduate.

Minimum Credit for a Second Baccalaureate Degree

A student seeking a second baccalaureate degree at Mesa State College must earn a minimum of 30 additional semester hours of credit, at least 18 of which must be in courses numbered 300 and higher and satisfy all specific program requirements of the new degree and concentration.

Requirements for all Associate Degree Programs: Associate of Arts (A.A.), Associate of Science (A.S.), Associate of Applied Science (A.A.S.)

Credit

A *minimum* of 60 semester credit hours in approved course work plus HPWA 100 and one HPWE class from the Aerobic/Fitness list must be earned. No more than 2 semester credit hours of Human Performance and Wellness activity classes may be counted toward an associate degree. A cumulative grade point average of 2.00 or higher for all courses taken and for the courses which comprise the area of emphasis or specialization must be achieved. Some programs have additional GPA requirements.

Residency

A minimum of 16 semester hours credit must be earned in no fewer than two semesters of study at Mesa State College.

Vocational Credits

Usually, no more than six semester hours of vocational credits may be applied toward non-vocational (Associate of Arts and Associate of Science) degrees.

Double Emphasis Within a Degree

Students wishing to receive a double *emphasis* within one *degree* must satisfy all the requirements for each emphasis. Only one degree will be awarded. Both emphases desired must be declared on the petition to graduate.

Minimum Credit for a Second Associate Degree

A minimum of 15 semester hours of credit beyond that required for the first associate degree must be earned by a student seeking a second associate degree at Mesa State College. A minimum of one semester of residency at Mesa State College is also necessary. In addition, the student must satisfy all specific requirements for the new degree. Only one A.A. and only one A.S. degree may be granted to any student, according to state guidelines.

Associate of Arts (A.A.) and Associate of Science (A.S.), General Degree Requirements

A.A. and A.S. degree programs are designed to prepare students for upper division collegiate work (junior level) in colleges and universities granting the Bachelor of Arts (B.A.) or Bachelor of Science (B.S.) degree. All A.A. and A.S. degree programs include the Colorado Core Transfer Consortium Program which is the state-wide common core of general education curriculum and will thus meet the lower-division general education requirements of most baccalaureate degree programs in Colorado. A grade of "C" or better is required in **EACH** core course in order to be accepted for transfer under the Core Transfer agreements. Course work for the A.A. or A.S. degree, then, includes:

1. General Education Core Transfer Curriculum
2. Discipline area classes (emphasis), as detailed in the "Program of Study" section of this catalog or as developed in consultation with a faculty adviser and indicated on the program sheet.
3. Human Performance and Wellness requirement
4. Electives

The A.A. degree is designed for transfer into a baccalaureate degree program, with junior standing, in the arts, humanities, social or behavioral sciences, or one of the professional fields with such disciplines as its base. The A.S. degree is designed for transfer into a baccalaureate degree program, with junior standing, in one of the mathematical, biological, or physical sciences, or in one of the professional fields with such disciplines as its base.

Students should consult with their faculty advisers to assure that the emphasis and electives chosen will satisfy requirements of the particular baccalaureate programs to which they plan to transfer. A.A. and A.S. degrees in emphases not described in this catalog may be developed in consultation with the faculty adviser. An A.A. or A.S. degree indicates that the holder has developed proficiencies sufficient to prepare for upper-division collegiate work and is awarded only for completion of a coherent program of study designed for a specific purpose.

Once a student has decided upon a program of study, he or she needs to obtain a program sheet from the faculty adviser. All degree requirements, as agreed upon, will be included on the program sheet.

Associate of Arts General Education Core Transfer Curriculum Requirements

(A minimum of 34 semester credits to be selected only from the following courses:)

		Course Credits	Group Credits
a) 9 semester hours in English and Speech:			**9**
English			
ENGL 111, 112	English Composition	3,3	
Speech			
SPCH 102	Speechmaking	3	
b) 7-10 semester hours in Mathematics (minimum of 3 semester hours) and Science (minimum of 4 semester hours) chosen from the following:			
Mathematics/Statistics			**3**
MATH 113	College Algebra	4	
MATH 121	Mathematical Foundations of Business	3	
MATH 146	Calculus for Biological Sciences	5	
MATH 151	Calculus I	5	
MATH 152	Calculus II	5	

Statistics

STAT 200	Probability and Statistics	3

SCIENCE 4

Biology

BIOL 101, 101L	General Biology and Laboratory	2,1
BIOL 102, 102L	General Biology and Laboratory	2,1

Both the lecture and laboratory must be taken in all courses having both, as listed above, if general education credit is to be received.

Chemistry

CHEM 121, 121L	Introductory Inorganic Chemistry and Laboratory	4,1
CHEM 122, 122L	Introduction to Organic Chemistry and Laboratory	4,1
CHEM 131, 131L	General Chemistry and Laboratory	4,1
CHEM 132, 132L	General Chemistry and Laboratory	4,1

Both the lecture and laboratory must be taken in all courses having both, as listed above, if general education credit is to be received.

Geology

GEOL 111, 111L	Principles of Physical Geology and Laboratory	4,1
GEOL 112, 112L	Principles of Historical Geology and Laboratory	4,1

Both the lecture and laboratory must be taken in all courses having both, as listed above, if general education credit is to be received.

Physics

PHYS 101	Elementary Astronomy	3
PHYS 111, 111L	General Physics and Laboratory	4,1
PHYS 112, 112L	General Physics and Laboratory	4,1
PHYS 121	Classical Physics I	4
PHYS 223, 223L	Classical Physics III and Experimental Electromagnetism Laborator	3,1

Both the lecture and laboratory must be taken in all courses having both, as listed above, if general education credit is to be received.

c) 9 semester hours of Social and Behavioral Sciences chosen from the following courses. A minimum of two different disciplines required.

SOCIAL AND BEHAVIORAL SCIENCE 9

Anthropology

ANTH 201	Cultural Anthropology	3

Economics

ECON 201	Principles of Macroeconomics	3
ECON 202	Principles of Microeconomics	3

Geography

GEOG 103	World Regional Geography	3

History

HIST 101, 102	Western Civilizations	3,3
HIST 131, 132	United States History	3,3

Political Science

POLS 101	American Government	3

Psychology

PSYC 121, 122	General Psychology	3,3

Sociology

SOCO 260	General Sociology	3
SOCO 264	Social Problems	3

d) **9 semester hours of Humanities chosen from the following courses. A minimum of two different disciplines required.**

HUMANITIES			9
Art			
ARTE 211	Art History: Ancient-1300	3	
ARTE 212	Art History: 1300-1900	3	
French			
FLAF 111, 112	First-Year French I and II	3,3	
FLAF 251, 252	Second-Year French I and II	3,3	
German			
FLAG 111, 112	First-Year German I and II	3,3	
FLAG 251, 252	Second-Year German I and II	3,3	
Literature			
ENGL 131, and 132 or 133	World Literature I and II, or III	3,3	
ENGL 150	Introduction to Literature	3	
Music			
MUSA 220	Music Appreciation	3	
Philosophy			
PHIL 275	Introduction to Logic	3	
Spanish			
FLAS 111, 112	First-Year Spanish I and II	3,3	
FLAS 251, 252	Second-Year Spanish I and II	3,3	

In addition, the Human Performance and Wellness requirement must be met—see "Human Performance and Wellness" under this "Graduation Requirements" section.

Associate of Science General Education Core Transfer Curriculum Requirements
(A minimum of 33 semester credits to be selected only from the following courses:)

		Course Credits	Group Credits
a) **9 semester hours in English and Speech:**			9
English			
ENGL 111, 112	English Composition	3,3	
Speech			
SPCH 102	Speechmaking	3	

b) **A minimum of 12 semester hours in Mathematics (minimum of 4 semester hours) and Science (minimum of 8 semester hours) chosen from the following:**

Mathematics			4
MATH 113	College Algebra	4	
MATH 121	Mathematical Foundations of Business	3	
MATH 146	Calculus for Biological Sciences	5	
MATH 151	Calculus I	5	
MATH 152	Calculus II	5	

SCIENCE 8

Biology

BIOL 101, 101L	General Biology and Laboratory	2,1
BIOL 102, 102L	General Biology and Laboratory	2,1

Both the lecture and laboratory must be taken in all courses having both, as listed above, if general education credit is to be received.

Chemistry

CHEM 131, 131L	General Chemistry and Laboratory	4,1
CHEM 132, 132L	General Chemistry and Laboratory	4,1

Both the lecture and laboratory must be taken in all courses having both, as listed above, if general education credit is to be received.

Geology

GEOL 111, 111L	Principles of Physical Geology and Laboratory	3,1
GEOL 112, 112L	Principles of Historical Geology and Laboratory	3,1

Both the lecture and laboratory must be taken in all courses having both, as listed above, if general education credit is to be received.

Physics

PHYS 101	Elementary Astronomy	3
PHYS 111, 111L	General Physics and Laboratory	4,1
PHYS 112, 112L	General Physics and Laboratory	4,1
PHYS 121	Classical Physics I	4
PHYS 223, 223L	Classical Physics III and Experimental Electromagnetism Laboratory	3,1

Both the lecture and laboratory must be taken in all courses having both, as listed above, if general education credit is to be received.

c) **6 semester hours of Social and Behavioral Sciences chosen from the following courses. A minimum of two different disciplines required.**

SOCIAL AND BEHAVIORAL SCIENCE 6

Anthropology

ANTH 201	Cultural Anthropology	3

Economics

ECON 201	Principles of Macroeconomics	3
ECON 202	Principles of Microeconomics	3

Geography

GEOG 103	World Regional Geography	3

History

HIST 101, 102	Western Civilizations	3,3
HIST 131, 132	United States History	3,3

Political Science

POLS 101	American Government	3

Psychology

PSYC 121, 122	General Psychology	3,3

Sociology

SOCO 260	General Sociology	3
SOCO 264	Social Problems	3

d) 6 semester hours of Humanities chosen from the following courses. A minimum of two different disciplines required.

HUMANITIES		6
Art		
ARTE 211	Art History: Ancient-1300	3
ARTE 212	Art History: 1300-1900	3
French		
FLAF 111, 112	First-Year French I and II	3,3
FLAF 251, 252	Second-Year French I and II	3,3
German		
FLAG 111, 112	First-Year German I and II	3,3
FLAG 251, 252	Second-Year German I and II	3,3
Literature		
ENGL 131 and 132 or 133	World Literature I and II or III	3,3
ENGL 150	Introduction to Literature	3
Music		
MUSA 220	Music Appreciation	3
Philosophy		
PHIL 275	Introduction to Logic	3
Spanish		
FLAS 111, 112	First-Year Spanish I and II	3,3
FLAS 251, 252	Second-Year Spanish I and II	3,3

In addition, the Human Performance and Wellness requirements must be met—see "Human Performance and Wellness" under this "Graduation Requirements" section.

Non-Degree Transfer Programs:

In addition to programs of study leading to the A.A. and A.S. degrees, other one- and two-year programs of study specifically tailored to meet students' needs in transferring to another institution may be developed through consultation with a faculty adviser.

Associate of Applied Science (A.A.S.) Degree Requirements

A.A.S. degree programs are intended to prepare individuals to enter skilled and/or para professional occupations or to upgrade/stabilize their employment. These programs are not intended for transfer to baccalaureate degree programs; however, certain courses may be accepted toward a baccalaureate degree at some institutions. Under the "Programs of Study" section of this catalog, the A.A.S. degrees available at Mesa State College are listed, along with the courses required to complete each degree.

Students are urged to consult with a faculty adviser and to obtain from the adviser a program sheet for the degree sought. Requirements for each A.A.S. degree will include:

1. General Education: Social and Behavioral Science or Literature - six semester hours
   See the General Education lists in this catalog for baccalaureate degrees, and for the Associate of Arts degree and Associate of Science degree. The six hours required here may be chosen from Social or Behavioral Science or Literature from any of the three lists, unless specified under the degree.

2. English - six semester hours, as set forth in the specific A.A.S. program requirements.
3. Human Performance and Wellness requirement.
4. The remaining requirements and electives found under the specific program in the "Programs of Study" section of this catalog.
5. Additional requirements apply for some degrees. See specific program requirements and the program sheet.
6. The number of courses allowed from vocational education programs vary according to the program chosen.

Certificate of Occupational Proficiency Requirements

Candidates for the Mesa State College Certificate of Occupational Proficiency must satisfy all requirements specified for the certificate with a cumulative grade point average of 2.00 or higher for all courses. A grade lower than "C" in the discipline field will not be counted toward satisfying certificate requirements.

Teacher Certification

Students preparing to teach in the public schools (elementary, secondary, K-12) must confer with the Mesa State College Chair of the Department of Teacher Education and Certification regarding state certification requirements and with the chair of the appropriate department regarding program requirements for the major. It is imperative that students seeking teacher certification plan their schedules with the advisers mentioned *early* in their academic careers, preferably the first semester of their work at Mesa State College.

Teacher certification is a separate process and must be pursued in addition to a baccalaureate degree. See *Teacher Certification* in the *"Programs of Study"* section of this catalog.

PROGRAMS OF STUDY

Organization of this Section

This section consists of:

1. **General information**
2. **Schools**
   Programs of study are offered by six Schools at Mesa State College. These Schools, along with their personnel and programs of study offered, are described herein.
3. **Degrees and Certificates**
   Included is an alphabetical listing, by discipline, of each degree and certificate offered at Mesa State College, preceded by an index by discipline prefix.
4. **Selected Studies**
5. **Teacher Certification**
6. **Electives and/or Minors**

General Information

Program Sheet

A program sheet has been prepared for each degree major, concentration, minor or certificate offered at Mesa State College specifying in detail the exact course requirements for each. Individual schools maintain program sheets for the degrees, minors and certificates offered in their school. Students are urged to consult their advisers to obtain a program sheet for their major (and minor, if applicable), upon enrolling at Mesa State College. It is the student's responsibility to maintain the program sheet(s) demonstrating compliance with the degree and minor requirements. The completed program sheet(s) must accompany the petition to graduate and be filed with the Director of Academic Records in order for a student to be considered for graduation. Refer to the *Graduation Requirements* section of this catalog for further details.

Overload

Occasionally students desire to take more than 21 credit hours during a semester. Students wishing to take such an overload are strongly encouraged to consult with their advisers prior to registration.

Independent Study

Independent study permits the motivated student an opportunity to expand his or her body of knowledge beyond the scope of the standard curriculum. It endeavors to foster qualities of self initiative, organizational skills, self discipline and independent thinking. It is expected that the student will engage in intensive study and research of the topic.

Independent study satisfies neither general education requirements nor specific course requirements. ***Independent study hours may be taken as elective hours only.***

Independent study is available only to students at the junior and senior levels except in certain certificate and AAS programs and only in those disciplines listed in the "Course Descriptions" section of this catalog.

To be eligible for Independent Study, a student must have a minimum of eight semester credit hours in the discipline of the Independent Study area, as well as a minimum GPA of 2.75 within that discipline area. The work is to be completed within one semester from the initiation date and is limited to a total of six or fewer semester credit hours taken at Mesa State College. The Dean of the School issuing credit must approve any exceptions.

A written contract is to be initiated by the student desiring Independent Study and approved by appropriate faculty and chairperson. The contract must include justification, description, monitoring and evaluation procedures.

Further restrictions apply in some disciplines. One example is the requirement that an application for Independent Study be completed in advance—in some cases six weeks prior to the end of the semester preceding the one in which the student wishes to take the Independent Study. Students wishing to take an Independent Study should check with the appropriate instructor and/or dean well in advance.

Special Topics

Topics courses are offered from time to time and contain material of special interest within a specific discipline not considered elsewhere in the curriculum. Prerequisites vary with course material, and enrollment requires consent of the instructor.

Cooperative Education

According to the National Commission for Cooperative Education, "Cooperative Education is a working partnership in which an educational institution joins with an employer in a structured relationship. The basic purpose is that of providing a means whereby a student can combine study at the institution with a work experience which is under the supervision of the employer in order to fulfill the total requirements of a particular educational program."

Cooperative Education is a three-way partnership involving the student, the employer, and the college. There is a great deal of difference between Cooperative Education and simply holding a job. Cooperative Education is based on learning objectives which are related to the student's academic discipline and are established in cooperation with the student, the employer, the faculty adviser, and others at Mesa State College.

Typically, Cooperative Education is open to junior and senior students. Interested students should consult with their faculty adviser and dean. There are limits in the amount of credit which will apply towards a degree. See "Non-Traditional Credits" in this catalog.

Preparatory Courses

Preparatory courses are available in several subjects at Mesa State College. Numbers of such courses are below the 100 level (e.g., DEVL 090, Developmental Reading). These courses are designed for students needing to strengthen their backgrounds before entering college level classes. All courses numbered 001-099 are preparatory in nature, not intended for transfer purposes and will not usually fulfill degree requirements. Students are encouraged to consult with their advisers about the need to register into these classes. Students in baccalaureate majors incur an additional cost of $100 per preparatory course taken.

Students who have passed any ENGL class numbered 100 or above will not be permitted to register *for credit* in any ENGL class numbered below 100. Only the Dean of the School of Technology may approve exceptions to this for students in vocational programs.

Students who have passed any MATH class numbered 100 or above will not be permitted to register *for credit* in any MATH class numbered below 100.

SCHOOL OF BUSINESS

Kenneth Blair, Dean

Departments and Faculties

Accounting and Computer Information Systems
P. Bettelli, E. Boehler, J. Buckley, D. Mariner, B. McMechen, D. Rogers (Chair), G. Wilson
Business Administration
K. Blair, D. Dickson, J. Knappenberger, E. Mallory (Chair), D. Manning, B. Mayer, H. B. McIntire, J. Moorman, T. Ralser, M. Slauson, M. Zimmerer
Office Administration
T. Capps (Director), M. Myers, M. Green
Parks and Recreation Resource Management
T. Swanson

Each student seeking a degree or certificate must obtain a program sheet from his or her faculty adviser or from the Office of the Dean of the School of Business listing specific requirements for the degree or certificate sought. The School of Business offers academic programs leading to the following baccalaureate (4-year) degrees, associate (2-year) degrees, and certificate (9-month) programs with the majors or areas of study indicated:

BACHELOR OF SCIENCE IN ACCOUNTING

BACHELOR OF SCIENCE IN PARKS AND RECREATION RESOURCE MANAGEMENT

BACHELOR OF BUSINESS ADMINISTRATION

Areas of Concentrations:
Administrative Office Management
Business Economics
Business Computer Information Systems
Finance
Management
Marketing
Personnel Management

ASSOCIATE OF ARTS

Areas of Emphasis:
Business Administration
Office Administration

ASSOCIATE OF APPLIED SCIENCE

Business Computer Information Systems
Office Supervision and Management
Accounting Technician
Administrative Secretary
Legal Secretary
Medical Secretary
Travel, Recreation and Hospitality Management

CERTIFICATES OF OCCUPATIONAL PROFICIENCY

*Business Computer Information Systems
Office Supervision and Management
Clerical
Medical Office Assistant

*available only through the Montrose Center

CERTIFICATE

*Legal Assistant

*Check with Office of Continuing Education for details.

The following is a list of areas of study available (together with degrees or certificates offered and reference to the catalog page on which detailed information can be found):

Areas of Study Emphases Available	*Degrees/Certificates*	*Details*
Accounting	AAS, BS	p. 140, 80
Business Administration	AA, AAS, BBA, Certificate	p. 93, 141, 92, 144
Office Supervision & Management	AA, AAS, Certificate	p. 93, 140, 144
Parks and Recreation Resource Management	BS	p. 146
Travel, Recreation and Hospitality Management	AAS	p. 160

SCHOOL OF HUMANITIES AND FINE ARTS

Michael Gerlach, Acting Dean

Departments and Faculties

Art
S. Cahill, C. Hardy (Chair), D. Meyers, L. Mosher
Education and Teacher Certification
V. Beemer (Early Childhood Education), J. Brigham, A. Bullen, N. Smith (Chair), K. Tuinstra
Languages and Literature
R. Berkey, E. Broughton, C. Davies, M. Djos, J. Gallegos, P. Hills, R. Johnson, S. Matchett, D. MacKendrick, T. Nizalowski, R. Phillis, D. Pilkenton, J. Rider (Chair), R. Sowada, M. Spelman, B. Tharaud, J. Zeigel
Music
M. Atkinson (Chair), M. Baron, J. Delmore, K. Gustafson, L. Karly, L. Sanford, P. Schneider
Theatre and Communications
M. Artiaga, P. Carmichael, V. Carmichael, D. Cox (Acting Chair), B. Evers, M. Gerlach, M. Robb, G. Weaver, S. Woodworth

Each student seeking a degree or certificate must obtain a program sheet from his or her faculty adviser or from the Office of the Dean of the School of Humanities and Fine Arts listing specific requirements for the degree or certificate sought. The School of Humanities and Fine Arts offers academic programs leading to the following baccalaureate (4-year) degrees, associate (2-year) degrees, and certificate with the majors or areas of study indicated.

The School endeavors to develop cultural awareness and critical judgment in students. Studies help students develop the intellectual skills and ethical values which contribute to the enrichment of life for the individual and society.

BACHELOR OF ARTS IN ENGLISH

Areas of Concentrations:
Literature
Writing
English with Teacher Certification (Elementary or Secondary)

BACHELOR OF ARTS IN FINE AND PERFORMING ARTS

Areas of Concentrations:
Art
Music
Commercial
Performance
Music with Teacher Certification (K-12)
*Music Theatre
Theatre
Acting (Directing)
Design/Technical
Music Theatre

* Approval pending

BACHELOR OF ARTS IN LIBERAL ARTS

BACHELOR OF ARTS IN MASS COMMUNICATION

Area of Concentrations: Broadcasting
News/Editorial
Public Relations

ASSOCIATE OF ARTS

Areas of Emphasis: Art
Early Childhood Education
English
Humanities
Music
Theatre

CERTIFICATES OF OCCUPATIONAL PROFICIENCY

Early Childhood Education

The following is a list of areas of study available (together with degrees or certificates offered and reference to the catalog page on which detailed information can be found):

Areas of Study Available	*Degrees/Certificates*	*Details*
Early Childhood Education	A.A., Certificate	p. 101, 103
English*	B.A., A.A.	p. 111, 112
Fine and Performing Arts:		
Art	B.A., A.A.	p. 115, 82
Music*	B.A., A.A.	p. 115, 133
Music Theatre**	B.A.	p. 116
Theatre	B.A., A.A.	p. 116
Humanities	A.A.	p. 122
Liberal Arts	B.A.	p. 123
Mass Communications	B.A.	p. 130
Teacher Certification		p. 166

*Certification for Secondary Education in English and K-12 Music Education is available. Other fields of study available within the Humanities and Fine Arts include: *Writing, Foreign Languages, Philosophy, Speech.* A program in *Commercial Art* is available through the School of Industry and Technology.

**Approval pending.

SCHOOL OF NATURAL SCIENCES AND MATHEMATICS

James B. Johnson, Acting Dean

Departments and Faculties

Biological Sciences
R. Ballard, B. Bauerle, P. Chowdry (Chair), E. Hurlbut, W. Kelley, G. McCallister, S. Werman

Chemistry and Physics
O. Boge, G. Gilbert (Chair), L. Madsen, J. Marshall, P. Misra, W. Putnam

Computer Science, Mathematics and Engineering
C. Bailey, C. Barkley, C. Britton, J. Brock, C. Childers, W. Davenport, A. Ektare, D. Fuquay, D. Hafner, E. Hawkins (Chair), J. Henson, C. Kerns, D. Mottram, T. Mourey, T. Novotny, L. Payne, J. Reuszer, J. Rybak, L. Tooke, K. Topper, J. Wethington, M. Wort, Z. Wu

Geology
D. Foutz (Chair), J. Johnson, V. Johnson, J. Roadifer

Each student seeking a degree or certificate must obtain a program sheet from his or her faculty adviser or from the Office of the Dean of the School of Natural Sciences and Mathematics listing specific requirements for the degree sought. In some courses in the School of Natural Sciences and Mathematics, a grade of "D" is unacceptable. The program sheet for each program specifies such requirements and restrictions.

The School of Natural Sciences and Mathematics offers academic programs leading to baccalaureate (4-year) degrees, associate (2-year) degrees, and certificates (9-month) with areas of study as indicated below. It should be noted that some of the areas of emphasis listed for study are the first two years of baccalaureate degree studies and require transfer to other institutions for completion.

A student wishing to receive a double concentration or emphasis must satisfy all of the requirements for each concentration or emphasis.

BACHELOR OF SCIENCE IN BIOLOGICAL SCIENCES

Areas of Concentration:
- Biology
- Biology with Teacher Certification

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

BACHELOR OF SCIENCE IN MATHEMATICS

Areas of Concentration:
- Mathematics with Teacher Certification (Elementary or Secondary)
- Statistics

BACHELOR OF SCIENCE IN PHYSICAL SCIENCE

Areas of Concentration:
- Geology
- Geology with Teacher Certification
- Environmental Geology
- Physics
- Physics with Teacher Certification

ASSOCIATE OF SCIENCE

Associate of Science (A.S.) degrees are available in most disciplines in the School of Natural Sciences and Mathematics. Completion of these degrees requires close coordination with an adviser and attention to the general education core curriculum requirements previously described. In most cases the number of hours that are required for completion of the Associate of Science degree will exceed the minimum of 60 semester hours.

Areas of Emphasis:
- Biology
- Computer Science
- Engineering
- Geology
- Mathematics
- Physics

ASSOCIATE OF APPLIED SCIENCE

- Environmental Restoration Engineering Technology

CERTIFICATE

- Engineering Methods

ADDITIONAL AREAS OF STUDY - Preprofessional preparation for transfer to other institutions.

- Preforestry
- Medical Technology
- Pharmacy
- Physical Therapy

The following is a list of the areas of study available (together with the degrees or certificates offered and reference to the catalog page on which detailed information can be found):

Areas of Study Available	*Degrees/Certificates*	*Details*
Biology*	BS, AS	p. 89, 91
Computer Science	BS	p. 99, 100
Engineering	AS, Certificate	p. 109, 110
Environmental Restoration Engineering Technology	AAS	p. 113
Geology*	BS, AS	p. 147, 117
Mathematics*	BS, AS	p. 131, 132
Physics*	BS, AS	p. 147, 149
Statistics	BS	p. 131

*Teacher certification is available. See pp. 62, 71, 90, 131, 147, 148, 166, 192

General Information

Preprofessional Preparation

Predentistry	Preveterinary Medicine
Premedicine	Prephysical Therapy
Preoptometry	

Some of the health professions require graduate study (postbaccalaureate). Admission to the study of dentistry, medicine, optometry, or veterinary medicine in a graduate school is usually obtained by an applicant with a bachelors' degree. Competition for these limited spaces is keen. Since no preprofessional study is an academic major in itself, a student expecting to seek admission to one of these schools should plan to earn an appropriate Bachelor of Science degree. This provides not only a competitive background in the quest for professional school admission but also a different career path alternative in the event of rejection. Interested students should plan their program carefully in consultation with an adviser.

Health Related Studies

Premedical Technology	Prepharmacy

Some health professions can be entered after baccalaureate studies only. Preparation to complete baccalaureate programs such as medical technology, pharmacy, or physical therapy can begin with two years of study at Mesa State College. After that a student may transfer to an institution offering one of those specific majors. Alternatively the student may continue studies at Mesa State College, earn a bachelor's degree, and then enter a special program in one of these fields specifically provided for possessors of bachelors' degrees. Students interested in these studies should consult an adviser in planning their program.

Engineering and Forestry

A student can profitably begin the baccalaureate study of engineering or forestry with two years at Mesa State College. The subsequent transfer to other appropriate state institutions is facilitated by one of the various transfer agreements between Mesa State College and these institutions. Programs should be carefully designed in consultation with an adviser.

Teacher Certification

Certification to teach mathematics or science in the secondary schools and certification to teach in elementary schools is available through Mesa State College. This can be done by earning a baccalaureate degree with an appropriate major or concentration while also earning credit in prescribed professional courses. Interested students should contact the Teacher Education and Certification Department.

Certification to teach mathematics is obtained with a Bachelor of Science in Mathematics with a concentration in teacher certification degree as described in this catalog and the program sheet. Certification to teach science, however, is somewhat complicated by the fact that science is not an academic emphasis in itself. A student wishing such certification should plan to earn a Bachelor of Science in Biological Sciences degree with a concentration in Teacher Certification or a Bachelor of Science in Physical Sciences degree with a concentration in geology or physics with teacher certification as described in the appropriate sections of this catalog. For information about elementary and secondary teacher certification the student should contact the Teacher Education and Certification Department.

Laboratories
Many courses in the School of Natural Sciences and Mathematics include laboratory work. The class and laboratory portions of them are technically treated as different courses with distinctive numbers and individual grades. A student is usually required to be concurrently enrolled in both class and laboratory. Credit toward graduation cannot be earned for a class or laboratory unless credit is earned in both.

SCHOOL OF NURSING AND ALLIED HEALTH

Mary A. Turley, Dean

Departments and Faculties

Nursing
H. Covington, S. Dickson, M. Forrest, J. Goodhart (BSN Chair), M. Jefferson, A. Lanibeth, M. Turley, K. Reuss, C. Roy (ADN Chair), L. Stahl, S. Stanton, E. Williams

Radiologic Technology
C. Clark-Sorensen (Director), P. Feely

The School of Nursing and Allied Health offers academic programs leading to the following: a baccalaureate (4-year) degree and two associate (2-year) degrees. Each program requires a separate admission application; deadlines vary according to the degree sought. For more specific information, see the following or contact the School of Nursing and Allied Health.

Each new applicant must obtain from the School of Nursing and Allied Health written guidelines explaining specific program requirements. All programs are fully accredited by the appropriate source including the National League for Nursing, and the Committee of Allied Health Education and Accreditation of the American Medical Association.

Students in most programs offered through the School of Nursing and Allied Health will be required to participate in clinical situations, etc., at hospitals and other facilities in the community as a part of their program of study. It is understood that these experiences are an integral and essential part of the programs and that all students must participate in them as required by their programs of study. Therefore, should a hospital or other facility deny permission to any student to work at or participate in a required experience at such hospital or other facility, that student may not be allowed to continue his or her program of study. It is the student's responsibility to obtain and maintain the permission of the clinical facilities utilized.

BACHELOR OF SCIENCE IN NURSING (BSN)

ASSOCIATE OF APPLIED SCIENCE

Nursing
Radiologic Technology

The following is a list of the areas of study emphasis available (together with the degrees or certificates offered and reference to the catalog page on which detailed information can be found):

Areas of Study Emphasis Available	*Degrees/Certificates*	*Details*
Nursing (ADN)	AAS	p. 137
Nursing (BSN)	BSN	p. 134
Radiologic Technology	AAS	p. 154

SCHOOL OF SOCIAL AND BEHAVIORAL SCIENCES

Daniel Arosteguy, Acting Dean

Departments and Faculties:

Behavioral Sciences
C. Buys, J. Dorris, K. Ford, T. Graves, M. Heinrich, W. Meeker, G. Starbuck, H. Tiemann (Chair)

Human Performance and Wellness
A. Bright, S. Clough, R. Crick, J. Krauss, J. Paronto, K. Perrin, D. Peterson, A. Sanders, D. Schakel, B. Wiehe, S. Yeager

Social Sciences
D. Arosteguy, L. Chere, J. Curtsinger, R. Hamm, S. Karhu, B. Michrina, L. Morton (Chair), J. Peer, P. Reddin, D. Rees, S. Schulte, J. Tomlinson

Each student seeking a degree or certificate must obtain a program sheet from his or her faculty adviser or from the Office of the Dean of the School of Social and Behavioral Sciences listing specific requirements for the degree and concentration or emphasis sought. The School of Social and Behavioral Sciences offers academic programs leading to the listed baccalaureate (4-year) degrees, and the associate (2-year) degree emphasis. Students may select a Bachelor of Arts degree within the traditional major or with an area of concentration.

BACHELOR OF ARTS IN ECONOMICS

Area of Concentration: Applied Economics: Administration*
*Approval pending

BACHELOR OF ARTS IN HISTORY

BACHELOR OF ARTS IN POLITICAL SCIENCE

Area of Concentration: Administration of Justice*
*Pending approval

BACHELOR OF ARTS IN PSYCHOLOGY

Area of Concentration: Counseling Psychology

BACHELOR OF ARTS IN SOCIAL SCIENCE

BACHELOR OF ARTS IN SOCIOLOGY

Areas of Concentration: Anthropology
Criminology*
Human Services

*Pending approval

ASSOCIATE OF ARTS

Area of Emphasis: Social Science - General

The following is a list of the areas of study emphasis available (together with the degrees offered and reference to the catalog page on which detailed information can be found):

Areas of Study Emphasis Available	*Degrees*	*Details*
Administration of Justice	BA	p. 150
Anthropology	BA	p. 158
Applied Economics	BA	p. 104
Counseling Psychology	BA	p. 153
Criminology	BA	p. 158
Economics	BA	p. 104
History	BA	p. 120
Human Services	BA	p. 158
Political Science	BA	p. 150
Psychology	BA	p. 153
Sociology	BA	p. 158
Social Science (General)	AA, BA	p. 157, 156
Teacher Certification Physical Education	BA (Selected Studies)	p. 164, 168

SCHOOL OF TECHNOLOGY

Jerry Moorman, Dean

Departments and Faculties	B. Beden, W. Branton, B. Buchholz, D. Duff, C. Fetters, R. Greb, F. Holgate, B. Keefer, G. Looft (Chair), R. Moran, L. Schrader, P. Wells, R. Wilcox
Campus Sites	Main Campus (Medesy Hall) South Campus (29 and D Road) Unified Technical Education Center - UTEC (Foresight Park)

Each student seeking a degree or certificate must obtain a program sheet from his or her faculty adviser or from the Office of the Dean of the School of Technology listing specific requirements for the degree or certificate sought. The School of Technology offers a variety of associate degrees and certificates with training directed toward employment opportunities. Applications from women and minorities are encouraged. Training and work in the following program areas requires performing in places where dust, fumes, noise and other conditions may have an influence on personal health. Regular lifting of up to 50 pounds may be necessary. Prospective students should check further about specific physical requirements. All programs are offered as approved by the State Board for Community Colleges and Occupational Education.

ASSOCIATE OF APPLIED SCIENCE

Agriculture
Automotive Collision Repair
Automotive Technology
Commercial Art
Electronics Technology
Machining Technology
Printing Technology
Welding

ASSOCIATE OF SCIENCE

Areas of Emphasis:
Electronic Engineering Technology
Manufacturing Technology

CERTIFICATE OF OCCUPATIONAL PROFICIENCY

Automotive Collision Repair
Automotive Service
Computer Drafting Technology
Electric Lineworker
Electronics Technology
Farm and Ranch Business Management
Heavy Equipment - Diesel Mechanics
Machine and Manufacturing Trades
Welding

ASSOCIATE OF APPLIED SCIENCE DEGREE REQUIREMENTS

Course work required for a degree consists of general education, technical courses, physical education and, in some cases, electives. Programs are designed to provide preparation for initial employment as well as career advancement opportunities.

ASSOCIATE OF SCIENCE DEGREE REQUIREMENTS

Associate of Science degrees are designed primarily for transferring to baccalaureate degree programs in similar fields of study. Emphasis is on technical knowledge and skill as well as mathematics and laboratory sciences. Variations of general education requirements, English Composition, Social Science, Humanities, Mathematics, and Literature, may be possible with the approval of the student's faculty adviser.

CERTIFICATE OF OCCUPATIONAL PROFICIENCY COMPLETION REQUIREMENTS

All coursework specified must be successfully completed before the Certificate of Occupational Proficiency is awarded. Content of certificate programs has been developed to prepare persons for beginning level employment opportunities in as short a time as possible. Certain coursework in the field of specialization must be completed with a grade of "C" or above to count toward graduation.

All students should work closely with their faculty advisers and follow their program sheets while completing their programs of study. The student alone is ultimately responsible for knowing the requirements of a program and for fulfilling those requirements.

The following is a list of the areas of study available (together with the degrees or certificates offered and reference to the catalog page on which detailed information can be found):

Areas of Study Available	*Degrees/Certificates*	*Details*
Automotive Collision Repair	AAS, Certificate	p. 83, 85
Automotive Technology	AAS	p. 87
Automotive Service	Certificate	p. 86
Commercial Art	AAS	p. 96
Electric Lineworker	Certificate	p. 105
Electronic Engineering Technology	AS	p. 106
Electronics Technology	AAS, Certificate	p. 107, 108
Heavy Equipment - Diesel Mechanics	Certificate	p. 118
Machine and Manufacturing Trades	AAS, Certificate	p. 126, 127
Machining Technology	AAS	p. 126
Manufacturing Technology	AS	p. 129
Printing Technology	AAS	p. 151
Welding	AAS, Certificate	p. 161, 163

DEGREES AND CERTIFICATES

Complete Discipline Index

Subjects (disciplines) offered by Mesa State College are listed below alphabetically followed by the current course prefix, the page number of the individual course descriptions, and the school holding academic responsibility for the subject.

Discipline	Prefix	Page	School
Accounting	ACCT	171	BUS
Administration of Justice	ADJU	172	S&BS
Agriculture	AGRI	172	TECH
Agricultural Management	AGRM	175	TECH
Anthropology	ANTH	175	S&BS
Art	ARTE	176	H&FA
Automotive Collision Repair	AUBF	179	TECH
Biology	BIOL	180	NS&M
Business	BUGB	184	BUS
Chemistry	CHEM	185	NS&M
Commercial Art	GRCO	206	TECH
Computer Drafting Technology	CADT	186	TECH
Computer Information Systems, Business	CISB	187	BUS
Computer Science	CSCI	188	NS&M
Developmental Courses	DEVL	190	
Drafting Technology, Computer	CADT	186	TECH
Economics	ECON	190	S&BS
Education, Early Childhood	EDEC	191	H&FA
Education, Teacher Certification	EDUC	192	H&FA
Electric Lineworker	ELCL	193	TECH
Electronics Technology	ELCT	194	TECH
Engineering	ENGR	195	NS&M
Engineering Technology	ENGT	196	NS&M
English	ENGL	197	H&FA
Environmental Restoration Engineering Technology	ENGS	201	NS&M
Finance	FINA	202	BUS
Fine Arts	FINE	202	H&FA
Foreign Languages			
French	FLAF	203	H&FA
German	FLAG	203	H&FA
Spanish	FLAS	203	H&FA
Other	FLAV	203	H&FA
Geography	GEOG	203	S&BS
Geology	GEOL	204	NS&M
History	HIST	208	S&BS
Home Economics	HMEC	210	NS&M
Human Performance and Wellness			
Academic	HPWA	210	S&BS
Activity	HPWE	214	S&BS
Human Services	HSER	215	S&BS
Humanities	HUMA	215	H&FA
Industrial Science	INSA	216	TECH
Interdisciplinary Study	INTR	216	H&FA

Legal Assistant	LEGA	216	BUS
Machine and Manufacturing Trades	MAMT	217	TECH
Management	MANG	219	BUS
Marketing	MARK	220	BUS
Mass Communications	MASS	221	H&FA
Mathematics	MATH	223	NS&M
Mechanics			
Automotive Technology	MECA	225	TECH
Automotive Service	MECA	225	TECH
General	MECH	227	TECH
Heavy Equipment/Diesel	MECD	227	TECH
Music			
Academic	MUSA	228	H&FA
Lessons	MUSL	232	H&FA
Performing	MUSP	232	H&FA
Nursing	NURS	233	NURS
Office Administration	OFAD	236	BUS
Parks and Recreation Resource Management	PRRM	237	BUS
Philosophy	PHIL	239	H&FA
Physics	PHYS	240	NS&M
Political Science	POLS	243	S&BS
Printing Technology	GRCO	206	TECH
Psychological Counseling and Guidance	PCGU	244	S&BS
Psychology	PSYC	245	S&BS
Radiologic Technology	RADT	247	NURS
Social Science	SOCI	248	S&BS
Sociology	SOCO	248	S&BS
Speech	SPCH	249	H&FA
Statistics	STAT	250	NS&M
Theatre	THEA	251	H&FA
Travel, Recreation and Hospitality Management	TRAV	254	BUS
Welding	WELD	255	TECH

*School

BUS – Business
H&FA – Humanities and Fine Arts
TECH – Technology
NS&M – Natural Sciences and Mathematics
NURS – Nursing and Allied Health
S&BS – Social and Behavioral Sciences

BACHELOR OF SCIENCE IN ACCOUNTING

School of Business

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. B.S. Distinction (Math/Computer Science) MATH 113 College Algebra or higher level math STAT 214 Business Statistics	6
c. Human Performance and Wellness	3

2. Requirements specific to this degree

a. Required courses — 72

ACCT 201	Principles of Accounting I	(3)
ACCT 202	Principles of Accounting II	(3)
ACCT 221	Intermediate Accounting I	(4)
ACCT 222	Intermediate Accounting II	(4)
ACCT 331	Cost Accounting I	(3)
ACCT 332	Cost Accounting II	(3)
ACCT 401	Governmental Accounting	(3)
ACCT 402	Advanced Accounting	(3)
ACCT 411	Auditing I	(3)
ACCT 412	Auditing II	(3)
ACCT 441	Income Tax	(5)
ACCT 442	Advanced Tax and Tax Research	(5)
BUGB 351	Business Law I	(3)
BUGB 352	Business Law II	(3)
CISB 101	Business Data Processing	(2)
CISB 105	Introduction to Business Software	(1)
CISB 205	Advanced Business Software	(3)
ECON 201	Principles of Macroeconomics	(3)
ECON 202	Principles of Microeconomics	(3)
FINA 339	Managerial Finance	(3)
MANG 201	Principles of Management	(3)
MANG 491	Business Policies and Management	(3)
MARK 231	Principles of Marketing	(3)

b. Concentrations
There are no concentrations currently available under this degree.

c. See faculty adviser for a program sheet detailing exact and complete requirements for the major.

d. Electives (unrestricted) — 9
If desired, a student may use electives toward satisfying requirements for a minor.

ASSOCIATE OF SCIENCE AGRICULTURE

School of Technology

Emphasis Requirements:

Study directed toward the Associate of Science degree will serve as a basis for the Bachelor of Science degree with the same discipline and also for other programs at Mesa State College and at other colleges. Faculty advisers will assist students in planning programs to meet requirements. Programs of study in the Sciences are very sequential and advanced planning for the transition from an associate program to a baccalaureate program is imperative for economy of time and effort. This program is undergoing revision and close coordination with a faculty adviser is essential.

Minimum semester hours required: 64

1. Associate of Science graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

			Cr. Hrs.
a. General Education			33
b. Human Performance and Wellness			2

2. Course requirements specific to this degree

a. Required courses			22
AGRI 110, 110L	Crop Production and Laboratory	(4)	
AGRI 113, 113L	Introduction to Animal Science and Laboratory	(4)	
AGRI 142	Agricultural Economics	(3)	
AGRI 202, 202L	Soils and Laboratory	(4)	
AGRI 205	Farm and Ranch Management	(3)	
AGRI 254, 254L	Livestock Feeding and Laboratory	(4)	

3. Electives 7

4. Special requirements
   General Education and course requirements in discipline area plus electives chosen in consultation with the student's adviser up to the minimum of 64 credit hours comprise the requirements for this emphasis.

5. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

ASSOCIATE OF ARTS
ART

School of Humanities and Fine Arts

1. Associate of Arts graduation requirements (for further information, see section on "Degree Requirements" in this catalog). Minimum semester hours required: 63-66

	Cr. Hrs.
a. General Education	34
b. Human Performance and Wellness	2

2. Course requirements specific to this degree

a. Required courses			21
ARTE 101	Two-Dimensional Design	(3)	
ARTE 102	Three-Dimensional Design	(3)	
ARTE 151	Basic Drawing	(3)	
ARTE 211, 212	Art History	(6)	
ARTE XXX	Process and Media Studio	(6)	
b. Electives			9

Nine hours of electives chosen in consultation with art adviser.

c. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

ASSOCIATE OF APPLIED SCIENCE IN AUTOMOTIVE COLLISION REPAIR

School of Technology

Practical application covers all phases of painting, metal working, and collision repair. The training includes learning necessary shop skills, theory, principles and related subjects needed to enter and then progress competitively in the collision repair career fields. The curriculum follows ICAR and NAISE national competency standards. Students may enter the program any semester.

Minimum semester hours required: 74

1. Course requirements for this degree

	Cr. Hrs.
a. Six (6) semester hours of English satisfied by completing any one of the following sequences: ENGL 086 and 087, or 121 or ENGL 090 and 111 or ENGL 111 and 112, 115, 121, or 129	6
b. Six (6) semester hours selected from the following: ANTH 201, 222 ECON 201, 202 ENGL 131 and 132 or 133, 145, 150 GEOG 103 HIST 101, 102, 131, 132, 136, 137 POLS 101, 261 PSYC 121, 122 SOCO 144, 260	6
c. Mathematics MATH 015 or higher level math course	3
d. All of the following courses:	54

AUBF 108	Intro to Auto Body Repair	(1)
AUBF 108L	Intro to Auto Body Repair Lab	(3)
AUBF 109	Auto Body Repair & Preparation	(1)
AUBF 109L	Auto Body Repair & Preparation Lab	(3)
AUBF 118	Intro to Painting/Preparation	(1)
AUBF 118L	Intro to Painting/Preparation Lab	(3)
AUBF 119	Complete Auto Painting	(1)
AUBF 119L	Complete Auto Painting Lab	(3)
AUBF 130	Auto Reconditioning	(1)
AUBF 130L	Auto Reconditioning Lab	(2)
AUBF 140	Auto Body Suspension/Alignment	(1)
AUBF 140L	Auto Body Suspension/Alignment Lab	(1)
AUBF 150	Auto Body Welding	(1)
AUBF 150L	Auto Body Welding Lab	(2)
AUBF 200	Panel/Spot Painting	(2)
AUBF 200L	Panel/Spot Painting Lab	(4)
AUBF 210	Unibody and Frame Repair	(2)
AUBF 210L	Unibody and Frame Repair Lab	(2)
AUBF 220	Shop Management	(3)
AUBF 228	Bolt-on Body Service	(1)
AUBF 228L	Bolt-on Body Service Lab	(2)
AUBF 229	Extensive Damage Repair	(1)
AUBF 229L	Extensive Damage Repair Lab	(2)

AUBF 238	Weld-on Body Service	(1)
AUBF 238L	Weld-on Body Service Lab	(3)
AUBF 239	Complete Collision Repair	(1)
AUBF 239L	Complete Collision Repair Lab	(3)
AUBF 250	Estimating	(3)

2. Electives 3

3. Human Performance and Wellness 2
(See general graduation requirements)

4. Special requirements
Students seeking an Associate of Applied Science degree must obtain a minimum of 2.00 ("C") in each required AUBF course and must satisfy all other graduation requirements.

5. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

CERTIFICATE OF OCCUPATIONAL PROFICIENCY IN AUTOMOTIVE COLLISION REPAIR

School of Technology

This program of study may begin in either fall or spring semester.

Minimum semester hours required: 34

1. Course requirements for this certificate
   a. All of the following courses:

		Sem Hrs	*Con Hrs*
AUBF 108	Intro to Auto Body Repair	1	15
AUBF 108L	Intro A B Repair Lab	3	85
AUBF 109	A B Repair & Prep	1	15
AUBF 109L	A B Repair & Prep Lab	3	85
AUBF 118	Introduction to Painting/Preparation	1	15
AUBF 118L	Introduction to Paint/Prep Lab	3	85
AUBF 119	Complete Auto Painting	1	15
AUBF 119L	Complete Auto Painting Lab	3	85
AUBF 130	Auto Reconditioning	1	15
AUBF 130L	Auto Reconditioning Lab	2	62
AUBF 150	Auto Body Welding	1	17
AUBF 150L	Auto Body Welding Lab	2	60
AUBF 228	Bolt-on Service	1	15
AUBF 228L	Bolt-on Service Lab	2	60
AUBF 229	Extensive Damage Repair	1	15
AUBF 229L	Ext Damage Repair Lab	2	60
AUBF 295	Independent Study	2	70
AUBF 296	Topics/Competency Based Lab	1	35
MATH	Mathematics Requirement	3	47

2. Special requirements
   a. Students seeking a Certificate of Occupational Proficiency must obtain a minimum of 2.00 ("C") in each AUBF course listed in their program sheet and must satisfy all other graduation requirements.
   b. Students may enroll in additional auto body repair courses and receive a Certificate of Occupational Proficiency as long as the above requirements are met. Veteran's benefits will be based on the above only.
3. See faculty adviser for a program sheet detailing exact and complete requirements for this certificate.

CERTIFICATE OF OCCUPATIONAL PROFICIENCY IN AUTOMOTIVE SERVICE

School of Technology

Offers students a shortened training period with the opportunity to take selected essential courses to prepare for beginning jobs in less technical,basic skill areas. Completion is applicable into the second year Associate of Applied Science program.

Minimum semester hours required: 50

1. Course requirements for this degree
   a. All of the following courses:

		Sem Hrs	*Con Hrs*
AUBF 220	Shop Management	3	47
ENGL	English Requirement	3	47
INSA 110	Basic Electronics	3	47
INSA 110L	Basic Electronics Lab	1	30
MANG 121 MATH 020	Human Relations/Business or or higher	3	47
MECA 116	Transaxles and Driveaxles	1	15
MECA 116L	Trans & Driveaxles Lab	2	45
MECA 121	Clutches & Std Trans	2	30
MECA 121L	Clutches/Std Trans Lab	2	45
MECA 142	Suspension/Alignment	3	47
MECA 142L	Suspension/Align Lab	4	90
MECA 222	4x4 Components & Repair	2	30
MECA 222L	4x4 Comp & Repair Lab	3	67
MECH 105	Intro to Shop Practice & Diagnostic Equipment	2	30
MECH 105L	Intro to Shop Practice and Diagnostic Equip Lab	1	22
MECH 113	Internal Combustion Engines	3	45
MECH 113L	Internal Combustion Engines Lab	4	90
MECH 125	Light Duty Brakes	2	30
MECH 125L	Light Duty Brakes Lab	2	45
MECH 133	Climate Control Systems	3	45
MECH 133L	Climate Control Systems Lab	1	23

2. Special requirements
   Sudents seeking a Certificate of Occupational Proficiency must obtain a minimum of 2.00 ("C") in each course, except ENGL and MANG 121 and must satisfy all other graduation requirements.
3. See faculty adviser for a program sheet detailing exact and complete requirements for this certificate.

ASSOCIATE OF APPLIED SCIENCE IN AUTOMOTIVE TECHNOLOGY

School of Technology

The Automotive Technology program covers general domestic and foreign car repair. Students learn theory and applications of maintenance and repair procedures for components of an automobile including the proper uses of tools and specialized equipment. Diagnosis and troubleshooting receive special emphasis throughout the program. Instruction includes combination lecture/laboratory situations. Extensive lab work on both mockups and live units is part of the training. Mesa State College is a regional training center for Ford, GMC, Chrysler, and Subaru.

Minimum semester hours: 73

1. Course requirements for this degree

	Cr. Hrs.
a. Six (6) semester hours of English satisfied by completing any one of the following sequences: ENGL 086 and 087, or 121 or ENGL 090 and 111 or ENGL 111 and 112, 115, 121, or 129	6
b. Six (6) semester hours selected from the following: ANTH 201, 222 ECON 201, 202 ENLI 131 and 132 or 133 145, 150 GEOG 103 HIST 101, 102, 131, 132, 136, 137 POLS 101 PSYC 121, 122 SOCO 144, 260	6
c. Mathematics MATH 020 minimum, or higher level math	3
d. Required related courses INSA 110, 110L (4) MANG 121 (3) MECH 105 (3)	10
e. Mechanics courses Forty-three (43) credit hours minimum from the following:	43

MECA 116, 116L	Transaxles and Driveaxles	(3)
MECA 121, 121L	Clutches & Standard Transmissions	(4)
MECA 130, 130L	Auto Ignition Systems	(3)
MECA 142, 142L	Suspension and Alignment	(7)
MECA 222, 222L	4x4 Components and Repair	(5)
MECA 223, 223L	Engine Tuneup/Performance	(5)
MECA 227, 227L	Automatic Transmissions	(4)
MECA 239, 239L	Fuel & Emission Control	(6)
MECA 254, 254L	Auto Electronics	(6)
MECA 299	Automotive COOP	(2)
MECH 113, 113L	Internal Combustion Engines	(7)
MECH 125, 125L	Light Duty Brakes	(4)
MECH 133, 133L	Climate Control Systems	(4)

2. Electives: 3

3. Human Performance and Wellness 2
(See general graduation requirements)

4. Special requirements
Students seeking an Associate of Applied Science degree must obtain a minimum of 2.00 ("C") in each listed MECA and MECH course, except MECH 105, and must satisfy all other graduation requirements.

5. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

BACHELOR OF SCIENCE IN BIOLOGICAL SCIENCES

School of Natural Science and Mathematics

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. B.S. Distinction (Math/Statistics/Computer Science)	6
c. Human Performance and Wellness	3

2. Requirements specific to this degree

a. Required courses — 39

BIOL 105, 105L	Attributes of Living Systems and Lab	(5)
BIOL 106, 106L	Principles of Animal Biology and Lab	(5)
BIOL 107, 107L	Principles of Plant Biology and Lab	(5)
BIOL 301, 301L	Principles of Genetics and Lab	(5)
BIOL 482	Senior Research	(2)
BIOL 483	Senior Thesis	(2)
CHEM 121, 121L	General Chemistry (or higher level CHEM)	(5)
CHEM 122, 122L	General Chemistry (or higher level CHEM)	(5)
PHYS 111, 111L	General Physics (or higher PHYS)	(5)

Additional biology courses must be selected from three of the following four areas:

(1) Cell, Developmental, and Molecular — 20

BIOL 201, 201L	Developmental Biology and Lab	(5)
BIOL 202, 202L	Cellular Biology and Lab	(4)
BIOL 330, 330L	Biological Chemistry and Lab	(4)
BIOL 343, 343L	Immunology and Lab	(4)
BIOL 425	Molecular Genetics	(3)
BIOL 442	Pharmacology	(3)

(2) Organismal

BIOL 221, 221L	Plant Identification and Lab	(4)
BIOL 231, 231L	Invertebrate Zoology and Lab	(4)
BIOL 250, 250L	General Microbiology and Lab	(5)
BIOL 331, 331L	Insect Biology and Lab	(4)
BIOL 411, 411L	Mammalogy and Lab	(3)
BIOL 412, 412L	Ornithology and Lab	(4)
BIOL 416, 416L	Ethology and Lab	(4)
BIOL 431, 431L	Animal Parasitology and Lab	(4)
BIOL 450, 450L	Mycology and Lab	(4)

(3) Anatomical and Physiological

BIOL 141, 141L	Human Anatomy and Physiology	
BIOL 241	Pathological Physiology	(4)
BIOL 341, 341L	General Physiology and Lab	(3)
BIOL 342, 342L	Histology and Lab	(4)
BIOL 421, 421L	Plant Physiology and Lab	(4)
BIOL 423, 423L	Plant Anatomy and Lab	(5)

(4) Ecology, Evolution, and Systematics

BIOL 211, 211L	Ecosystem Biology and Lab	(4)
BIOL 315	Epidemiology	(3)
BIOL 320	Plant Systematics	(3)
BIOL 321, 321L	Taxonomy of Grasses and Lab	(4)
BIOL 403	Evolution	(3)
BIOL 414, 414L	Aquatic Biology and Lab	(4)
BIOL 415	Tropical Ecosystems	(2)

(5) At least fifty percent of the total BIOL credit hours must be at the 300 level or above.

(6) With prior departmental approval, courses such as special topics, senior research, independent research, and/or independent study may be substituted for course work in the four areas listed above or for the thesis requirement. These substitutions cannot exceed six credit hours.

b. Concentrations
Students who want a degree in Biology with teacher certification should see their faculty advisers in both Biology and Teacher Certification.

c. See faculty adviser for a program sheet detailing exact and complete requirements for the major and concentration chosen.

d. Electives (unrestricted) 22
If desired, a student may use electives towards satisfying requirements for a minor.

3. Special requirements and recommendations

a. Biological Sciences majors are encouraged to choose a minor from among those offered within the School of Natural Sciences and Mathematics. Minors most closely associated with the Biological Sciences are chemistry, physics, mathematics, statistics, computer sciences, and geology.

b. At least ten hours of chemistry courses and one physics course must be taken. Students planning to attend professional schools and some graduate schools are advised to take one year of physics and at least two years of chemistry courses. Mathematics, statistics, and/or computer science courses are requirements for the Bachelor of Science Degree Distinction. It is recommended that courses be taken in all these areas. Students planning to complete graduate or professional degrees are strongly encouraged to work closely with their adviser in planning their curriculum.

ASSOCIATE OF SCIENCE BIOLOGY

School of Natural Science and Mathematics

Emphasis Requirements:

Study directed toward the Associate of Science degree will serve as a basis for the Bachelor of Science degree with the same discipline and also for other programs at Mesa State College and at other colleges. Faculty advisers will assist students in planning programs to meet requirements. Programs of study in the Sciences are very sequential and advanced planning for the transition from an Associate program to a baccalaureate program is imperative for economy of time and effort.

Minimum semester hours required: 62

1. Associate of Science graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. Human Performance and Wellness	2

2. Course requirements specific to this degree

a. Required courses			15
	BIOL 105, 105L	Attributes of Living Systems and Laboratory	(5)
	BIOL 106, 106L	Principles of Animal Biology and Laboratory	(5)
	BIOL 107, 107L	Principles of Plant Biology and Laboratory	(5)
b. Additional courses in biology specialization should be selected in consultation with adviser.			12

3. Special requirements
   General Education and course requirements in discipline area plus electives chosen in consultation with the student's adviser up to the minimum of 62 credit hours comprise the requirements for this emphasis.

4. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

BACHELOR OF BUSINESS ADMINISTRATION

School of Business

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

			Cr. Hrs.
a. General Education			33
b. B.B.A. Distinction (Math/Computer Science)			6
MATH 121	Mathematical Foundations of Business	(3)	
(or a higher level math as approved by adviser)			
STAT 214	Business Statistics	(3)	
c. Human Performance and Wellness			3

2. Requirements specific to this degree 48

a. Required courses

ACCT 201	Principles of Accounting I	(3)
ACCT 202	Principles of Accounting II	(3)
ACCT 311	Managerial Accounting, or	
ACCT 221	Intermediate Accounting I, or	
ACCT 331	Cost Accounting	(3)
BUGB 211	Business Communications	(3)
BUGB 349	Legal Environment of Business	(3)
BUGB 401	International and Ethical Considerations in Business	(3)
CISB 101	Business Data Processing	(2)
CISB 105	Introduction to Business Software	(1)
ECON 201	Principles of Macroeconomics	(3)
ECON 202	Principles of Microeconomics	(3)
FINA 339	Managerial Finance	(3)
MANG 201	Principles of Management	(3)
MANG 301	Organizational Behavior	(3)
MANG 331	Quantitative Decision Making	(3)
MANG 471	Production/Operations Management	(3)
MANG 491	Business Policies and Management	(3)
MARK 231	Principles of Marketing	(3)

b. Concentrations 22-24

Concentrations are available in Administrative Office Management, Business/Economics, Business Computer Information Systems, Finance, Management, Marketing and Personnel Management under this degree.

c. Requirements may vary with the concentrations selected. See faculty adviser for a program sheet detailing exact and complete requirements for the major and concentration chosen.

d. Electives (unrestricted) 9-11

If desired, a student may use electives to satisfy requirements for a minor.

ASSOCIATE OF ARTS BUSINESS ADMINISTRATION

School of Business

1. Associate of Arts graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

			Cr. Hrs.
a. General Education			34
ENGL 111 and 112		(6)	
SPCH 102		(3)	
Mathematics		(3)	
Science		(4)	
Social and Behavioral Sciences (2 disciplines)		(9)	
Humanities		(9)	
b. Human Performance and Wellness			2

2. Course requirements specific to this degree

a. Required courses			15
ACCT 201	Principles of Accounting I	(3)	
ACCT 202	Principles of Accounting II	(3)	
BUGB 101	Introduction to Business	(3)	
BUGB 211	Business Communications	(3)	
CISB 101	Business Data Processing	(2)	
CISB 104	BASIC Programming or		
CISB 105	Introduction to Business Software	(1)	

3. Electives 12-13

4. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

ASSOCIATE OF APPLIED SCIENCE IN BUSINESS COMPUTER INFORMATION SYSTEMS

School of Business

1. Course requirements for this degree

			Cr. Hrs.
a.	Six (6) semester hours of English satisfied by completing the following:		
	ENGL 111 and 112 or 115		6
b.	Six (6) lower division semester hours chosen from the following disciplines:		
	Social or Behavioral Science or Literature		6
c.	All of the following courses:		31
	ACCT 201 Principles of Accounting I	(3)	
	ACCT 202 Principles of Accounting II	(3)	
	CISB 101 Business Data Processing	(2)	
	CISB 104 BASIC Programming	(1)	
	CISB 105 Introduction to Business Software	(1)	
	CISB 131 COBOL Programming I	(3)	
	CISB 205 Advanced Business Software	(3)	
	CISB 231 COBOL Programming II	(3)	
	MANG 201 Principles of Management	(3)	
	Business electives approved by adviser	(3)	
d.	Other course requirements;		6
	MATH 127 Mathematics of Finance	(3)	
	SPCH 102 Speechmaking	(3)	

2. Electives — 17
3. Human Performance and Wellness — 2
4. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

CERTIFICATE OF OCCUPATIONAL PROFICIENCY IN BUSINESS COMPUTER INFORMATION SYSTEMS

School of Business

Minimum semester hours required: 31

1. Course requirements for this certificate
   a. All of the following courses:

		Sem Hrs	*Con Hrs*
BUGB 101	Introduction to Business	3	47
BUGB 141	Business Mathematics	3	47
CISB 101	Business Data Processing	2	32
CISB 104	BASIC Programming	1	16
CISB 105	Introduction to Business Software	1	16
CISB 131	COBOL Programming I	3	47
CISB 205	Advanced Business Software	3	47
CISB 231	COBOL Programming II	3	47
ENGL 086	Vocational Communications I	3	47
ENGL 087	Vocational Communications II or		
ENGL 115	Technical Writing	3	45
MANG 201	Principles of Management	3	47
OFAD 101	Bookkeeping for Small Business	3	47

   2. See faculty adviser for a program sheet detailing exact and complete requirements for this certificate.

NOTE: This program is available through the Mesa State College Montrose Center only.

ASSOCIATE OF APPLIED SCIENCE IN COMMERCIAL ART

School of Technology

Designed to prepare students for careers in the advertising industry in agencies, corporate marketing, or advertising departments. The student will develop basic skills in visual information design, and pre-reproduction preparation including typesetting, camera-ready copy, and illustration. A variety of techniques, with emphasis on computer graphics, are included in instruction and hands on preparation.

Minimum semester hours required: 71

1. Course requirements for this degree

	Cr. Hrs.
a. Nine (9) semester hours of English satisfied by completing any one of the following sequences: ENGL 111 and 112, or 115 and ENGL 251	9
2) Six (6) semester hours selected from the following: ANTH 201, 222 — HIST 101, 102, 131, 132 ECON 201, 202 — POLS 101, 261 ENGL 131 and 132 or 133, 150, 141, 142, 145 — PSYC 121, 122 GEOG 103 — SOCO 144, 260	6
b. Human Performance and Wellness	2

2. Course requirements specific to this degree

a. Required courses — 54

ARTE 101	Two Dimensional Design	(3)
ARTE 102	Three Dimensional Design	(3)
ARTE 151	Basic Drawing	(3)
ARTE 154	Ink Drawing	(1)
ARTE 190	Mixed Media	(1)
ARTE 193	Airbrush	(2)
ARTE 251	Figure Drawing	(3)
GRCO 110	Survey of Commercial Art and Printing Processes	(1)
GRCO 115, 115L	Intro to Computer Graphics and Lab	(2)
GRCO 120	Typography/Type Design	(2)
GRCO 121	Basic Layout and Design	(2)
GRCO 130	Basic Photography	(1)
GRCO 131	Photo Finishing	(1)
GRCO 132	Basic Darkroom Techniques	(1)
GRCO 142, 142L	Mechanical Image Production, Lab	(3)
GRCO 143, 143L	Computer Composition and Lab	(3)
GRCO 220	Design and Illustration I	(3)
GRCO 221	Design and Illustration II	(3)
GRCO 230, 230L	Process Photography and Lab	(4)
GRCO 242, 242L	Desktop Imaging and Lab	(4)
GRCO 243, 243L	Computer Illustration and Lab	(3)
GRCO 270	Portfolio Construction	(1)
GRCO 299	Internship	(4)

3. Special requirements
   Students seeking an Associate of Applied Science degree must obtain a minimum of 2.00 ("C") in each GRCO course and must satisfy all other graduation requirements.
4. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

CERTIFICATE OF OCCUPATIONAL PROFICIENCY IN COMPUTER DRAFTING TECHNOLOGY

School of Technology

The program is designed to give the student a general approach to Computer Aided Drafting (CAD) with the use of computers and CAD software as a tool (some courses available only through Continuing Education).

Minimum semester hours required (29)

1. Course requirements for this certificate

   a. All of the following courses: **Cr. Hrs.** 25

		Sem Hrs	*Con Hrs*
CADT 107	Computer Aided Drafting	2	30
CADT 107L	Computer Aided Draft Lab	2	45
CADT 110	CAD Application	2	30
CADT 110L	CAD Application Lab	2	45
CSCI 100	Computers in Our Society	3	45
ENGR 105	Basic Engineering Drawing	3	45
ENGR 105L	Basic Engineer Drawing Lab	1	25
ENGR 106L	Beg Computer Aided Drafting Lab	2	45
ENGR 106	Beginning Computer Aided Drafting	2	30
ENGL 087	Vocational Communication	3	45
MAMT 106	Geometric Tolerancing	1	15
MAMT 107	Machine Shop Math	2	30

2. Electives 4
   Four semester hours of electives with approval of Adviser or CADT 100 Basic CAD/CAM.

3. Special requirements and recommendations
   Students seeking a Certificate of Occupational Proficiency must obtain a minimum grade of 2.00 (C) in each course and must satisfy all other graduation requirements.

4. See faculty adviser for a program sheet detailing exact and complete requirements for this certificate.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

School of Natural Science and Mathematics

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

			Cr. Hrs.
a.	General Education		33
b.	B.S. Distinction (Math/Statistics/Computer Science)		6
	MATH 151	Calculus I (3)	
	MATH 152	Calculus II (3)	
c.	Human Performance and Wellness		3

2. Requirements specific to this degree 49-50

a. Required courses

CSCI 111	Computer Science I	(3)
CSCI 112	Computer Science II	(3)
CSCI 241	Computer Architecture I	(3)
CSCI 242	Computer Architecture II	(3)
CSCI 250	Data Structures	(3)
CSCI 321	Assembly Language Programming	(3)
CSCI 330	Programming Languages	(3)
CSCI 470	Operating Systems Design	(3)
MATH 265	Linear Algebra	(3)
MATH 361	Numerical Analysis	(4)
MATH 370	Discrete Mathematics	(3)
STAT 200	Probability and Statistics	(3)

Select one of the following three courses:

CSCI 131, 131L	Fortran Programming and Lab	(4)
CSCI 335	The C Programming Language	(3)
CSCI 350, 350L	Software Engineering, ADA and Lab	(4)

Select three of the following:

CSCI 373	Computer Software Systems	(3)
CSCI 380	Operations Research	(3)
CSCI 450	Compiler Structure	(3)
CSCI 460	Data Base Design	(3)
CSCI 480	Theory of Algorithms	(3)
CSCI 484	Computer Networks	(3)

b. Concentrations
There are no concentrations currently available under this degree.

c. See faculty adviser for a program sheet detailing exact and complete requirements for the major.

d. Electives (unrestricted) 31-32
If desired, a student may use 15-24 hours of electives to satisfy requirements for a minor.

ASSOCIATE OF SCIENCE
COMPUTER SCIENCE

School of Natural Sciences and Mathematics

Study directed toward the Associate of Science degree will serve as a basis for the Bachelor of Science degree with the same discipline and also for other programs at Mesa State College and at other colleges. Faculty advisers will assist students in planning programs to meet requirements. Programs of study in the Sciences are very sequential and advanced planning for the transition from an Associate program to a baccalaureate program is imperative for economy of time and effort.

Minimum semester hours required: 64

1. Associate of Science graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. Human Performance and Wellness	2

2. Course requirements specific to this degree

a. Required courses			15
	CSCI 111	Computer Science I	(3)
	CSCI 112	Computer Science II	(3)
	CSCI 241	Computer Architecture I	(3)
	CSCI 242	Computer Architecture II	(3)
	CSCI 250	Data Structures	(3)

3. Special requirements and recommendations
   a. It is recommended that a strong background in mathematics (at least Calculus sequence) be completed simultaneously.
   b. General Education and course requirements in discipline area plus electives chosen in consultation with the student's adviser up to the minimum of 64 credit hours comprise the requirements for this emphasis.
4. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

ASSOCIATE OF ARTS
EARLY CHILDHOOD EDUCATION

School of Humanities and Fine Arts

This curriculum will meet the needs of those presently employed in nursery schools or daycare centers and/or those contemplating work in early childhood education. Students will increase their understanding of the education and care of children. Successful students may find employment in private and cooperative daycare centers, nursery schools, children's homes, hospitals, etc. Students will have laboratory experience in the campus Early Childhood Education Center and other similar community facilities.

1. Associate of Arts graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

		Cr. Hrs.
a. General Education		34
The following courses satisfy those requirements and meet the needs of the Early childhood Education program. Where no course is specified, students may select from the list of general education requirements.		
ENGL 111 and 112	(6)	
SPCH 102	(3)	
Mathematics (MATH 113 recommended; only courses listed under general education for the Associate of Arts degree satisfy the requirement)	(3-4)	
Science	(4)	
PSYC 121, 122	(6)	
SOCO 260	(3)	
Humanities	(9)	
b. Human Performance and Wellness		2

2. Course requirements specific to this degree

a. Required courses			32
ARTE 210	Early Childhood Art	(2)	
EDEC 110	Infant and Toddler Development and Curriculum	(2)	
EDEC 111	Curriculum in Early Childhood Education	(3)	
EDEC 121	Introduction to Early Childhood	(2)	
EDEC 252	Student Teaching	(5)	
EDEC 260	Child-Care Center Management	(3)	
ENGL 240	Children's Literature	(3)	
HMEC 211	Nutrition	(3)	
HPWA 256	Creative Play Activities in Dance	(2)	
MUSA 241	Music and Methods in Early Childhood Education	(2)	
PSYC 233	Human Growth and Development	(3)	
THEA 213	Creative Play Activities - Drama	(2)	

3. Special requirements and recommendations
   a. First Aid to be taken through the Red Cross
   b. Placement in the program depends on individual maturity and professional growth. A physical exam is required to enter. General education requirements are standard and listed under Graduation Requirements in this catalog.
4. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

CERTIFICATE OF OCCUPATIONAL PROFICIENCY IN EARLY CHILDHOOD EDUCATION

School of Humanities and Fine Arts

A person may take one course or as many as are needed for state licensing. These are included in the curriculum which follows:

Minimum semester hours required: 27-28

1. Course requirements for this certificate

				Cr. Hrs.
a. All of the following courses:				25
		Sem Hrs	*Con Hrs*	
EDEC 110	Infant and Toddler Development and Curriculum	2	32	
EDEC 111	Curriculum in Early Childhood Ed	3	47	
EDEC 252	Student Teaching	5	240	
EDEC 260	Child Care Center Management	3	47	
HMEC 211	Nutrition	3	47	
PSYC 121	General Psychology	3	47	
PSYC 233	Human Growth and Development	3	47	
SOCO 260	General Sociology	3	47	
b. Choice of two courses from the following:				2-3
ARTE 210	Early Childhood Art	2	32	
EDEC 121	Introduction to Early Childhood	2	32	
ENGL 240	Children's Literature	3	47	
MUSA 241	Music and Methods in Early Childhood Education	2	32	
THEA 213	Creative Play Activities-Drama	2	32	

2. Special requirements and recommendations
   Current Red Cross First Aid Card is required.
3. See faculty adviser for a program sheet detailing exact and complete requirements for this certificate.

BACHELOR OF ARTS IN ECONOMICS

School of Social and Behavioral Sciences

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. B.A. Distinction (Foreign Language)	6
c. Human Performance and Wellness	3

2. Requirements specific to this degree
   a. Required courses — 48

ECON 201	Principles of Macroeconomics	(3)
ECON 202	Principles of Microeconomics	(3)
ECON 320	History of Economic Ideas	(3)
ECON 342	Intermediate Macroeconomic Theory	(3)
ECON 343	Intermediate Microeconomic Theory	(3)
ECON 496	Topics (Capstone)	(3)
MATH 121	Mathematical Foundations of Business	(3)
STAT 214	Business Statistics	(3)

   12 hours of upper division credits selected from:

ECON 301	Labor-Management Relations	(3)
ECON 310	Money and Banking	(3)
ECON 312	Economic History of the United States	(3)
ECON 401	Economic Organization and Public Policy	(3)
ECON 410	Public Sector Economics	(3)
ECON 420	International Economics	(3)
ECON 496	Topics	(3)

   12 upper division credit hours selected from the following disciplines:

Accounting	Anthropology	Finance
History	Mathematics	Philosophy
Political Science	Psychology	Sociology
Statistics		

   b. Students wishing to include business and social science courses in their B.A. in Economics program (Applied Economics) may do so. Contact an Economics faculty member for information concerning the appropriate electives to be taken.
   c. See faculty adviser for a program sheet detailing exact and complete requirements for the major.
   d. Electives — 33
   If desired, a student may use electives to satisfy requirements for a minor.

CERTIFICATE OF OCCUPATIONAL PROFICIENCY IN ELECTRIC LINEWORKER

School of Technology

Students receive field training and practical theory in all phases of powerline installation and maintenance. An outdoor school laboratory covers climbing, setting and removing various sizes of poles; guy work; conductors; transformers; street lights; installation of services; and the use and care of safety equipment. Climbing and working on poles and towers is required. Prospective students are encouraged to contact the college about physical requirements. This program begins only in the fall semester of each year.

Minimum semester hours required: (39)

1. Course requirements for this certificate
   a. All of the following courses:

		Sem Hrs	*Con Hrs*
ELCL 111	Mathematical Basic Electricity	5	77
ELCL 120	Fundamentals/Elect I	5	77
ELCL 131	Electrical Distribution Theory I	4	77
ELCL 132	Electrical Distribution Theory II	4	62
ELCL 132L	Electrical Distribution Theory II Lab	2	47
ELCL 136L	Related Fundamentals I	4	190
ELCL 137	Related Fundamentals II	2	32
ELCL 137L	Related Fundamentals II Lab	4	120
ELCL 140	Underground Procedure	4	75
ELCL 140L	Underground Procedure Lab	2	60
ELCL 145	Hotline Procedure	1	16
ELCL 145L	Hotline Procedure Lab	2	48

2. Special requirements and recommendations
   a. Students will be required to have current First Aid *and* CPR certification before they successfully complete the requirements of this program. This may be achieved by any of the following: (1) holding current cards; (2) obtaining American Red Cross "Standard" or "Advanced" rating *and* American Heart Association or equivalent certification, or (3) successfully completing HPWA 265 offered by Mesa State College.
   b. Summer and/or Fall Semester
      ELCL 199, Internship (6 semester hours, 640 contact hours) is required for any students selected to participate in the Western Area Power Administration (WAPA) on-the-job training program. This portion is not a part of the program approved for V.A. benefits.
   c. Students seeking a Certificate of Occupational Proficiency must obtain a minimum of 2.00 ("C") in each listed course, except ELCL 111 and ELCL 120, and must satisfy all other graduation requirements.
3. See faculty adviser for a program sheet detailing exact and complete requirements for this certificate.

ASSOCIATE OF SCIENCE ELECTRONIC ENGINEERING TECHNOLOGY

School of Technology

Engineering technology has become very important in the fields of electronics and computer hardware. The engineering technologist works closely with engineers and technicians to assure proper installation and optimum operation of electronic systems. The Associate of Science program is designed specifically to transfer to a four-year baccalaureate degree program in the same field. It, by itself, is not designed for specific employment preparation after only two years of study. Ten specified electronics courses are the same as would be taken as a part of the Certificate or A.A.S. degree program in Electronics Technology and will apply toward the completion of this degree. The curriculum is in compliance with State agency policy governing the subject matter content and purpose of Associate of Science degrees.

Minimum semester hours required: 64

1. Associate of Science graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. Human Performance and Wellness	2

2. Course requirements specific to this degree

a. Required courses			29
CSCI XXX	Pascal, FORTRAN, or other approved language (consult with adviser)	(4)	
ELCT 117, 117L	DC Passive Circuits	(4)	
ELCT 118, 118L	AC Passive Circuits	(4)	
ELCT 244, 244L	Electronic Circuits I	(4)	
ELCL 246, 246L	Applied Digital Circuits	(4)	
ELCT 270, 270L	Linear Integrated Circuits	(4)	
MATH 151	Calculus I	(5)	

3. Special recommendations
   It is recommended that the student take PHYS 111, 111L, 112 and 112L.
4. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

ASSOCIATE OF APPLIED SCIENCE IN ELECTRONICS TECHNOLOGY

School of Technology

Electronic science and applied electronics with emphasis areas in computers (hardware/software concepts and applications), industrial control circuits (automation and robotics) and communications. With approval of an instructor, a student may enter the program at any time (open entry) and study at his own pace. This is especially beneficial to non-traditional students and those who must work and can only attend classes at night.

Minimum semester hours required: 70-71

1. Course requirements for this degree

	Cr. Hrs.
a. Six (6) semester hours of English satisfied by completing any one of the following sequences: ENGL 086 and 087, or 121 or ENGL 090 and 111 or ENGL 111 and 112, 115, 121, or 129	6
b. Six (6) semester hours selected from the following: ANTH 201, 102, 222 ECON 201, 202 ENGL 131 and 132 or 133, 145, 150 GEOG 103 HIST 101, 102, 131, 132, 136, 137 POLS 101, 261 PSYC 121, 122 SOCO 144, 260	6
c. Mathematics ENGT 101, 102 or MATH 113, 130	7-8
d. All of the following courses:	49

ELCT 117, 117L	DC Passive Circuits and Lab	(4)
ELCT 118, 118L	AC Passive Circuits and Lab	(4)
ELCT 232, 232L	Personal Computers and Lab	(4)
ELCT 244, 244L	Electronic Circuits I	(4)
ELCT 246, 246L	Applied Digital Circuits and Lab	(4)
ELCT 252, 252L	Data Communiations and Lab	(4)
ELCT 254, 254L	Industrial Circuits and Lab	(5)
ELCT 256, 256L	Electronic Communication and Lab	(4)
ELCT 262, 262L	Personal Computers II and Lab	(4)
ELCT 270, 270L	Linear Integrated Circuit Application and Lab	(4)
ELCT 272, 272L	Personal Computers III and Lab	(5)
ELCT 280, 280L	Project Design and Fabrication and Lab	(4)

2. Human Performance and Wellness — 2

3. Special requirements and recommendations
   Students seeking an Associate of Applied Science degree must obtain a minimum of 2.00 ("C") in each ELCT course and must satisfy all other graduation requirements.

4. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

CERTIFICATE OF OCCUPATIONAL PROFICIENCY IN ELECTRONICS TECHNOLOGY

School of Technology

Minimum semester hours required: 57

1. Course requirements for this certificate
   a. All of the following courses:

		Sem Hrs	*Con Hrs*
ELCT 117	DC Passive Circuits	3	45
ELCT 117L	DC Passive Circuits Lab	1	30
ELCT 118	AC Passive Circuits	3	45
ELCT 118L	AC Passive Circuits Lab	1	30
ELCT 232	Personal Computers I	2	32
ELCT 232L	Personal Computers I Lab	2	60
ELCT 244	Electronic Circuits I	3	45
ELCT 244L	Electronic Circuits I Lab	1	30
ELCT 246	Applied Digital Circuits	3	47
ELCT 246L	Applied Digital Circuits Lab	2	60
ELCT 252	Data Communications	3	45
ELCT 252L	Data Communications Lab	1	30
ELCT 254	Industrial Circuits	3	47
ELCT 254L	Industrial Circuits Lab	2	60
ELCT 256	Electronic Communication	3	45
ELCT 256L	Electronic Communication Lab	1	30
ELCT 262	Personal Computers II	2	30
ELCT 262L	Personal Computers II Lab	2	60
ELCT 270	Linear Integrated Circuits	3	45
ELCT 270L	Linear Integrated Circuits Lab	1	30
ELCT 272	Personal Computers III	3	47
ELCT 272L	Personal Computers III Lab	2	60
ELCT 280	Project Design	2	32
ELCT 280L	Project Design Lab	2	60
MATH 020	Beginning Algebra	3	45

2. Electives
   Approved elective may be chosen from an electronics independent study, computer science, business, or mathematics (2 credit hours, 32 contact hours).

3. Special requirements and recommendations
   a. Students should check with an Electronics instructor/adviser about various other possible certificate options.
   b. Students seeking a Certificate of Occupational Proficiency must obtain a minimum of 2.00 ("C") in each ELCT course and must satisfy all other graduation requirements.

4. See faculty adviser for a program sheet detailing exact and complete requirements for this certificate.

ASSOCIATE OF SCIENCE ENGINEERING

School of Natural Science and Mathematics

Study directed toward the Associate of Science degree will serve as a basis for the Bachelor of Science degree with the same discipline and also for other programs at Mesa State College and at other colleges. Faculty advisers will assist students in planning programs to meet requirements. Programs of study in the Sciences are very sequential and advanced planning for the transition from an Associate program to a baccalaureate program is imperative for economy of time and effort.

Minimum semester hours required: 64

1. Associate of Science graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. Human Performance and Wellness	2

2. Course requirements specific to this degree
   a. Required courses — 13

ENGR 111	Engineering Graphics and Design	(3)
ENGR 240	Statics	(3)
ENGR 241	Dynamics	(3)
ENGR 251	Circuit Analysis I	(3)
ENGR 251L	Circuit Analysis I Lab	(1)

   b. Additional engineering courses coordinated with the branch of engineering to be studied. Students should consult their adviser for transfer agreements.

3. Special requirements and recommendations
   General Education and course requirements in discipline area plus electives chosen in consultation with the student's adviser up to the minimum of 64 credit hours comprise the requirements for this emphasis.

4. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

CERTIFICATE OF COMPLETION IN ENGINEERING METHODS

School of Natural Science and Mathematics

Minimum semester hours required: 35

1. Course requirements for this certificate
   a. All of the following courses:

CSCI 120	Technical Software	(3)
ENGL 111, 112	English Composition	(6)
ENGR 105, 105L	Basic Engineering Drawing and Lab	(3)
ENGR 106, 106L	Beginning Computer Aided Drafting and Lab	(4)
ENGR 231, 231L	Surveying I and Lab	(3)
ENGS 110	Introduction to Environmental Restoration/ Waste Management	(3)
MATH 130	Trigonometry	(3)
MATH 141	Analytical Geometry	(3)
SPCH 102	Speechmaking	(3)

2. Special requirements and recommendations
   Successful completion of this certificate program with a minimum GPA of 2.5 is a prerequisite to entering the Associate of Science Degree, Emphasis in Engineering Program (transfer program).
3. See faculty adviser for a program sheet detailing exact and complete requirements for this certificate of completion.

BACHELOR OF ARTS IN ENGLISH

School of Humanities and Fine Arts

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. B.A. Distinction (Foreign Language)	6
c. Human Performance and Wellness	3

2. Requirements specific to this degree
   a. Required courses — 24

ENGL 254	Survey of English Literature	(3)
ENGL 255	Survey of English Literature	(3)
ENGL 261	Survey of American Literature	(3)
ENGL 262	Survey of American Literature	(3)
ENGL 355	Shakespeare	(3)
ENGL 421	History of Literary Criticism, or	
ENGL 440	History of the English Language, or	
ENGL 451	Structure of the English Language	(3)
ENGL 494	Senior Seminar	(3)

One upper division course selected from:

ENGL 301	Classical Greek and Latin Literature	(3)
ENGL 311	English Medieval Literature	(3)
ENGL 313	English Renaissance Literature	(3)
ENGL 316	American Realism and Naturalism	(3)
ENGL ~~35~~ 335	The Bible as Literature	(3)
ENGL ~~15~~ 415	American Folklore	(3)
ENGL 423	Short Story	(3)
ENGL 435	20th Century American Literature	(3)
ENGL ~~45~~ 445	20th Century English Literature	(3)
ENGL 470	18th Century British Literature	(3)
ENGL ~~71~~ 471	British Romanticism	(3)
ENGL 475	Victorian Literature I	(3)

   b. Concentrations — 18
   Concentrations are available in Literature and in Writing under this degree. Students who want a degree in English with teacher certification should see their faculty advisers in both English and Teacher Certification.
   c. Requirements vary with the concentration selected. See faculty adviser for a program sheet detailing exact and complete requirements for the major and concentration chosen.
   d. Electives (unrestricted) — 39
   If desired, a student may use electives to satisfy requirements for a minor.

3. Special requirements and recommendations
   a. Requirement
   All English majors must maintain at least a 3.0 GPA in all upper division ENGL courses as well as a cumulative GPA of at least 2.0.
   b. Recommendation
   Students should complete a class in criticism such as FINE 494, Critical Analysis of Art, or ENGL 421, History of Literary Criticism.

ASSOCIATE OF ARTS
ENGLISH

School of Humanities and Fine Arts

Minimum requirements: 63

1. Associate of Arts graduation requirements (for further information, see section "Degree Requirements: in this catalog).

	Cr. Hrs.
a. General Education	34
b. Human Performance and Wellness	2

2. Course requirements specific to this degree

a. Required courses			18
	ENGL 131,132,133	Survey of Western World Lit I & II or III	(6)
	ENGL 222	Mythology (Classical)	(3)
	ENGL 150	Introduction to Literature	(3)
	ENGL 254	Survey of English Literature I	(3)
	ENGL 261	Survey of American Literature I	(3)
b. Electives			9

Nine hours of electives chosen in consultation with English adviser.

c. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

ASSOCIATE OF APPLIED SCIENCE IN ENVIRONMENTAL RESTORATION ENGINEERING TECHNOLOGY

School of Natural Science and Mathematics

Minimum semester hours required: 74

1. Course requirements for this degree

			Cr. Hrs.
a. English			6
Social or Behavioral Science or Literature			6
b. All of the following courses:			60
BIOL 105, 105L	Attributes of Living Systems, Lab	(5)	
CHEM 121, 121L	Principles of Chemistry, Lab	(5)	
CHEM 122, 122L	Principles of Organic Chemistry, Lab	(5)	
CSCI 120	Technical Software	(3)	
ENGR 105, 105L	Basic Engineering Drawing, Lab	(4)	
ENGS 110	Introduction to Environmental Restoration/ Waste Management	(3)	
ENGS 211	Hazardous/Radioactive Waste Management	(3)	
ENGS 212, 212L	Environmental Health and Safety, Lab	(3)	
ENGS 213, 213L	Site Characterization, Lab	(4)	
ENGS 214	Quality Assurance	(3)	
ENGS 215, 215L	Environmental Analytical Chemistry, Lab	(4)	
ENGS 216	Site Remediation	(3)	
ENGS 217	Environmental Law and Regulations	(3)	
ENGS 218	Capstone in Environmental Restoration	(2)	
GEOL 111, 111L	Principles of Physical Geology, Lab	(4)	
MATH 130	Trigonometry	(3)	
MATH 141	Analytical Geometry	(3)	

2. Human Performance and Wellness 2

3. Special requirements and recommendations
Two-hour final examinations are required in addition to the contact hours shown above.

4. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

CERTIFICATE OF OCCUPATIONAL PROFICIENCY IN FARM AND RANCH BUSINESS MANAGEMENT

School of Technology

Minimum semester hours required: 29

1. Course requirements for this certificate
   a. All of the following courses:

		Sem Hrs.	*Con Hrs.*
AGRI 142	Agricultural Economics	3	45
AGRI 193	Directed Study	15	337.5
AGRI 205	Farm and Ranch Management	3	45
AGRI 161	Agricultural Computer Software	2	30
AGRI 225	Agriculture Business Records and Analysis	3	45
AGRI 265	Agricultural Marketing	3	45

2. See faculty adviser for a program sheet detailing exact and complete requirements for this certificate.

BACHELOR OF ARTS IN FINE AND PERFORMING ARTS

School of Humanities and Fine Arts

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. B.A. Distinction (Foreign Language)	6
c. Human Performance and Wellness	3

2. Requirements specific to this degree

a. Required courses (all concentrations except Music with Teacher Certification) 6

FINE 494	Seminar in Critical Analysis of the Arts	(3)
	Fine and Performing Arts course(s) (must be outside concentration)	(3)

b. Concentrations

(1) Concentration in Art 47

ARTE 101	Two Dimensional Design	(3)
ARTE 102	Three Dimensional Design	(3)
ARTE 151	Basic Drawing	(3)
ARTE 211	Art History: Ancient-1300	(3)
ARTE 212	Art History: Europe 1300-1900	(3)
ARTE 251	Figure Drawing	(3)
	200 Level Studio Classes	(6)
ARTE 300	Exhibitions and Management	(2)
ARTE 315	Modernist Art History	(3)
ARTE 316	Post Modern Art History	(3)
	300 Level Studio Classes	(6)
	400 Level Studio Classes	(6)
ARTE 494	Senior Seminar and Portfolio	(3)

(2) Concentration in Music 45

MUSA 114	Theory I-Introduction	(3)
MUSA 115	Theory II-Diatonic Concepts	(3)
MUSA 116	Ear Training and Sightsinging I	(2)
MUSA 117	Ear Training and Sightsinging II	(2)
MUSA 214	Theory III	(2)
MUSA 215	Theory IV	(2)
MUSA 302	Keyboard Literature, or	
MUSA 303	Symphonic Literature or	
MUSA 318	Vocal Literature	(3)
MUSA 317	Orchestration	(2)
MUSA 326	Music History and Literature I	(3)
MUSA 327	Music History and Literature II	(3)
MUSA 450	Beginning Conducting	(2)
MUSL XXX	Music Lessons	(8)
MUSP 420	Senior Recital	(2)
MUSP XXX	Performance Ensembles	(8)

(a) Each music student must choose one of the following options and take specific courses required for that option in: 8-25
- (i) Music Performance (8-10)
- (ii) Commercial Music (8)
- (iii) Music with Teacher Certification (8-25)
  Students who want the option in Music with Teacher Certification should see their faculty advisers in both Music and in Teacher Certification and refer to the program sheets detailing requirements.

(b) Special Requirements and Recommendations
Each music student must attend weekly recitals and required concerts and pass basic proficiencies.

(3) Concentration in Theatre 17

THEA 117, 118	Play Production	(2)
THEA 217, 218	Play Production	(2)
THEA 151	Acting I: Beginning Acting	(3)
THEA 160	Theatre Studies	(1)
THEA 401	Theatre Management	(3)
THEA 451	Beginning Directing	(3)
THEA 492	Senior Production Project	(3)

Specific courses are required for options available under this degree 34
(a) Acting Directing
(b) Design/Technical

(4) Concentration in Music Theatre
This concentration is in the process of being approved. See your adviser for details regarding this concentration.

c. Requirements may vary with the concentration and option selected. See faculty adviser for a program sheet detailing exact and complete requirements for the major, concentration and option chosen.

d. Electives (unrestricted) 11-28
If desired, a student may use electives towards satisfying requirements for a minor.

ASSOCIATE OF SCIENCE GEOLOGY

School of Natural Science and Mathematics

Study directed toward the Associate of Science degree will serve as a basis for the Bachelor of Science degree with the same discipline and also for other programs at Mesa State College and at other colleges. Faculty advisers will assist students in planning programs to meet requirements. Programs of study in the Sciences are very sequential and advanced planning for the transition from an Associate program to a baccalaureate program is imperative for economy of time and effort.

Minimum semester hours required: 62

1. Associate of Science graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

			Cr. Hrs.
a. General Education			33
b. Human Performance and Wellness			2

2. Course requirements specific to this degree

a. Required courses			11
	GEOL 111, 111L	Principles of Physical Geology and Laboratory	(4)
	GEOL 112, 112L	Principles of Historical Geology and Laboratory	(4)
	GEOL 203	Introduction to Environmental Geology	(3)

3. Electives 17

4. Special requirements and recommendations
   General education and course requirements in discipline area plus electives chosen in consultation with the student's adviser up to the minimum of 62 credit hours comprise the requirements for this emphasis.

5. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

CERTIFICATE OF OCCUPATIONAL PROFICIENCY IN HEAVY EQUIPMENT-DIESEL MECHANICS

School of Technology

The program is designed to provide a wide range of training in the field of heavy equipment/diesel mechanics maintenance. The longer the student stays in training, the more advanced skill and job potential is possible. Students may enter employment at any lesser skill level or continue through the entire program. The complete two-year program includes training in internal combustion engines, diesel engines, clutches and transmissions, hydraulics, electrical systems, industrial welding and other related areas.

Minimum semester hours required: 76

1. Course requirements for this certificate
   a. All of the following courses:

		Sem Hrs	*Con Hrs*
ENGL 086	Vocational Communications I (or higher)	3	45
INSA 110	Basic Electronics	3	47
INSA 110L	Basic Electronics Lab	1	30
INSA 220	Industrial Safety Practices	4	62
MANG 121 AUBF 220	Human Relation in Business or Shop Management	3	47
MATH 015	Basic Mathematics	3	47
MECD 115	Heavy Equipment Maintenance	2	30
MECD 115L	Heavy Equipment Maintenance Lab	1	22
MECD 132	Heavy Equipment Drivetrain I	3	45
MECD 132L	Heavy Equipment Drivetrain I Lab	3	67
MECD 150	Fluid Power	4	60
MECD 150L	Fluid Power Lab	3	68
MECD 222	Fuel Systems	3	45
MECD 223L	Diesel Engine Performance Lab	3	67
MECD 225	Diesel Engine Reconditioning	3	45
MECD 225L	Diesel Engine Reconditioning Lab	4	90
MECD 232	Heavy Equipment Drivetrain II	3	45
MECD 232L	Heavy Equipment Drivetrain II Lab	3	67
MECD 275L	Heavy Equip Repair Lab	3	67
MECH 105	Intro/Shop Practices & Diagnostic Equipment	2	30
MECH 105L	Intro/Shop Practices & Diagnostic Equip Lab	1	22
MECH 113	Internal Combustion Engine	3	45
MECH 113L	Internal Combustion Engine Lab	4	90
MECH 125	Light Duty Brake Systems	2	30
MECH 125L	Light Duty Brake Systems Lab	2	45
MECH 133	Climate Control Systems	3	45
MECH 133L	Climate Control Systems Lab	1	23
WELD 151	Industrial Welding	1	17
WELD 151L	Industrial Welding Lab	2	45

2. Special requirements and recommendations
   Students seeking a Certificate of Occupational Proficiency must obtain a minimum of 2.00 ("C") in each MECD course, in MECH 125, and INSA 220 and must satisfy all other graduation requirements.
3. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

BACHELOR OF ARTS IN HISTORY

School of Social and Behavioral Sciences

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. B.A. Distinction (Foreign Language)	6
c. Human Performance and Wellness	3

2. Requirements specific to this degree

a. Required courses — 45

HIST 101	Western Civilization	(3)
HIST 102	Western Civilization	(3)
HIST 131	United States History	(3)
HIST 132	United States History	(3)
HIST 404	Introduction to Historical Research	(3)

21 upper division credit hours as follows:

European History, select one course from:

HIST 301	History of England Since 1485	(3)
HIST 330	History of 19th Century Europe	(3)
HIST 331	The 20th Century	(3)
HIST 332	History of Modern Warfare	(3)
HIST 400	The Soviet Union and Eastern Europe	(3)
HIST 430	The Ancient Mediterranean World	(3)

United States History, select one course from:

HIST 342	The Age of Jefferson and Jackson	(3)
HIST 344	The Age of Industry in America	(3)
HIST 346	History of Modern America	(3)
HIST 420	Civil War and Reconstruction	(3)

Third World History, select one course from:

HIST 306	History of South and Southeast Asia	(3)
HIST 310	Latin American Civilization	(3)
HIST 340	History of the Islamic World	(3)
HIST 401	East Asia: The Formative Period	(3)
HIST 403	East Asia and the Modern World	(3)

Topical History, select one course from:

HIST 304	History of Colorado	(3)
HIST 315	American Indian History	(3)
HIST 320	The American West	(3)
HIST 405	Public History	(3)
HIST 410	Environmental History	(3)
ECON 312	Economic History of the U.S.	(3)

Three additional courses must be selected from those listed above. (9)

9 upper division credit hours selected from
the following disciplines:
Anthropology, Economics, English, Literature, Philosophy,
Political Science, and Sociology

b. Concentrations
There are no concentrations currently available under this degree.

c. See faculty adviser for a program sheet detailing exact and complete requirements for the major.

d. Electives 36
If desired, a student may use electives to satisfy requirements for a minor.

3. Special recommendations
All history majors are encouraged to take an additional six hours of a language beyond the six required for the B.A. degree distinction.

ASSOCIATE OF ARTS
HUMANITIES

School of Humanities and Fine Arts

Minimum requirements: 63

1. Associate of Arts graduation requirements (for further information, see section "Degree Requirements: in this catalog).

	Cr. Hrs.
a. General Education	34
b. Human Performance and Wellness	2

2. Course requirements specific to this degree 27
   a. Twenty-seven credits must be earned in a balanced program drawn from at least three of the following areas, but with not more than 12 credits from any single area (other allied or supporting areas may also be drawn upon):
      Literature, Philosophy, Foreign Languages, Mass Communications, Speech, The Arts, and History of the Arts.
   b. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

BACHELOR OF ARTS IN LIBERAL ARTS (Interdisciplinary Major)

School of Humanities and Fine Arts

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. B.A. Distinction (Foreign Language)	6
c. Human Performance and Wellness	3

2. Requirements specific to this degree

a. Required courses — 18

ARTE 115	Art Appreciation	(3)
ENGL 150	Introduction to Literature	(3)
MUSA 220	Music Appreciation	(3)
THEA 141	Theatre Appreciation	(3)

One of the following sequences

(1) Select two courses from:

ENGL 131	World Literature I	(3)
ENGL 132	World Literature II	(3)
ENGL 133	World Literature III	(3)
(2) ENGL 254	English Literature I	(3)
ENGL 255	English Literature II	(3)
(3) ENGL 261	United States Literature I	(3)
ENGL 262	United States Literature II	(3)
*(4) ARTE 211	Art History, Ancient-1300	(3)
ARTE 212	Art History, Europe 1300-1900	(3)

*Students choosing the Art primary area may not make this selection.

(5) MUSA 266	History of Popular Music	(3)
THEA 145	Introduction to Literature—Drama	(3)

b. Required Primary and Secondary Areas of Study

(1) Students select one Primary Area of Study from among the following and choose courses from a list for that Primary area (15 credit hours must be upper division*): — 18-21

(a) Art	(21)
(b) English	(18)
(c) Philosophy	(18)
(d) Theatre	(18)

*In philosophy only twelve hours must be upper division.

(2) Students select one Secondary Area of Study (different from the Primary Area) from among the following and choose courses from a list for that Secondary area (9 credit hours must be upper division): — 12-15

(a) Art	(15)
(b) English	(12)
(c) Philosophy	(12)
(d) Theatre	(12)

c. See faculty adviser for a program sheet detailing exact and complete requirements for the major.
d. Electives (unrestricted) 30-33

3. Special requirements
Students will select both a Primary and a Secondary area of study from the lists shown; these areas may *not* be from the same discipline.

MACHINE TRADES AND MANUFACTURING TECHNOLOGY

Machining and machining technology careers involve the skillful operation of lathes, milling machines, specialized grinders, and other technical equipment to make precision fit metal parts and components such as gears, shafts, cylinders, pump housings and certain tools as well as parts for aircraft, ships, engines, rockets, and others. Virtually every metal part that has to have close fitting tolerance is manufactured by some machining process. Traditional lathes and milling machines as well as computerized metal working machines are used by manufacturing companies.

Three program options are available to students. These include a two semester Certificate of Occupational Proficiency program available to students desiring short term preparation for immediate employment in machining/machine shop occupations. A two-year Associate of Applied Science degree is offered in Machining Technology. This program is designed to prepare students for machining requiring a higher level of technical expertise. The emphasis is on operating machines such as numerical controlled lathes, mills or machining centers, but related mathematics and sciences are included. The third option, the Associate of Science degree, is designed for students who wish to pursue a four-year degree in Manufacturing Technology or Manufacturing Engineering. Certain courses in machining will apply to all three programs.

CERTIFICATE OF OCCUPATIONAL PROFICIENCY IN MACHINE AND MANUFACTURING TRADES

School of Technology

The Machine and Manufacturing Trades certificate program is designed to give students an opportunity to develop knowledge and competency considered essential for employment as entry level or "apprentice" level machinists. Persons not having an adequate background in mathematics or three dimensional perception skill will be encouraged to enroll in preparatory courses either as prerequisites or co-requisites. Open entry and flexible scheduling is possible in this program.

Minimum semester hours required: 42

1. Course requirements for this certificate
   a. All of the following courses:

		Sem Hrs	*Con Hrs*
ENGL XXX	English Requirement	3	47
MAMT 105	Blueprint Reading	2	30
MAMT 106	Geometric Tolerance	1	15
MAMT 107	Machine Shop Math	2	30
MAMT 110	Gauging/Measuring Tools	1	15
MAMT 115	Introduction to Machine Shop	1	15
MAMT 115L	Introduction to Machine Shop Lab	2	45
MAMT 120	Machine Technology I	1	20
MAMT 120L	Machine Technology I Lab	3	70
MAMT 125	Machine Technology II	1	20
MAMT 125L	Machine Technology II Lab	3	70
MAMT 130	Machine Technology III	1	20
MAMT 130L	Machine Technology III Lab	3	70
MAMT 135	Job Shop Machining I	1	15
MAMT 135L	Job Shop Machining I Lab	2	45
MAMT 140	Job Shop Machining II	1	15
MAMT 140L	Job Shop Machining II Lab	2	45
MAMT 151	Numerical Control Machining I	2	30
MAMT 151L	Numerical Control Machining I Lab	2	45
MAMT 155	Numerical Control Machining II	2	30
MAMT 155L	Numerical Control Machining II Lab	2	45
MAMT 160	Properties of Materials	1	15
MAMT 160L	Properties of Materials Lab	1	15
MAMT 165	Manufacturing Processes	2	30

2. Special requirements and recommendations
   a. Physical requirements on the job include ability to lift up to 50 pounds regularly and to stand for long periods of time while doing machine work. Average hearing and eyesight, natural or corrected is desirable.
   b. Students seeking a Certificate of Occupational Proficiency must obtain a minimum of 2.00 ("C") in each required MAMT course and must satisfy all other graduation requirements.
3. See faculty adviser for a program sheet detailing exact and complete requirements for this certificate.

ASSOCIATE OF APPLIED SCIENCE IN MACHINING TECHNOLOGY

School of Technology

The Associate of Applied Science degree program includes many of the same technical courses as the Certificate of Occupational Proficiency. Also included are mathematics, science, electronics and management courses which are essential for job advancement to more technical levels after employment.

Minimum semester hours required: 75

1. Course requirements for this degree

		Cr. Hrs.
a. English (6 credit hours from the following)		6
ENGL 090 and 111		
or		
ENGL 111 and 112 or 115		
b. Social and Behavioral Sciences (6 credit hours from the following)		6
ANTH 201, 222	HIST 101, 102, 131, 132	
ECON 201, 202	POLS 101	
ENGL 131 and 132 or 133, 145, 150	PSYC 121, 122	
GEOG 103	SOCO 144, 260, 264	
c. Physics		
PHYS 100	3	
d. Mathematics		8
ENGT 101, 102		
e. All of the following courses:		50
BUGB or MANG	course to be selected in consultation with adviser (3)	
ENGR 106, 106L	Beginning Computer Aided Drafting and Lab (4)	
INSA 110, 110L	Basic Electronics and Lab (4)	
MAMT 105	Blueprint Reading; Machinists (2)	
MAMT 106	Geometric Tolerancing (1)	
MAMT 110	Gauging and Measuring Tools (1)	
MAMT 115, 115L	Introduction to Machine Shop and Lab (3)	
MAMT 120, 120L	Machine Technology I and Lab (4)	
MAMT 125, 125L	Machine Technology II and Lab (4)	
MAMT 130, 130L	Machine Technology III and Lab (4)	
MAMT 135, 135L	Job Shop Machining I and Lab (3)	
MAMT 140, 140L	Job Shop Machining II and Lab (3)	
MAMT 145, 145L	Machine Maintenance	
or		
MAMT 207	Introduction to Statistical Process (2)	
MAMT 151, 151L	Numerical Control Machining I and Lab (4)	
MAMT 155, 155L	Numerical Control Machining II and Lab (4)	
MAMT 160, 160L	Properties of Materials and Lab (2)	
MAMT 165	Manufacturing Processes (2)	
f. Human Performance and Wellness		2

2. Special requirements and recommendations
   Students seeking an Associate of Applied Science degree must obtain a minimum of 2.00 ("C") in each MAMT course and must satisfy all other graduation requirements.
3. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

ASSOCIATE OF SCIENCE MANUFACTURING TECHNOLOGY

School of Technology

The Manufacturing Technology Emphasis is designed primarily to transfer to a four-year Baccalaureate degree program in one of several manufacturing fields such as Manufacturing Engineering or Manufacturing Engineering Technology. It, by itself, is not designed for specific employment preparation after only two years of study. Six specified courses are the same as would be taken in the Certificate program in Machine Trades and will apply toward the completion of this degree. The curriculum is in compliance with State agency policy governing the subject matter content and purpose of Associate of Science degrees. Students seeking only fast track employment skills are referred to the Certificate or AAS degree programs.

Minimum Semester Hours Required (65-66)

1. Associate of Science graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. Human Performance and Wellness	2

2. Course requirements specific to this degree

Required courses		30-31
ENGR 105, 105L	Basic Engineering Drawing and Lab or	
ENGR 106, 106L	Beginning Computer Aided Drafting and Lab	(4)
MAMT 105	Blueprint Reading; Machinists	(2)
MAMT 115, 115L	Introduction to Machine Shop and Lab	(3)
MAMT 120, 120L	Machine Technology I and Lab	(4)
MAMT 125, 125L	Machine Technology II and Lab	(4)
MAMT 151, 151L	Numerical Control Machining I and Lab	(4)
MAMT 165	Manufacturing Processes	(2)
MATH 130	Trigonometry	(3)
MATH 151	Calculus I (with MATH 113 above) or	
MATH 152	Calculus II (with MATH 113 above) and	
MATH 253	Calculus III	(4-5)

3. Special recommendations
   It is recommended that the student take CSCI 100, MATH 113 and PHYS 111, 111L.

4. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

BACHELOR OF ARTS IN MASS COMMUNICATION

School of Humanities and Fine Arts

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. B.A. Distinction (Foreign Language)	6
c. Human Performance and Wellness	3

2. Requirements specific to this degree

a. Required courses — 21

MASS 101	Mass Media in America	(3)
MASS 231	News Writing and Reporting	(3)
MASS 397	Practicum	(1)
MASS 421	Journalism Law and Ethics	(3)
MASS 494	Senior Seminar	(3)
MASS 499	Internship	(8-15)

b. Concentrations — 18

Concentrations are available in News/Editorial, Broadcasting, and Public Relations under this degree.

c. Requirements may vary with the concentration selected. See faculty adviser for a program sheet detailing exact and complete requirements for the major and concentration chosen.

d. Electives (unrestricted) — 42

If desired, a student may use electives to satisfy requirements for a minor.

3. Special requirements

(1) Continuance in the program after the sophomore year will be contingent upon the student's satisfying the following requirements:

(a) Completion of the English Composition sequence, with at least a 2.5 GPA average and no grade of "D" or "F".

(b) Completion of the two introductory courses in Mass Communications, with at least a 2.5 average and no grade of "D" or "F".

(c) Maintenance of at least a 2.5 GPA in MASS courses, in addition to at least a 2.0 GPA overall, is necessary for Mass Communications majors to proceed to graduation.

BACHELOR OF SCIENCE IN MATHEMATICS

School of Natural Science and Mathematics

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. B.S. Distinction (Math/Statistics/Computer Science)	6
c. Human Performance and Wellness	3

2. Requirements specific to this degree
   a. Required courses — 42

MATH 151	Calculus I	(5)
MATH 152	Calculus II	(5)
MATH 253	Calculus III	(4)
MATH 260	Differential Equations	(3)
MATH 265	Linear Algebra	(3)
MATH 310	Number Theory	(3)
MATH 361	Numerical Analysis	(4)
MATH 369	Math Logic and Discrete Structures	(3)
MATH 390, 391 or MATH 452, 453	Abstract Algebra, or Advanced Calculus	(6)
MATH 450	Complex Variables	(3)

   One of the following:

STAT 311	Statistical Methods	(3)
STAT 312	Correlation and Regression	(3)
STAT 313	Sampling Techniques	(3)
CSCI 445	Computer Graphics	(3)

   b. Concentrations
      (1) A concentration is available in Statistics under this degree.
      (2) Students seeking a degree in Mathematics with elementary or secondary teacher certification should see their faculty advisers in both Mathematics and Teacher Certification.
   c. Requirements may vary if a concentration is selected. See faculty adviser for a program sheet detailing exact and complete requirements for the major and concentration chosen.
   d. Electives (unrestricted) — 39
      If desired, a student may use electives to satisfy requirements for a minor.

ASSOCIATE OF SCIENCE
MATHEMATICS

School of Natural Science and Mathematics

Study directed toward the Associate of Science degree will serve as a basis for the Bachelor of Science degree with the same discipline and also for other programs at Mesa State College and at other colleges. Faculty advisers will assist students in planning programs to meet requirements. Programs of study in the Sciences are very sequential and advanced planning for the transition from an Associate program to a baccalaureate program is imperative for economy of time and effort.

Minimum semester hours required: 64

1. Associate of Science graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. Human Performance and Wellness	2

2. Course requirements specific to this degree

a. Required courses			20
MATH 151	Calculus I	(5)	
MATH 152	Calculus II	(5)	
MATH 253	Calculus III	(4)	
MATH 260	Differential Equations	(3)	
MATH 265	Linear Algebra	(3)	

2. Electives 9

3. Special requirements and recommendations
   a. Recommendation
      CSCI 120 and STAT 200 are highly recommended to be included.
   b. Requirements
      General Education and course requirements in discipline area plus electives chosen in consultation with the student's adviser up to the minimum of 64 credit hours comprise the requirements for this emphasis.

4. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

ASSOCIATE OF ARTS
MUSIC

School of Humanities and Fine Arts

Minimum requirements: 63

1. Associate of Arts graduation requirements (for further information, see section "Degree Requirements: in this catalog).

	Cr. Hrs.
a. General Education	34
b. Human Performance and Wellness	2

2. Course requirements specific to this degree

a. Required courses			19
MUSA 114*, 115	Theory I and II	(6)	
MUSA 116, 117	Ear Training and Sightsinging I & II	(4)	
MUSA 220	Music Appreciation	(3)	
MUSA 130	Class Piano I		
or			
MUSA 137	Class Voice I	(2)	
MUSP XXX	Vocal or Instrumental Ensembles	(4 total)	

*NOTE: MUSA 110 (Standard Notation) must be taken if the student is not ready for 114.

b. Electives:
Eight hours of approved electives must be chosen in consultation with the adviser. 8

c. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

BACHELOR OF SCIENCE IN NURSING (BSN)

School of Nursing and Allied Health

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

			Cr. Hrs.
a. General Education			33
Required General Education Courses			
PSYC 121	General Psychology	(3)	
PSYC 233	Human Growth and Development	(3)	
b. B.S. Distinction (Math, Statistics and Computer Science)			6
CSCI 100	Computers in our Society	(3)	
STAT 200	Statistics	(3)	
c. Human Performance and Wellness			3

2. Requirements specific to this degree

a. Required courses			71
NURS 225	Introduction to Nursing	(2)	
NURS 245, 245L	Fundamentals of Nursing and Lab	(5)	
NURS 325	Pharmacology in Nursing	(2)	
NURS 335	Health Assessment	(3)	
NURS 345, 345L	Nursing Process I: The Adult and Lab	(8)	
NURS 355, 355L	Nursing Process II: Expanding Family and Lab	(4)	
NURS 365, 365L	Nursing Process III: The Child and Lab	(4)	
NURS 425, 425L	Nursing Process IV: Community Health and Lab	(5)	
NURS 435, 435L	Nursing Process V: Mental Health and Lab	(5)	
NURS 445, 445L	Nursing Process VI: Advanced Nursing Process Lab	(7)	
NURS 455, 455L	Leadership Process: Theory and Practice and Lab	(5)	
NURS 475	Research Process	(2)	
NURS 485	Professional Perspectives	(2)	
BIOL 141, 141L	Human Anatomy and Physiology and Lab	(5)	
BIOL 241	Pathological Physiology	(4)	
BIOL 250, 250L	General Microbiology and Lab	(5)	
HMEC 211	Nutrition	(3)	

b. There are no concentrations available under this major.

c. See faculty adviser for a program sheet detailing exact and complete requirements for the major.

d. Electives (upper division) 10

(1) Any upper division courses (6)

(2) Upper division NURS courses (4)

(3) Additional Nursing Courses Required for Advanced Placements: for RN's and LPN's (consult adviser for requirements)

NURS 316	Professional Role Transition	(2)
NURS 316	RN-BSN Bridge Course	(4)
NURS 335L	Health Assessment Laboratory	(1)

(4) If desired, a student may use electives towards satisfying requirements for a minor.

3. Special requirements
The BSN program is designed for individuals who desire a professional degree in nursing. The four-year program provides educational experiences to prepare a professional nurse generalist to practice in a variety of health care settings. Advanced placement is available for RN's and LPN's. Contact the Dean for specific information and curriculum plan.

   a. Admission requirements include: satisfactory scores on the Scholastic Aptitude Test (SAT), 850 or above, or a composite American College Testing (ACT) score of 21 or better (scores of SAT 810 and ACT 19 will be accepted if the test is taken before October, 1989). High school courses in biology, chemistry and algebra are recommended. All first year college courses must be completed or in progress before a student can be admitted to the BSN program. An admissions committee selects students from applicants who best meet requirements. In addition, anatomy and physiology and microbiology, each with the lab, are required for admission into the program. All admission materials must be on file in the deans office prior to October 1 for consideration for admission into the following spring semester.

   b. Registered Nurse students seeking credit for prior nursing learning experiences will follow "The Colorado Nursing Articulation Model" and will be required to take and successfully complete a nursing bridge course specifically designed for RNs entering the program for degree completion or take and achieve a grade of 45 or better on the ACT-PEP examination 403, 457, and 554. Contact the Mesa State College Testing Center to schedule these examinations. Please check with your adviser for further information.

   c. Students transferring in credit for Human Anatomy and Physiology and/or Microbiology courses taken at other accredited colleges/universities must provide evidence that these courses had separate laboratory components before the course can be accepted to fulfill program requirements. This will not necessarily appear on the transcript.

   d. Any RN who desired to enroll in a nursing course for personal enrichment only must secure permission from the course instructor and must register for "No Credit Desired". If credit is desired, students must be officially accepted into the nursing program prior to enrolling in the Nursing courses to receive credit.

   e. *Progression requirements:* All nursing courses must be completed in sequence. All required 200 level courses (with the exception of BIOL 241 and STAT 200) must be completed before 300 level nursing courses may be taken. BIOL 241 must be successfully completed by the end of the semester when the first 300 level nursing courses are taken. The student may not continue the nursing courses until BIOL 241 is successfully completed. All required 300 level courses must be completed before 400 level nursing courses may be taken. Students must complete all 200 level nursing courses or be an (RN) advanced placement student to enroll in the nursing elective courses. (Students may take any two nursing electives in any sequence.)

   f. Students must have a 2.0 ("C") on a 4.0 scale or higher grade for all courses required for completion of the Baccalaureate Degree in nursing. This policy applies regardless of when the course was taken. A "D" grade or lower in any required course is not acceptable.

g. Students enrolled in nursing courses having both theory and clinical components must take these components concurrently. If a student receives a grade of less than "C", 2.0 on a 4.0 scale, in either component (theory and/or clinical) both components must be repeated. The student may not progress to the next nursing course and will have to retake both components the next semester that the course is offered as space is available.
h. Faculty members of a program may withdraw a student due to unsafe clinical practice or behavior jeopardizing professional practice at any time during the semester.
i. Any support courses required by the program must have been taken within the last five (5) years to fulfill graduation requirements. These include PSYC 121, PSYC 233, CSCI 100, STAT 200, BIOL 141 and 141L, BIOL 241, BIOL 250 and 250L, HMEC 211. If the course was not taken within the last five (5) years, the course must be re-taken or competency proven by a challenge examination. The challenge examination process may only be accomplished if a college-level course has been successfully completed previously with a letter grade of "C" or higher awarded. The final approval for all accepted support course requirements and/or challenge examination will be made by the Dean of the School of Nursing and Allied Health.

ASSOCIATE OF APPLIED SCIENCE IN NURSING (ADN)

School of Nursing and Allied Health

1. Course requirements for this degree
   a. General Education 15

ENGL 111 & 112	English Composition	(6)	
PSYC 233	Human Growth and Development	(3)	
	Social or Behavioral electives	(3)	
CSCI 100	Computers in Our Society	(3)	

   b. Human Performance and Wellness 2

2. Course requirements specific to this degree
   a. Required core courses 40

NURS 113, 113L	Nursing Concepts I and Lab	(9)	
NURS 123, 123L	Nursing Concepts II and Lab	(9)	
NURS 210, 210L	Nursing Concepts III and Lab	(10)	
NURS 230, 230L	Nursing Concepts IV and Lab	(10)	
NURS 273	Issues in Nursing	(2)	

   b. Related study area requirements 14

BIOL 141, 141L	Human Anatomy and Physiology	(5)	
BIOL 241	Pathological Physiology	(4)	
BIOL 250,250L	General Microbiology	(5)	

   c. Additional nursing course required for Advanced Placement for LPN (consult adviser for requirements)

NURS 133	LPN-ADN Bridge Course	(3)	

3. Special requirements
   a. This program is highly structured with specific prerequisite courses as well as specialized admission requirements. Admission materials must be on file in the Dean's office by March 1 for consideration the following fall semester. Enrollment is limited.
   b. Graduates are eligible to take the examination for licensure as registered nurses who may serve in first level (staff nurse) positions in hospitals, nursing homes, physicians' offices, and other health agencies where adequate direction is provided.
   c. Admission requirements include a composite ACT score of 18 or above or a composite Enhanced ACT of 20 or above depending on when the ACT was taken, or combined SAT score of 810 or above. A high school diploma or G.E.D. is required. High school courses in biology, chemistry, and algebra or their college equivalent are recommended. An admissions committee selects students from applicants who best meet requirements. *All nursing courses must be completed in sequence.*
   d. All students seeking credit for prior nursing learning experiences will follow "The Colorado Nursing Articulation Model" and will be required to take and successfully complete a nursing "bridge course" specifically designed for an LPN entering the program for degree completion or take and achieve a grade of 45 or better on the ACT-PEP examinations 403, 453, and 554. Contact the Mesa State College Testing Center to schedule these examinations. Please check with your adviser for further information at any time during the semester.
   e. Students transferring in credit for Human Anatomy and Physiology and/or Microbiology courses taken at other accredited colleges/universities

must provide evidence that these courses had separate laboratory components before the course can be accepted to fulfill program requirements. All transfer credit must be evaluated by the Registrar's office for acceptability as general education and general education courses must be at the 100 or 200 level.

f. *Progression:* Students must have a 2.0 ("C") on a 4.0 scale or higher grade for *all* courses required for completion of the Associate of Applied Science degree in Nursing. This policy applies regardless of when the course was taken. A "D" grade or lower in any required course is not acceptable.

g. Students enrolled in nursing courses having both theory and clinical components must take these components concurrently. If a student receives a grade of less than "C", 2.0 or a 4.0 scale, in either component (theory and/or clinical) both components must be repeated. The student may not progress to the next nursing course and will have to retake both components the next semester that the course is offered as space is available.

h. *Retention:* A student will not be retained in the program if she/he receives a grade in any course in the ADN curriculum below a 2.0. Faculty members of the program may withdraw a student due to unsafe clinical practice or behavior jeopardizing professional practice any time during the semester.

i. Any support courses required by the program must have been taken within the last five (5) years to fulfill graduation requirements. These include PSYC 233, CSCI 100, the Social or Behavioral elective, BIOL 141 and 141L, BIOL 241, BIOL 250 and 250L. If the course was not taken with the last five (5) years, the course must be re-taken or competency proven by a challenge examination. The challenge examination process may only be accomplished if a college-level course has been successfully completed previously with a letter grade of "C" or higher awarded. The final approval for all accepted support course requirements and/or challenge examination will be made by the Dean of the School of Nursing and Allied Health.

4. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

ASSOCIATE OF ARTS
OFFICE ADMINISTRATION

School of Business

1. Associate of Arts graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

			Cr. Hrs.
a. General Education			34
ENGL 111 and 112		(6)	
SPCH 102		(3)	
Mathematics		(3)	
Science		(4)	
Social and Behavioral Sciences (2 disciplines)		(9)	
Humanities (2 disciplines)		(9)	
b. Human Performance and Wellness			2

2. Course requirements specific to this degree

a. Required business courses			12
ACCT 201	Principles of Accounting I	(3)	
BUGB 211	Business Communications	(3)	
CISB 101	Business Data Processing	(2)	
CISB 104	BASIC Programming or		
CISB 105	Introduction to Business Software	(1)	
MANG 201	Principles of Management	(3)	
b. Required emphasis courses			9
OFAD 215	Document Format/Skill Development	(3)	
OFAD 201	Office Management or		
OFAD 202	Records Management	(3)	
OFAD 153	Beginning Word/Information Processing	(3)	

3. Electives 6

4. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

ASSOCIATE OF APPLIED SCIENCE IN OFFICE SUPERVISION AND MANAGEMENT: ACCOUNTING TECHNICIAN

School of Business

1. Course requirements for this degree

			Cr. Hrs.
a.	ENGL 111 and 112 or 115		6
	Literature, Social or Behavioral Sciences, or Psychology		6
b.	Human Performance and Wellness		2
c.	All of the following courses		
	(1) Required business courses		43
	ACCT 201	Principles of Accounting I (3)	
	ACCT 202	Principles of Accounting II (3)	
	ACCT 205	Ten-Key Operations (1)	
	BUGB 141	Business Mathematics or	
	MATH 113	College Algebra or	
	MATH 121	Mathematical Foundations of Business or	
	MATH 127	Mathematics of Finance (3,4)	
	BUGB 211	Business Communications (3)	
	BUGB 231	Survey of Business Law (3)	
	BUGB 241	Income Tax (3)	
	CISB 101	Business Data Processing (2)	
	CISB 104	BASIC Programming or	
	CISB 105	Introduction to Business Software (1)	
	MANG 121	Human Relations in Business (3)	
	MANG 201	Principles of Management (3)	
	OFAD 101	Bookkeeping for Small Business (3)	
	OFAD 201	Office Management (3)	
	OFAD 202	Records Management (3)	
	OFAD 153	Beginning Word/Information Processing (3)	
	OFAD 270	Office Automation: Microcomputer Applications (3)	
	(2) Other required courses		6
	ECON 201	Principles of Macroeconomics (3)	
	ECON 202	Principles of Microeconomics (3)	

2. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

ASSOCIATE OF APPLIED SCIENCE IN OFFICE SUPERVISION AND MANAGEMENT: ADMINISTRATIVE SECRETARY

School of Business

1. Course requirements for this degree

			Cr. Hrs.
a. ENGL 111 and 112			6
Social or Behavioral Science, Psychology or Literature			6
b. Human Performance and Wellness			2
c. All of the following courses			
(1) Required business courses			12
BUGB 141	Business Mathematics	(3)	
BUGB 211	Business Communications	(3)	
CISB 101	Business Data Processing	(2)	
CISB 104	BASIC Programming	(1)	
MANG 121	Human Relations in Business	(3)	
(2) Required office administration courses			27
OFAD 101	Bookkeeping for Small Business	(3)	
OFAD 215	Document Format/Skill Development	(3)	
OFAD 201 or OFAD 202	Office Management or Records Management	(3)	
OFAD 221	Transcription Machines	(3)	
OFAD 153	Beginning Word/Information Processing	(3)	
OFAD 253	Intermediate Word/Information Processing	(3)	
OFAD 266	Word/Information Processing: Document Production	(4)	
OFAD 270	Office Automation: Microcomputer Applications	(3)	
OFAD 271	Office Automation: Procedures and Technology	(2)	

2. Electives 9
   Six hours must be business electives.
3. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

ASSOCIATE OF APPLIED SCIENCE IN OFFICE SUPERVISION AND MANAGEMENT: LEGAL SECRETARY

School of Business

1. Course requirements for this degree

			Cr. Hrs.
a. ENGL 111 and 112 or 115			6
Social and Behavioral Science or Literature			6
b. Human Performance and Wellness			2
c. All of the following courses			12
(1) Required business courses			
BUGB 141	Business Mathematics	(3)	
BUGB 211	Business Communications	(3)	
BUGB 231	Survey of Business Law	(3)	
CISB 101	Business Data Processing	(2)	
CISB 104	BASIC Programming	(1)	
(2) Required office administration courses			33
OFAD 101	Bookkeeping for Small Business	(3)	
OFAD 215	Document Format/Skill Development	(3)	
OFAD 201	Office Management	(3)	
OFAD 202	Records Management	(3)	
OFAD 221	Transcription Machines	(3)	
OFAD 244	Legal Procedures	(3)	
OFAD 153	Beginning Word/Information Processing	(3)	
OFAD 253	Intermediate Word/Information Processing	(3)	
OFAD 266	Word/Information Processing: Document Production	(4)	
OFAD 270	Office Automation: Microcomputer Applications	(3)	
OFAD 271	Office Automation: Procedures and Technology	(2)	
(3) Other required courses			3
SPCH 101	Interpersonal Communications	(3)	

2. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

ASSOCIATE OF APPLIED SCIENCE IN OFFICE SUPERVISION AND MANAGEMENT: MEDICAL SECRETARY

School of Business

1. Course requirements for this degree

			Cr. Hrs.
a. ENGL 111 and 112 or 115			6
Social and Behavioral Science or Literature			6
b. Human Performance and Wellness			2
c. All the following courses			
(1) Required business courses			6
BUGB 141	Business Mathematics	(3)	
BUGB 211	Business Communications	(3)	
(2) Required office administration courses			27
OFAD 101	Bookkeeping for Small Business	(3)	
OFAD 147	Medical Terminology	(3)	
OFAD 215	Document Format/Skill Development	(3)	
OFAD 154	Laboratory Techniques	(2)	
OFAD 159	Medical Office Procedures	(3)	
OFAD 221	Transcription Machines	(3)	
OFAD 153	Beginning Word/Information Processing	(3)	
OFAD 253	Intermediate Word/Information Processing	(3)	
OFAD 266	Word/Information Processing: Document Production	(4)	
(3) Other required courses			14
BIOL 141	Human Anatomy and Physiology	(3)	
BIOL 141 Lab	Human Anatomy and Physiology Lab	(2)	
HPWA 265	Standard First Aid/Cardio-Pulmonary Resuscitation	(3)	
PSYC 233	Human Growth and Development	(3)	
SOCO 260	General Sociology	(3)	

2. Electives 3

3. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

CERTIFICATE OF OCCUPATIONAL PROFICIENCY IN OFFICE SUPERVISION AND MANAGEMENT: CLERICAL

School of Business

Minimum semester hours required 37

1. Course requirements for this certificate
   a. All of the following courses:

		Sem Hrs	*Con Hrs*
BUGB 141	Business Math	3	47
BUGB 211	Business Communications	3	47
ENGL 111	English Composition	3	47
ENGL 112 ENGL 115	English Composition or Technical Writing	3	47
OFAD 101	Bookkeeping for Small Business	3	47
OFAD 215	Document Format/Skill Development	3	47
OFAD 201 OFAD 202	Office Management or Records Management	3	47
OFAD 221	Transcription Machines	3	47
OFAD 153	Beginning Word/Information Processing	3	47
OFAD 253	Intermediate Word Processing	3	47
OFAD 266	Word/Information Processing: Document Production	4	62
OFAD 270	Office Automation: Microcomputer Applications	3	47

2. Special requirements and recommendations
   a. Certificate consists of 31 hours in business and 6 hours English; no deviation of courses will be allowed without approval of substitutions by adviser.
   b. Students are encouraged to take the A.C.T. Results of the test are used for student advisement and may be predictors of student success in the program.
3. See faculty adviser for a program sheet detailing exact and complete requirements for this certificate.

CERTIFICATE OF OCCUPATIONAL PROFICIENCY IN OFFICE SUPERVISION AND MANAGEMENT: MEDICAL OFFICE ASSISTANT

School of Business

1. Course requirements for this certificate
   a. All of the following courses:

		Sem Hrs	*Con Hrs*
BIOL 141	Human Anatomy and Physiology	3	47
BIOL 141L	Human Anatomy and Physiology Lab	2	60
BUGB 211	Business Communications	3	47
ENGL 111	English Composition	3	47
OFAD 101	Bookkeeping for Small Business	3	47
OFAD 147	Medical Terminology	3	47
OFAD 215	Document Format/Skill Development	3	47
OFAD 154	Laboratory Techniques	2	32
OFAD 159	Medical Office Procedures	3	47
OFAD 221	Transcription Machines	3	47
OFAD 153	Beginning Word/Information Processing	3	47
OFAD 266	Word/Information Processing: Document Production	4	62
HPWA 265	Standard First Aid and Cardio-Pulmonary Resuscitation	3	47

2. Special requirements and recommendations
   a. Students are encouraged to take the A.C.T. Results of the test are used for student advisement and may be predictors of student success in the program.
   b. Certificate consists of 23 hours business, 5 hours biology, 3 hours English and 3 hours first aid; no deviation without course substitution approval by adviser.
3. See faculty adviser for a program sheet detailing exact and complete requirements for this certificate.

BACHELOR OF SCIENCE IN PARKS AND RECREATION RESOURCE MANAGEMENT

School of Business

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. B.S. Distinction (Math/Statistics/Computer Science)	6
c. Human Performance and Wellness	3

2. Requirements specific to this degree
   a. Required Courses — 48

PRRM 200	Cultural Foundations of Play, Recreation, and Leisure	(2)
PRRM 210	The Parks and Recreation Professions	(2)
PRRM 300	Recreation Programming: Designing Experience	(3)
PRRM 410	Managing Human Resources in Recreation and Parks	(3)
PRRM 420	Financing, Managing, and Marketing Parks and Recreation	(3)
PRRM 440	Research Studies, Methods and Tools	(3)
PRRM 450	Legal Liabilities and Legislative Foundations	(2)
PRRM 460	Senior Seminar: Professional Issues and Trends	(2)
PRRM 499	Internship	(10)

Select three courses from the following:

PRRM 310	Public Park Systems	(3)
PRRM 311	Community Recreation Systems	(3)
PRRM 312	Resort Management and Development	(3)
PRRM 313	Children's Outdoor Play Settings	(3)

Select three courses from the following:

PRRM 350	Private and Commercial Recreation Systems	(3)
PRRM 351	Community Tourism Systems	(3)
PRRM 352	National and State Park Systems	(3)
PRRM 353	Public and Municipal Park and Recreation Systems	(3)

   b. Concentrations
   There are no concentrations currently available under this degree.
   c. See faculty adviser for a program sheet detailing exact and complete requirements for the major.
   d. Electives (unrestricted) — 33
   If desired, a student may use electives to satisfy requirements for a minor.

BACHELOR OF SCIENCE IN PHYSICAL SCIENCES

School of Natural Science and Mathematics

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. B.S. Distinction (Math/Computer Science)	6
(1) In Geology, the degree distinction should be satisfied by taking College Algebra (MATH 113) and Trigonometry (MATH 130) for 7 credit hours.	
(2) In Physics, the degree distinction should be satisfied by taking Calculus I and II (MATH 151 and 152) for 10 credit hours.	
c. Human Performance and Wellness	3

2. Requirements specific to this degree

a. Concentration in Geology

(1) Required courses — 58

GEOL 111, 111L	Principles of Physical Geology and Lab	(4)
GEOL 112, 112L	Principles of Historical Geology and Lab	(4)
GEOL 203	Introduction to Environmental Geology	(3)
GEOL 301, 301L	Earth Tectonics and Lab	(4)
GEOL 331, 331L	Mineral Studies and Lab	(4)
GEOL 340, 340L	Petrology and Lab	(4)
GEOL 380	Field Studies	(6)
GEOL 390	Computer Applications in Geology	(3)
GEOL 402, 402L	Applications of Geomorphology and Lab	(4)
GEOL 444, 444L	Stratigraphy and Sedimentation and Lab	(4)
GEOL 490	Seminar	(3)
BIOL 105, 105L	Attributes of Living Systems and Lab	(5)
CHEM 131, 131L	General Chemistry and Lab	(5)
PHYS 111, 111L	General Physics and Lab	(5)

(2) Electives (unrestricted) — 23-24
If desired, a student may use electives to satisfy requirements for a minor.

(3) Options
Specific courses are required if the following options available under this degree are chosen:
(a) Environmental Geology
(b) Geology with Teacher Certification
Students who want an option in Geology with Teacher Certification should see their faculty advisers, both in Geology and Teacher Certification.

b. Concentration in Physics

(1) Required Courses — 57-58

PHYS 121	Classical Physics I	(4)
PHYS 122, 122L	Classical Physics II	(5)
PHYS 223, 223L	Classical Physics III	(4)
PHYS 224	Modern Physics	(3)
PHYS 311	Electromagnetic Theory	(3)
PHYS 321	Quantum Theory I	(3)
PHYS 322	Quantum Theory II	(3)

PHYS 331	Junior Laboratory I	(2)
PHYS 332	Junior Laboratory II	(2)
PHYS 362	Statistical and Thermal Physics	(3)
PHYS 421	Advanced Dynamics	(3)
PHYS 482	Senior Research	(1)
PHYS 494	Seminar (taken two times)	(2)

Six hours (one of which must be at the 400 level) selected from:

PHYS 352	History and Philosophy of Physics	(3)
PHYS 396	Topics	(3)
PHYS 432	Nuclear and High Energy Physics	(3)
PHYS 441	Solid State Physics	(3)

Required Mathematics Courses

MATH 253	Calculus III	(4)
MATH 260	Differential Equations	(3)
MATH 360	Methods of Applied Mathematics	(3)

At least three hours of required Mathematics electives selected from:

MATH 265	Linear Algebra	(3)
MATH 361	Numerical Analysis	(4)
MATH 390	Abstract Algebra	(3)
MATH 450	Complex Variables	(3)
MATH 452	Advanced Calculus	(3)

(2) Electives (unrestricted) 23-24

(a) If desired, a student may use electives to satisfy requirements for a minor.

(b) Minors which complement a student's professional studies are mathematics, computer science, chemistry, and biology. Some minors which broaden a student's cultural perspective are history, literature, and fine arts.

(3) Options

a. Specific courses are required for the option of Physics with Teacher Certification which is available under this degree.

b. Students who want the option in Physics with Teacher Certification should see their faculty advisers, both in Physics and Teacher Certification.

c. Requirements may vary according to the concentration and option selected. See faculty adviser for a program sheet detailing exact and complete requirements for the major, concentration and option chosen.

3. Special requirements

Grades of less than "C" are not accepted in required courses in the major.

ASSOCIATE OF SCIENCE PHYSICS

School of Natural Science and Math

Study directed toward the Associate of Science degree will serve as a basis for the Bachelor of Science degree with the same discipline and also for other programs at Mesa State College and at other colleges. Faculty advisers will assist students in planning programs to meet requirements. Programs of study in the Sciences are very sequential and advanced planning for the transition from an Associate program to a baccalaureate program is imperative for economy of time and effort.

Minimum semester hours required: 62

1. Associate of Science graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. Human Performance and Wellness	2

2. Course requirements specific to this degree

a. Required courses			16
PHYS 121	Classical Physics I	(4)	
PHYS 122	Classical Physics II	(4)	
PHYS 122L	Experimental Mechanics Laboratory	(1)	
PHYS 223	Classical Physics III	(3)	
PHYS 223L	Experimental Electromagnetism Laboratory	(1)	
PHYS 224	Modern Physics	(3)	

2. Electives 11

3. Special requirements
   General Education and course requirements in discipline area plus electives chosen in consultation with the student's adviser up to the minimum of 62 credit hours comprise the requirements for this emphasis.

4. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

BACHELOR OF ARTS IN POLITICAL SCIENCE

School of Social and Behavioral Sciences

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. B.A. Distinction (Foreign Language)	6
c. Human Performance and Wellness	3

2. Requirements specific to this degree
   a. Required courses 48

POLS 101	American Government	(3)
POLS 236	State and Local Government	(3)
POLS 261	Comparative Politics	(3)
POLS 452	Political Theory: Classical/Medieval	(3)
POLS 453	Political Theory: Modern	(3)
POLS 490	Senior Seminar: Political Science	(3)
SOCI 310	Methods of Social Research	(3)
STAT 200	Probability and Statistics	(3)

18 credit hours selected as follows:

American Government: 2 courses selected from:		(6)
POLS 110	Development of U.S. Constitution	(3)
POLS 325	The American Presidency	(3)
POLS 424	The Legislative Process	(3)
POLS 428	The American Court system	(3)
American Politics: 2 courses selected from:		(6)
POLS 342	Public Administration	(3)
POLS 345	Political Parties and Interest Groups	(3)
POLS 350	American Political Thought	(3)
POLS 412	Constitutional Law	(3)
World Politics: 2 courses selected from:		(6)
POLS 365	European Government and Politics	(3)
POLS 370	World Politics	(3)
POLS 475	American/Foreign National Security	(3)

6 upper division credit hours selected from the following disciplines: Anthropology, Economics, History, Philosophy, Psychology, or Sociology. (6)

   b. Students wishing to prepare for a career in Administration of Justice are encouraged to do so through the B.A. in Political Science. Contact a faculty adviser in the Political Science program for information concerning the appropriate electives to take.
   c. See faculty adviser for a program sheet detailing exact and complete requirements for the major.
   d. Electives 33
   If desired, a student may use electives to satisfy requirements for a minor.

3. Special recommendations:
   Students are encouraged to complete an internship as part of the program. See "Course Description" section for a description of the Internships offered.

ASSOCIATE OF APPLIED SCIENCE IN PRINTING TECHNOLOGY

School of Technology

A two-year technical program designed to prepare a student for employment with business, industry, and printing reproduction systems. The program develops the student's basic skills in visual information design; visual information reproduction; and visual information recording, storage, and retrieval.

Minimum semester hours required: 71

1. Course requirements for this degree

	Cr. Hrs.
a. Six semester hours of English satisfied by completing any one of the following sequences: ENGL 086 and 087 or 121 or ENGL 087 or 090 and 111 or ENGL 111 and 112, 115, 121, or 129	6
b. Nine semester hours selected from the following: ANTH 201, 222 — HIST 101, 102, 131, 132 ECON 201, 202 — POLS 101 ENGL 131 and 132 or 133 — PSYC 121, 122 145, 150 — SOCO 144, 260 GEOG 103	9
c. All of the following courses:	48

ARTE 101	Two-dimensional Design	(3)
GRCO 110	Survey of Commercial Art and Printing Processes	(1)
GRCO 115, 115L	Introduction to Computer Graphics and Lab	(2)
GRCO 120	Typography/Type Design	(2)
GRCO 121	Basic Layout and Design	(2)
GRCO 130	Basic Photography	(1)
GRCO 132	Basic Darkroom Techniques	(1)
GRCO 142, 142L	Mechanical Image Production and Lab	(3)
GRCO 143, 143L	Computer Composition and Lab	(3)
GRCO 151, 151L	Offset Press and Lab	(3)
GRCO 230, 230L	Process Photography I and Lab	(4)
GRCO 231, 231L	Process Photography II and Lab	(4)
GRCO 242, 242L	Desktop Imaging and Lab	(4)
GRCO 251, 251L	Offset Press II and Lab	(4)
GRCO 260	Printing Cost Estimating	(3)
GRCO 281L	Production	(4)
INSA 220	Industrial Safety Practices	(4)

c. Mathematics MATH 015 or higher level math course	3
2. Electives	3
3. Human Performance and Wellness	2

4. Special requirements
   Students seeking an Associate of Applied Science degree must obtain a minimum of 2.00 ("C") in each GRCO course and must satisfy all other graduation requirements.
5. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

BACHELOR OF ARTS IN PSYCHOLOGY

School of Social and Behavioral Sciences

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. B.A. Distinction (Foreign Language)	6
c. Human Performance and Wellness	3

2. Requirements specific to this degree

a. Required courses — 47

PSYC 121	General Psychology	(3)
PSYC 122	General Psychology	(3)
PSYC 312, 312L	Experimental Psychology and Lab	(4)
PSYC 314, 314L	Psychology of Learning and Lab	(4)
PSYC 320	Social Psychology	(3)
PSYC 414	Systems and Theories of Psychology	(3)
SOCI 310	Methods of Social Research	(3)
STAT 200	Probability and Statistics	(3)

21 upper division credit hours selected from the following: (21)

PSYC 310	Child Psychology	(3)
PSYC 311	Quantitative Research Methods	(3)
PSYC 322	Motivation	(3)
PSYC 330	Adolescent Psychology	(3)
PSYC 340	Abnormal Psychology	(3)
PSYC 350	Psychology of Aging	(3)
PSYC 395	Independent Study	(1-3)
PSYC 396	Topics	(1-3)
PSYC 400	Psychological Testing	(3)
PSYC 412	Industrial and Organizational Psychology	(3)
PSYC 416	Memory and Cognition	(3)
PSYC 420	Personality	(3)
PSYC 422	Sensation and Perception	(3)
PSYC 430	Physiological Psychology	(3)
PSYC 495	Independent Study	(1-3)
PSYC 496	Topics	(1-3)

b. Concentrations

A concentration is available in Counseling Psychology under this degree.

c. Requirements may vary if a concentration is selected. See faculty adviser for a program sheet detailing exact and complete requirements for the major and concentration chosen.

d. Electives — 34

If desired, a student may use electives to satisfy requirements for a minor.

3. Special requirements

To pursue the Psychology major a student must have completed with at least a "C" grade the following:

ENGL 111 and 112, English Composition (or the equivalent)
MATH 110, College Mathematics, or MATH 113, College Algebra or have established mathematics competency
PSYC 121 and 122, General Psychology
STAT 200, Introduction to Probability and Statistics

ASSOCIATE OF APPLIED SCIENCE IN RADIOLOGIC TECHNOLOGY

School of Nursing and Allied Health

The Radiologic Technology graduate is eligible to take the examination administered by the American Registry of Radiologic Technologists.

1. Course requirements for this degree

	Cr. Hrs.
a. ENGL 111, 112 English Composition	6
b. Social or Behavioral Science (including Psychology or Literature	6

2. All of the following courses: 71

BIOL 141, 141L	Human Anatomy and Physiology	(5)
CSCI 100	Computers in Our Society	(3)
RADT 110	Radiologic Introduction	(3)
RADT 121, 121L	Radiologic Technology I and Lab	(3)
RADT 122, 122L	Radiologic Principles I and Lab	(3)
RADT 123	Clinical Experience I	(4)
RADT 125	Radiologic Science I	(2)
RADT 131, 131L	Radiologic Technology II and Lab	(3)
RADT 132, 132L	Radiologic Principles II and Lab	(3)
RADT 133	Clinical Experience II	(4)
RADT 135	Radiologic Science II	(2)
RADT 243	Clinical Experience III	(10)
RADT 251	Radiologic Technology III	(3)
RADT 253	Clinical Experience IV	(10)
RADT 261	Radiologic Technology IV	(3)
RADT 263	Clinical Experience V	(10)

3. Human Performance and Wellness 2

4. Special requirements and recommendations
   a. Applications must be received by September 1 for spring session. Admissions are limited and a pre-admission interview with the program director is suggested. Students are selected on the basis of academic preparation, ACT scores, aptitude for service within the field, and positions available in the program.
   b. Applicants should complete high school courses in biology, physics, chemistry, algebra, geometry, or their college equivalent.
   c. Students must have a 2.00 (C) or higher for all courses required for completion of the Radiologic Technology Program. A "D" grade or lower in any required course is not acceptable. A grade point average of at least 2.00 (C) must be maintained each semester and a grade no lower than 2.00 (C) in any radiologic technology course may be received to continue in the program. Radiology classes must be completed in sequence and may only be taken after being accepted to the program. General education requirements may be taken previously or simultaneously with program courses.

d. Any support courses required by the program must have been taken within the last five (5) years to fulfill graduation requirements. These include BIOL 141 and 141L and CSCI 100. If the course was not taken within the last five (5) years, the course must be re-taken or competency proven by a challenge examination. The challenge examination process may only be accomplished if a college-level course has been successfully completed previously with a letter grade of "C" or higher awarded. The final approval for all accepted support course requirements and/or challenge examinations will be made by the Dean of the School of Nursing and Allied Health.

5. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

BACHELOR OF ARTS IN SOCIAL SCIENCE (Interdisciplinary Major)

School of Social and Behavioral Sciences

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. B.A. Distinction (Foreign Language)	6
c. Human Performance and Wellness	3

2. Requirements specific to this degree

a. Required Courses for All Majors — 33

ANTH 201	Cultural Anthropology	(3)
ECON 201	Principles of Macroeconomics, or	
ECON 202	Principles of Microeconomics	(3)
GEOG 103	World Regional Geography	(3)
HIST 101	Western Civilization	(3)
HIST 102	Western Civilization	(3)
HIST 131	United States History	(3)
HIST 132	United States History	(3)
POLS 101	American Government	(3)
PSYC 121	General Psychology or	
PSYC 122	General Psychology	(3)
SOCO 260	General Sociology or	
SOCO 264	Social Problems	(3)
International subject to be selected from: ANTH 330, ANTH 410, ECON 320, ECON 420, HIST 331, HIST 332, POLS 365, POLS 370		(3)

b. Required Primary and Secondary Areas of Study — 27

(1) Primary and Secondary Requirements

Complete the Primary Area and Secondary Area requirements by selecting two academic disciplines from the following:

(a) Anthropology
(b) Economics
(c) History
(d) Political Science
(e) Psychology
(f) Sociology

(2) Primary Area Requirements

18 credit hours, 15 of which are upper division. Any courses offered under the selected discipline may be chosen.

(3) Secondary Area Requirements

9 upper division credit hours in the discipline selected. Any courses offered under the selected discipline may be chosen.

c. See faculty adviser for a program sheet detailing exact and complete requirements for the major.

d. Electives — 21

If desired, a student may use electives towards satisfying requirements for a minor.

ASSOCIATE OF ARTS
SOCIAL SCIENCE (GENERAL)

School of Social and Behavioral Science

Study directed toward the Associate of Arts degree will serve as a basis for the Bachelor of Arts in Social and Behavioral Sciences and also for programs offered in other schools at Mesa State College. Students should consult faculty advisers to plan specific programs that will prepare them for further study in disciplines of their choice.

Minimum semester hours required: 62

1. Associate of Arts graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	34
b. Human Performance and Wellness	2

2. Course requirements specific to this degree
   a. Students must take a minimum of 18 hours of lower-division courses from one or more of the following disciplines: 18

Anthropology	Economics
History	Human Performance and Wellness
Political Science	
Sociology	Psychology

   b. Those students wishing to concentrate in a specific discipline should consult with an adviser in that discipline or the Chairperson of the Department of Social Sciences.
3. Electives 8
4. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

BACHELOR OF ARTS IN SOCIOLOGY

School of Social and Behavioral Sciences

1. Baccalaureate graduation requirements (for further information, see section on "Degree Requirements" in this catalog)

	Cr. Hrs.
a. General Education	33
b. B.A. Distinction (Foreign Language)	6
c. Human Performance and Wellness	3

2. Requirements specific to this degree

a. Required courses — 48

ANTH 201	Cultural Anthropology	(3)
SOCO 260	General Sociology	(3)
SOCO 264	Social Problems	(3)
SOCO 400	History of Sociology	(3)
SOCO 410	Contemporary Social Theory	(3)
SOCI 310	Methods Social Research	(3)
STAT 200	Probability and Statistics	(3)

15 upper division hours selected from the following:

SOCO 300	Political Sociology	(3)
SOCO 310	Sociology of Religion	(3)
SOCO 312	Collective Behavior and Popular Culture	(3)
SOCO 314	Population Impact Problems and Urbanization	(3)
SOCO 316	Social Stratification	(3)
SOCO 330	Crime and Delinquency	(3)
SOCO 350	Sociology of Death and Dying	(3)
SOCO 360	Social Influences of Small Groups	(3)

12 upper division hours selected from the following:

HSER 301	Introduction to Human Services	(3)
HSER 310	Sex Role Identification	(3)
PSYC 320	Social Psychology	(3)

Or any upper division course from the following disciplines: Economics, History, or Political Science

b. Concentrations

(1) Concentrations are available in Anthropology and Human Services under this degree.

(2) Students wishing to prepare for a career in Criminology are encouraged to do so through a B.A. in Sociology. Contact a faculty adviser in the Sociology program for information concerning the appropriate electives to take.

c. Requirements may vary if a concentration is selected. See faculty adviser for a program sheet detailing exact and complete requirements for the major and concentration chosen.

d. Electives — 33

If desired, a student may use electives to satisfy requirements for a minor.

ASSOCIATE OF ARTS
THEATRE

School of Humanities and Fine Arts

Minimum requirements: 63

1. Associate of Arts graduation requirements (for further information, see section "Degree Requirements: in this catalog).

	Cr. Hrs.
a. General Education	34
b. Human Performance and Wellness	2

2. Course requirements specific to this degree

a. Required courses			23
	THEA 141	Theatre Appreciation	(3)
	THEA 142	Makeup	(2)
	THEA 143	Costuming	(2)
	THEA 243	Scene Construction, Painting, and Design	
		or	
	THEA 244	Beginning Lighting	(3)
	THEA 251	Beginning Acting	
		or	
	THEA 252	Stage Movement	(3)
	Four credits from: Drama Performance 147, 148, 247, 248 and/or Play Production 117, 118, 217, 218		(4)
b. Electives			10

Ten hours of electives also must be chosen in consultation with the adviser.

c. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

ASSOCIATE OF APPLIED SCIENCE IN TRAVEL, RECREATION AND HOSPITALITY MANAGEMENT

School of Business

1. Course requirements for this degree

	Cr. Hrs.
a. ENGL 111 and 112 or 115	6
ECON 201 or PSYC 121	3
GEOG 103	3
Additional general education class	3

2. Course requirements specific to this degree

a. Required courses			48
ACCT 201	Principles of Accounting I or		
OFAD 101	Bookkeeping for Small Business	(3)	
BUGB 101	Introduction to Business	(3)	
BUGB 141	Business Mathematics	(3)	
BUGB 231	Survey of Business Law	(3)	
CISB 101	Business Data Processing	(2)	
CISB 104	BASIC Programming or		
CISB 105	Introduction to Business Software	(1)	
MANG 201	Principles of Management	(3)	
MARK 231	Principles of Marketing	(3)	
TRAV 101	Travel Industry I	(3)	
TRAV 102	Travel Industry II	(3)	
TRAV 103	Travel and Tourism Marketing Techniques	(3)	
TRAV 199	Employment Concepts	(1)	
TRAV 201	Management in the Travel Industry I	(3)	
TRAV 215	Computerized Reservations or		
TRAV 217	Hotel Operations	(3)	
TRAV 299	Internship	(12)	
2. Electives			9
Suggested courses:			
ACCT 202	Principles of Accounting II	(3)	
ECON 202	Principles of Microeconomics or		
PSYC 122	General Psychology	(3)	

3. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

ASSOCIATE OF APPLIED SCIENCE IN WELDING

School of Technology

Courses are designed to give students an adequate knowledge of metals, layout work, and welding processes, along with an opportunity to gain manipulative skills and the related information needed to enter and progress in various welding occupations. Instruction and shop practice is offered in SMAW, GMAW, FCAW, and GTAW of mild steel in all positions as well as pipe and specialty welding. Various cutting and fabrication methods are included. Students can arrange work experience as an elective part of the regular program after completing two semesters or more.

Minimum semester hours required: 76)

1. Course requirements for this degree

	Cr. Hrs.
a. English (six semester hours of English satisfied by completing any one of the following sequences: ENGL 086 and 087, or 121 or ENGL 090 and 111 or ENGL 111 and 112, 115, 121, or 129	6
b. Six semester hours selected from the following: ANTH 201, 102, 222 — HIST 101, 102, 131, 132 ECON 201, 202 — POLS 101, 261 ENGL 131 and 132 or 133 — PSYC 121, 122 145, 150 — SOCO 144, 260, 264 GEOG 103	6
c. Mathematics MATH 015 or higher level math course	3
d. All the following courses:	54

WELD 110, 110L	SMAW I and Lab	(8)
WELD 112	Welding Theory	(4)
WELD 117, 117L	OFW and C I and Lab	(2)
WELD 120, 120L	SMAW II and Lab	(8)
WELD 121	Blueprint Reading I	(2)
WELD 122	Blueprint Reading II	(2)
WELD 131	Fabrication Layout I	(2)
WELD 132	Fabrication Layout II	(2)
WELD 141	Shop Management and Structural Theory	(4)
WELD 145	Metallurgy	(3)
WELD 210, 210L	GMAW and Lab	(3)
WELD 220, 220L	FCAW and Lab	(3)
WELD 230, 230L	GTAW and Lab	(3)
WELD 240, 240L	SMAW III and Lab	(8)

2. Electives 3

3. Human Performance and Wellness 2
4. Special requirements and recommendations
   Students seeking an Associate of Applied Science degree must obtain a minimum of 2.00 ("C") in each required WELD course and must satisfy all other graduation requirements.
5. See faculty adviser for a program sheet detailing exact and complete requirements for this degree.

CERTIFICATE OF OCCUPATIONAL PROFICIENCY IN WELDING

School of Technology

Certificate programs are designed to be employment directed for beginning level jobs. Students should check with a Welding instructor/adviser about options for specialized employment training requiring a shorter period of training.

Minimum semester hours required: 39

1. Course requirements for this certificate
   a. All of the following courses:

		Sem Hrs	*Con Hrs*
MATH 015	Basic Mathematics	3	47
WELD 110	Shielded Metal Arc Welding I	1	17
WELD 110L	Shielded Metal Arc Welding I Lab	7	165
WELD 112	Welding Theory	4	62
WELD 117	Oxy-Fuel Welding/Cutting I	1	17
WELD 117L	Oxy-Fuel Welding/Cutting I Lab	1	22
WELD 120	Shielded Metal Arc Welding II	1	17
WELD 120L	Shielded Metal Arc Welding II Lab	7	165
WELD 121	Blueprint Reading I	2	30
WELD 122	Blueprint Reading II	2	30
WELD 131	Fabrication Layout I	2	30
WELD 132	Fabrication Layout II	2	30
WELD 210	Gas Metal Arc Welding	1	17
WELD 210L	Gas Metal Arc Weld Lab	2	45
WELD 220	Flux Core Arc Welding	1	17
WELD 220L	Flux Core Arc Weld Lab	2	45

2. See faculty adviser for a program sheet detailing exact and complete requirements for this certificate.

SELECTED STUDIES

(Bachelor of Arts, Selected Studies)

Admission to Selected Studies

Formal application for admission is required of all students entering the Selected Studies program. Application will be made with the Dean of the School to which the student's area of studies is assigned for administration.

No freshman will be admitted to the program.

The minimum academic requirements for admission are:

1. Completion of at least 24 semester hours of academic credit exclusive of physical education activity courses and remedial courses.
2. A G.P.A. of 2.50 or better. Transfer or other grades which are less than five years old will be used to determine eligibility for the program.

Admission to the program will be contingent upon completion of a curriculum contract. Curriculum contracts must follow one of the formats listed below:

1. A 72 credit hour major consisting of two primary areas of study containing a least 36 semester hours of credit each.
2. A 72 credit hour major consisting of a primary area of study containing at least 48 semester hours of credit and a secondary area of study containing at least 24 semester hours of credit.
3. A 72 credit hour major consisting of a primary area of study containing at least 36 semester hours of credit and two secondary areas of study containing at least 18 semester hours of credit each.

All curriculum contracts are subject to the following:

1. An area of study (primary or secondary) may consist of coursework from a single academic discipline. In such cases, each of the areas in the program must be taught in an academic discipline with a different coursework prefix.
2. The primary area(s) of study may be interdisciplinary in nature. Such programs must be approved by the Dean and Department Chairs in consultation with faculty advisers in the affected areas. The student is required to present a justification for the particular curriculum in their application.

   Applications will be judged on the basis of academic integrity, pre-professional preparation, student's career goals, etc.
3. At least one-half of the credit hours in each area of study must be at the upper division level with the exception that one vocation-technical secondary area of study may be included in the curriculum which will be exempt from this provision.
4. Each major program (all areas of study combined) must contain a minimum of 36 semester hours of upper division credit whether or not the curriculum contains a vocational-technical area of study.
5. Each study area contract must be approved by the Chair of the department teaching the principal discipline contained in the area of study. Since departments are responsible for the academic integrity of curriculum contracts, Chairs may deny the proposed study area curriculum, change it, or require hours in excess of minimums described above. The proposed curriculum must include courses which define the philosophy and methodology of the academic disciplines comprising the areas of study.
6. At least one-half of the courses contained in the curriculum contract (all study areas combined) must be earned at Mesa State College. Departments may require coursework exceeding this minimum.

7. A student must be in residence as a full-time student at Mesa State College for at least three semesters after being formally admitted to Selected Studies to qualify for the baccalaureate degree.
8. A student must complete all other general education and graduation requirements.

To file an application the student must:

1. Submit copies of all college transcripts.
2. Present a credit evaluation report from the Registrar's office.
3. Present a written application which includes a description of academic and career goals; a definition and description of a clear, unifying theme in the program; a statement of reasons for choosing particular disciplines included in the proposed major program; such other information the student may wish to include in support of the application.
4. Have the application statement reviewed by the Dean and Chairs of the affected departments. Department Chairs have the responsibility of designating an academic adviser to assist students in selecting coursework for inclusion in the primary and secondary subject areas. The Chair and faculty may deny a student's proposal.
5. Complete a preliminary program proposal in consultation with the various academic advisers. The program proposal must have the approval of the affected department Chairs.
6. File the approved preliminary program proposal with the Dean of the School.

Execution of Curriculum Contracts

It will be the responsibility of the Dean of the School to which the Selected Studies program has been assigned for administration to oversee execution of curriculum contracts, assisted by advisers in each academic department.

Each school will identify one or more persons who will assist the responsible Dean in executing curriculum contracts. These School representatives will act as advisers to Selected Studies students whose first primary area of study is being taught in the adviser's School. Assignment of Selected Studies candidates to school advisers will be made by the supervising Dean at the time the student is formally admitted to the program.

The supervising dean will notify applicants in writing of formal admission to the program or of rejection for admission. In addition, the supervising Dean will keep a file of approved curriculum contract and will approve petitions to graduate in Selected Studies upon completion of curriculum contracts.

Once a student is admitted to Selected Studies under a curriculum contract, that contract must be fulfilled as negotiated unless formally amended. Amendments will be discouraged except for good cause. Amendments to curriculum contracts must be approved by all persons involved in the original area of study negotiations, and appropriate changes must be made in the original contract on file with the supervising Dean. Amending a contract does not affect the student's status as an admitted Selected Studies student.

TEACHER CERTIFICATION

Certification to teach in public schools in the state of Colorado requires that a baccalaureate degree be earned and, additionally, that certification be obtained. At Mesa State College, a student may prepare for certification by earning a baccalaureate degree from among the discipline areas specified below for elementary, secondary, or K-12 certification. In addition, a program of education courses must be taken and other requirements of the state and the Mesa State College Teacher Education and Certification Department met. Students seeking certification must:

1. Obtain a program sheet for their academic baccalaureate degree from the appropriate School or department adviser. (Examples: B.S. in Mathematics with Elementary Teacher Certification or B.A. in English with Teacher Certification.) This program sheet should be obtained before the student begins work on his or her degree. The requirements on the program sheet must be met for the degree to be granted.
2. Contact the Teacher Education and Certification Department for requirements and courses necessary within the education area to prepare for certification. Many of these requirements are specified below.

   Teacher certification is a separate process from the degree, although both may be pursued at the same time. The assistance of an adviser in the Teacher Education and Certification program is vital and the student needs to contact the department the first semester in his or her degree work.

ELEMENTARY TEACHER CERTIFICATION PROGRAM

Colorado Teacher Certification and Elementary Education Endorsement
(Kindergarten through Sixth Grade)

Following are the four components of the Mesa State College elementary teacher certification program:

I. Professional Sequence of coursework for Elementary Teacher Certification

Required Courses		*Semester Hours*
EDUC 220	Foundations and Legal Aspects of Education	3
EDUC 260	Teaching Diverse Populations	2
EDUC 311	Creative and Physical Expression for Children	3
EDUC 320	The Developing Child in the School	3
EDUC 321	Current Issues in Curriculum Development	3
EDUC 350	Exceptionality in the Classroom	3
EDUC 370	Orientation to Education Technology	3
EDUC 390	The Comprehensive Elementary Language Program	4
EDUC 400	Learning Theories/Teaching Strategies in the Disciplines	4
EDUC 494	Pre-Internship Seminar	2
EDUC 499c	Teaching Internship and Colloquium: Elementary	12
	Total Hours Required for Teacher Certification	42

II. Academic Disciplines Approved for Elementary Teacher Certification

English
Liberal Arts
Mathematics
Psychology
Science
Social Science

Refer to specific program sheets and consult with the appropriate major adviser and with the Teacher Certification Department.

III. Requirements Specific to Elementary Teacher Certification

All students are required to complete the general education requirements of Mesa State College. Following are specific courses necessary to satisfy requirements for teacher certification:

ENGL 111	English Composition
ENGL 112	English Composition
MATH 105	Elements of Mathematics I
HPWA 260	School and Personal Health
PSYC 233	Human Growth and Development
SPCH 102	Speechmaking

IV. Additional Requirements for Teacher Certification

Eligibility requirements for entry and formal admission to the Mesa State College Teacher Certification Program are prescribed by the Colorado Department of Education and Mesa State College. Such requirements are generic in that all students seeking certification and endorsement must complete them regardless of major, program area or chosen specialty. Examples of such requirements include a minimum grade point for English Composition and Speech, taking and passing the California Achievement Test, experience with youth and a letter of reference. Each interested student should consult with advisers in both Teacher Certification and his or her major area.

SECONDARY TEACHER CERTIFICATION PROGRAM

Colorado Teacher Certification at the Secondary Level (Grades Seven through Twelve)

Students may seek certification at the secondary level in the following endorsement areas: English, mathematics, science, and social studies. Consultation with advisers in both Teacher Certification and in the major area is required to establish a comprehensive program.

I. Professional Sequence of coursework for Secondary Teacher Certification Program

Required Courses		*Semester Hours*
EDUC 220	Foundations and Legal Aspects of Education	3
EDUC 260	Teaching Diverse Populations	2
EDUC 320	The Developing Child in the School	3
EDUC 350	Exceptionality in the Classroom	3
EDUC 360	Teaching and Learning in the Secondary Schools	4
EDUC 370	Orientation to Education Technology	3
EDUC 405	Reading and Writing in the Content Area	4
EDUC 494	Pre-Internship Seminar	2
EDUC 499g	Teaching Internship and Colloquium: Secondary	12
	Total Hours Required for Teacher Certification	36

II. Academic Course Requirements for Secondary Teacher Certification in the Major Area

English	ENGL 455 Methods of Teaching Secondary English	3
Math	MATH 347 Methods of Teaching Secondary Math	3
Science	BIOL 393 Teaching Science in the Secondary School	3
Social Studies	SOCI 340 Methods of Teaching Social Studies: Secondary School	3

III. Requirements Specific to Secondary Teacher Certification

ENGL 111	English Composition
ENGL 112	English Composition
PSYC 233	Human Growth and Development
SPCH 102	Speechmaking

K-12 TEACHER CERTIFICATION PROGRAM

Colorado Teacher Certification at the K-12 Level.

Students may seek certification at the K-12 level in music and physical education. Consultation with advisers in both Teacher Certification and the major area is required to establish a comprehensive program.

I. Professional Sequence of coursework for K-12 Teacher Certification

Required Courses		*Semester Hours*
EDUC 220	Foundations and Legal Aspects of Education	3
EDUC 260	Teaching Diverse Populations	2
EDUC 320	The Developing Child in the School	3
EDUC 350	Exceptionality in the Classroom	3
EDUC 370	Orientation to Educational Technology	3
EDUC 405	Reading and Writing in the Content Areas	4
EDUC 494	Pre-Internship Seminar	2
EDUC 499d	Teaching Internship and Colloquium Elementary/Part	6
EDUC 499h	Teaching Internship and Colloquium Secondary/Part	6
	Total Hours Required for Teacher Certification	32

II. Additional Course Requirements for K-12 Teacher Certification in the Major Area

Music	MUSA 340 Teaching Elementary and General Music	3
	MUSA 440 Teaching Vocal Music, K-12	3
	MUSA 441 Teaching Instrumental Music, K-12	3
Human Performance	HPWA 320 Elementary School Physical Education	3
	HPWA 408 Methods of Secondary Physical Education	3

III. Requirements Specific to K-12 Teacher Certification

ENGL 111	English Composition
ENGL 112	English Composition
PSYC 233	Human Growth and Development
SPCH 102	Speechmaking

ELECTIVES AND/OR MINORS

The unrestricted elective hours within the degree are selected by the student from the academic courses at or above the 100 level. These elective hours may be used to fulfill or partially fulfill requirements for a minor. Minors consist of 15-24 semester hours.

There may be prerequisites for the courses required for the minor which will increase the total number of credit hours for a student who has not already taken those prerequisites. It is required that a minor, if selected, be outside the major so as to encourage a secondary focus to broaden the scope of the educational experience.

A course taken to satisfy either a general education requirement or a major requirement cannot be counted toward the minimum 15 credit hour requirement for a minor. In such cases, the student, in consultation with the department offering the minor, must choose a course substitution within the minor discipline.

At least 33 percent of the credit hours required for the minor must be in courses numbered 300 or above.

Program sheets detailing requirements for the approved minors at Mesa State College are available from the office of the dean of the school in which the minor is offered.

Minors currently approved, along with the school in which they are offered, are:

MINOR	*SCHOOL*
Athletic Training	Social and Behavioral Science
Art	Humanities and Fine Arts
Biology	Natural Sciences and Mathematics
Business Administration	Business
Chemistry	Natural Sciences and Mathematics
Classical Studies	Humanities and Fine Arts
Coaching	Social and Behavioral Science
Computer Science	Natural Sciences and Mathematics
Dance	Social and Behavioral Science
Economics	Social and Behavioral Science
English (Literature or Writing)	Humanities and Fine Arts
Geology	Natural Sciences and Mathematics
History	Social and Behavioral Science
Mass Communications	Humanities and Fine Arts
Mathematics	Natural Sciences and Mathematics
Music (Instrumental or Vocal)	Humanities and Fine Arts
Parks and Recreation Resource Management	Business
Philosophy	Humanities and Fine Arts
Physics	Natural Sciences and Mathematics
Political Science	Social and Behavioral Science
Psychology	Social and Behavioral Science
Sociology	Social and Behavioral Science
Speech	Humanities and Fine Arts
Theatre	Humanities and Fine Arts
Wellness/Corporate Fitness	Social and Behavioral Science

COURSE DESCRIPTIONS

The course descriptions in this catalog indicate the content of the course and the prerequisites when applicable. Courses are listed in alphabetical order, by their four-letter prefix code, followed by a number and title. The number in parentheses at the end of the course title indicates the credit granted, in terms of semester hours, for each course. Generally, the number of semester hours is the number of hours a class will meet each week. Exceptions are noted in individual course descriptions and, in most cases, prerequisites and/or corequisites stated. In the detailed course descriptions, the course number after the prefix indicates the college year in which the courses should ordinarily be taken.

100-199 . . . . . Freshman year
200-299 . . . . . Sophomore year
300-399 . . . . . Junior year
400-499 . . . . . Senior year

Courses numbered 001-099 are preparatory in nature, not intended for transfer purposes, and may not be used to fulfill baccalaureate, associate of arts or associate of science degree requirements or electives. In some cases preparatory courses will fulfill specified requirements for associate of applied science and certificate programs; preparatory courses may not be used to meet elective requirements in Associate of Applied Science or Certificate programs.

Courses identified as "Independent Study" are those beyond the scope of the required curriculum. General restrictions and regulations may be found under the Program section of this catalog (see "Independent Study" in the index). Specific regulations apply in certain disciplines, as well. Arrangements and permission must be obtained from the appropriate instructor and dean well in advance.

"Topics" courses are offered from time to time and contain material of special interest within a specific discipline not considered elsewhere in the curriculum. Prerequisites vary with course materials, and enrollment requires consent of the instructor.

Mesa State College reserves the right to withdraw any program or course which is not justified due to lack of enrollment or availability of instructors. Other courses may be added if there is sufficient demand. In some programs, certain courses may be offered on an alternate year basis or as determined by demand.

ACCOUNTING

School of Business

ACCT 201 Principles of Accounting I (3)
For those interested in obtaining the basic skills necessary to understand an accounting system and financial statements. (Fall/Spring)

ACCT 202 Principles of Accounting II (3)
Continuation of ACCT 201. Prerequisite: ACCT 201. (Fall/Spring)

ACCT 205 Ten-Key Operations (1)
Skill development essential to accountants in the operation of the ten-key electric calculator with emphasis on both speed and accuracy. Enrollment limited to accounting students. Prerequisite: ACCT 201. (Fall/Spring)

ACCT 221 Intermediate Accounting I (4)
Development of a foundational understanding of Generally Accepted Accounting Principles and their application to external financial statements.
Prerequisite: ACCT 202. (Fall)

ACCT 222 Intermediate Accounting II (4)
Continuation of ACCT 221. Prerequisite: ACCT 221. (Spring)

ACCT 298 Related Work Experience (1,2)
Practical experience and an opportunity to apply academic knowledge in a work situation approved by the School of Business. Students must apply for this course through their advisers at least six weeks prior to end of the semester preceding the semester in which they wish to take the course. For additional requirements, see adviser. Prerequisite: nine semester hours of course work in the field chosen, cumulative GPA of 2.50 or higher, and consent of instructor. (Fall/Spring)

ACCT 311 Managerial Accounting (3)
Application of accounting information to managerial decision making for the non-accounting student. Topics include budgeting for planning and control, cost-volume-profit relationships, and capital budgeting. Prerequisite: ACCT 202. (Fall/Spring)

ACCT 331 Cost Accounting I (3)
Costs and their relationship to planning, controlling, inventory valuation, and decision making. Prerequisite: ACCT 202, CISB 105. (Fall)

ACCT 332 Cost Accounting II (3)
Continuation of ACCT 331. Prerequisite: ACCT 331. (Spring)

ACCT 395 Independent Study (1-3)

ACCT 396 Topics (1-3)

ACCT 401 Governmental Accounting (3)
Accounting principles as they apply to governmental units and non-profit operations. Prerequisite: ACCT 222 or consent of instructor. (Spring)

ACCT 402 Advanced Accounting (3)
The course provides in-depth coverage of consolidated financial statements, partnership accounting, bankruptcy, estates, trusts, and international operations. Prerequisite: ACCT 222. (Fall)

ACCT 411 Auditing (3)
Scope and purposes of the work of a certified public accountant. An in-depth study of the theory of auditing, professional ethics of the profession, legal liability of the auditor, theory of accounting systems, and internal control. Prerequisites: ACCT 222, STAT 214. (Fall)

ACCT 412 Auditing II (3)
Continuation of ACCT 411. Application of auditing theory to financial statements. Examination of audit programs, procedures, and work papers used in each phase of an audit. Prerequisite: ACCT 411. (Spring)

ACCT 421 CPA Review and Professional Preparation I (1)
Review and preparation for the CPA examination and the profession of public accounting through a study of typical CPA exam problems. Prerequisite: senior status. (Fall)

ACCT 422 CPA Review and Professional Preparation II (2)
Continuation of ACCT 421. Prerequisite: ACCT 222 and 332. (Spring)

ACCT 441 Income Tax (5)
For students with an accounting emphasis. Covers the Federal Income Tax Law in depth as it deals with individual taxpayers. Introduction to the various tax reference sources that deal with the subject. Prerequisite: ACCT 222 or consent of instructor. (Fall)

ACCT 442 Advanced Tax and Tax Research (5)
Federal Income Tax Law and filing requirements for corporations, partnerships, estates, trusts, and gifts. The student will be required to participate in the Volunteer Income Tax Assistance program in order to acquire practical experience in preparing tax returns. Prerequisite: ACCT 441. (Spring)

ACCT 495 Independent Study (1-3)

ACCT 496 Topics (1-3)

ADMINISTRATION OF JUSTICE

School of Social and Behavioral Sciences

ADJU 111 Introduction to the Administration of Justice (3)
History and philosophy of the administration of justice in America. Recapitulates the system identifying the various sub-systems, ethics, education, and training for professionals in the system. (Fall)

ADJU 222 Law Enforcement Operations (3)
Analysis of the relationship between major law enforcement problems and the broader community, responsibilities, resource allocation and enforcement strategies. Prerequisites: ADJU 111. (Fall)

ADJU 301 Law Enforcement Procedures (3)
Analysis of landmark decisions which have impacted the procedural rights of the accused and justice operations. Prerequisites: junior standing, and/or consent of instructor. (Spring)

ADJU 320 Administration of Treatment of Offenders (3)
Offender treatment including the criminogenic conditions in a community contributing to criminality, the human services available to assist offenders in accommodating to community life, the history of offender treatment, and the role of probation, parole, and community treatment in the criminal justice system. Prerequisite: Administration of Justice major, upper division standing and/or consent of instructor. (Spring)

ADJU 395 Independent Study (1-3)

ADJU 396 Topics (1-3)

ADJU 420 Administration of Criminal Law (3)
American criminal law in case studies. Includes an analysis of crimes against persons and property, criminal responsibility, and the law of substantive procedure. Prerequisite: Administration of Justice major, upper division standing and/or consent of instructor. (Spring)

ADJU 495 Independent Study (1-3)

ADJU 496 Topics (1-3)

ADJU 499 Internship (1-4)
Provides the student with opportunities to apply theoretical principles in a structured organizational or work environment. Student must have prior instructor and site approval at least one semester in advance of the internship. The student must complete 45 clock hours for each one hour of credit. Prerequisites: senior status in Criminal Justice, G.P.A. in Criminal Justice of 3.0, overall G.P.A. of 2.75 and consent of instructor. (Fall)

AGRICULTURE

School of Technology

AGRI 101 Agricultural and Natural Resource Occupations (1)
Overview of the various branches of agricultural endeavors and their occupational opportunities. Provides guidance in the selection of further studies. (Fall)

AGRI 110 Crop Production (3)
AGRI 110L Crop Production Laboratory (1)
Principles of field-crop production with emphasis on cultural practices and botanical characteristics of crops grown in the intermountain region. Three lectures and one two-hour laboratory per week. (Alternate Spring)

AGRI 112 Agricultural Mechanics (2)
AGRI 112L Agricultural Mechanics Laboratory (1)
Mechanical skills commonly practiced in agricultural settings with special attention to theory and demonstration of internal combustion engines, welding applications, maintenance of farm equipment. Two lectures and one two-hour laboratory per week. (Fall)

AGRI 113 Introduction to Animal Science (3)
AGRI 113L Introduction to Animal Science Laboratory (1)
Livestock industry including production, management, and marketing of livestock products. Three lectures and one two-hour laboratory per week. (Fall)

AGRI 115 Basic Agricultural Skills (1)
AGRI 115L Basic Agricultural Skills Laboratory (2)
Principles and practices of common and economically important farm operations. Emphasis on usual fall activities. One lecture and two two-hour laboratories per week. (Alternate Fall)

AGRI 116 Basic Agricultural Skills (1)
AGRI 116L Basic Agricultural Skills Laboratory (2)
Principles and practices of common and economically important farm operations. Emphasis on usual spring activities. One lecture and two two-hour laboratories per week. (Alternate Spring)

AGRI 120 Horsemanship (2)
AGRI 120L Horsemanship Laboratory (1)
Fundamentals of descriptive identification, relationships of form to function, breeds, determination of value, selection for purchase, identification and use of tack and equipment, application of proper horse handling principles and methods, development of proper seat, hands, and use of aids. The student will be expected to provide a suitable mount and tack. Two lectures and one two-hour laboratory per week. (Alternate Fall)

AGRI 132 Equine Management (3)
The general principles of stabling, pasturing, nutrition, health, genetics, reproduction, economics, and marketing of horses. Prerequisite: AGRI 120. (Alternate Spring)

AGRI 142 Agricultural Economics (3)
Economic principles as they apply to agriculture. (Fall)

AGRI 151 Basic Landscaping (2)
AGRI 151L Basic Landscaping Laboratory (1)
Principles of home landscape design, construction, and maintenance, with an emphasis on low maintenance and water conservation. Two lectures and one two-hour laboratory per week. (On demand)

AGRI 152 Applied Animal Science - Sheep (1)
AGRI 152L Applied Animal Science - Sheep Laboratory (1)
Application of management principles and approved practices in lamb and wool production and lamb feeding enterprises. Alternative methods of production will be observed. One lecture and one two-hour laboratory per week. Prerequisite: AGRI 113. (Alternate Spring)

AGRI 153 Applied Animal Science - Swine (1)
AGRI 153L Applied Animal Science - Swine Laboratory (1)
Application of management principles and approved practices in farrowing and swine feeding enterprises. Alternative operations will be observed. One lecture and one two-hour laboratory per week. Prerequisite: AGRI 113. (Alternate Fall)

AGRI 155 Applied Animal Science - Cattle (1)
AGRI 155L Applied Animal Science - Cattle Laboratory (1)
Application of management principles and approved production practices in cow-calf, stocker and feeder beef cattle enterprises. Alternative operations will be observed. One lecture and one two-hour laboratory per week. Prerequisite: AGRI 113. (Alternate Spring)

AGRI 161 Agriculture Computer Software (2)
Introduction to basic computer operation, application of agricultural spreadsheets and templates, software, and telecommunication technology. (Spring)

AGRI 193 A,B,C,D,E Directed Study (3)
Individualized instruction concentrating on application of principles learned in previous or concurrent courses. (Summer/Fall/Spring)

AGRI 196 Topics (1-3)

AGRI 201 Environmental Horticulture (3)
AGRI 201L Environmental Horticulture Laboratory (1)
Horticultural science as applied to the propagation and culture of horticultural crops, landscape design, and improvement of plants. Three lectures and one two-hour laboratory per week. (Alternate Fall)

AGRI 202 Soils (3)
AGRI 202L Soils Laboratory (1)
Formation, properties and management of soils. Special attention is given to all conditions that affect crop yields. Three lectures and one two-hour laboratory per week. (Alternate Spring)

AGRI 203 Artificial Insemination (1)
AGRI 203L Artificial Insemination Laboratory (1)
Principles and practices employed in artificial insemination with emphasis on planning and conducting a successful artificial breeding program. One lecture and one two-hour laboratory per week. (Alternate Spring)

AGRI 205 Farm and Ranch Management (3)
Economics applied to farm or ranch management. Emphasizes production, financial and operational management decisions for the agricultural business. Prerequisite: AGRI 142 or consent of instructor. (Spring)

AGRI 211 Introduction to Range Science (3)
AGRI 211L Introduction to Range Science Laboratory (1)
Ecological principles and management practices required for proper utilization of rangeland. Three lectures and one two-hour laboratory per week. (Alternate Fall)

AGRI 222 Livestock Judging and Selection (1)
AGRI 222L Livestock Judging and Selection Laboratory (1)
Evaluation and selection of livestock. One lecture and one two-hour laboratory per week. (Alternate Spring)

AGRI 225 Agriculture Business Records and Analysis (3)
Utilization of records in agricultural production and business management; analytical methods, budgets, and planning techniques for improved decision making. Prerequisites: AGRI 205. (Fall)

AGRI 231 Horse Training (1)
AGRI 231L Horse Training Laboratory (2)
Fundamental principles and practices involved in handling, gentling, breaking, and training or retraining horses. Attention is given to alternative methods, intended uses, and individual differences among horses. The student will be expected to provide a suitable mount and tack. One lecture and two two-hour laboratories per week. Prerequisite: AGRI 120. (Alternate Fall)

AGRI 242 Equine Evaluation (1)
AGRI 242L Equine Evaluation Laboratory (1)
Systematic analysis of horse conformation and the relationship of conformation to function. Includes judging for selection for various uses, particularly for breeding and showing, as well as preparing and presenting justifications in written and oral form. One lecture and one two-hour laboratory per week. Prerequisite: AGRI 120. (Alternate Spring)

AGRI 251 Forage Crops (3)
AGRI 251L Forage Crops Laboratory (1)
Important aspects of forage crop production. Three lectures and one two-hour laboratory per week. (On demand)

AGRI 254 Livestock Feeding (3)
AGRI 254L Livestock Feeding Laboratory (1)
Practical application of the analysis of feeds and requirements of various classes of livestock used in the formulation of balanced rations. Three lectures and one two-hour laboratory per week. (Alternate Fall)

AGRI 260 Functional Anatomy of Livestock (3)
AGRI 260L Functional Anatomy of Livestock (2)
Systematic anatomy and physiology of domestic animals as related to production, reproduction, and health. Emphasis is placed on systems unique to domestic animals. Three lectures and two two-hour laboratory per week. (Alternate Spring)

AGRI 265 Agricultural Marketing (3)
Introduction to agricultural marketing including futures market structure and application, marketing strategies and planning. Prerequisites: AGRI 142. (Spring)

AGRI 272 Livestock Health (2)
AGRI 272L Livestock Health Laboratory (1)
Principles of livestock sanitation, disease prevention, control, treatment, and first aid. Includes terminology needed for effective communication with veterinarians and understanding pharmaceutical labels. Two lectures and one two-hour laboratory per week. (Alternate Spring)

AGRI 299 Internship (2)
Work experience in various parts of the agricultural enterprise. Hours of work required for credit will be determined by the department. (Fall/Spring/ Summer)

AGRICULTURAL MANAGEMENT

School of Technology

AGRM 102 Farm and Ranch Business Management II (3)
Utilization of the Lotus 1-2-3 spreadsheet in farm budgeting to maximize profits. (On demand)

AGRM 103 Farm and Ranch Business Management III (3)
Basic principles of agricultural economics, credit, ratio analysis, depreciation, and income tax strategies. (On demand)

AGRM 105 Farm and Ranch Business Management V (3)
An in-depth study of the marketing of grains, livestock and specialty crops. Will include charting as a means of maximizing prices. Prerequisites: AGRM 104. (On demand)

AGRM 107 Farm and Ranch Business Management VII (3)
Designed to promote benefits of raising a family on a farm/ranch through an understanding of stress and proper business management. (On demand)

ANTHROPOLOGY

School of Social and Behavioral Sciences

ANTH 201 Cultural Anthropology (3)
Basic concepts of cultural anthropology including the theoretical perspectives, social and political institutions, ceremonies, and linguistics. Cultural change and cultural destruction are also included. (Spring)

ANTH 222 ~~New World Archaeology~~ World Prehistory (3)
Introduction to basic archaeological methods and theory with an overview of North, Middle, and South American archaeology emphasizing the origin of inhabitants, distribution, and adaptation to their respective environments, and the development of prehistoric cultures. (Fall)

ANTH 301 The North American Indian (3)
Cultural systems of the North American Indian including major areas, languages, and behavior patterns through case studies of selected groups. Prerequisites: ANTH 201. (Spring)

ANTH 310 Qualitative Methods in Social Research (3)
Theoretical, descriptive, and instructive aspects of qualitative social research including theoretical perspectives, field journalism, participant observation, interviewing, ethics, and research design. Students will conduct and discuss brief fieldwork in the community. Prerequisite: ANTH 201. (Fall)

ANTH 330 Religion and Culture (3)
Comparison of organized beliefs in the spiritual world and their relationship to the cultures in which they are practiced. Several theoretical perspectives will be emphasized. Prerequisite: ANTH 201. (Spring, alternate years)

ANTH 395 Independent Study (1-3)

ANTH 396 Topics (1-3)

ANTH 410 World Cultures (3)
Study of band, tribal, chiefdom, and state societies from a variety of theoretical perspectives, also includes the study of contemporary cultural change in non-state societies. Prerequisites: ANTH 201, 310. (Spring)

ANTH 495 Independent Study (1-3)

ANTH 496 Topics (1-3)

ART

School of Humanities and Fine Arts

The Mesa State College Art Department maintains and periodically displays a collection of student art work and reserves the right to retain one piece of work from each student enrolled in a studio class.

ARTE 101 Two Dimensional Design (3)
The principles of form and function in two dimensional design with emphasis on color theory and use. (Fee charged for some of the materials used.) One and one-half hours of lecture and three hours of studio per week. (Fall/Spring)

ARTE 102 Three Dimensional Design (3)
The principles of form and function in sculpture and other three dimensional design areas. (Fee charged for some of the materials used.) One and one-half hours of lecture and three hours of studio per week. (Fall/Spring)

ARTE 115 Art Appreciation (3)
Some of the hows, whys, and whos of painting, sculpture, and functional design in selected periods and places. (Spring)

ART SAMPLER COURSES These courses offer brief (sometimes on modular scheduling) introductions to one art medium. (2 hours studio)

ARTE 130	Fibers (On demand)	(1)
ARTE 154	Ink Drawing Prerequisite: ARTE 151 or consent of instructor. (Spring)	(1)
ARTE 170	Printmaking (On demand)	(1)
ARTE 192	Pastels Prerequisite: ARTE 151 or consent of instructor. (On demand)	(1)
ARTE 193	Airbrush Prerequisite: ARTE 151 or consent of instructor. (Fall/Spring)	(2)

ARTE 151 Basic Drawing (3)
Freehand drawing of figural and environmental subjects through perceptual exercises and common drawing media. (A model fee may be charged) Six hours of studio. (Fall/Spring)

ARTE 190 Mixed Media (2)
Water based media, such as ink, dye, watercolor (both transparent and opaque) acrylic and tempera are used in the creative process). Prerequisite: ARTE 151. (Fall)

ARTE 210 Early Childhood Art (2)
Theory and practice of art education for young children through lecture, laboratory and practice teaching culminating in resources for teaching. One hours of lecture and two hours of laboratory per week. (Fall)

ARTE 211 Art History: Ancient-1300 (3)
A chronological study of the art and architecture of the prehistoric, ancient, and medieval worlds. (Fall)

ARTE 212 Art History: Europe 1300-1900 (3)
Chronological study of European painting, sculpture, and architecture from the Italian Renaissance to the beginning of the Modernist Period. (Spring)

ART PROCESSES AND MEDIA
These courses introduce traditional materials of the visual arts through studio experiences with lectures on theory and history of the media. (Fee charged for some materials.) One hour of lecture and four hours of studio per week.

ARTE 221	Metalsmithing Prerequisite: ARTE 102 or consent of instructor. (On demand)	(3)
ARTE 231	Fibers Prerequisite: ARTE 101 or consent of instructor. (On demand)	(3)
ARTE 241	Ceramics, Handbuilding Prerequisite: consent of instructor.	(3)
ARTE 242	Ceramics, Potters' Wheel Prerequisite: ARTE 241 or consent of instructor.	(3)
ARTE 271	Printmaking - Relief and Intaglio Prerequisite: ARTE 101, 151 or consent of instructor. (Fall)	(3)
ARTE 272	Printmaking - Lithography Prerequisite: ARTE 101, 151 or consent of instructor. (Spring)	(3)
ARTE 281	Sculpture - Modeling and Mold Making Prerequisite: ARTE 102 or consent of instructor.	(3)
ARTE 282	Sculpture - Foundry Prerequisite: ARTE 102 or consent of instructor.	(3)
ARTE 283	Sculpture - Carving and Construction Prerequisite: ARTE 102 or consent of instructor.	(3)
ARTE 284	Ceramic Sculpture Prerequisite: ARTE 102 or consent of instructor. (Fall)	(3)
ARTE 291	Painting Prerequisites: ARTE 101, 151, or consent of instructor. (Fall/Spring)	(3,3)
ARTE 293	Watercolor Painting Prerequisites: ARTE 101, 151, or consent of instructor. (On demand)	(3)

ARTE 251 Figure Drawing (3)
Emphasis on the tradition of the human figure using contemporary concepts of composition and techniques, quality drawing tools, and surfaces. Nude models, bones, and anatomy charts as well as reproductions of the work of figurative artists are utilized. (A model fee will be charged.) One hour of lecture and four hours of studio per week. Prerequisite: ARTE 151 or consent of instructor. (Spring)

ARTE 255 Visual Art Workshop (1)
Intensive study of a selected art medium. Thirty hours of studio work. (Summer)

ARTE 261 Introduction to Computer Art (3)
Basic concepts of computers as a Fine Art tool utilizing the Commodore Amiga computer. History, terminology, hardware, and hands on experience with emphasis on the creative process. Two hours lecture and two hours studio per week. Prerequisites: ARTE 101, 151 or consent of instructor. (Spring)

ARTE 300 Exhibitions and Management (2)
The business of art including art law, studio management, sales practices, presentation of art work, conservation practices, and gallery design. One hour of lecture and two hours of laboratory per week. Prerequisite: junior or senior standing. (Fall)

ARTE 315 Modernist Art History (3)
Sequence of movements and schools of art from 1850 to 1950 including conditions and influences affecting art and the work of major artists, surveyed through slides and reading. Prerequisites: ARTE 211, 212 or consent of instructor. (Spring)

ARTE 316 Post Modern Art History (3)
Art of the second half of the 20th century including conditions and influences affecting art and the work of major artists, surveyed through slides and reading. Prerequisites: ARTE 211, 212, 315 or consent of instructor. (Spring)

ADVANCED STUDIOS
Specific media to be studied in a structured class, or a general studio including a variety of media and individually contracted work. One hour of lecture and four hours of studio per week. Prerequisites: ARTE 101,102, 151,211,212, and at least three hours of the same Processes and Media at the 200 level.

ARTE 321	Metalsmithing (On demand) Prerequisites: ARTE 151, 221	(3)
ARTE 341	Pottery Production (Fall/Spring) Prerequisites: ARTE 241 or 102 and 242	(3)
ARTE 342	Intermediate Ceramics (On demand) Prerequisites: ARTE 241, 242	(3)
ARTE 352	Drawing (Spring) Prerequisites: ARTE 101, 251	(3)
ARTE 371	Printmaking (Fall) Prerequisites: ARTE 271	(3)
ARTE 372	Printmaking (Spring) Prerequisites: ARTE 272	(3)
ARTE 381, 382	Sculpture (Fall/Spring) Prerequisites: ARTE 281 or 282	(3,3)
ARTE 384	Ceramic Sculpture (On demand) Prerequisites: ARTE 101, 102, 151, 211, 212, and at least hours of the same process course at the 200 level.	(3)
ARTE 391, 392	Painting (Fall/Spring) Prerequisites: ARTE 291	(3,3)

ARTE 395 Independent Study (1-3)

ARTE 396 Topics (1-3)

ADVANCED STUDIOS
Specialized studio problems contracted by senior-level students preparing for graduate schools, culminating in a faculty examination of each student's portfolio and an exhibition of the student's work. Prerequisite: at least three hours in the same Advanced Studios at the 300 level. (6 hours studio)

ARTE 421	Metalsmithing (On demand) Prerequisite: ARTE 321	(3)
ARTE 441	Glaze Calculation (On demand) Prerequisite: ARTE 341	(3)
ARTE 442	Kiln Construction (On demand) Prerequisites: ARTE 341 or 342	(3)
ARTE 452	Drawing (Spring) Prerequisites: ARTE 352	(3)
ARTE 471	Printmaking (Fall) Prerequisites: ARTE 371	(3)
ARTE 472	Printmaking (Spring) Prerequisites: ARTE 372	(3)
ARTE 481, 482	Sculpture (Fall/Spring) Prerequisites: ARTE 381, 382	(3,3)
ARTE 484	Ceramic Sculpture (On demand) ARTE 101, 102, 151, 211, 212, 384 and at least three hours of the same process course at the 200 level.	(3)
ARTE 491, 492	Painting (Fall/Spring) Prerequisites: ARTE 315 or 316, and 391, and 392.	(3,3)

ARTE 455 Visual Art Workshop (1)
Advanced study of a selected art medium. Thirty hours of studio work. Prerequisite: permission of instructor. (Summer, on demand)

ARTE 494 Senior Seminar and Portfolio (3)
Capstone course with topics related to art criticism, history, aesthetics and current art developments. Preparation of portfolios and a professional resume. Students are required to take a comprehensive assessment to be compared with the test they took in basic drawing. Prerequisite: senior standing or consent of instructor. (Spring)

ARTE 495 Independent Study (1-3)

ARTE 496 Topics (1-3)

AUTOMOTIVE COLLISION REPAIR

School of Technology

AUBF 108 Introduction to Auto Body Repair (1)
AUBF 108L Introduction to Auto Body Repair Laboratory (3)
Designed to teach the use of auto body repair equipment and tools; skills, such as roughing and alignment, shrinking, grinding; and the use of body fillers. These skills will allow the student to become competent to repair auto body panels. Modular course - two hours lecture, 12 hours laboratory per week. Prerequisites: consent of the instructor. (Fall)

AUBF 109 Auto Body Repair and Preparation (1)
AUBF 109L Auto Body Repair and Preparation Laboratory (3)
Designed to teach students panel repair with the use of tools, skills and techniques acquired in AUBF 108. A student is required to repair a given number of auto body panels, such as doors, fenders, hood panels, and quarter panels to complete this course. Modular course - two hours lecture, 14 hours laboratory per week. Prerequisites: AUBF 108, 108L. (Fall)

AUBF 118 Introduction to Painting/Preparation (1)
AUBF 118L Introduction to Painting/Preparation Laboratory (3)
Training in the use of paint spraying equipment, and auto body panel paint preparation, including cleaning, sanding, masking, and spraying techniques. Other acquired skills include using primers, sealers, acrylic lacquers, acrylic enamels, polyurethane, and polyoxythane enamels. Each student is required to prepare and spray paint a given number of practice panels before painting complete automobiles. Modular course - three lecture and 12 laboratory hours per week. Prerequisites: consent of instructor. (Fall)

AUBF 119 Complete Auto Painting (1)
AUBF 119L Complete Auto Painting Laboratory (3)
Painting skills acquired in AUBF 118 will be utilized by the student to prepare and spray paint complete paint jobs on approved vehicles. Preparation and painting consists of cleaning, sanding, masking, priming, guide-coating, resanding, sealing, spray painting and detailing of automobiles. Modular course - three lecture hours and 12 laboratory hours per week. Prerequisites: AUBF 118, 118L. (Fall)

AUBF 130 Auto Reconditioning (1)
AUBF 130L Auto Reconditioning Laboratory (2)
Instruction in new car preparation, glass removal and installation, minor panel repair and refinishing, spot painting, cleaning, dyeing and repair of vinyl and upholstery, airbrush painting, exterior finish buffing and polishing, and general automotive detail procedures. One lecture hour and four laboratory hours per week. (Fall)

AUBF 140 Suspension and Mechanical Components (1)
AUBF 140L Suspension and Mechanical Components Laboratory (1)
Instruction includes steering, suspension, engines, brakes, fuel systems, cooling, and air conditioning as applied to the collision repair trade. Lectures, demonstrations and laboratory. One hour lecture and two hours laboratory per week. (Spring)

AUBF 150 Auto Body Welding (1)
AUBF 150L Auto Body Welding Laboratory (2)
The student will gain skills for proficiency in basic oxy-fuel welding, cutting and brazing, and metal inert gas (MIG) wire feed welding as is required in auto body repair. Emphasis will be on new, lighter weight and high strength steels. Plasma arc cutting and resistance spot welding also addressed. One hour lecture and four hours laboratory per week. Fall.

AUBF 200 Panel and Spot Painting (2)
AUBF 200L Panel and Spot Painting Laboratory (4)
Paint composition, refinishing products and their correct usage, color matching, and procedures to be used in making lacquer or acrylic spot repairs. Two hours lecture and eight hours laboratory per week. (Fall)

AUBF 210 Unibody and Frame Repair (2)
AUBF 210L Unibody and Frame Repair Laboratory (2)
Inspection, measurement, and repair methods used to repair unitized and conventional frames. Instruction will include floor systems, drive on rack and bench system. Two hours lecture and four hours laboratory per week. (Fall)

AUBF 220 Shop Management (3)
Shop operation, expenditures, floor-plan design, and equipment for the modern shop including management of employees. Three hours per week. (Spring)

AUBF 228 Bolt-on Body Service (1)
AUBF 228L Bolt-on Body Service (2)
Instruction and practice of replacement parts and glass to proper manufacture specifications. Special attention to fit and structural integrity without leaks and rattles. Modular course - one hour lecture and eight hours laboratory per week. (Fall/Spring)

AUBF 229 Extensive Damage Repair (1)
AUBF 229L Extensive Damage Repair (2)
Severe collision repair procedures. Emphasis on metal work, additional painting, corrosion protection, and special accents. Modular course - one hour lecture and eight hours laboratory per week. Prerequisites: AUBF 108, 108L. (Fall/Spring)

AUBF 238 Weld-on Body Service (1)
AUBF 238L Weld-on Body Service Laboratory (3)
Application of body sheet metal panels that are welded onto the vehicle. Other areas covered are body electrical, sectioning, and sheet molded compounds. One hour lecture and 13 hours laboratory per week. Prerequisites: AUBF 228, 228L, 229, 229L. (Fall/Spring)

AUBF 239 Complete Collision Repair (1)
AUBF 239L Complete Collision Repair Laboratory (3)
Provides experience with heavy damage along with production shop situations. This helps the student bring all of the two years of instruction together before going to work. Modular course - one hour lecture and thirteen hours laboratory hours per week. Prerequisites: AUBF 228, 228L, 229, 229L, 238, 238L. (Fall/Spring)

AUBF 250 Estimating (3)
Parts catalogs, flat rate, remove-and-replace procedures, insurance appraisals, and writing collision repair bids. Three hours per week. (Spring)

AUBF 295 Independent Study (1,2)

AUBF 296 Topics (1,2)

BIOLOGY

School of Natural Sciences and Mathematics

BIOL 101, 102 General Biology (2,2)
BIOL 101L, 102L General Biology Laboratory (1,1)
Ecology, pollution, drugs, sex education, disease problems, body structure and function, phylum relationships, plant growth and development. A student with a biology emphasis will not receive graduation or general education credit for any of these courses. Two lectures and one two-hour laboratory per week. (Fall/Spring)

BIOL 105 Attributes of Living Systems (4)
BIOL 105L Attributes of Living Systems Laboratory (1)
Organization, stability, and change in living systems. Four lectures and one two-hour laboratory per week. (Fall/Spring)

BIOL 106 Principles of Animal Biology (3)
BIOL 106L Principles of Animal Biology Laboratory (2)
Broad morphological, physiological, and ecological features of principal phyla of animals and relationships between them. Three lectures and two two-hour laboratories per week. Prerequisite: BIOL 105 or consent of instructor. (Spring)

BIOL 107 Principles of Plant Biology (3)
BIOL 107L Principles of Plant Biology Laboratory (2)
Organisms traditionally assigned to the plant kingdom; bacteria, fungi, green-protists, algae, and true plants. Morphology, reproductive biology, anatomy, and phylogeny of each group. Three lectures and two two-hour laboratories per week. Prerequisite: BIOL 105 or consent of instructor. (Fall)

BIOL 113 Outdoor Survival (3)
Involves vigorous physical activity relating to survival in diverse situations including wilderness survival and survival of biological, nuclear, and chemical warfare. Excellent attendance is required. Three one-hour lectures per week, three overnight weekend field trips and several Saturday trips. (Fall)

BIOL 141 Human Anatomy and Physiology (3)
BIOL 141L Human Anatomy and Physiology Laboratory (2)
Introduction to form and function of the human body. For students in human performance and wellness, nursing, paramedical students, and biology majors. Three lectures and two two-hour laboratories per week. (Fall)

BIOL 201 Developmental Biology (4)
BIOL 201L Developmental Biology Laboratory (1)
Embryonic growth and development of plants and animals. Also errors in normal development, cancer, aging, and related topics. Four lectures and one two-hour laboratory per week. (Alternate Spring)

BIOL 202 Cellular Biology (3)
BIOL 202L Cellular Biology Laboratory (1)
Form, function, and bioenergetics of the cell. Three lectures and one two hour laboratory per week. Prerequisites: BIOL 106,107, or consent of instructor. (Spring)

BIOL 211 Ecosystem Biology (4)
BIOL 211L Ecosystem Biology Laboratory (1)
Ecological studies utilizing the concepts of population biology: energetics, dynamics, distribution, and sociology. Over-night and/or weekend field trips may be required. Four lectures and one two-hour laboratory per week. (Fall)

BIOL 221 Plant Identification (2)
BIOL 221L Plant Identification Laboratory (2)
Identification of flowering plants through the use of regional floras and recognition of common plant families. Plant collection and herbarium techniques. Two lectures and two two-hour laboratories per week. Prerequisites: BIOL 107. (Fall)

BIOL 231 Invertebrate Zoology (3)
BIOL 231L Invertebrate Zoology Laboratory (1)
Invertebrate phyla structure, physiology, classification, and life history. Work on an independent project is required. Three lectures and one two-hour laboratory per week. (Alternate Spring)

BIOL 241 Pathological Physiology (4)
Function of the human body with emphasis on interpretation of those functions in relation to disease processes. Prerequisite: BIOL 141 or 341. (Fall)

BIOL 250 General Microbiology (3)
BIOL 250L General Microbiology Laboratory (2)
Microorganisms, especially the procaryotic bacteria; culture techniques, biochemical identification, and infectious human diseases. Three lectures and two two-hour laboratories per week. (Spring)

BIOL 301 Principles of Genetics (3)
BIOL 301L Principles of Genetics Laboratory (2)
Principles of genetics at the organismal, cellular, and molecular level dealing with the genetics of prokaryotic and eukaryotic organisms and viruses. Three lectures and two two-hour laboratories per week. Prerequisites: BIOL 105; BIOL 202 recommended. (Fall)

BIOL 315 Epidemiology (3)
Characteristic patterns of communicable disease occurrence as related to individuals, geographic location, and time; factors affecting disease occurrence, the nature of vital statistics, sampling procedures, and study design. An independent project is required. (Alternate Fall)

BIOL 320 Plant Systematics (3)
Systematic botany encompassing principles of classification, nomenclature, and evaluation of current classifications of angiosperms. Designed to be taken concurrently with BIOL 221. (Alternate Fall)

BIOL 321 Taxonomy of Grasses (2)
BIOL 321L Taxonomy of Grasses Laboratory (2)
A study of the grass family and grass-like plants (sedges and rushes) dealing with the evolution, classification, and identification of these plants. Two lectures and two two-hour laboratories per week. Prerequisite: BIOL 107 or consent of instructor. (Alternate Spring)

BIOL 330 Biological Chemistry (3)
BIOL 330L Biological Chemistry Laboratory (1)
Molecules and chemical reactions which are the basis of living systems with emphasis on the structure and function of proteins and the generation and storage of energy. Three lectures and one two-hour laboratory per week. Prerequisites: CHEM 121,122, or equivalent. (Alternate Spring)

BIOL 331 Insect Biology (3)
BIOL 331L Insect Biology Laboratory (1)
Insect taxonomy, structure and function, relationships, ecology, physiology, and reproduction with emphasis placed on the role of insects in the biosphere. Insect collection required. Three lectures and one two-hour laboratory per week. Prerequisites: BIOL 106. (Alternate Fall)

BIOL 341 General Physiology (3)
BIOL 341L General Physiology Laboratory (1)
Function of the circulatory, nervous, respiratory, digestive, urinary, reproductive, and endocrine systems of the human body. Three lectures and one two-hour laboratory per week. Prerequisite: BIOL 106 or consent of instructor. (Alternate Fall)

BIOL 342 Histology (2)
BIOL 342L Histology Laboratory (2)
Microscopic study of tissues and organs. Two lectures and two two-hour laboratories per week. Prerequisites: BIOL 106 or BIOL 107 and consent of instructor. (Alternate Fall)

BIOL 343 Immunology (3)
BIOL 343L Immunology Laboratory (1)
Immune system of animals with emphasis on human immune response. Includes the immune organs and both cellular and humoral responses. An independent research project is required. Three lectures and one two-hour laboratory per week. (Alternate Spring)

BIOL 393 Teaching Science in the Secondary School (3)
Methods of teaching and construction of lessons and curricula. To be taken not more than two semesters before student teaching. Lesson presentation and numerous papers required. Required for secondary certification. (Spring)

BIOL 395 Independent Study (1-3)

BIOL 396 Topics (1-3)

BIOL 403 Evolution (3)
Organismal and molecular evolution emphasizing its importance as the unifying theory in biology. Evolution of natural selection on genetic structure of populations. Prerequisites: BIOL 106,107,301, and senior standing. (Spring on demand)

BIOL 411 Mammalogy (2)
BIOL 411L Mammalogy Laboratory (1)
Classification, life histories, and ecology of mammals. Overnight and/or weekend field trips may be required. Two lectures and one two-hour laboratory or three-hour field trip per week. Prerequisites: upper division standing or consent of instructor. (Alternate Fall)

BIOL 412 Ornithology (3)
BIOL 412L Ornithology Laboratory (1)
Classification and life history of birds, including field identification. Overnight and/or weekend field trips may be required. Three lectures and one two-hour laboratory or three-hour field trip per week. Prerequisite: upper division standing or permission of instructor. (Alternate Spring)

BIOL 414 Aquatic Biology (3)
BIOL 414L Aquatic Biology Laboratory (1)
Classification, life history, and ecology of aquatic animals. Overnight and/or weekend field trips may be required. Three lectures and one two-hour laboratory or three-hour field trip per week. Prerequisite: upper division standing or permission of instructor. (Alternate Spring)

BIOL 415 Tropical Ecosystems (2)
Coral reef, rain forest, and arid desert ecosystems on Caribbean islands. Ten two-hour lectures, ten two-hour laboratories, and ten six-hour field trips conducted at the marine station and primate colony of the University of Puerto Rico. Prerequisites: one year of biological sciences and consent of instructor. (Semester break on demand)

BIOL 416 Ethology (3)
BIOL 416L Ethology Laboratory (1)
Mechanisms and evolution of behavior utilizing captive animals and field trips. Overnight field trips may be required. Three lectures and one two-hour laboratory per week and several field trips, possibly overnight. Prerequisites: BIOL 106,107, and consent of instructor. (Alternate Spring)

BIOL 421 Plant Physiology (3)
BIOL 421L Plant Physiology Laboratory (2)
Plant growth and development at the molecular and cellular level to account for plant growth at the organismic level. Three lectures and two two-hour laboratories per week. (Alternate Spring)

BIOL 423 Plant Anatomy (3)
BIOL 423L Plant Anatomy Laboratory (2)
Form, variability, and structure of the tissues comprising the body of the higher plant. Three lectures and two two-hour laboratories per week. Prerequisites: BIOL 107, 107L. (Alternate Spring)

BIOL 425 Molecular Genetics (3)
Nature and expression of genetic information at the molecular level in prokaryotic and eukaryotic organisms. Prerequisite: BIOL 301. (Alternate Spring)

BIOL 431 Animal Parasitology (3)
BIOL 431L Animal Parasitology Laboratory (1)
Common and important parasites of domestic animals and man. Ecology, epidemiology, diagnosis, and control are discussed with examples from the Protozoa, Trematoda, Cestoda, Nematoda, and Arthropoda. An independent research project is required. Three lectures and one two-hour laboratory per week. (Alternate Fall)

BIOL 441 Endocrinology (3)
BIOL 441L Endocrinology Laboratory (1)
Anatomy and physiology of the endocrine system of vertebrates. Laboratory: emphasis on normal and abnormal endocrine functions. Three lectures and one two-hour laboratory per week. Prerequisite: BIOL 106 or consent of instructor. (Alternate Fall)

BIOL 442 Pharmacology (3)
Principles underlying absorption, distribution, metabolism, and excretion of drugs with emphasis on mechanisms of action and physiological responses. Prerequisite: BIOL 141 or consent of instructor. (Alternate Spring)

BIOL 450 Mycology (2)
BIOL 450L Mycology Laboratory (2)
Fungi, with emphasis on comparative morphology and development, classification, physiology, genetics, and ecological relationships. Emphasis will also be placed on the importance of fungi in industry, agriculture, and medicine. Prerequisites: BIOL 107 or consent of instructor. (Fall)

BIOL 482 Senior Research (2)
Designed to introduce students to appropriate procedures for conducting literature reviews, designing experiments, collecting and analyzing data, and preparing written and oral presentations of such experiments. Required prior to enrolling in Biology 483, Senior Thesis. Two lectures per week or equivalent. Prerequisites: senior standing, 2.80 GPA, and consent of instructor. (Fall)

BIOL 483 Senior Thesis (2)
Designed to introduce students to appropriate procedures for collecting and analyzing data and preparing written and oral presentations of experimental data. Lectures, seminars and/or laboratory work as required. Prerequisites: Biology 482 and consent of instructor. (Spring)

BIOL 495 Independent Study (1-3)

BIOL 496 Topics (1-3)

BIOL 494 Seminar (1)
Current problems, topics, and research procedures in biological sciences and medicine. Topics announced each semester. Prerequisites: sophomore standing and consent of instructor. (Alternate Fall)

BIOL 499 Internship (2,4,6,8,10)
Work experience obtained on a job where assignments are primarily biological projects. The amount of credit award is determined by the school based on the nature of the assignment. Prerequisites: biology major, senior standing with either a 2.80 GPA in major courses, completion of BIOL 482, or consent of instructor. (Fall/Spring/ Summer)

BUSINESS

School of Business

BUGB 101 Introduction to Business (3)
American business system operations in the economy, business functions, and interrelations between the businessman and his environment. Prerequisites: Can be taken for credit only by students who have completed fewer than 15 credit hours of BUGB, ACCT, MANG, MARK, OFAD, TRAV, CISB, or FINA courses. (Fall/Spring)

BUGB 141 Business Mathematics (3)
Fundamental review of whole numbers, decimals, and fractions. Emphasis is placed on percentage applications to solving various business problems in the areas of buying and selling merchandise, inventory computations, interest computations on notes and savings, consumer credit and installment computation, home mortgage loans, and business depreciation computations. (Fall/Spring)

BUGB 211 Business Communications (3)
Development of a non-defensive, supportive, communication system effectively applied to interpersonal and written transactions within the business organization. Prerequisite: ENGW 111. (Fall/Spring)

BUGB 221 Insurance (3)
Common types of protection offered by insurance, including fire, theft, comprehensive, life, automobile, accident, and health. Emphasis on application of insurance to individuals and small business firms. (Spring)

BUGB 231 Survey of Business Law (3)
Application of law as it applies to employees and individuals not dealing with legal matters of organizations. Topics include contracts, agency law, personal property, business organizations and form, and commercial paper. Especially suited for non-business majors. Students contemplating or enrolled in a four year degree program should take BUGB 349. No credit allowed if credit already established in BUGB 351. (Spring)

BUGB 241 Income Tax (3)
Personal income tax, including filling out personal tax returns, exemptions, determining taxable income, adjustments to gross income, itemized deductions, rental income, depreciation, capital gains and losses. Not for students with an accounting emphasis. (Spring)

BUGB 249 Personal Finance (3)
Personal finance management, including income, personal budgeting, taxes, securing loans, consumer credit, insurance, buying a home, and an introduction to investment. (Spring)

BUGB 349 Legal Environment of Business (3)
Legal framework of business including foundations of the American legal system, anti-trust law, property law, contracts and sales, negotiable instruments, agency relationships, torts, labor law, international business law and the social environment of business. Prerequisites: junior or senior standing or consent of instructor. (Fall)

BUGB 351 Business Law I (3)
Contracts (formation, requirements, interpretation, discharge, and enforcement), agency law, and other contracting parties. Includes analysis of the concept of personal property and an introduction to the partnership form of ownership. Prerequisites: junior or senior standing or consent of instructor. (Fall)

BUGB 352 Business Law II (3)
Corporate form of ownership as artificial persons doing business; Uniform Commercial Code as the primary law covering sales (terms of sales contracts, product liability, performance, and breach); commercial paper (instruments used as a monetary substitute, such as checks, drafts, and promissory notes); credit (security interests in real and personal property); and real property. Prerequisite: BUGB 351 or consent of instructor. (Spring)

BUGB 395 Independent Study (1-3)

BUGB 396 Topics (1-3)

BUGB 401 International Business (3)
Current international topics in the disciplines of finance, management, and marketing. Concepts, analytical tools, and models are introduced to help explain the diversity and complexity of the international business environment. Prerequisites: senior standing. (Spring)

BUGB 495 Independent Study (1-3)

BUGB 496 Topics (1-3)

CHEMISTRY

School of Natural Sciences and Mathematics

CHEM 100 Chemistry and Society (3)
Introduction to selected topics in chemistry. Nonmathematical approach with frequent lecture demonstrations and particular attention to chemical technology and its impact on society. (On demand)

CHEM 121 Principles of Chemistry (4)
CHEM 121L Principles of Chemistry Lab (1)
Introduction to fundamental principles of chemistry. Designed for students planning an major in science as well as students with a non-science major. Topics include atomic structure, bonding, periodic table, gas laws, mass relationships, solution theory, oxidation-reduction, electrochemistry, and ionic equilibrium. Four lectures and one three-hour lab per week. Prerequisite: mastery of high school algebra. (Fall/Spring)

CHEM 122 Principles of Organic Chemistry (4)
CHEM 122L Principles of Organic Chemistry Laboratory (1)
Introduction to the chemical and physical properties of selected classes of organic compounds. Four lectures and one three-hour laboratory per week. Prerequisite: CHEM 121 or 131 or one year of high school chemistry and consent of instructor. (Spring)

CHEM 131, 132 General Chemistry (4,4)
CHEM 131L, 132L General Chemistry Laboratory (1,1)
Fundamental principles of chemistry. Designed for students planning a major in science. Topics include atomic structure, bonding, periodic law, kinetic theory, gas laws, stoichiometry, phase relationships, solutions, oxidation-reduction, electrochemistry, and equilibrium. Four lectures and one three-hour laboratory per week. Prerequisite: one year of high school chemistry and mastery of high school algebra. (Fall/Spring)

CHEM 151 Engineering Chemistry (4)
CHEM 151L Engineering Chemistry Laboratory (1)
Selected fundamentals of inorganic chemistry. Topics include stoichiometry, periodic law, bonding, gas laws, phase relations, solutions, electrochemistry, and equilibrium. Designed for students of physics and engineering (except chemical engineering.) Four lectures and one three-hour laboratory per week. Corequisite: MATH 113. Prerequisites: high school chemistry and satisfactory entrance examination scores or CHEM 121. (On demand)

CHEM 311, 312 Organic Chemistry (3,3)
CHEM 311L, 312L Organic Chemistry Laboratory (2,2)
Chemical and physical properties of the major classes of organic compounds. Three lectures and two three-hour laboratories per week. Prerequisite: CHEM 132 or consent of instructor. (Fall/Spring)

CHEM 321 Physical Chemistry I (3)
CHEM 322 Physical Chemistry II (3)
Application of methods of physics to chemistry. Study of equilibrium properties of bulk matter, quantum theory with applications to molecular structure. Statistical mechanics used to understand the microscopic origin of thermodynamic laws. Calculations of macroscopic thermodynamic properties made from molecular properties. Connection made in kinetics between thermodynamics, quantum theory and statistical mechanics for study of time-dependent processes. Prerequisites: CHEM 132, PHYS 122 and MATH 152. (Fall/Spring)

CHEM 331 Physical Chemistry Laboratory (2)
Application of the experimental methods of physics to chemical systems. Each student chooses from a list of possible experiments or works with the instructor to develop experiments. Corequisite: CHEM 322. (Spring)

CHEM 395 Independent Study (1-3)

COMPUTER DRAFTING TECHNOLOGY

School of Technology

CADT 100 Basic CAD/CAM (2)
CADT 100L Basic CAD/CAM Laboratory (2)
Designed to give the student a basic working knowledge of CAD and how to apply a CAM package for production of machine parts. Prerequisites: computer and machining experience preferred or consent of instructor.

CADT 107 Computer Aided Drafting (2)
CADT 107L Computer Aided Drafting Laboratory (2)
Advanced work in computer aided drafting principles including 2-D, 3-D, shading, etc. Prerequisites: ENGR 106, 106L or consent of instructor. (On demand)

CADT 110 CAD Application (2)
CADT 110L CAD Applicaiton Laboratory (2)
The course offers the student an opportunity to apply skills and knowledge gained in earlier courses. The student will work on computer aided drawings relating to their career field of interest and advice of faculty. Intern or Coop may be substituted with approval of adviser. Prerequisites: CADT 107, 107L. (On demand)

CADT 195 Independent Study (1-3)

CADT 196 Topics (1-3)

COMPUTER INFORMATION SYSTEMS

School of Business

CISB 101 Business Data Processing (2)
Basic concepts of computers with focus on terminology, hardware, software, and implication of computers in today's world. Business use of computers including discussion of computer security, privacy of information, future implications, purchasing computers and software, and business application. (Fall/Spring)

CISB 104 BASIC Programming (1)
Basic concepts of programming through use of BASIC language. Several BASIC programs will be written. Prerequisite: CISB 101 or equivalent. (Fall/Spring)

CISB 105 Introduction to Business Software (1)
Current business software. Electronic spread sheets, word processing, and data base software at a beginning level. (Fall/Spring)

CISB 131 COBOL Programming I (3)
Writing programs in COBOL using modern methods of top-down, structured design. Emphasis placed on traditional business applications such as payroll, accounts receivable, and inventory control. Students learn to debug and document programs. Prerequisite: CISB 104 or consent of instructor. (Fall)

CISB 205 Advanced Business Software (3)
Students become proficient through a combination of lecture, demonstration, and projects in the advanced use of electronic spread sheets, word processing, and data base management software. Prerequisite CISB 105, ACCT 202. (Fall/Spring)

CISB 231 COBOL Programming II (3)
Continuation of CISB 131 including disk, sequential, indexed sequential random processing, and use of operating system resources for systems development. Prerequisite: CISB 131. (Spring)

CISB 295 Independent Study (1-3)

CISB 298 Related Work Experience (1,2)
See ACCT 298 course description. (Fall/Spring)

CISB 321 Assembler Language (3)
See CSCI 321 for course description.

CISB 392 Management Information Systems (3)
Use of computers by management as a tool to run businesses more effectively with particular attention to the advantages of using computers in each functional area of a business, problems associated with computerized processing, and the systems approach to problem solution. An in-depth look at various types of information systems as well as the latest concepts, such as database management, decision support and end user programming, allows the student to see the practical application of a computer based information system. Appropriate for all business majors. Prerequisites: ACCT 202. (Fall/Spring)

CISB 395 Independent Study (1-3)

CISB 396 Topics (1-3)

CISB 442 Systems Analysis and Design (3)
Basic systems analysis tools and the procedures for conducting a systems analysis, including systems requirements, initial analysis, general feasibility study, structured analysis, detailed analysis, logical design, and the general systems proposal. Students gain practical experience through projects and/or case studies. Prerequisite: ACCT 202 and at least two programming courses or consent of instructor. (Fall)

CISB 451 Database Administration (3)
Covers design and implementation of a Database Management System from a non-technical viewpoint. Recommended for business students with focus on business users in the design of the DBMS, control integrity, and security. DBMS implementation will be through hands-on use of an actual DBMS. Prerequisites: CISB 105,442, ACCT 202. (Spring)

CISB 471 Advanced Information Systems (3)
Follows CISB 442 and will integrate management information needs, decision making criteria, and design of manager/computer interactive systems. Computerized management control systems for all major functional modules of an organization will be investigated as well as computer simulations, data base management systems, distributed processing, and structured systems development. Prerequisites: ACCT 311 or 331. (Spring)

CISB 495 Independent Study (1-3)

CISB 496 Topics (1-3)

COMPUTER SCIENCE

School of Natural Sciences and Mathematics

CSCI 100 Computers in Our Society (3)
The impact of computers on society and individuals; purpose and use of software integrated systems. Intended for students in disciplines outside the natural sciences and mathematics. (Fall/Spring)

CSCI 111 Computer Science I (3)
Designed to introduce students to the scope and dynamics of computer science and to lay the foundation for further study in the discipline. General principles for algorithm design and analysis are emphasized, and Pascal is used as the language of implementation. Control structures for sequencing, branching, and looping are studied, along with an introduction to data structures (including arrays and records) and program modularization. Corequisite; MATH 119 or consent of instructor. (Fall/Spring)

CSCI 112 Computer Science II (3)
Continuation of CSCI 111 with further emphasis on algorithm design and analysis, procedural abstraction, data abstraction, and quality programming style. Topics covered include dynamic allocation of variables, recursion, and various implementations of stacks, queues, trees, and lists. Prerequisites: CSCI 111.

CSCI 120 Technical Software (3)
Microcomputer software used primarily for engineering. Introduction to computer aided design, computer aided manufacturing, word processing, spread sheet, database management, and MS DOS graphics. (Fall/Spring)

CSCI 131 FORTRAN Programming (3)
CSCI 131L FORTRAN Programming Laboratory (1)
FORTRAN language emphasizing structured programming. Sub-programs, sequential files, direct access files, and FORTRAN data structures are stressed in programs written. Three lectures and two one-hour laboratories per week. Prerequisite: Math 113 or consent of instructor. (Fall/Spring)

CSCI 133 PASCAL Programming (3)
CSCI 133L PASCAL Programming Laboratory (1)
PASCAL and the concepts of structured programming. Includes programming topics and techniques such as character manipulation, arrays, modular programming, searching and sorting techniques, files and records, and data structures. Three lectures and two one-hour laboratories per week. Prerequisite: MATH 113. (Fall/Spring)

CSCI 135 COBOL Programming (3)
See CISB 131. Computer science students normally enroll in CISB 131 but are offered this course upon demand when CISB 131 is not offered. (Fall/Spring)

CSCI 241 Computer Architecture I (3)
Architecture of a representative processor and its assembly language, introduction to hardware description language, register transfers and sequence control, realization of fetch, address, branch and execute cycles, start, stop and reset the computer, interrupt and memory mapped input-output, peripherals and interfacing. Prerequisite: CSCI 112. (Fall)

CSCI 242 Computer Architecture II (3)
Computer classes and description using PMS or ISPS, description of a few commercial computers, computer arithmetic, binary/octal/hexadecimal number system, hardware for arithmetic operations including floating-point type, processor management, memory organization and schemes, input-output management, control unit and microprogramming, multi- and parallel processors. Prerequisite: CSCI 241. (Spring)

CSCI 250 Data Structures (3)
Information representation, relationships between forms of representations and processing techniques, transformation between storage media, referencing of information as related to the structure of its representation, concepts of arrays, records, files, trees, list and list structure, sorting and search techniques. Prerequisite: CSCI 112. (Fall/Spring)

CSCI 321 Assembly Language Programming (3)
Introduction to assembler, creating and executing assembly language program, organization of machine under study, data definition, addressing techniques, data movement instruction, branching instructions, flag and PSW registers, arithmetic instructions, macros and their implementation, hardware and software interrupts, storing instructions, typical applications. Prerequisites: CSCI 112. (Fall)

CSCI 330 Programming Languages (3)
Algorithmic languages, declarations, storage allocation, subroutines, co-routines, and tasks. The principles and concepts which characterize various classes of high-level, computer-programming languages are covered as well as list-processing language development and use. Analyzes strengths and weaknesses of list processors: SNOBOL, IPLV, LISP, etc. Prerequisites: CSCI 250,321. (Fall/Spring)

CSCI 335 The C Programming Language (3)
Program writing in the C language with emphasis on its capabilities and limitations. Includes scientific computations and business applications equally. Prerequisite: CSCI 112. (Spring)

CSCI 350 Software Engineering-ADA (3)
CSCI 350L Software Engineering-ADA Laboratory (1)
ADA programming language with advanced concepts of the language including subprograms, packages, exceptions, tasks, generics and software engineering. Three lectures and one two-hour laboratory per week. Prerequisite: CSCI 330. (Spring)

CSCI 373 Computer Software Systems (3)
Assembly systems, macros, I/O programming, executive systems, protection techniques, generation and maintenance, priority and scheduling techniques for batch processing. Prerequisites: CSCI 241,250. (Fall/Spring)

CSCI 380 Operations Research (3)
Methods of linear and dynamic programming, inventory and replacement models, queuing theory, game theory, PERT, CPM, and simulation. Prerequisites: MATH 152, STAT 200, CSCI 111. (Spring, odd years only)

CSCI 395 Independent Study (1-3)

CSCI 396 Topics (1-3)

CSCI 445 Computer Graphics (3)
Use of the computer to produce images; one, two, and three, dimensional graphics; algorithms and data structures for hidden lines and surfaces; shading; and reflections. Prerequisites: MATH 265 and CSCI 250. (Fall)

CSCI 450 Compiler Structure (3)
Structures and techniques used in compiler writing are discussed with emphasis on Scanners, Symbol Tables, Parsers and code generation. The front end of a recursive descent parser is written for the semester project. Error analysis and code optimization are discussed as time permits. Prerequisites: CSCI 330, 373. (Fall/Spring)

CSCI 460 Data Base Design (3)
Design and implementation of data base systems. The network, hierarchical, and relational approaches to design, and the problems of security and integrity will be discussed. Prerequisite: CSCI 450. (Fall/Spring)

CSCI 470 Operating Systems Design (3)
Aspects of computer operating system design and implementation including memory management, processor management, device management, information management and performance evaluation methods. Prerequisite: CSCI 321. (Fall/Spring)

CSCI 494 Seminar (1, 2)
Discussions of specialized topics by students, faculty, or visiting professors. One or two one-hour meetings per week. (Fall/Spring)

CSCI 495 Independent Study (1-3)

CSCI 496 Topics (1-3)

DEVELOPMENTAL COURSES

DEVL 090 College Study and Reading Skills (3)
Instruction in effective study skills needed in college such as note taking, test taking, critical reading, memory and concentration, time management, controlling math anxiety, examining individual learning styles, and goal setting. For students whose academic backgrounds need reinforcement. Three lectures and one one-hour learning laboratory per week.

ECONOMICS

School of Social and Behavioral Sciences

ECON 201 Principles of Macroeconomics (3)
ECON 202 Principles of Microeconomics (3)
Basic concepts of economics. Courses must be taken in sequence and are not open to freshmen. (Fall/Spring)

ECON 301 Labor-Management Relations (3)
Organized labor movement, employer labor policies, collective bargaining, wages and wage regulation, social insurance, and public labor policy. Counts as management course for BBA candidate. Prerequisites: ECON 201,202, or equivalent. (Spring)

ECON 310 Money and Banking (3)
Monetary, credit, and banking systems in the United States. Counts as manage- ment course for BBA candidates. Prerequisites: ECON 201,202, or equivalent. (Fall)

ECON 312 Economic History of the United States (3)
Economic development of the United States and the nation's economic institu- tions from the colonial period to the present. Prerequisites: ECON 201,202 or HIST 131,132, or consent of instructor. (On demand)

ECON 320 History of Economic Ideas (3)
Development of economic analysis, thought, theories, and doctrines from the ancient world to recent times. Prerequisites: ECON 201,202, or equivalent. (Fall)

ECON 342 Intermediate Macroeconomic Theory (3)
Factors determining the level and rate of growth of GNP, the inflation rate, and the employment rate. Policies that have been (or may be) used to influence these variables, and empirical evidences on the relationships among variables are studied also. Prerequisite: ECON 201,202, or equivalent, or consent of instructor. (Fall)

ECON 343 Intermediate Microeconomic Theory (3)
Problems of resource scarcity in a market economy. Emphasis is placed on an analysis of resource allocation under different forms of competition. Covers theory of the firm, theories of market structure, efficiency, equity, and the application of public policy. Prerequisite: ECON 201,202, or equivalent, or consent of instructor. (Spring)

ECON 395 Independent Study (1-3)

ECON 396 Topics (1-3)

ECON 401 Economic Organization and Public Policy (3)
Political economy of economic organization and public policy including analysis of the structure/conduct dimensions of industry and government institutions and their effects on resource allocation, income distribution, and economic performance. Antitrust, regulation, and other policies are treated concurrently. Counts as a management course for BBA candidates. Prerequisites: ECON 201,202 or equivalent. (Spring)

ECON 410 Public Sector Economics (3)
Political economy of government finance including analysis of the effects of government revenue and expenditure policies on resource allocation, income distribution, and economic performance. Counts as a management course for BBA candidates. Prerequisite: ECON 201,202, or equivalent. (Fall)

ECON 420 International Economics (3)
International trade theory and policy such as balance of payments analysis, international investment flows, and the position of the dollar in foreign exchange transactions. Prerequisites: ECON 201,202, or equivalent. (On demand)

ECON 495 Independent Study (1-3)

ECON 496 Topics (1-3)

EDUCATION, EARLY CHILDHOOD

School of Humanities and Fine Arts

EDEC 100 Parent Education and Preschool (1)
Parenting skills in a preschool situation. Enrollment of both parent and child is required. (Fall/Spring)

EDEC 110 Infant and Toddler Development and Curriculum (2)
Curriculum for the age group 0-2 1/2 years. Places emphasis on maintaining healthful, safe environmental activities to stimulate social, language, emotional, intellectual, and physical development. Should be taken in the first semester in which a student is enrolled in the program. (Fall)

EDEC 111 Curriculum in Early Childhood Education (3)
Philosophy and theory of preschool education, including laboratory experiences for learning about children and the philosophy, goals, and operation of the nursery school. Students spend time in assigned laboratory and participate in group meetings for discussion and evaluation. (Fall/Spring)

EDEC 121 Introduction to Early Childhood (2)
The field of early childhood, including the facilities and programs offered for young children, and observation of young children at work and play. Licensing and health regulations for children's centers are considered. Should be taken in the first semester in which a student is enrolled in the program. (Fall)

EDEC 196 Topics (1)

EDEC 252 Student Teaching (5)
Practice teaching experience in licensed centers under a qualified teacher, supervised by a college instructor, with conferences and evaluations of student's progress. Prerequisite: EDEC 111. (Fall/Spring)

EDEC 260 Child-Care Center Management (3)
Record keeping, budgeting, personal relations, and administrative techniques required in the operation of a child care center. Should be taken in the *final* semester in which a student is enrolled in the program. (Spring)

EDEC 297 Practicum (1,2)
Supervised experience working with children in child-care and day-care settings or in the Early Childhood Education Center. Accepted by the State Department of Social Services for licensing purposes. Scheduling is flexible. Prerequisite: consent of instructor. (Fall/Spring)

EDUCATION - TEACHER CERTIFICATION

School of Humanities and Fine Arts

EDUC 220 Foundations and Legal Aspects of Education (3)
An overview of history, philosophy, finance, organizational and curriculum patterns, and current and legal issues appropriate for the beginning education student. Two hours lecture per week plus five hours field experience for 10 weeks during semester. Prerequisites: Formal field experience, ENGW 111, 112, 100 hours of experience with youth and completion of California Achievement Test. (Fall/Spring)

EDUC 260 Teaching Diverse Populations (2)
Interdisciplinary course designed to acquaint students with socialization processes in preschool through 12th grade classrooms, historically and in a changing technological society. Prerequisites: EDUC 220, PSYC 233, SPCH 102, and successful completion of all sections of the California Achievement Test. (Fall/Spring)

EDUC 311 Creative and Physical Expression for Children (3)
Facilitation of children's creative and physical expression and problem solving in music, art, drama, games, movement and dance. Prerequisites: EDUC 260 and consent of Director of Teacher Certification. (Fall/Spring)

EDUC 320 The Developing Child in the School (3)
Coursework in applied educational psychology, preprimary through 12th grade. Prerequisites: EDUC 260 and consent of Director of Teacher Certification. (Fall/Spring)

EDUC 321 Current Issues in Curriculum Development (3)
Interdisciplinary curriculum course focused on the primary components of elementary level teaching. Prerequisites: EDUC 320 and consent of Teacher Certification Program Director. (Fall/Spring)

EDUC 350 Exceptionality in the Classroom (3)
Coursework providing information about various exceptionalities which include gifted and talented, abused children, ethnicity as it relates to exceptionalities. Prerequisites: consent of Teacher Certification Program Director; EDUC 321 for elementary certification; EDUC 320 for secondary certification. (Fall/Spring/Summer)

EDUC 360 Teaching and Learning in the Secondary School (4)
Comprehensive coursework in curriculum and classroom management. Requires the consolidation of skills and theories in prerequisite courses. Prerequisites: EDUC 350 and consent of Teacher Certification Program Director. (Fall/Spring)

EDUC 370 Orientation to Educational Technology (3)
Designed to acquaint students with the role of audio-visual media and computers in preprimary and 12th grade education. One hour lecture and four hours laboratory per week. Prerequisites: consent of Teacher Certification Program Director. (Fall/Spring)

EDUC 390 The Comprehensive Elementary Language Program (4)
Designed to provide the prospective teacher with a broad, in-depth view of the reading-language program in a changing society. Three hours lecture per week and five hours field experience per week for ten weeks during semester. Prerequisites: formal field experience and consent of the Director of Teacher Certification Program. (Fall/Spring)

EDUC 395 Independent Study (1-3)

EDUC 396 Topics (1-3)

EDUC 400 Learning Theories and Teaching Strategies in the Disciplines (4)
Coursework designed to expose students to learning theories and their applications which are pertinent to social studies, science, health, and mathematics. Prerequisites: EDUC 390, consent of Teacher Certification Program Director. (Fall/Spring)

EDUC 405 Reading and Writing in the Content Area (4)
Coursework focused on teaching developmental writing and reading at the secondary level (middle school and high school) within the content areas. Three lecture hours per week plus five hours field experience per week for ten weeks during semester. Prerequisites: formal field experience, EDUC 350, 370, and consent of the Director of Teacher Certification Program. (Fall/Spring)

EDUC 494 Pre-Internship Seminar (2)
Placed in settings in which they may research and study teaching, preservice teachers will put to use what they have already learned about teaching and learning. One hundred hours internship. Prerequisites: completion of all coursework and consent of Teacher Certification Program Director. (Fall/Spring)

EDUC 495 Independent Study (1-3)

EDUC 496 Topics (1-3)

EDUC 497 Practicum for Professional Educators: Elem/Sec/K-12 (1-6)
Designed for the practical application of previously studied theory. Credit is variable based on complexity of study agreed upon with the education adviser. Prerequisites: consent of Teacher Certification Program Director. (Fall/Spring)

EDUC 499C Teaching Internship and Colloquium: Elementary (12)
A full-time supervised teaching experience designed to allow the intern the opportunity to apply the theories and philosophies acquired in the professional education coursework. A tri-weekly colloquium is included during this 15-week experience. Prerequisites: completion of all coursework and consent of Teacher Certification Program Director. (Fall/Spring)

EDUC 499D Teaching Internship and Colloquium: Elementary (6)
Available for students who are pursuing K-12 certification: a seven and one-half week experience. Prerequisites: completion of all coursework and consent of Teacher Certification Program Director. (Fall/Spring)

EDUC 499G Teaching Internship and Colloquium: Secondary (12)
A full-time supervised teaching experience designed to allow the intern the opportunity to apply the theories and philosophies acquired in the professional education coursework. A tri-weekly colloquium is included during this 15-week experience. Prerequisites: completion of all coursework and consent of Teacher Certification Program Director. (Fall/Spring)

EDUC 499H Teaching Internship and Colloquium: Secondary (6)
Available for students who are pursuing K-12 certification: a seven and one-half week experience. Prerequisites: completion of all coursework and consent of Teacher Certification Program Director. (Fall/Spring)

ELECTRIC LINEWORKER

School of Technology

NOTE: Twenty-five hours scheduled instruction per week in **ELCL** courses scheduled in Fall and Spring semesters unless otherwise noted.

ELCL 111 Mathematical Basic Electricity (5)
Mathematical formulas used in voltage, amperage, resistance, and power determination, metering problems, power factor correction, and line design problems. (Fall)

ELCL 120 Fundamentals of Electricity (5)
Generation, transmission, and distribution of electricity beginning with the electron and its function of transporting electric power to homes and industry. (Fall)

ELCL 131 Electrical Distribution Theory I (4)
Pole setting techniques, framing methods and specifications, climbing, sagging and splicing of conductors, energizing and de-energizing of lines, and installation of protective grounds. (Fall)

ELCL 132 Electrical Distribution Theory II (4)
ELCL 132L Electrical Distribution Theory II Laboratory (2)
Installation and operation of protective equipment, transformer hookups, voltage regulation, hotstick maintenance, troubleshooting, and gloving from the pole. Four hours lecture, three hours laboratory per week. Prerequisite: ELCL 131. (Spring)

ELCL 136L Related Fundamentals I Laboratory (4)
Examination of National Electric Safety Code, truck maintenance, equipment operation, material records, electrical test meters, and introduction to transformers. Twelve hours per week. (Fall)

ELCL 137 Related Fundamentals II (2)
ELCL 137L Related Fundamentals II Laboratory (4)
Meter safety, connector installation, street lighting, rubber cover up, and public relations. Two hours lecture, eight hours laboratory per week. Prerequisites: 136L. (Spring)

ELCL 140 Underground Procedure (4)
ELCL 140L Underground Procedure Laboratory (2)
Safety practices, terminology, fault finding, cable locating, switching procedure, installation of terminal devices, splicing, and transformer application. Five hours lecture, four hours laboratory per week. (Spring)

ELCL 145 Hotline Procedures (1)
ELCL 145L Hotline Procedures Laboratory (2)
Two weeks of training by outside specialists covering current hotline maintenance and underground installation methods. Eight hours lecture, twenty-four hours laboratory per week. (Spring)

ELCL 195 Independent Study (1,2)

ELCL 196 Topics (1,2)

ELCL 199 Internship (6)
Opportunity for an individual to be employed for training by a utility company while maintaining his or her status as a Mesa State College student. Provides excellent on-the-job training benefits. Students usually selected for this course by formal interview. Eighteen hours per week, two semesters (Summer and Fall) after completion of regular program. Prerequisite: consent of instructor.

ELECTRONICS TECHNOLOGY

School of Technology

NOTE: Enrollment, with instructor approval, may occur at any time (open entry) for certain courses. Please check with the instructor.

ELCT 117 DC Passive Circuits (3)
ELCT 117L DC Passive Circuits Laboratory (1)
DC circuits including resistors, capacitors, inductors, applications of Ohm's and Kirchhoff's laws, and use of standard test equipment. (Summer/Fall/Spring)

ELCT 118 AC Passive Circuits (3)
ELCT 118L AC Passive Circuits Laboratory (1)
Analysis of AC circuits including resistors, capacitors, inductors, and use of standard test equipment. (Summer/Fall/Spring)

ELCT 232 Personal Computers I (2)
ELCT 232L Personal Computers I Laboratory (2)
Basic hardware and software of the microcomputer system, including proficiency in use of MS DOS and troubleshooting problems with the peripherals and microcomputer to the board level. (Summer/Fall/Spring)

ELCT 244 Electronic Circuits I (3)
ELCT 244L Electronic Circuits I Laboratory (1)
Analysis of solid state diodes and bipolar transistor amplifier circuits. Prerequisite: ELCT 118 or consent of instructor. (Summer/Fall/Spring)

ELCT 246 Applied Digital Circuits (2)
ELCT 246L Applied Digital Circuits Laboratory (2)
Logic gates, boolean algebra, flip-flops, registers, memory, karnaugh mapping, machine programming, and construction of a microcomputer using TTL devices. Prerequisites: ELCT 244, 244L. (Summer/Fall/Spring)

ELCT 252 Data Communications (3)
ELCT 252L Data Communications Laboratory (1)
Overview of current digital data networks, communications protocols and phone circuits, as well as communications channels for both analog and digital transmissions. Prerequisites: ELCT 117, 118, and 246 or equivalent knowledge. (Summer/Fall/Spring)

ELCT 254 Industrial Circuits (3)
ELCT 254L Industrial Circuits Laboratory (2)
Solid state circuits in industrial control circuits. Three hours lecture, two hours laboratory per week. Prerequisite: ELCT 270 or consent of instructor. (Summer/Fall/Spring)

ELCT 256 Electronic Communication (3)
ELCT 256L Electronic Communication Laboratory (1)
Introduction to the field of communications. Covers am, fm, stereo, television, antennas, digital communication, radar, lasers, and fiber optics. Prerequisite: consent of instructor. (Summer/Fall/Spring)

ELCT 262 Personal Computers II (2)
ELCT 262L Personal Computers II Laboratory (2)
Theory, troubleshooting, and repairing computer peripherals to include floppy disk drives, dot-matrix and letter quality printers, and RGB and Monochrome monitors to the component level. Prerequisites: ELCT 232, 232L. (Summer/Fall/Spring)

ELCT 266 Microprocessors I (3)
ELCT 266L Microprocessors I Laboratory (1)
Use of the microprocessor to teach machine language programming, computer arithmetic, organization of microprocessors, interfacing, and input/output operations. Prerequisite: consent of instructor. (Summer/Fall/Spring)

ELCT 270 Linear Integrated Circuit Applications (3)
ELCT 270L Linear Integrated Circuit Applications Laboratory (1)
Differential and operational amplifier circuitry, feedback configurations, opamps errors, compensations, and applications. Prerequisite: consent of instructor. (Summer/Fall/Spring)

ELCT 272 Personal Computers III (3)
ELCT 272L Personal Computers III Laboratory (2)
Detailed theory of personal computers such as the Apple II, IBM PC, Commodore 64 and Zenith Z-100; troubleshooting and repair of these systems. The 6500, 6800, and the 8080 family of microprocessors and their instruction sets are also covered. Prerequisites: ELCT 232, 232L. (Summer/Fall/Spring)

ELCT 280 Project Design and Fabrication (2)
ELCT 280L Project Design and Fabrication Laboratory (2)
Application of circuit theory and construction techniques in the design of electronic circuits. The student will design, build, test, and write the complete documentation of an approved project. Prerequisites: student must be in the 4th semester of the Electronics Technology Program. (Summer/Fall/Spring)

ELCT 295 Independent Study (1,2)

ELCT 296 Topics (1,2)

ENGINEERING

School of Natural Sciences and Mathematics

ENGR 105 Basic Engineering Drawing (3)
ENGR 105L Basic Engineering Drawing Laboratory (1)
Fundamentals of drawing including instrumental and computer aided drafting. Three lectures and two one-hour labs per week. Corequisite: CSCI 100 or 120. (Fall/Spring)

ENGR 106 Beginning Computer Aided Drafting (2)
ENGR 106L Beginning Computer Aided Drafting Laboratory (2)
Basic principles of computer aided drafting through the development of practical drawing problems using a computer. Two one-hour lectures and two two-hour laboratories per week. Prerequisites: ENGR 105, 105L or consent of instructor. (Fall/Spring)

ENGR 111 Engineering Graphics and Design (3)
Basic problem-solving techniques used in engineering and the sciences. Topics include graphics, modeling, experimental methods, data analysis, value judgments, design processes, and decision making in realistic engineering situations. Prerequisites: ENGT 102 or MATH 130 and ENGR 105 or equivalents. (Fall/Spring)

ENGR 149 Introduction to Spaceflight (3)
Introduction into the science of spaceflight, primarily from a descriptive point of view with emphasis placed on obtaining understanding and appreciation of problems, rewards and excitement associated with space studies and spaceflight. Sample topics: history of spaceflight, mechanics of propulsion and of satellites, living in space, the space shuttle. Some algebra will be used. Prerequisite: MATH 113 or consent of instructor. (Spring)

ENGR 230 Topographical Surveying (2)
ENGR 230L Topographical Surveying Laboratory (1)
Fundamentals of mapmaking including the use of plane table and alidade, basic control, contour mapping, and map reading. Primarily for non-engineering students in related fields (forestry, geology, archaeology). Two lectures and one three-hour laboratory per week. Prerequisite: MATH 130 or consent of instructor. (Fall)

ENGR 231 Surveying I (2)
ENGR 231L Surveying I Laboratory (1)
Principles of surveying and mapping; familiarization with the basic instruments and their use. Includes calculations and field procedures for surveying circular, spiral, and parabolic curves and route planning. Two lectures and one three-hour laboratory per week. Prerequisite: MATH 130 or consent of instructor. (Fall)

ENGR 232 Surveying II (2)
ENGR 232L Surveying II Laboratory (1)
Location and design, measurement and computation of earthwork quantities, and slope staking. Includes celestial observations to determine latitude, true azimuth, photogrammetry, triangulation, state plane coordinate systems, and computer applications. Two lectures and one three-hour laboratory per week. Prerequisite: ENGR 231. (Spring)

ENGR 240 Statics (3)
Principles of statics, study of vectors, forces, couples, force systems and their resultants, force systems of equilibrium (truss analysis, flexible cables, cranes), static friction (pivot and belt), centroids, radii of gyration of areas and masses, and moments of inertia. Prerequisites: MATH 152 and PHYS 121. Corequisites: MATH 253 and PHYS 122. (Fall)

ENGR 241 Dynamics (3)
Angular and linear displacement, velocity and acceleration of particles, rigid bodies in motion, simple vibrations, applications of Newton's laws of motion and the laws of conservation of energy and momentum to solution of problems involving moving particles and rigid bodies subject to external forces. Prerequisites: ENGR 240 and MATH 253. (Spring)

ENGR 251, 252 Circuit Analysis I, II (3,3)
ENGR 251L, 252L Circuit Analysis I, II Laboratory (1,1)
Fundamental principles of electrical engineering, such as electronics, electromechanics, and instrumentation. Basic analysis techniques applied to linear, lumped parameter, and time invariant circuits. Three lectures and two one-hour laboratories per week. Prerequisite: MATH 152 and PHYS 121 with concurrent enrollment in MATH 253 and PHYS 122. (Fall/Spring)

ENGR 253 Electromechanical Devices (3)
Operating principles and analysis of electromechanical devices including transformers, motors, and generators. Prerequisite: ENGR 251. (Spring)

ENGR 255 Thermodynamics (3)
First and second laws of thermodynamics, properties of pure substances, energy in open systems, control volume, steady flow, engineering applications. Prerequisites: PHYS 122 and MATH 152, or consent of instructor. (Spring)

ENGINEERING TECHNOLOGY

School of Natural Sciences and Mathematics

ENGT 101 Technical Mathematics I (4)
Algebra review including fundamental concepts and operations, functions, graphs, systems of linear equations, determinants, factoring, fractions, quadratic equations, exponents, and radicals.Concentrated study of trigonometry and additional topics of algebra with emphasis on applications in technical fields plus logarithms, trigonometric functions of angles, radian measure, vectors, and oblique triangles. Prerequisite: MATH 020 or high school algebra. (Fall)

ENGT 102 Technical Mathematics II (4)
Graphs of trigonometric functions, complex numbers and the j-operator, inequalities and variation, advanced topics in algebra and trigonometry and introduction to analytic geometry. Matrix algebra, graphical solutions of non-algebraic equations of higher degree, progressions and the binomial theorem, trigonometric identities, inverse functions, straight lines, conic sections, parametric forms, statistics, and empirical curve fitting. Prerequisite: ENGT 101. (Spring)

ENGT 120 Engineering Economics (3)
Methods of determining, evaluating, and controlling economic factors in engineering projects and designs. Prerequisite: ENGT 102. (Fall)

ENGT 220 Specifications and Cost Estimate (3)
Preparation of specifications and contract documents, quantity estimating of excavation work, construction materials, and labor. Prerequisites: ENGR 105 and ENGT 102. (Spring)

ENGT 224 Materials I (2)
ENGT 224L Materials I Laboratory (2)
Materials, tests, and technician design procedures involving fluids and soils in civil engineering. Two one-hour lectures and two two-hour laboratories per week. Corequisite: ENGT 242. (Fall)

ENGT 225 Materials II (2)
ENGT 225L Materials II Laboratory (2)
Materials, tests, and technician design procedures for structures involving reinforced concrete, steel, and wood in civil engineering. Two one-hour lectures and two two-hour laboratories per week. Prerequisite: ENGT 224, 224L, and 242. (Spring)

ENGT 241 Statics and Strength of Materials I (3)
Basic principles of statics involving the application of equilibrium equations to coplanar, noncoplanar, concurrent and nonconcurrent force systems. Covers stress and strain of members in tension, compression, shear, and torsion, and the properties of riveted and welded joints. Prerequisite: ENGT 102. (Spring)

ENGT 242 Strength of Materials II (3)
Centroids, moments of inertia, beam and column deflection and design, and design of rotating shafts and couplings. Prerequisite: ENGT 241. (Fall)

ENGT 252 Civil Drafting I (2)
ENGT 252L Civil Drafting I Laboratory (1)
Principles of drafting applied to civil structural problems. Two lectures and one two-hour laboratory per week. Corequisite: ENGT 242. (Fall)

ENGT 253 Civil Drafting II (2)
ENGT 253L Civil Drafting II Laboratory (1)
History, fundamentals, and methods of mapmaking. Two lectures and two one- hour laboratories per week. Prerequisite: ENGR 105,230,231, or consent of instructor. (Spring)

ENGT 295 Independent Study (1,2)

ENGLISH

School of Humanities and Fine Arts

ENGL 086, 087 Vocational Communications I, II (3,3)
For students enrolled in Industry and Technology programs; emphasizes business communications, and meets requirements for the AAS degree. (Fall/Spring)

ENGL 090 English Grammar (3)
Review of English grammar and usage. (Fall/Spring)

ENGL 091, 092, 093 English Skills (Modular Concept)
For students who have specific deficiencies in one or more of the following: (On demand)

ENGL 091	Basic Grammar (Module 1)	(1)
ENGL 092	The Sentence (Module 2)	(1)
ENGL 093	Punctuation (Module 3)	(1)

ENGL 111 English Composition (3)
Effective ways to communicate ideas through writing clear, concise, and well-planned papers. Prerequisite: Students will be expected to write an acceptable entrance exam and may be asked to take ENGL 090 if they cannot do so. (Fall/Spring)

ENGL 112 English Composition (3)
Theory and strategy of research, critical writing, and literature. Prerequisite: ENGL 111. (Fall/Spring)

ENGL 115 Technical Writing (3)
Experience with writing which students may encounter in technical professions, requiring the traditional research paper, a technical report, graph with text, questionnaire, description or definition, application letter and resume, and technical speech. Prerequisite: ENGL 111. (Fall/Spring)

ENGL 121 English Spelling/Vocabulary (3)
Spelling improvement based on 600 most commonly misspelled words. Basic rules, pronunciation, and vocabulary with particular attention given to Greek and Latin roots, prefixes, and suffixes. (Spring)

ENGL 129 Honors English (3)
Designed to fulfill the composition requirements (English 111 and 112) for baccalaureate students whose ACT or SAT scores are high and whose writing skills are good. Permission is required to enroll. Readings in literature serve as the basis for writing persuasive essays, research papers, and critical analyses. (Fall/Spring)

ENGL 131 Survey of Western World Literature I (3)
Major works of Western literature from Classical, Medieval, and Renaissance periods including Homer and Dante. (Fall/Spring)

ENGL 132 Survey of Western World Literature II (3)
Major works of Western literature from post-Renaissance through modern periods including Goethe and Cervantes. (Spring)

ENGL 133 Survey of Western World Literature III (3)
Major works of Western literature from the Post-Renaissance period. (Fall/Spring)

ENGL 145 Oriental Literature (3)
Prose, poetry, and plays of early India, China, and Japan. (Spring)

ENGL 150 Introduction to Literature (3)
Literature from all genres: short stories, novel, essays, and poetry. (Fall/Spring)

ENGL 222 Mythology (Classical) (3)
Basic myths of the Greeks and Romans, the cultures that produced them, and modern concepts of the Classical tradition. (Fall/Spring)

ENGL 240 Children's Literature (3)
History of children's literature studied through authors and illustrators of picture books, stories, and poetry for pre-school and early primary. Field project. (Fall)

ENGL 251 Creative Writing: Formulas in Fiction (3)
Techniques of creating major and minor Character, Routine Action, Flashback, and Retrospect paradigms in addition to studying plot plan, setting, viewpoint, and dialogue. (Fall)

ENGL 252 Creative Writing: Style in Fiction (3)
Techniques of creating the Scene Method of Narrative, Direct Character Introduction, Panorama, Detailed Description, and Sensory Detail paradigms; the study of stylistic control through psycholinguistics and review of plot plan, setting, viewpoint, and dialogue. (Spring)

ENGL 254 Survey of English Literature I (3)
English literature from its beginnings, including major works and writers, through the early 18th century. (Fall)

ENGL 255 Survey of English Literature II (3)
English literature, including major writers and works from mid-18th century to present day. (Spring)

ENGL 261 Survey of American Literature I (3)
Beginning with the Puritans and writers of the Revolution as a background to the works of the Romantics and Transcendentalists such as Bryant, Irving, Cooper, Poe, Melville, Emerson, Thoreau, Longfellow, and Whitman. (Fall)

ENGL 262 Survey of American Literature II (3)
Principal modern authors such as Dickinson, Clemens, Crane, Frost, Sandburg, Anderson, Lewis, Eliot, Faulkner, Hemingway, and Stevens. (Spring)

ENGL 285 Expository and Persuasive Writing (3)
Analyses of and practice in expository and persuasive writing, with emphasis on style, structure, organization and audience. Focuses on writing professional, academic and/or political essays. (Fall)

ENGL 301 Classical Greek and Latin Literature (3)
Readings in English of outstanding Greek and Roman authors, exploring major classical genres and emphasizing the development of epic, comedy, tragedy, and lyric poetry against the background of Greek history, philosophy, and religion. Prerequisites: 100 or 200 level literature course. (Alternate Spring)

ENGL 311 English Medieval Literature (3)
Major works of the medieval period including Chaucer. Prerequisites: 100 or 200 level literature course. (Alternate Fall)

ENGL 313 English Renaissance Literature (3)
The thought and poetry of John Milton and others of the Renaissance. Prerequisites: 100 or 200 level literature course. (Alternate Spring)

ENGL 315 American Romanticism (3)
Major writers from the Romantic Age of America. Prerequisites: 100 or 200 level literature course. (Alternate Spring)

ENGL 316 American Realism and Naturalism (3)
Distinctive American novels from beginning to present. Prerequisites: 100 or 200 level literature course. (Alternate Fall)

ENGL 335 The Bible as Literature (3)
The Old Testament as a literary masterpiece. (Fall)

ENGL 355 Shakespeare I (3)
Early and mature plays, including genres of comedy, history, tragedy, and romance, emphasizing close textual reading in conjunction with cultural and intellectual contexts.

ENGL 365 Adolescent Literature (3)
Past and present adolescent literature including analysis of fiction, non- fiction, drama, and poetry, with a focus on contemporary themes, issues, and trends. (Spring)

ENGL 385 Advanced Technical Writing (3)
Writing for the technical world including computer writing. Prerequisites: ENGL 200-level writing course. (Alternate Spring)

ENGL 386 Roots of Modern Rhetoric (3)
A survey of the history of rhetoric from classical Greece to the present with emphasis on the Greco-Roman tradition. Prerequisites: 200 level writing course. (Alternate Fall)

ENGL 395 Independent Study (1-3)

ENGL 396 Topics (1-3)

ENGL 415 American Folklore (3)
American folklore with an emphasis on collecting Colorado and especially Western Colorado lore. (Alternate Fall)

ENGL 416 Contemporary American Poetry (3)
Survey of American poetry from 1870 to the present. Includes Whitman, Dickenson, Frost, Stevens, Eliot, Crane, Bishop, Clifton, Ginsberg, Lowell, Roethke, Plath. Prerequisites: 100 or 200 level literature course. (Alternate Spring)

ENGL 421 History of Literary Criticism (3)
Development of literary criticism from the Classical period through the 19th Century, emphasizing the relationship between criticism and tradition in developing the art and substance of Western literature. (Spring)

ENGL 423 Short Story (3)
History and examples of short stories which reveal the development of plot, setting, character, symbol, point of view, theme, humor, satire, and fantasy. Prerequisites: 100 or 200 level literature course. (Spring)

ENGL 424 Literature and Science (3)
Literature's relationship with science affecting the fine arts, social thought, and human value. (On Demand)

ENGL 435 20th Century American Literature (3)
Major works from 20th Century American writers. Prerequisites: 100 or 200 level literature course. (Alternate Spring)

ENGL 440 History of the English Language (3)
Historical development of the English language; its internal formation as shaped by external political, social, and intellectual forces. Indo-European roots and the Germanic, Norman, French, and Latin influences are considered. (Fall)

ENGL 445 20th Century English Literature (3)
Major works from 20th Century English writers. Prerequisites: 100 or 200 level literature course. (Alternate Spring)

ENGL 451 Structure of the English Language (3)
Principles and facts of English phonetics, morphology, and syntax. Syntactic topics include word classes, phrase structure, grammatical relations, verbals, clauses, and types of sentences. Prerequisites: Junior or senior standing or consent of the instructor. (Fall)

ENGL 455 Methods of Teaching English (3)
Theory and practice of teaching English in the junior and senior high schools; current techniques, materials, and media for the teaching of composition, literature, and the English language. Prerequisite: senior standing in the teacher certification program. (Spring)

ENGL 470 18th Century British Literature (3)
Conceptual framework of the Enlightenment in England's representative essayists, poets, novelists, and playwrights: Goldsmith, Wycherley, Dryden, Congreve, Steele, Sheridan, Gay, Pope, Swift, Defoe, and Johnson. Prerequisites: 100 or 200 level literature course. (Alternate Fall)

ENGL 471 British Romanticism (3)
Humanity's deepest personal feelings as expressed by writers attempting to discover a higher reality than that offered by materialism or rationalism. Authors represented are Blake, Coleridge, Wordsworth, Byron, Shelley, and Keats. Prerequisites: 100 or 200 level literature course. (Alternate Spring)

ENGL 475 Victorian Literature I (3)
Nineteenth century British literature based upon representative works of major poets, novelists, and prose writers. Prerequisites: 100 or 200 level literature course. (Alternate Fall)

ENGL 492 Advanced Writing (3)
Professional writing of fiction, non-fiction, and analysis through the roles of writer-as-artist, scholar, freelance, editor, book reviewer, and critic. Prerequisites: 200 level writing course. (Fall/Spring)

ENGL 494 Seminar in Literature (3)
Requiring an evaluation of an important literary work or works and requiring students to interpret, analyze, criticize, and present research. Prerequisites: senior standing, consent of instructor. (Fall/Spring)

ENGL 495 Independent Study (1-3)

ENGL 496 Topics (1-3)

ENVIRONMENTAL RESTORATION ENGINEERING TECHNOLOGY

School of Natural Sciences and Mathematics

ENGS 110 Introduction to Environmental Restoration/Waste Management (3)
Introduction to the source, characteristics, and concerns of hazardous and radioactive materials in environmental systems. Examination of general approaches toward site assessment, risk analysis, site remediation, mine-land reclamation, and other issues pertinent to hazardous waste management. Development of environmental literacy is emphasized. (Fall)

ENGS 211 Hazardous/Radioactive Waste Management (3)
Handling, treatment, storage, disposal and minimization of hazardous/radioactive wastes. Also, provides an overview of the environmental fate of contaminants along with their potential impact on ecosystems and human health via risk assessment. Prerequisites: ENGS 110 and CHEM 121 or consent of instructor. (Fall)

ENGS 212 Environmental Health and Safety (2)
ENGS 212L Environmental Health and Safety Laboratory (1)
Examination of environmental health and safety issues, risk assessment, control strategies, and implementation. Includes basic toxicology, personal risk assessment, and meets 40-hour OSHA training requirements for working on hazardous waste sites. Requires development of a site safety plan and use of personal protective equipment. (Spring)

ENGS 213 Site Characterization (4)
ENGS 213L Site Characterization Laboratory (1)
Develop knowledge and understanding of the site characterization process, field and laboratory instrumentation, sampling procedures, data interpretation, and analytical laboratory operation and methods. Requires hands-on experience and characterization of an environmental system. Prerequisites: ENGS 110, STAT 200. (Fall)

ENGS 214 Quality Assurance (3)
Knowledge and understanding of the documentation requirements for reports, characterization data, commitment response and engineering design as well as knowledge and understanding of the quality assurance concept and its place in Environmental Restoration. Prerequisite: ENGS 110. (Fall)

ENGS 214L OSHA Health and Safety Update (1)
Update of the 40-hour OSHA hazardous waste site certification and includes the OSHA supervisor training certification for hazardous waste sites. Prerequisites: ENGS 212L. (On demand)

ENGS 215 Environmental Analytical Chemistry (3)
ENGS 215L Environmental Analytical Chemistry Laboratory (1)
Provides knowledge and understanding of types of instrumentation used in environmental restoration, instrumentation calibration, maintenance, operation, procedures, and techniques. Students obtain knowledge and understanding of analytical and research laboratories in environmental restoration, procedures, and techniques. Includes field trips and hands-on experience. Three one-hour lectures and one two-hour laboratory per week. Prerequisites: ENGS 110, 111. (Spring)

ENGS 216 Site Remediation (3)
Examination of the overall remediation process. Topics include relationship of risk assessment to remediation, the overall approach towards selection and implementation of remedial technologies, available technologies and their effectiveness, and regulatory impact. Prerequisite: ENGS 211. (Spring)

ENGS 217 Environmental Law and Regulations (3)
A comprehensive course in environmental law and regulations, regulatory agencies, and how they influence the approaches to environmental restoration and waste management. Prerequisite: ENGS 110. (Fall)

ENGS 218 Capstone in Environmental Restoration (2)
Provides student with a review of the environmental restoration business and direction in seeking employment or continuing education. Prerequisites: ENGS 213, 214.

FINANCE

School of Business

FINA 338 Fundamentals of Investments (3)
Analytical approach to the investment environment, valuation of equity securities, portfolio theory and the analysis of investments other than equity securities. Prerequisite: MATH 121; junior standing or consent of instructor. (Fall)

FINA 339 Managerial Finance (3)
Acquisition, allocation, and management of funds within the business enterprise. Financial goals, funds flow, valuation, capital budgeting, and financing strategies. Prerequisites: ACCT 202, MATH 121, STAT 214. (Fall)

FINA 395 Independent Study (1-3)

FINA 396 Topics (1-3)

FINA 439 Problems in Managerial Finance (3)
Case studies and readings in financial management involving concepts, practices and techniques introduced and developed in FINA 339. Prerequisite: FINA 339. (Spring)

FINA 441 Theory of Financial Management (3)
Financial theory pertaining to capital structure, dividend policy, valuation, cost of capital, and capital budgeting. Prerequisite: FINA 339. (Spring)

FINA 495 Independent Study (1-3)

FINA 496 Topics (1-3)

FINE ARTS

School of Humanities and Fine Arts

FINE 395 Independent Study (1-3)

FINE 396 Topics (1-3)

FINE 494 Seminar in Critical Analysis of the Arts (3)
Theory and practice of arts criticism. (Fall)

FINE 495 Independent Study (1-3)

FINE 496 Topics (1-3)

FINE 499 Internship (8,15)
Part or full-time work in various aspects of arts management. Sites may include galleries, musical, theatrical or other performing organizations, arts centers, or other situations that meet the instructor's approval. Half-time equals eight semester hours credit; full-time equals 15 semester hours credit. Prerequisite: junior standing in visual or performing arts. May also require selected courses in business, social science, etc. as appropriate to the internship sought. (Summer/Fall/Spring)

FOREIGN LANGUAGES

School of Humanities and Fine Arts

FRENCH

FLAF 111 First-Year French I (3)
FLAF 112 First-Year French II (3)
Introduction to the French language and culture. (Fall/Spring)

FLAF 251 Second-Year French (3)
FLAF 252 Second-Year French II (3)
Grammar review, vocabulary distinction, and readings in the French language. Prerequisites: two years of high school French, FLAF 111 and 112, or consent of instructor. (On demand)

GERMAN

FLAG 111 First-Year German I (3)
FLAG 112 First-Year German II (3)
Introduction to the German language. (Fall/Spring)

FLAG 251 Second-Year German I (3)
FLAG 252 Second-Year German II (3)
Grammar review, vocabulary distinction, and readings in the German language. Prerequisites: two years of high school German, FLAG 111 and 112, or consent of instructor. (On demand)

FLAG 290 Special Studies: German (1,2)
Study beyond the scope of the existing curriculum.

SPANISH

FLAS 111 First-Year Spanish I (3)
FLAS 112 First-Year Spanish II (3)
Basic competency in understanding, speaking, reading, and writing. (Fall/Spring)

FLAS 114 Conversational Spanish I (3)
FLAS 115 Conversational Spanish II (3)
A beginning level class for adult students who wish to develop a basic vocabulary for speaking and understanding Spanish socially, on the job or south of the border. (Fall/Spring)

FLAS 117 Career Spanish I (3)
FLAS 118 Career Spanish II (3)
For students with or without prior knowledge of Spanish who wish to speak and understand the vocabulary and phrases most frequently encountered in the fields of air transportation, agriculture, automotive services, business, child care, education, engineering, geology, hotel, motel, restaurant and resort management, law enforcement, pre-dentistry, nursing, pre-medicine, ranching, retail sales, social work, and travel, recreation, and hospitality management. (Fall/Spring)

FLAS 251 Second-Year Spanish I (3)
FLAS 252 Second-Year Spanish II (3)
Reinforces and expands the four basic language skills developed in the first- year course and provides exposure to a wider variety of cultural materials and situations. Prerequisites: two years of high school Spanish, FLAS 111 and 112, or consent of instructor. (Fall/Spring)

OTHER LANGUAGES

FLAV 290, 390 Special Studies In Foreign Languages (1,2,3)
These courses are currently offered through Outreach: Ancient Greek, Latin, Advanced French, German, Spanish and other Classical and Modern Languages as permitted by interest and instructor availability.

FLAV 395 Independent Study (1-3)

FLAV 396 Topics (1-3)

FLAV 495 Independent Study (1-3)

FLAV 496 Topics (1-3)

GEOGRAPHY

School of Social and Behavioral Sciences

GEOG 103 World Regional Geography (3)
Survey of world geography by major world regions including an analysis of the physical elements, the inhabitants, and human occupancy patterns and an evaluation of the potential of leach region for sustaining human populations. (Fall/Spring)

GEOLOGY

School of Natural Sciences and Mathematics

GEOL 100 Survey of Earth Science (3)
Physical makeup of the earth, its history, and geology. One field trip is required. Intended for students with majors other than one of the sciences. (Spring)

GEOL 103 Weather and Climate (3)
Non-mathematical introduction to elements of local and global weather: the atmosphere, cloud formation, precipitation, seasons, optical phenomena and violent storms. Students practice making 24-hour weather forecasts. (Fall)

GEOL 105 Geology of Colorado (3)
Introduction to minerals, rocks, geologic time scale and basic geologic terms, followed by geology of Colorado taught with the aid of movies and slides. A one-day field trip is required. (Fall/Spring)

GEOL 111 Principles of Physical Geology (3)
GEOL 111L Principles of Physical Geology Laboratory (1)
Materials that make up the earth and surface and interior processes that interact to produce the present features of the earth. Laboratory: minerals, rocks, topographic maps, earthquakes, and landforms. Four lectures and one two-hour laboratory per week. (Fall)

GEOL 112 Principles of Historical Geology (3)
GEOL 112L Principles of Historical Geology Laboratory (1)
Origin of the earth and life, changes recorded in rocks and fossils using the geologic time scale and techniques of dating to place events in sequence. Laboratory: topographic and geologic maps, hand samples of rocks, reconstruction exercises, and fossils to interpret regional and general geologic history. One all-day field trip is required. Four lectures and one two-hour laboratory per week. Prerequisite: GEOL 111 or consent of instructor. (Spring)

GEOL 202 Introduction to Field Studies (3)
Mapping of several small areas using plane table and alidade, transit, and pace and compass methods. Profiles, cross-sections, and maps are prepared. Three lectures per week and some unscheduled time is required to do mapping projects. Prerequisite: consent of instructor. (Fall)

GEOL 203 Introduction to Environmental Geology (3)
Relationship of man to the geological environment through consideration of population, pollution, waste disposal, resource depletion, land use, governmental policy and natural hazards. One field trip required. (Spring)

GEOL 301 Earth Tectonics (3)
GEOL 301L Earth Tectonic Laboratory (1)
Descriptive geometry, occurrences of rock structures, principles of rock deformation, and origin of stresses. Laboratory: stereographic and graphical solution of structural problems, the study of maps and cross sections, and some field problems. Three lectures and one two-hour laboratory per week. Prerequisites: GEOL 111 and Math 130. (Fall)

GEOL 325 Introduction to Engineering Geology (3)
Geologic principles applied to construction problems; case histories of major projects. Field trips and term project required. Prerequisite: GEOL 111 or consent of instructor. (On demand)

GEOL 331 Mineral Studies (3)
GEOL 331L Mineral Studies Laboratory (1)
Morphology and classification of crystals; chemistry and genesis of minerals. Laboratory: identification of minerals and crystals by spectroscope, X-ray diffraction, and hand specimens. Three lectures and one two-hour laboratory per week. Prerequisite: CHEM 131 or consent of instructor. (Fall)

GEOL 333 Geology of the Grand Canyon (1)
Three two-hour evening lectures with films and slides used to preview the Grand Canyon and surrounding area. A strenuous backpacking trip is required to the bottom and out of the canyon. Prerequisites: GEOL 100, 105 or 112. (Spring break/on demand)

GEOL 340 Petrology (3)
GEOL 340L Petrology Laboratory (1)
Origin, composition, and classification of igneous, sedimentary, and metamorphic rocks. Laboratory: identification of rocks in hand specimens and some thin sections, and some analytical techniques. Three lectures and one two-hour laboratory per week. Prerequisite: GEOL 331. (Spring)

GEOL 351 Applied Geochemistry (3)
Geochemistry and its relationship to weathering and soils, geochemical surveys and prospecting techniques, reactions of contaminants with earth materials, and methods of reducing environmental degradation. Prerequisites: GEOL 111, 111L, CHEM 121, 121L, 122 and 122L. (On demand)

GEOL 359 Non-Metallic Mineral Deposits (3)
Origin, location, and economics of non-metallic geologic commodities, including phosphates, evaporites, oil, gas, coal, and sedimentary uranium deposits. Students give oral and written reports on two localities. Prerequisites: CHEM 131,131L,132,132L, or consent of instructor. (Alternate Spring)

GEOL 361 Metallic Mineral Deposits (3)
Ore genesis, mineral associations, alterations, residual deposits, and placer deposits of minerals. Students give oral and written reports on two deposits. Prerequisites: GEOL 331,331L, CHEM 131, 131L, 132, 132L or consent of instructor. (Alternate Spring)

GEOL 380 Field Studies (6)
Techniques used by the field geologist including section measuring, use of aerial photographs, plane table and alidade, and collection of samples. Data used to prepare geologic maps and reports. Students will camp out approximately three weeks during this course. Five eight-hour days per week. Prerequisites: GEOL 111,112,301,331,340. (Summer, alternate years)

GEOL 390 Computer Applications in Geology (3)
Quantitative methods of geologic data analysis with the data manipulated on the computer. Methodical approach with limited theoretical emphasis; statistical concepts; special programs for graphical presentation and analysis. Three lectures per week and computer laboratory time to complete exercises are required. Prerequisite: GEOL 111, 111L, 112, 112L, or consent or instructor. (Fall)

GEOL 395 Independent Study (1-3)

GEOL 396 Topics (1-3)

GEOL 402 Applications of Geomorphology (3)
GEOL 402L Applications of Geomorphology Laboratory (1)
Knowledge of landform genesis and shaping processes is applied to solve modern problems with emphasis on local soils, slopes, rivers, erosional surfaces, and structural framework. Laboratory and field studies used to explore frost, running water, slope movement, ground water, wind, and glaciers which have affected the local environment. Practical techniques of measurement and interpretation, including statistical and computer techniques, used to produce models of landscape development. A term project must be completed. Two major field trips are required. Four lectures and one two-hour laboratory per week. Prerequisite: consent of instructor. (Fall)

GEOL 404 Geophysical Prospecting (3)
GEOL 404L Geophysical Prospecting Laboratory (1)
Exploration for mineral and petroleum deposits and preliminary environmental investigation of sites for engineering projects with emphasis on refraction and reflection seismic, gravity, magnetic, electrical, and radioactive methods. Laboratory: interpretation of data and field trips. Four lectures and one two-hour laboratory per week. Prerequisites: GEOL 111,112, PHYS 112 (calculus is recommended but not required) or consent of instructor. (Fall)

GEOL 405 Solid Earth Geophysics (3)
Classical physics applied to the study of the earth with emphasis on the origin of the earth, its gravitational, geomagnetic, and geothermal characteristics, seismicity, the dynamics of the earth's crust, plate tectonics, and continental drift. One field trip required. Prerequisites: GEOL 404 or consent of instructor. (On demand)

GEOL 411 Paleontology (3)
GEOL 411L Paleontology Laboratory (1)
Taxonomy, morphology, ecology, and geologic range of most groups of invertebrate fossils. Laboratory: field identifications of guide fossils. A one-day field trip is required. Two lectures and one two-hour laboratory per week. Prerequisite: beginning Biology course or consent of instructor. (Spring)

GEOL 415 Introduction to Ground Water (3)
Relationships of ground water to other water sources, hydrologic cycle, water balance, hydrologic characteristics of rocks, hydraulics and equations defining flow, ground water quality, and contamination, exploration and measurement techniques (including geophysical procedures), state and federal regulations, and computer modeling. Prerequisites: GEOL 111, 111L, MATH 130, and at least high school level biology, chemistry and physics. (Spring)

GEOL 444 Stratigraphy and Sedimentation (3)
GEOL 444L Stratigraphy and Sedimentation Laboratory (1)
Sequences of sedimentary rocks with emphasis on rock classification and the correlation between the local section and nearby areas, including the Grand Canyon. Sedimentary environments are stressed. Laboratory: field identification of sedimentary rocks using laboratory samples and local outcrops. Two one-day field trips are taken. Three lectures and one two-hour laboratory per week. (Fall)

GEOL 476 Optical Mineralogy and Petrography (2)
GEOL 476L Optical Mineralogy and Petrography Laboratory (2)
Theories and principles of optical mineralogy and the microscope descriptions of rocks are applied to their classifications. Laboratory: study of thin sections. Two lectures and two two-hour laboratories per week. Prerequisites: GEOL 331,340, PHYS 112. (On demand)

GEOL 490 Seminar (3)
Well logging techniques and characteristics of well logs; recent developments, concepts, and theories relating to petroleum, mineral deposits, tectonics; and other topics of current interest are discussed by students in a seminar setting. Prerequisites: upper division standing and consent of instructor. (Spring)

GEOL 495 Independent Study (1-3)

GEOL 496 Topics (1-3)

GRAPHIC COMMUNICATIONS

School of Technology

GRCO 110 Survey of Commercial Art and Printing Processes (1)
Overview of job requirements, job availability, production processes, working environment and relationships, work ethics, and general safety as utilized by the commercial art and printing industries. (Fall)

GRCO 115 Introduction to Computer Graphics (1)
GRCO 115L Introduction to Computer Graphics Laboratory (1)
Basic use and operation of graphics computer, primarily MacIntosh PC, with focus on terminology, hardware, peripheral devices, systems management, software (systems and application) including establishment of operation files, job and information files, maintenance, safety, and keyboarding. One hour lecture, two hours laboratory per week. (Fall)

GRCO 120 Typography/Type Design (2)
Study of typography including terminology, type style identification and design, use of type within a design consisting of only type or as one of the elements of the design and type specifications; copyfitting; and basic principles of pattern and spatial design concepts. (Fall)

GRCO 121 Basic Layout and Design (2)
Basic principles of design and layout techniques, including thumbnail, rough, and comprehensive layouts; work planning; client presentation; and preparation of artwork in black and white and color with focus on use of markers and colored pencils. Two hours lecture per week. Prerequisite: GRCO 120 or consent of instructor. (Spring)

GRCO 130 Basic Photography (1)
Principles and techniques of photography, including the functions of camera parts and accessories. Two hours lecture per week; seven and one-half weeks. (Fall/Spring)

GRCO 131 Photo Finishing (1)
Techniques of brush and airbrush photo retouching, image intensification, reduction on negatives and photo prints, mounting, and matting. One and one-half hours per week; seven and one-half weeks. Prerequisite: GRCO 130. (Spring)

GRCO 132 Basic Darkroom Techniques (1)
Techniques and skills for darkroom procedures for black and white film processing and print making including enlarging. Two hours per week; seven and one-half weeks. (Fall/Spring)

GRCO 142 Mechanical Image Production (1)
GRCO 142L Mechanical Image Production Laboratory (2)
Basic hand prepared paste-up methods of camera-ready copy preparation for reproduction. Modular course - two hours lecture, six hours laboratory per week. (Fall)

GRCO 143 Computer Composition (1)
GRCO 143L Computer Composition Laboratory (2)
Typesetting functions with emphasis on operation of computer based systems, mainly MacIntosh PC, and production of camera-ready type. Modular course - one hour lecture, six hours laboratory per week. (Spring)

GRCO 151 Offset Press (1)
GRCO 151L Offset Press I Laboratory (2)
Offset press operation, maintenance of presses, and principles of offset including inks, fountain solutions, and plates. One hour lecture, three hours laboratory per week. (Fall)

GRCO 220 Design and Illustration I (3)
Advanced study and production of designs and layouts with emphasis on corporate art and advertising art including computer generated images; selection of design elements with focus on color choice, image choice, and copy choice; and illustration techniques for layouts, presentations, and camera-ready images. Two and one-half hours lecture per week. Prerequisites: ARTE 151, GRCO 121. (Fall)

GRCO 221 Design and Illustration II (3)
Continuation of GRCO 220. Production of layouts and camera-ready artwork using various techniques and media. Emphasis on projects equal to the standards of the commercial art industry, and on the different aspects and areas involved in commercial design. Three hours lecture per week. Prerequisite: GRCO 220. (Spring)

GRCO 230 Process Photography I (1)
GRCO 230L Process Photography I Laboratory (3)
Basic techniques of process camera work and darkroom procedures, including calibration, line work, photo mechanical transfer, flat preparation, and platemaking. Four hours of laboratory per week. (Fall)

GRCO 231 Process Photography II (1)
GRCO 231L Process Photography II Laboratory (3)
Advanced techniques of process camera and darkroom techniques including halftone, duotone, special effects, advanced flat preparation, and an introduction to 4-color separation and mask-up. One hour lecture and four hours of laboratory per week. Prerequisite: GRCO 230. (Spring)

GRCO 242 Desktop Imaging (1)
GRCO 242L Desktop Imaging Laboratory (3)
Techniques and principles of page layout preparation utilizing computer based systems, mainly MacIntosh PC, scanner and image assembly software such as Page Maker and Quark X Press. One hour lecture and four hours of laboratory per week. Prerequisites: GRCO 143, 143L. (Fall)

GRCO 243 Computer Illustration (1)
GRCO 243L Computer Illustration Laboratory (2)
Focus on developing knowledge and skills to produce computer generated artwork, both black/white and color, including color separation camera-ready art using software application programs currently in use in the commercial art industry. One hour lecture, three and one-half hours laboratory per week. Prerequisite: GRCO 115, 115L or consent of instructor. (Spring)

GRCO 251 Offset Press II (1)
GRCO 251L Offset Press II Laboratory (3)
Advanced offset press operation, multiple-color printing, basics of paper-press relationships, and a web offset press operation. Four hours of laboratory per week. Prerequisite: GRCO 150. (Fall)

GRCO 260 Printing Cost Estimating (2)
Costs and cost-estimating techniques specifically related to the printing industry. Two hours lecture per week. Prerequisite: sophomore Printing Technology majors or consent of instructor. (Spring)

GRCO 270 Portfolio Construction (1)
Design, development, and assembly of a portfolio to be used as employment material. Two and one-half hours lecture per week. Prerequisite: sophomore Commercial Art students only. (Spring)

GRCO 281L Production (4)
Simulation of a print shop in which the students gain additional experience and skill in a working environment; OR upon application, full time placement in a printing company/inplant department. Students are expected to complete 200 hours. Application for placement must be submitted prior to admittance to this class. Eight hours per week. Corequisites: GRCO 231, 231L. Prerequisites: GRCO 230, 230L, 242, 242L, 250, 250L. (Spring)

GRCO 295 Independent Study (1,2)

GRCO 296 Topics (1,2)

GRCO 299 Internship (4)
Full-time placement in an agency or corporate department to provide an enhanced transition from the classroom to the work setting through first-hand experience. The student is expected to complete 200 clock hours. Application must be made during the prior spring semester. Credit not available through challenge testing. (Summer)

HISTORY

School of Social and Behavioral Sciences

HIST 101, 102 Western Civilizations (3,3)
Political, social, economic, and cultural history of Western mankind from ancient times to modern times. (Fall/Spring)

HIST 131, 132 United States History (3,3)
History of the United States from Colonial period to modern times. (Fall/Spring)

HIST 136 Introduction to the Afro-American Experience (3)
Afro-American experience from beginnings in Africa to the present. (Fall)

HIST 137 Introduction to the Chicano Experience (2)
Spanish and Indian backgrounds and the social, cultural, economic, and political roles of Chicanos in the United States since 1848. (On demand)

HIST 301 History of England Since 1485 (3)
England, Great Britain and the Empire/Commonwealth from the first Tudor to the present. Prerequisites: HIST 101, 102. (On demand)

HIST 304 History of Colorado (3)
History of the state from pre-historic to modern times. (Fall/Spring)

HIST 306 History of South and Southeast Asia (3)
History of those areas of Asia within the influence of Indic Civilization, with emphasis on the roles of Hindu, Buddhist, and Muslim religions. Prerequisites: HIST 101, 102. (Alternate Fall)

HIST 310 Latin American Civilization (3)
Historical development of Latin America from pre-Columbian times to the present. Prerequisite: HIST 102 or consent of the instructor. (Fall)

HIST 320 The American West (3)
The American West from pre-Columbian times through the Twentieth Century with special emphasis on the diverse cultures and ecological factors which have defined the region. Prerequisites: HIST 131,132, or consent of instructor. (Fall)

HIST 330 History of 19th Century Europe (3)
Political, social, intellectual, and diplomatic forces operating in Europe between the French Revolution and World War I. Prerequisites: HIST 101, 102. (Spring)

HIST 331 The 20th Century (3)
Investigation of the development of our modern world since World War I with emphasis on Europe and its role in that process. Prerequisites: HIST 101, 102 or consent of the instructor. (Fall)

HIST 332 History of Modern Warfare (3)
War, its causes, consequences, and impact on history from the 18th century to the present. Prerequisites: HIST 101, 102. (Fall)

HIST 340 History of the Islamic World (3)
The origins, spread, and influence of the Islamic world, including the Middle East and North Africa with emphasis on its position in modern world affairs. Prerequisites: HIST 101,102. Prerequisites: HIST 101, 102. (Spring)

HIST 342 The Age of Jefferson and Jackson (3)
The social and intellectual developments in America from 1800-1850 with special emphasis on the influences of Presidents Thomas Jefferson and Andrew Jackson. Prerequisites: HIST 131,132, or consent of instructor. (Fall)

HIST 344 The Age of Industry in America (3)
The social, intellectual, and political events in the United States from the end of the Civil War to the beginning of the Great Depression. Prerequisites: HIST 131,132, or consent of instructor. (Fall)

HIST 346 History of Modern America (3)
The social, intellectual, and political events in the United States from the Great Depression to the present. Prerequisites: HIST 131,132, or consent of instructor. (Spring)

HIST 395 Independent Study (1-3)

HIST 396 Topics (1-3)

HIST 400 The Soviet Union and Eastern Europe (3)
Imperial Russia, the Soviet Union, and Eastern Europe from 1900 to the present. Prerequisite: HIST 101, 102 or consent of instructor. (Spring)

HIST 401 East Asia: The Formative Period (3)
China, Japan, Korea, and Vietnam before the coming of the West. Prerequisites: HIST 101, 102. (Fall)

HIST 403 East Asia and the Modern World (3)
China, Japan, Korea, and Vietnam since 1840. Prerequisite: consent of instructor. Prerequisites: HIST 101, 102. (Spring)

HIST 404 Introduction to Historical Research (3)
History-specific research with emphasis on utilization of primary documents and practice in conducting research and reporting results. Prerequisite: twelve hours college history courses or consent of instructor. (Fall)

HIST 405 Introduction to Public History (3)
Exploration of non-academic historical skills employed in museum work, archival management, and positions with historical societies and historic preservation agencies. Career opportunities will be examined. Prerequisites: HIST 131, 132, or consent of instructor. (Spring, alternate years)

HIST 410 Environmental History of the U.S. (3)
The evolution of public attitudes and governmental policies and practices relative to the wilderness, natural-resource development, and the natural environment from colonial times to the present. Prerequisites: HIST 131,132, or consent of instructor. (Spring)

HIST 420 Civil War and Reconstruction (3)
The causes and outcomes of the American Civil War and Reconstruction periods. Prerequisites: HIST 131,132, or consent of instructor. (Spring)

HIST 430 The Ancient Mediterranean World (3)
The Mediterranean world from pre-classical times to the fall of the Roman Empire. Prerequisites: HIST 101,102, or consent of instructor. (Fall)

HIST 495 Independent Study (1-3)

HIST 496 Topics (1-3)

HOME ECONOMICS

School of Natural Sciences and Mathematics

HMEC 211 Nutrition (3)
Nutrients and their relation to physical and mental health. (Fall/Spring)

HUMAN PERFORMANCE AND WELLNESS

School of Social and Behavioral Sciences

ACADEMIC

HPWA 100 Health and Wellness (1)
The presentation of information concerning the benefits, positive effects, assessment, and implementation of healthy life styles. (Fall/Spring)

HPWA 157 Repertory Dance (1)
Student participation in the production of dance work supervised by faculty or guest artist. Students must audition. Corequisite: One dance technique class. (Fall/Spring)

HPWA 170 Theory and Practice Modern Dance (1)
Theory and practice of modern dance. Prerequisites: HPWE 170 or consent of instructor. (Fall/Spring)

HPWA 175 Theory and Practice Modern Jazz Dance (1)
Intermediate principles of Modern Jazz Dance including theory and technique. Prerequisites: HPWE 175 or consent of instructor. (Spring)

HPWA 176 Theory and Practice Ballet (1)
Theory and practice of ballet. Prerequisites: HPWE 176 or consent of instructor. (Fall)

HPWA 200 Introduction to Human Performance and Wellness (2)
An orientation to the breadth, scope, nature, and history of the professional program in human performance and wellness. (Fall)

The following series of courses is designed to acquaint prospective physical educators and recreators with the skills, instructional procedures, techniques, progressions and officiating of selected sports normally taught in the public schools and played in recreational facilities.

HPWA 210	Methods of Archery Prerequisite: HPWE 119 or consent of instructor.	(1)
HPWA 213	Methods of Physical Fitness (Spring)	(2)
HPWA 215	Methods of Softball (Fall) Prerequisite: HPWE 152 or consent of instructor.	(1)

HPWA 216	Methods of Flag Football (Fall) Prerequisite: HPWE 166 or consent of instructor.	(1)
HPWA 217	Methods of Handball and Racquetball (Spring) Prerequisite: HPWE 123 or consent of instructor.	(1)
HPWA 219	Methods of Ballroom Dancing (Fall)	(2)
HPWA 220	Methods of Folk and Square Dance (Spring)	(2)
HPWA 222	Methods of Basketball (Fall) Prerequisite: HPWE 164 or 165 or consent of instuctor.	(1)
HPWA 223	Methods of Volleyball (Fall) Prerequisite: HPWE 162 or 163 or consent of instructor.	(1)
HPWA 224	Methods of Golf (Spring) Prerequisite: HPWE 115 or 116 or consent of instructor.	(1)
HPWA 225	Methods of Tennis (Fall) Prerequisite: HPWE 121 or 122 or consent of instructor.	(1)
HPWA 226	Methods of Badminton (Spring) Prerequisite: HPWE 117 or consent of instructor.	(1)
HPWA 227	Methods of Track and Field (Spring)	(2)
HPWA 228	Methods of Soccer (Fall) Prerequisite: HPWE 156 or consent of instructor.	(1)
HPWA 229	Methods of Gymnastics, Stunts, and Tumbling (Fall)	(2)
HPWA 230	Methods of Aerobics Training (Fall)	(1)
HPWA 231	Methods of Bowling (Fall) Prerequisite: HPWE 113 or 114 or consent of instructor.	(1)
HPWA 232	Methods of Wrestling (Spring) Prerequisite: HPWE 145 or consent of instructor.	(1)
HPWA 233	Methods of Weight Training (Spring)	(2)
HPWA 234	Prevention and Care of Athletic Injuries Procedures and techniques involved in preventing and treating common injuries associated with competitive athletics. (Fall)	(2)

The following series of courses is designed to acquaint students with the rules and procedures of officiating selected competitive sports.

HPWA 240	Sports Officiating - Football (Alternate fall)	(1)
HPWA 241	Sports Officiating - Basketball (Alternate fall)	(1)
HPWA 242	Sports Officiating - Volleyball (Alternate fall)	(1)
HPWA 243	Sports Officiating - Wrestling (Alternate spring)	(1)
HPWA 245	Sports Officiating - Baseball and Softball (Alternate spring)	(1)
HPWA 246	Sports Officiating - Track and Field Events (Alternate spring)	(1)

HPWA 250 Lifeguard Training (2)
An American Red Cross course leading to certification of qualified students. Prerequisites: Standard first aid and CPR or consent of instructor. (Fall)

HPWA 251 Water Safety Instructors Course (2)
An American Red Cross course leading to certification of qualified students. Prerequisite: Lifeguard Training Certificate. (Spring)

HPWA 253 Beginning Improvisation and Composition in Dance (3)
Theory and practice in basic principles of dance composition. (Spring)

HPWA 256 Creative Play Activities in Dance (2)
Emphases on creative movement exploration for children in dance throught the Laban theories of body, effort, space and relationship. (Fall/Spring)

HPWA 257 Repertory Dance (1)
Student participation in the production of a dance supervised by faculty or guest artist. Prerequisites: Audition or consent of instructor. Corequisite: one technique class. (Fall/Spring)

HPWA 260 School and Personal Health (3)
School and personal health problems with emphasis on the development of proper health attitudes and practices, and application of health knowledge and practice in school situations. (Spring)

HPWA 265 Standard First Aid and Cardio-Pulmonary Resuscitation (3)
Knowledge and skills required to meet the needs of most emergency first aid and CPR situations. (Fall/Spring)

HPWA 270 Theory and Practice of Modern Dance (1)
Intermediate work in theory and practice of modern dance. Prerequisites: HPWA 170 or consent of instructor. (Fall/Spring)

HPWA 271 Fundamentals of Modern Dance (2)
Exploration of the elementary principles of modern dance through the technical and academic process. Prerequisites: HPWA 170 or consent of instructor. (Fall)

HPWA 276 Theory and Practice Ballet (1)
Intermediate work in theory and practice of ballet. Prerequisites: HPWA 176 or consent of instructor. (Fall/Spring)

HPWA 277 Fundamentals of Ballet (2)
Elementary principles of ballet through the technical and academic process. Prerequisites: HPWA 176 or consent of instructor.

HPWA 297 Practicum (1,2)
Supervised assistantship with physical educators or recreation practitioners. (Fall/Spring)

HPWA 297B Choreography Practicum I (1)
Student practice in choreographing and producing an original dance work. Prerequisites: HPWA 253 or consent of instructor. (Fall/Spring)

HPWA 301 Tests and Measurements in Physical Education (2)
Modern testing and evaluation programs applied to physical education including biological, neuromuscular, personal, social, and interpretive development. Prerequisite: HPWA 200. (Spring)

HPWA 302 Advanced Athletic Training Principles (3)
Lectures and laboratory presentations relative to physical aspects of Sports Training; rehabilitation, nutrition, prevention, evaluation and injury management. The medical aspects of sports are emphasized. Prerequisites: HPWA 234, and BIOL 141 or consent of instructor. (On demand)

HPWA 307 Philosophy and Psychology of Coaching (2)
Fundamental philosophical and psychological principles related to coaching competitive athletic teams. (Spring)

HPWA 309 Anatomical Kinesiology (2)
The mechanics of sport-related human movement through a study of selected physical, anatomical, and physiological factors affecting human performance. Prerequisites: BIOL 141,141L, HPWA 200. (Fall)

The following is a series of courses designed to acquaint students with fundamental techniques, movements, strategies, patterns, and ethics of selected competitive athletics. Prerequisites: comparable methods course for each or consent of instructor.

HPWA 310	Sports Theory - Football (Alternate fall)	(2)
HPWA 311	Sports Theory - Basketball (Alternate fall)	(2)
HPWA 312	Sports Theory - Wrestling (Alternate spring)	(2)
HPWA 313	Sports Theory - Baseball and Softball (Alternate spring)	(2)
HPWA 314	Sports Theory - Track and Field Events (Alternate spring)	(2)
HPWA 315	Sports Theory - Volleyball (Alternate fall)	(2)

HPWA 320 Elementary School Physical Education (3)
The selection and instruction of physical activities for children including movement exploration and fundamentals, rhythms, stunts and tumbling, creative dance, low key and classroom games, and physical fitness. (Fall)

HPWA 326 Methods of Teaching Ballet and Modern Dance (3)
Theory and application of methods of teaching ballet and modern dance. Prerequisites: HPWA 270, 276 or consent of instructor. (Alternate spring)

HPWA 357 Repertory Dance (1)
Student participation in the production of a dance supervised by faculty or guest artist. Students must audition. Corequisite: one technique class in ballet, modern, jazz or tap dance. (Fall/Spring)

HPWA 370 Biomechanics (2)
HPWA 370L Biomechanics Laboratory (1)
Application of the principles of mechanics, physics, and mathematics to the analysis of sport activities, and the selection and teaching of motor skills through the application of methods and concepts of motion analysis. Primarily for physical educators, recreation therapists, and athletic coaches. Prerequisites: BIOL 141,141L,HPWA 309. (Spring)

HPWA 371 Advanced First Aid (3)
Training, skills, and knowledge needed in sickness and injury emergencies. (Alternate spring)

HPWA 372 Theory and Practice Modern Dance (1)
Advanced theory and practice of modern dance. Prerequisite: HPWA 270 or consent of instructor. (Fall/Spring)

HPWA 375 Organization and Administration of Intramurals (2)
Sports tournaments, units of competition, scoring systems, and coordination of intramural sports in physical education and athletic programs. (Alternate fall)

HPWA 376 Theory and Practice Ballet (1)
Advanced work in theory and practice of ballet. Prerequisites: HPWA 276 or consent of instructor. (Fall/Spring)

HPWA 395 Independent Study (1-3)

HPWA 396 Topics (1-3)

HPWA 397 Choreography Practicum II (1)
Student practice in choreographing and producing an original dance work. Prerequisites: HPWA 297B or consent of instructor. (Fall/Spring)

HPWA 401 Legal Considerations in P.E. and Sports (2)
Introduction for Physical Educators, Coaches, and those who teach in the recreational setting to their legal duties and responsibilities. (Spring)

HPWA 403 Physiology of Exercise (2)
HPWA 403L Physiology of Exercise Laboratory (1)
The effects of various types of exercise upon human body structure and function. Prerequisite: HPWA 213 and BIOL 141,141L. (Fall)

HPWA 407 Organization, Administration and Curriculum Development in Physical (3)
Organizational structures and administrative techniques in physical education, athletic, and intramural sports programs. Prerequisite: HPWA 200. (Fall)

HPWA 408 Methods of Teaching Physical Education in Secondary Schools (3)
Instructional strategies on a practical application level for prospective secondary physical education teachers preparatory to entry into student teaching. Field experiences are required to supplement lectures and discussions. Prerequisites: completion of at least half of all physical education course-work required for certification. (Fall)

HPWA 457 Repertory Dance (1)
Student participation in the production of a dance supervised by faculty or guest artist. Students must audition. Corequisite: one dance technique class from ballet, modern, jazz or tap. (Fall/Spring)

HPWA 472 Adapted Physical Education (3)
Physical activity, its modification and adaptation for the physically and mentally disabled participant. Prerequisites: HPWA 200 or PRRM 210, or consent of instructor. (Spring)

HPWA 490 Senior Seminar (2)
Opportunity for senior students to contribute and participate in discussion and research of current issues. (Fall)

HPWA 495 Independent Study (1-3)

HPWA 496 Topics (1-3)

HPWA 497 Choreography Practicum (1-2)
Student practice in choreographing and producing an original dance work. Prerequisites: HPWA 297B or consent of instructor. (Fall/Spring)

ACTIVITY

The following courses meet the physical education requirement for graduation. All students seeking a baccalaureate must take HPWA 100 along with one course from the Aerobic Fitness list below and one additional course from either the Aerobic Fitness list or the Lifetime Activity list. All students seeking an associate degree must take HPWA 100 plus one course from the Aerobic Fitness list. Each activity course is scheduled for an eight-week module and includes lectures on the history, rules, and techniques of the activity and participation in the activity. Students are examined both on knowledge of the activity and proficiency in the activity. No HPWE courses may be used as electives toward any degree or certificate.

HPWE Aerobic/Fitness Activity Courses (1 each)

HPWE 101 Beginning Swimming
HPWE 102 Intermediate Swimmming
HPWE 104 Water Polo
HPWE 112 Hiking
HPWE 121 Beginning Tennis
HPWE 122 Intermediate Tennis
HPWE 123 Racquetball
HPWE 124 Intermediate Racquetball
HPWE 125 Handball
HPWE 127 Physical Conditioning
HPWE 128 Interm. Weight Training
HPWE 129 Weight Training
HPWE 130 Fitness
HPWE 132 Aerobics
HPWE 133 Skiing
HPWE 135 Cross-Country Skiing
HPWE 139 Roller Skating
HPWE 141 Bicycling
HPWE 145 Wrestling
HPWE 147 Track and Field
HPWE 156 Soccer
HPWE 158 Speedball
HPWE 160 Field Hockey
HPWE 164 Beginning Basketball
HPWE 165 Intermediate Basketball
HPWE 166 Flag Football
HPWE 175 Modern Jazz Dance I
HPWE 178 Tap Dance
HPWE 179 Dance Performance Group
HPWE 180 Varsity Football
HPWE 181 Varsity Basketball
HPWE 182 Varsity Baseball
HPWE 183 Varsity Wrestling
HPWE 184 Varsity Tennis
HPWE 185 Varsity Volleyball
HPWE 186 Varsity Softball
HPWE 189 Varsity Cross Country

Prerequisites for all "Intermediate" or Part II classes: the corresponding beginning course or consent of instructor.

HPWE Varsity Athletics (1 each)

HPWE 180, 280, 380, 480	**Varsity Football**
HPWE 181, 281, 381, 481	**Varsity Basketball**
HPWE 182, 282, 382, 482	**Varsity Baseball**
HPWE 183, 283, 383, 483	**Varsity Wrestling**
HPWE 184, 284, 384, 484	**Varsity Tennis**
HPWE 185, 285, 385, 485	**Varsity Volleyball**
HPWE 186, 286, 386, 486	**Varsity Softball**
HPWE 189, 289, 389, 489	**Varsity Cross Country**

Physical education courses numbered 180-189 designates the first year of varsity athletics; 280-289, the second; 380-389, the third; and 480-489, the fourth. These courses must be taken in sequence. In addition to the rules above for HPWE courses, the following apply:

Only one varsity sport activity course, numbered HPWE 180-189, may be used to meet the College physical education activity requirement.

A student may elect to register for a particular varsity sports class for credit as many as four times (once at each level).

Varsity sports activity credit at the 300 and 400 level may not be counted towards the forty (40) credit hour upper division requirement for graduation unless they are a required part of a degree program.

HPWE Lifetime Activity Courses **(1 each)**

HPWE 103 Diving
HPWE 106 Scuba
HPWE 108 Canoeing
HPWE 110 River Rafting
HPWE 113 Beginning Bowling
HPWE 114 Intermediate Bowling
HPWE 115 Beginning Golf
HPWE 116 Intermediate Golf
HPWE 117 Badminton
HPWE 119 Archery
HPWE 137 Horseback Riding
HPWE 143 Orienteering
HPWE 149 Gymnastics
HPWE 152 Softball
HPWE 154 Beginning Baseball
HPWE 155 Intermediate Baseball
HPWE 162 Volleyball
HPWE 163 Intermediate Volleyball
HPWE 168 Hatha Yoga & Relaxation I
HPWE 169 Hatha Yoga & Relaxation II
HPWE 170 Beginning Modern Dance
HPWE 172 Square Dance
HPWE 173 Folk Dance
HPWE 174 Social Dance
HPWE 176 Beginning Ballet

HUMAN SERVICES

School of Social and Behavioral Sciences

HSER 301 Introduction to Human Services (3)
Exploration of human services agencies, programs, funding, philosophies, history, and career opportunities. Prerequisites: PSYC 121,122 and SOCO 260,264, or consent of instructor. (Fall)

HSER 310 Sex Role Identification and Human Sexuality (3)
Interdisciplinary study of sex role differences (stereotypes), sexual biology, cross-cultural comparisons of attitudes toward sexuality, trends in sexual moralities, sexual deviance, and sexual dysfunctions and their treatment. Prerequisites: six hours of social science or consent of instructor. (Spring)

HSER 320 Drugs in Society (3)
Pharmacological, especially the social-psychological, effects of many drugs commonly self-administered today. Emphasis on consequences of abuse and strategies for limiting abuse. Prerequisites: PSYC 121,122, or consent of instructor. (On demand)

HSER 395 Independent Study (1-3)

HSER 396 Topics (1-3)

HSER 495 Independent Study (1-3)

HSER 496 Topics (1-3)

HSER 499 Internship (4)
Regular weekly meetings on campus with a faculty supervisor in addition to an off-campus internship. Prerequisites: senior standing in the Bachelor of Arts program in Social and Behavioral Sciences and consent of instructor. Internship must be arranged for the semester prior to enrollment. (Fall/Spring/Summer)

HUMANITIES

School of Humanities and Fine Arts

HUMA 200 History and Development of Books (3)
History and development of the book from hieroglyphic texts to the present viewed in the context of changing technologies and various social, cultural, and economic influences. (Spring)

HUMA 201 Field Studies in Humanities (1)
Study/travel tours of varying lengths in the United States and foreign countries to acquaint students in some depth with particular aspects of world culture (language, the arts, literature, etc.) both contemporary and historical. (On demand)

HUMA 301 Field Studies in Humanities (3)
Prerequisite: junior or above standing. (On demand)

HUMA 395 Independent Study (1-3)

HUMA 396 Topics (1-3)

HUMA 495 Independent Study (1-3)

HUMA 496 Topics (1-3)

HUMA 499 Internship (8)
See faculty adviser for details. (On demand)

INDUSTRIAL SCIENCE

School of Technology

INSA 100 Machine Shop Studies (3)
Concentrated and condensed overview in the areas of calculator math, blueprint reading, geometric tolerancing, inspection, gauging, safety, and employee group skills. (On demand)

INSA 102 Machine Theory (3)
Concentrated unit dealing with speeds and feeds of machines, materials, tooling, tapping, boring, and manufacturing processes.(On demand)

INSA 110 Basic Electronics (3)
INSA 110L Basic Electronics Laboratory (1)
Principles of electricity/electronics. Applicable to entry level positions in areas requiring basic understanding of DC/AC, solid state, digital, and computer operation, repair and maintenance such as auto mechanics and machine trades. Good background in arithmetic important. Three lectures and one two-hour laboratory per week. May be taught as self-paced individual study if requested or if required by class size. (Fall)

INSA 220 Industrial Safety Practices (4)
Industrial safety regulations and practices including fire, electrical, mechanical, dust, vapor, and hazardous waste. Life support trauma management and hazard recognition practice as related to student occupational area. Modular course, twelve and one-half hours lecture per week for five weeks. (Fall)

INTERDISCIPLINARY STUDY

School of Social and Behavioral Sciences

INTR 400 San Juan Symposium
An interdisciplinary study of regional biology, geology, and history, combining classroom study on campus with field study in the San Juan Mountains of Colorado. Elective credit only; may not be used to meet requirements of a discipline in Mesa State College degree programs. Prerequisites: upper division standing and con-sent of instructors. Not open to freshmen and sophomores. (Summer/on demand)

LEGAL ASSISTANT

School of Business

LEGA 198 Introduction to Legal Assistant (3)
Techniques and procedures needed by Legal Assistants nationwide. Provides a perspective of the person in the profession, seeks to develop ethics, moral, and professional standards, and enthusiasm and loyalty between employer and employee. Prerequisite: admission to the Legal Assistant Program. (Fall)

LEGA 200 Real Property (3)
Ownership and interests in land, including security interests; methods of determining who has an interest in property, such as title examination; types of interests which may attach other than complete ownership; documents relating to property interests and their preparation; and pleading, practice, and procedure. Prerequisite: admission to the Legal Assistant Program.

LEGA 202 Business Organizations (2)
Basic types or forms of businesses and advantages and disadvantages of each, including the documents and forms necessary to form each type of business organization. Organizations studied include proprietorships, partnerships, and corporations. Prerequisite: admission to the Legal Assistant Program.

LEGA 204 Decedent Estates (2)
Passage of title to property at death, by will, or otherwise. Estate planning and preparation of the basic document of transfer—the will; intestate succession, planning of estates, tax matters, probate, will contests, and the necessary pleadings, practice, and procedure. Prerequisite: admission to the Legal Assistant Program.

LEGA 206 Creditor's Rights (3)
Methods of debt collection and enforcement of judgments and basic practice in Federal Bankruptcy Court. Areas covered: bills, notes, and other debts securing judgment; enforcement of money judgments, liens, garnishments, Federal Bankruptcy, and necessary pleadings, practice, and procedure. Prerequisite: admission to the Legal Assistant Program. (Fall)

LEGA 207 Introduction to Law and Legal Research (3)
Theories of constitutional law, civil and criminal, statutory, court systems, pleadings, and forms; methods of research to locate written laws and court decisions; theories of tort, agency, contracts, and personal property. Preparation and pleadings for court use; legal ethics, general practice, and procedure. Prerequisite: admission to the Legal Assistant Program. (On demand)

LEGA 210 Litigation (3)
Introduction to the adversary system of justice and preparation for the graduate to assist attorneys in all aspects of civil litigation, including family law, from the initial client interview through pre-trial discovery and motion practice to trial and post-trial motions and appeals. Students taking this course must be in the Legal Assistant Program. (On demand)

MACHINING AND MANUFACTURING TRADES

School of Technology

NOTE: Full-time student schedule is a minimum of five hours per day in MAMT courses. Enrollment, with instructor approval, may occur at any time in certain courses. Please check with the instructor.

MAMT 105 Blueprint Reading; Machinists (2)
Reading of blueprints and process sheets as used in industry; application of that information to various manufacturing processes. (On demand)

MAMT 106 Geometric Tolerancing (1)
Identification, interpretation, and application of the blueprint symbols (referred to as Geometric Tolerancing symbols) in machining and inspection operations. Corequisite: MAMT 105 or consent of instructor. (On demand)

MAMT 107 Machine Shop Math (2)
Basic mathematic skills and applications used in the machine shop. A handheld calculator will be required of each student; type specified by instructor. Arithmetic background important. (On demand)

MAMT 110 Gauging and Measuring Tools (1)
Uses and techniques of inspection including micrometers, Vernier scales, instruments, hole gauges in surface plate work, finish of parts and overall inspection techniques. Prerequisite: MAMT 106 or consent of instructor. (On demand)

MAMT 115 Introduction to Machine Shop (1)
MAMT 115L Introduction to Machine Shop Laboratory (2)
Safety procedures: using bench tools, layout tools, power saws, and taps; sharpening general purpose drills, grinding lathe bits; and identifying and operating basic machines such a the bench grinder, drill press, band saw, and others. One hour lecture and three hours laboratory per week. Corequisite: MAMT 110 or consent of instructor. (Fall/Spring)

MAMT 120 Machine Technology I (1)
MAMT 120L Machine Technology I Laboratory (3)
Operation of engine lathes, milling machines and surface grinders. One hour lecture and five hours laboratory per week. MAMT 115 or consent of instructor.(On demand)

MAMT 125 Machine Technology II (1)
MAMT 125L Machine Technology II Laboratory (3)
Further development of skills acquired in MAMT 120. Emphasis will be placed on technical aspects of tooling and machining tolerances. One hour lecture and five hours laboratory per week. Prerequisite: MAMT 120. (On demand)

MAMT 130 Machine Technology III (1)
MAMT 130L Machine Technology III Laboratory (3)
Advanced machine operations including O.D. grinding, cutter tool grinding, gear cutting, indexing, and rotary table work with emphasis on accuracy, inspection and workmanship. One hour lecture and five hours laboratory per week. Prerequisite: MAMT 125. (Spring, on demand)

MAMT 135 Job Shop Machining I (1)
MAMT 135L Job Shop Machining I Laboratory (2)
Production of machined parts from a shop blueprint, writing process sheets, and estimating machine time. Machining of parts may involve one or more machine operation. Machine time, paperwork, inspection, and accuracy will be emphasized. One hour lecture and three hours laboratory per week. Prerequisites: MAMT 130 or consent of instructor. (On demand)

MAMT 140 Job Shop Machining II (1)
MAMT 140L Job Shop Machining II Laboratory (2)
Further development of writing process sheets, estimating machine time, performing final inspection of finished parts and using all machines in the shop including the numerical control machines. One hour lecture, three hours laboratory per week. Prerequisite: MAMT 130 or consent of instructor. (Spring, on demand)

MAMT 145 Machine Maintenance (1)
MAMT 145L Machine Maintenance Laboratory (1)
Maintaining, lubricating, and repairing machinery including making gib adjustments, selecting and using proper lubricants and selecting or manufacturing parts for making repairs with emphasis on workmanship and inspection. One hour lecture, one and one-half hours laboratory per week. Prerequisite: consent of instructor. (On demand)

MAMT 150 Introduction to Numerical Control (1)
Numerical control/computerized numerical control machining, its advantages and how it operates. The course is designed as an informational unit for customized pre-employment training. (On demand)

MAMT 151 Numerical Control Machining I (2)
MAMT 151L Numerical Control Machining I Laboratory (2)
Computerized and numerical control machining operations, including control functions, programming format, machine setup, and operation. Prerequisite: consent of instructor. Two hours lecture and three hours laboratory per week. (On demand)

MAMT 155 Numerical Control Machining II (2)
MAMT 155L Numerical Control Machining II Laboratory (2)
Further development of concepts introduced in MAMT 151 with emphasis on set up and operation of N.C./C.N.C. machines. Two hours lecture and three hours laboratory per week. Prerequisite: MAMT 151 or consent of instructor. (Spring)

MAMT 160 Properties of Materials (1)
MAMT 160L Properties of Materials Laboratory (1)
Descriptions of smelting and refining various types of metals. Discussions and demonstrations on various methods of heat treating, hardness testing, and cutting chip theory. (Fall, on demand)

MAMT 165 Manufacturing Processes (2)
Manufacturing methods other than traditional machining methods; forming, stamping, extruding, casting, electrical discharge machining, powder metallurgy, welding and finishing of material. Economical and technical aspects of these processes are emphasized. (On demand)

MAMT 207 Introduction to Statistical Process Control (2)
Introduction to the philosophical and economic bases for statistical process control and its use; mathematical and non-mathematical SPC techniques with emphasis on application. Prerequisites: MAMT 105,106,107,110, and 151, or consent of instructor. (On demand)

MAMT 295 Independent Study (1,2,3)

MAMT 296 Topics (1,2,3)

MANAGEMENT

School of Business

MANG 121 Human Relations in Business (3)
Human side of organizations: morale, motivation, human needs, minorities as working partners, leadership styles, organizational environment, and other human forces having an impact on business structures. (Fall/Spring)

MANG 201 Principles of Management (3)
Management as the process of achieving organizational goals or objectives by and through others. Emphasizes functions performed by managers and how they are influenced by forces both within and outside the organization. Managers' use of resources will be investigated. (Fall/Spring)

MANG 221 Supervisory Concepts and Practices (3)
For practicing or potential supervisors and managers who hold or will hold first-line to middle-level management positions. Focuses on the management functions of planning, organizing, staffing, directing, and controlling and their relation to the daily job of the supervisor. (On demand)

MANG 298 Related Work Experience (1,2)
Practical experience and an opportunity to apply academic knowledge in a work situation approved by the School of Business. Students must apply for this course through their advisers at least six weeks prior to end of the semester preceding the semester in which they wish to take the course. For additional requirements, see adviser. Prerequisite: nine semester hours of course work in the field chosen, cumulative GPA of 2.50 or higher, and consent of instructor. (Fall/Spring)

MANG 300 Small Business Management (3)
Aspects of management uniquely important to small business firms; the economic and social environment in which they function. Prerequisite: MANG 201 or consent of instructor. (Fall)

MANG 301 Organizational Behavior (3)
Human behavior, its causes and effects in organizational settings. Description of and development of an understanding of human behavior in such settings. Prerequisite: MANG 201 or consent of instructor. (Fall)

MANG 302 Problems in Small Business Operations (3)
Analysis of managerial problems of small business; preparing a business plan, case studies, outside speakers, and individual reports of local small business enterprises. Students must have an understanding of elementary accounting, finance, and business law. Prerequisites: MANG 201,300, MARK 231, or consent of instructor, and three hours of ACCT courses beyond 202. (Spring)

MANG 331 Quantitative Decision-Making (3)
Application of inferential statistics to realistic business situations; use of quantitative tools to enhance business decision-making ability. Descriptive statistics for data summarization, probability theory, distributions, estimation, and index numbers with emphasis on hypothesis testing, analysis of variance, regression/correlation, time series, and introduction to operations research and linear programming. Prerequisites: MATH 121 or 127, STAT 214. (Spring)

MANG 351 Research in Career Development (3)
Principles and techniques involved in a job search with emphasis on conducting career research, identification of goals, preparing a job campaign, and elements of a job interview. Preparation of a job kit including a prospect list, resume, cover letter, advertisements, prospect letters, and sales and follow-up letters which can be used in a job search. Prerequisite: junior or senior standing or consent of instructor. (Fall)

MANG 371 Human Resource Management (3)
Effective use and adaptation to the human resources of an organization through the management of people-related activities including interface activities forming the core of personnel management: work, staffing, compensation, appraisal, training, development, organizational maintenance, and unions. Prerequisites: MANG 201, junior or senior standing, or consent of instructor. (Spring/even years only)

MANG 395 Independent Study (1-3)

MANG 396 Topics (1-3)

MANG 401 Advanced Problems in Small Business Operations I (6)
A Small Business Institute program sponsored by the School of Business and Small Business Administration enables students to furnish management assistance to members of the small business community. Practical training, supplementing academic theory by handling problems in a real business environment. Students must apply at least six weeks before the end of the semester preceding the semester in which they wish to participate. Credit not available through competency or challenge. Prerequisite: MANG 302 and/or consent of instructor. (Fall)

MANG 402 Advanced Problems in Small Business Operations II (6)
Continuation of MANG 401. Prerequisites: MANG 302 and/or consent of instructor. (Spring) (Not necessary to complete MANG 401 before 402.)

MANG 421 Credit and Collection Management (3)
Consumer and commercial credit in relationship to the management of credit by business firms, legal aspects of credit extension and current legislation. Information on credit operations of business for both students of business and practicing businessmen. Prerequisites: ACCT 202, MANG 201 or consent of instructor. (Spring)

MANG 471 Production/Operations Management (3)
The use of resources in producing goods and services; concepts of planning, scheduling, and controlling productive activities and physical resources. Prerequisites: MANG 301, FINA 339. (Fall/Spring)

MANG 491 Business Policies and Management (3)
Duties and responsibilities of top management in establishing policies, objectives, and future plans for business organizations. Includes complex cases taken from actual experiences in situations involving policy decisions. Required of all BBA and BS students during the last semester of the senior year. Prerequisites: all required core and emphasis courses must be completed or concurrently enrolled and senior standing. (Fall/Spring)

MANG 495 Independent Study (1-3)

MANG 496 Topics (1-3)

MANG 498 Related Work Experience (1,2)
See MANG 298 course profile. (Fall/Spring)

MANG 499 Internship (6-12)
Opportunity to learn more about management functions and activities through exposure to an actual business or agency environment. Observation and participation in management activities enable students to relate classroom theory to on-the-job experiences. Students must apply for this course at least six weeks prior to the end of the semester preceding the semester in which they wish to take the course. Credit not available through competency or challenge. Prerequisites: BBA major, second semester junior or senior, and consent of instructor. (Fall/Spring/Summer)

MARKETING

School of Business

MARK 231 Principles of Marketing (3)
Use and development of marketing strategy and the effects of buyer motivation. Major functions of marketing, buying, selling, distribution, pricing, advertising, and storage are studied. A contrast is made between the two marketing institutions: wholesaling and retailing. (Fall)

MARK 232 Advertising (3)
Modern advertising principles including advertising practices, terminology, the communication process, advertising agencies, media, and methods. Advertising from the business viewpoint, its importance to the consumer and the economy. (Spring)

MARK 235 Principles of Selling (3)
The salesperson as a counselor whose role is to help buyers make better decisions. Professional salesmanship is recognized as an integral function in modern society with basic sales techniques studied and practiced in sales presentations. Prerequisites: MARK 231. (Fall/Spring)

MARK 325 Retailing (3)
The retailing environment including retail opportunities, sales stimulation, operating policies and practices, control and service. Case studies and outside speakers supplement class lectures. Prerequisite: MARK 231. (Fall)

MARK 395 Independent Study (1-3)

MARK 396 Topics (1,3)

MARK 432 Advanced Marketing (3)
In-depth complex marketing problems confronting modern business. Development of marketing strategy to allow the firm to progress toward its corporate objectives. Prerequisite: MARK 231. (Fall)

MARK 433 Marketing Research (3)
Marketing research theory and techniques designed to educate the student in the use of the scientific method, develop analytical ability, present basic marketing research tools, and develop proficiency in the art of writing research reports. Cases and actual research projects will be utilized. Prerequisites: MANG 331, MARK 432. (Spring)

MARK 495 Independent Study (1-3)

MARK 496 Topics (1-3)

MASS COMMUNICATIONS

School of Humanities and Fine Arts

MASS 101 Mass Media in America (3)
The role played by media in the everyday lives of citizens, and the economic impact on society. (Fall)

MASS 121 Introduction to Broadcasting (3)
Radio, television, and cable; includes basic theory, history, economic aspects, and impact on society.

MASS 221 Radio Production and Announcing (3)
Theory and operation of all technical equipment in a radio control room and studio. Develops voice and reading for broadcasting. (On demand)

MASS 231 News Writing and Reporting (3)
Fundamentals of news gathering and writing, interviewing, reporting and writing of newsworthy events and personalities. Work begins on computer VDTs. Stories are submitted for publication and broadcast. Prerequisite: MASS 101 or 121 or consent of instructor.

MASS 301 History of Mass Media (3)
Development of Mass Media in America, with emphasis on social, economic, and political factors, personalities, and the principles of journalism. Also includes the interpretation of the motives of news writing and the various functions of newspapers in America. Prerequisites: MASS 101 or 121. (Alternate Fall)

MASS 302 Photojournalism (3)
Advanced photojournalism techniques to develop skills, comparable to that of the professional photographer in Mass Media. Each student will develop a portfolio demonstrating a variety of photojournalism skills and prepare pictures for a show. Student furnish 34mm single lens reflex cameral equivalent and photographic materials. Prerequisites: GRCO 130 and 132. (Spring)

MASS 321 Broadcast Writing (3)
Techniques and practice in writing broadcast scripts, including news, advertising and documentary. Prerequisite: MASS 231 or consent of instructor. (Spring)

MASS 335 Public Relations Concepts (3)
Historical and theoretical approach to contemporary public relations with emphasis on the persuasion process and ethics, propaganda, and advertising techniques in the mass media. Prerequisites: MASS 231, MARK 232 or consent of instructor. (Fall)

MASS 341 Editing, Layout and Design (3)
News evaluation, copy reading, headline writing, page make-up, and similar duties of a publication copy editor using computer editing and make-up. Prerequisite: MASS 231 or consent of instructor. (Fall)

MASS 351 Public Affairs and Feature Reporting (3)
Reporting on governmental agencies, including courts, police, city and county governments, school boards, and legislatures with emphasis on interpretive skills. Includes feature reporting, sports, human interest, and series articles. Prerequisite: MASS 231 or consent of instructor. (Spring/alternate years)

MASS 361 Television Production (3)
Studio and control room operation as well as out-of-studio production, emphasizing video console equipment, cameras, microphones, and video editing. Prerequisite: MASS 221 or consent of instructor. (Spring/alternate years)

MASS 371 Mass Media Advertising (3)
Study of advertising in perspective, advertising barriers, propaganda techniques, layout and design, and actual production of advertising for the major media: newspapers, radio, television. Prerequisites: MASS 231, 335. (Alternate Spring)

MASS 395 Independent Study (1-3)

MASS 396 Topics (1-3)

MASS 397 Practicum (1)
Experience with campus media including publications and/or radio station under faculty supervision. Prerequisite: MASS 121, or consent of instructor. (Fall/Spring)

MASS 421 Journalism Law and Ethics (3)
Ethical principles and state and federal laws affecting the reporting of news, expression of opinion, news photos, advertising, and publication of newspapers. Prerequisite: upper class standing or consent of instructor. (Fall)

MASS 435 Public Relations Campaigns (3)
Campaigns and case histories presenting the scope of PR, research methodology, and audience targeting. Practical application of PR theory. Prerequisite: MASS 335 or consent of instructor. (Spring)

MASS 461 Advanced Television Production (3)
Advanced techniques in television production with an emphasis on using ENG/EFP cameras in out-of-studio situations and in video editing. Production of short videos as well as studio productions required. Prerequisites: MASS 221, 321, 361. (Fall, on demand)

MASS 494 Seminar (3)
Major issues of the media in modern culture and media criticism. Prerequisite: Upper division standing. (Spring)

MASS 495 Independent Study (1-3)

MASS 496 Topics (1-3)

MASS 497 Practicum (1)
See MASS 397 course profile.

MASS 499 Internship (8,12,15)
Work in newspapers, radio, television, advertising or public relations positions, or other situations that meet instructor's approval. Prerequisite: MASS 231 and 421, plus either MASS 341 and 351, or 361. (Fall/Spring/Summer)

MATHEMATICS

School of Natural Sciences and Mathematics

MATH 015 Basic Mathematics (3)
Review of addition, subtraction, multiplication, and division of whole numbers, decimals, fractions; ratios, measurements and algebraic notation. For reinforcing previous knowledge or for learning the basic arithmetic process. (Fall/Spring)

MATH 020 Basic Algebra (3)
Basic algebra processes including operations with signed numbers, literal expressions, linear equations, fractions, factoring, graphs, and quadratic equations. For reinforcing previous knowledge or learning the basic algebraic processes. (Fall/Spring)

MATH 091 Intermediate Algebra (3)
Further study in topics of algebra. Includes properties of real and complex numbers; laws of exponents and radicals; factoring polynomials; solving linear and quadratic equations and inequalities; rational expressions and complex fractions; introduction to functions and relations; applications. Prerequisites: one year high school algebra or MATH 020. (Fall/Spring)

MATH 105 Elements of Mathematics I (3)
Problem solving, sets, numeration systems, integers, number theory and rational numbers. The underlying mathematical processes and mathematical reasoning are stressed. Designed for the prospective elementary teacher. Prerequisite: interview and consent of instructor. (Fall/Spring)

MATH 106 Elements of Mathematics II (3)
Decimal numbers, probability, statistics, geometry, and the metric system. A continuation of MATH 105 designed for the prospective elementary teacher. Prerequisite: MATH 105 or consent of instructor. (Fall/Spring)

MATH 110 College Mathematics (3)
Essential concepts of mathematics for students in social sciences, psychology, nursing, etc. Topics include solving equations, graphing, sets, calculators, counting, probability, logic, geometry, summations, interest, annuities, and descriptive statistics. Prerequisites: two years of high school math at the algebra level or higher, or Math 091 or equivalent. (Fall/Spring)

MATH 113 College Algebra (4)
Systems of integers, rational numbers, real numbers, complex numbers, conic sections, linear and quadratic relations, exponential and logarithmic functions, functions and their graphs, systems of equations, higher-degree equations, and inequalities. Prerequisite: MATH 091 or two years of high school algebra. (Fall/Spring)

MATH 119 Precalculus Mathematics (5)
Polynomials, exponential and circular functions, inverse functions, conditional equations, matrices, determinants, systems of equations, complex numbers, vectors, theory of equations, binomial theorem, and trigonometric functions. Prerequisite: MATH 113 or three years of high school mathematics or consent of instructor. Trigonometry recommended. (Fall/Spring)

MATH 121 Mathematical Foundations of Business (3)
Linear and quadratic functions, graphs, linear programming, differential and integral calculus techniques as applied to administrative decision-making, providing business students with a mathematical background that includes the basic quantitative skills and methods for solving business-related quantitative problems. Prerequisite: MATH 113 or two years of high school algebra. (Fall/Spring)

MATH 127 Mathematics of Finance (3)
Simple interest, simple discount, compound interest, continuously compounded interest, annuities, perpetuities, capitalization, determining payment size, determining outstanding principle, and constructing amortization schedules, including the derivation of mathematical formulae and the methods for solving many financial problems. Prerequisites: MATH 113 or consent of instructor. (Fall)

MATH 130 Trigonometry (3)
Trigonometric and circular functions, their graphs, triangle solution techniques, identities, solving trigonometric equations and inequalities and vectors. Prerequisite: MATH 113 or consent of instructor. (Fall/Spring)

MATH 141 Analytical Geometry (3)
Cartesian coordinates, distances, parallels, perpendiculars, locus of an equation, general line forms, general plane forms, general quadratic forms, polar coordinates, vectors in two and three dimensions, and other selected topics. Prerequisites: MATH 130 or consent of instructor. (Spring)

MATH 146 Calculus for Biological Sciences (5)
Sets, functions, derivatives, integrals, trigonometry, series, exponential and logarithmic functions, partial derivatives, and multiple integration taught from an intuitive point of view with many examples from the biological sciences. Prerequisite: MATH 113 or consent of instructor. (On demand)

MATH 151 Calculus I (5)
Functions, limits of functions, derivatives, definite integral, antiderivatives, applications, trigonometric exponential and logarithmic functions. Prerequisite: MATH 119 or consent of instructor. (Fall/Spring)

MATH 152 Calculus II (5)
Trigonometric and hyperbolic functions, techniques of integration, series, conics, polar coordinates, and parametric equations. Prerequisite: MATH 151. (Fall/Spring)

MATH 253 Calculus III (4)
Vectors in three-dimensional space, vector functions, partial derivatives, directional derivative and multiple integrals. Prerequisite: MATH 152. (Fall/Spring)

MATH 260 Differential Equations (3)
Techniques of solving differential equations of order one, linear differential equations, linear equations with constant coefficients, non-homogeneous equations, variation of parameter techniques, and Laplace transform methods. Prerequisite: MATH 253 or consent of instructor. (Spring)

MATH 265 Linear Algebra (3)
Matrices, solving systems of equations, determinants, vectors, vector spaces, linear transformations and eigenvalues. Prerequisite: MATH 253 or consent of instructor. (Fall/ Spring)

MATH 305 Euclidean Geometry (3)
Development of Euclidean Geometry including basic concepts of logic, axiomatic proofs, inductive reasoning, algebraic proofs in Cartesian coordinates, computer programming applications, and the van Hiele method. Intended for students seeking teacher certification. Prerequisites: Calculus II or consent of instructor. (Spring)

MATH 310 Number Theory (3)
Classical number theory including the fundamental theorem of arithmetic, congruences, and linear diophantine equations. Prerequisite: MATH 152. (On demand)

MATH 347 Methods of Teaching Secondary Mathematics (3)
Methods and techniques of teaching mathematics at the secondary education level. Presentation of short lessons by students will constitute a major part of the course. Prerequisite: consent of instructor. (Fall)

MATH 360 Methods of Applied Mathematics (3)
Selection of advanced mathematical techniques of particular use to scientists and engineers including the theory of linear spaces, transform techniques and harmonic analysis, partial differential equations, and tensor analysis on manifolds. Applications are stressed. Prerequisite: MATH 260. (Spring)

MATH 361 Numerical Analysis (4)
Elementary numerical analysis using the hand-held programmable calculator including Taylor's theorem, truncating errors, iteration processes, least squares methods, numerical solution of algebraic and transcendental equations, systems of equations, ordinary and partial differential equations, integral equations, interpolation, finite differences, eigenvalue problems, relaxation techniques, approximations, and error analysis. Prerequisites: MATH 152. (Fall)

MATH 369 Mathematical Logic and Discrete Structures (3)
Elementary logic, induction, recursion, recurrence relations, sets, combinatorics, relations, functions, graphs, trees, and elementary abstract structures. Prerequisites: MATH 121 or 151, MATH 265 or consent of instructor. (Fall)

MATH 370 Discrete Mathematics (3)
Applications of logic, Boolean algebra and computer logic, abstract structures, coding theory, finite-state machines, and computability. Prerequisites: MATH 369 or MATH 265 and consent of instructor. (Spring)

MATH 380 History of Mathematics (3)
History of mathematics from antiquity to the present with emphasis upon the development of mathematics concepts and the people involved. Prerequisite: MATH 152. (Spring)

MATH 385 Modern Geometry (3)
Classical Euclidean geometry of polygons and circles, synthetic geometry, constructions, inversive geometry, finite geometry, geometric transformations, and convexity. Prerequisites: MATH 253. (Fall)

MATH 390 Abstract Algebra (3)
Mathematical induction, equivalence relations, classical group theory – including quotient groups and group isomorphisms and homomorphisms – and an introduction to rings and fields. Prerequisite: MATH 265. (Alternate Fall)

MATH 391 Abstract Algebra II (3)
Topics in algebraic structures on groups, rings, fields, and modules. Prerequisites: MATH 390. (Alternate Spring)

MATH 395 Independent Study (1-3)

MATH 396 Topics (1-3)

MATH 450 Complex Variables (3)
Algebra of complex numbers, analyticity, differentiation and integration of complex functions, Cauchy's integral formulae, and series. Prerequisite: MATH 253. (Fall)

MATH 452 Advanced Calculus (3)
Sequences, Euclidean spaces, limits of functions, continuity, differentiation, and integration. Prerequisite: MATH 253. (Alternate Fall)

MATH 453 Advanced Calculus II (3)
Uniform continuity, topology in metric spaces, normed linear spaces, the differential and Rn, Stone-Weierstrass Theorem, connectedness, compactness, complete metric spaces. Prerequisite: MATH 452. (Alternate Spring)

MATH 460 Linear Algebra II (3)
Characteristics and minimal polynomial, Cayley-Hamilton Theorem, invariant subspaces, bilinear forms, primary decomposition theorem, dual vector spaces. Prerequisite: MATH 265. (Spring)

MATH 495 Independent Study (1-3)

MATH 496 Topics (1-3)

MECHANICS - AUTOMOTIVE TECHNOLOGY

School of Technology

AUTOMOTIVE

MECA 116 Transaxles and Driveaxles (1)
MECA 116L Transaxles and Driveaxles Laboratory (2)
Drivelines and driveaxle; theory of operation, inspection and repair of both front wheel drive and rear wheel drive systems. Also includes manual transaxle theory of operation, service and repair of both domestic and imported models. Modular course - three hours lecture and nine hours laboratory per week. (Fall)

MECA 121 Clutches and Standard Transmissions (2)
MECA 121L Clutches and Standard Transmissions Laboratory (2)
Theory of operation, removal, inspection and replacement of parts of automotive type clutch systems and 3-, 4-, and 5-speed manual shift transmissions. Modular course - six hours lecture and nine hours laboratory per week. (Fall)

MECA 130 Automotive Ignition Systems (2)
MECA 130L Automotive Ignition Systems Laboratory (1)
Auto ignition systems theory of operation, inspection, and repair. Point type electronic and distributorless systems are all explained. Modular course - six hours lecture and five hours laboratory per week. (Fall)

MECA 142 Suspension and Alignment (3)
MECA 142L Suspension and Alignment Laboratory (4)
Theory of operation, component identification, testing and component replacement. Five basic alignment angles, 2- and 4-wheel alignment procedures, tire wear diagnosis and wheel balance are covered in detail. Modular course - nine hours lecture and sixteen hours laboratory per week. (Spring)

MECA 222 4X4 Components and Repair (2)
MECA 222L 4X4 Components and Repair Laboratory (3)
Comprehensive study of the systems of a four-wheel drive vehicle, theory of operation, component identification, and service and repair of these systems. Maintenance and problem diagnosis receive special attention. Modular course, five weeks - six hours lecture and fourteen hours laboratory per week. (Fall)

MECA 223 Automotive Engine Diagnosis, Tune-up and Performance (2)
MECA 223L Automotive Engine Diagnosis, Tune-up and Performance Laboratory (3)
Comprehensive study of engine performance, diagnosis, testing, and service-related systems using advanced testing equipment. Modular course - six hours lecture and fourteen hours laboratory per week. (Spring)

MECA 227 Automatic Transmissions (2)
MECA 227L Automatic Transmissions Laboratory (2)
Principles of operation of planetary gear sets, fluid couplings, torque converters, servos, clutch packs, and control circuits. Modular course - six hours lecture and nine hours laboratory per week. (Fall)

MECA 239 Fuel and Emission Control System (4)
MECA 239L Fuel and Emission Control System Laboratory (2)
Carburation and fuel injection; theory of operation, system testing and problem diagnosis along with emission control systems and service or replacement of related components. Special emphasis on problem diagnosis. Modular course - twelve hours lecture and nine hours laboratory per week. Fall.

MECA 254 Automotive Electronics (4)
MECA 254L Automotive Electronics Laboratory (2)
Advanced auto electronics relating to solid state systems, command computers, and electronic advancements in technology. Modular course - twelve hours lecture and nine hours laboratory per week. (Spring)

MECA 295 Independent Study (1,2)

MECA 296 Topics (1,2)

MECA 299 Automotive COOP (2)
Actual placement in area shops to further the student's knowledge of actual work conditions and procedures. Modular course - eighteen hours per week. Prerequisites: second year status enrolled in A.A.S. degree program, in last semester of training. (On demand)

HEAVY EQUIPMENT - DIESEL MECHANICS

MECD 115 Heavy Equipment Maintenance (2)
MECD 115L Heavy Equipment Maintenance Laboratory (1)
Diesel fuels, lubricants, coolants, filters, bearings, seals, cooling and lubricating systems, chain and belt drives, tires, pumps and air systems. Emphasis on preventive maintenance and maintenance records. Six and one-half hours lecture, five hours laboratory per week. (Spring)

MECD 132 Heavy Equipment Drivetrain I (3)
MECD 132L Heavy Equipment Drivetrain I Laboratory (3)
Powertrain component operating principles, construction, repair and maintenance of manual transmission, drivelines, clutches, differentials, suspension and air brakes according to standard operating procedures. Modular course - nine and one-half hours lecture and thirteen and one-half hours laboratory per week. (Fall)

MECD 150 Fluid Power (4)
MECD 150L Fluid Power Laboratory (3)
Principles of hydraulics and pneumatic system including the construction, application, repair, maintenance and troubleshooting of components and systems. Modular course - twelve and one-half hours lecture, thirteen and one-half hours laboratory per week. (Spring)

MECD 222 Fuel Systems (3)
Design, construction, repair, maintenance, and troubleshooting procedures for fuel injection systems, components, pollution control devices, and electronic control systems. Modular course - nine and one-half hours per week. Spring.

MECD 223L Diesel Engine Analysis Performance Laboratory (3)
Application of analysis and trouble-shooting techniques, and adjustment of diesel engines for optimum operating performance. Fourteen hours per week. Prerequisites: MECD 222 or consent of instructor. (Spring)

MECD 225 Diesel Engine Reconditioning (3)
MECD 225L Diesel Engine Reconditioning Laboratory (4)
Four cycle and two cycle engine's cylinder block, crankshaft and bearings, piston and connecting rod assemblies, camshaft, gear train, engine timing, cylinder head assembly, intake and exhaust systems, components, including disassembling, inspecting, repairing and reassembling a diesel engine according to operating specifications. Modular course - ten hours lecture, nineteen hours laboratory per week. Prerequisites: MECH 113, 113L. (Spring)

MECD 232 Heavy Equipment Drivetrain II (3)
MECD 232L Heavy Equipment Drivetrain II Laboratory (3)
Power train component operating principles, construction, repair and maintenance of final drives, undercarriage, steer clutches, power shift transmissions, differentials, and off-road brake systems. Modular course - ten hours lecture, fourteen hours laboratory per week. (Fall)

MECD 275L Heavy Equipment Repair Laboratory (3)
General maintenance, troubleshooting and repair under simulated industrial shop conditions including use of service manuals, sorting work orders, ordering parts, and dealing with customers. On-the-job training; fourteen hours per week. Prerequisite: sophomore standing and consent of instructor. (On demand)

MECD 295 Independent Study (1,2)

MECD 296 Topics (1,2)

MECHANICS - GENERAL

MECH 105 Introduction to Shop Practice & Diagnostic Equipment (2)
MECH 105L Introduction to Shop Practice & Diagnostic Equipment Laboratory (1)
Shop procedures, personal safety practices, tool identification and use; reference material and usage diagnostic test equipment usage and periodic maintenance service. Modular course - Six hours lecture and four hours laboratory per week. (Fall)

MECH 113 Internal Combustion Engines (3)
MECH 113L Internal Combustion Engines Laboratory (4)
Internal combustion engine for the Auto Mechanics or Diesel Mechanics/Heavy Equipment student. Includes types, design construction, principles of operation, function of components, parts recognition, identification of basic parts, disassembly and assembly of the four-cycle gasoline engine, measuring of parts, inspection and diagnosis of parts, and recognition of worn, damaged, or broken parts. Introduction of valve and seat reconditioning, valve guide repair or replacement, and proper assembly procedures. Modular course - nine hours lecture and sixteen hours laboratory per week. (Spring)

MECH 125 Light Duty Brake Systems (2)
MECH 125L Light Duty Brake Systems Laboratory (2)
Theory of operation, inspection, and repair of automotive hydraulic brake systems including antilock systems. Modular course - six hours lecture and fourteen hours laboratory per week. (Fall)

MECH 133 Climate Control Systems (3)
MECH 133L Climate Control Systems Laboratory (1)
Heating and refrigeration, methods of operation and control, proper handling of refrigerant, use of testing equipment, efficiency testing, leak testing, and complete service procedures. Component replacement and repair as well as general maintenance. Modular course - ten hours lecture and five hours laboratory per week. (Spring)

MUSIC

School of Humanities and Fine Arts

ACADEMIC

MUSA 110 Standard Notation (2)
Basic components of written music: note reading, scales, key signatures, intervals, and fundamental rhythm and chord structures. Open to all students. May be required of music majors as prerequisite to MUSA 114. (Fall)

MUSA 114 Theory I-Introduction (3)
Harmonic principles of the "common-practice" period including scales, intervals, triads and 7th chords. Introduction to part writing and voice leading. Prerequisite: satisfactory score on theory placement examination; concurrent enrollment in MUSA 116; concurrent enrollment in MUSA 130 or prior knowledge of the keyboard. (Fall)

MUSA 115 Theory II-Diatonic Concepts (3)
Continuation of MUSA 114, extending to all types of diatonic 7th chords, and their usages. Includes advanced rules of tonal harmonization. Prerequisite: MUSA 114 or consent of instructor; concurrent enrollment in MUSA 117. Concurrent enrollment in MUSA 131 or prior knowledge of the keyboard is required. (Spring)

MUSA 116 Ear Training and Sightsinging I (2)
Skills developed in reading rhythms, sightsinging, and listening. Emphasis on beginning melodic, harmonic, and rhythmic dictation. To be taken concurrently with MUSA 114. (Fall)

MUSA 117 Ear Training and Sightsinging II (2)
Further development of skills in sightsinging, rhythmic recognition, advanced listening abilities, including dictation of melodic and harmonic intervals, chord progressions, and two, three, and four-part chorales. To be taken concurrently with MUSA 115. Prerequisite: MUSA 116. (Spring)

MUSA 128 Workshop in Music (1,2,3)
Consists of specialized workshops in various aspects of music made possible by visiting artists and/or lecturers. (Fall/Spring, on demand)

MUSA 130 Class Piano I (2)
For major and non-major students. Application of scales, chords and elements of music at the keyboard and development of repertoire. Recommended for all elementary, early childhood majors and music theatre majors. Prerequisite: MUSA 110 (music majors only). (Fall/Spring)

MUSA 131 Class Piano II (2)
The student gains further expertise at the keyboard. Prerequisite: MUSA 130 or consent of instructor. (Fall/Spring)

MUSA 137 Class Voice I (2)
Fundamentals of singing, interpretation and solo repertoire for beginning voice students. (Fall)

MUSA 138 Class Voice II (2)
Concepts of phonetics, language (diction for singers), and solo repertoire. Prerequisite: MUSA 137. (Spring)

MUSA 214 Theory III-Chromatic Concepts (2)
The full use of chromaticism through secondary dominants, altered chords, Neapolitan and augmented sixth chords, and modulation techniques. Continues into 20th Century including the use of advanced chromaticism, serialism, and atonality. Prerequisite: MUSA 115. (Fall)

MUSA 215 Theory IV - Twentieth Century Form and Analysis (2)
Study of various compositional approaches and techniques of the 20th Century, and correlated with the study of musical form. (Spring)

MUSA 216 Keyboard Harmony (2)
Keyboard and theory skills applied to perform harmonization of a given line, transposition at sight, and open score realization and sightreading at the keyboard. Prerequisite: MUSA 214 and 230. (Spring)

MUSA 220 Music Appreciation (3)
Masterpieces of music, composers, and performers useful for the music student who has a weak background in the Masters. (Fall/Spring)

MUSA 228 Workshop in Music (1,2,3)
Consists of specialized workshops in various aspects of music made possible by visiting artists and/or lecturers. (Fall/Spring, on demand)

MUSA 230 Class Piano III (2)
A concentrated study of repertoire in preparation for the piano proficiency exam. Maximum keyboard time will develop coordination and flexibility. Prerequisites: MUSA 130,131, or consent of instructor. (Fall)

MUSA 232 String Techniques and Materials (1)
Study of violin, viola, cello, and string bass in a class situation. Emphasis is on fundamentals of playing techniques at an elementary level. (Alternate Fall)

MUSA 233A Woodwind Instruments Techniques and Materials (1)
Study of flute, oboe, clarinet, bassoon, and saxophone in a class situation. Emphasis is on fundamentals of playing techniques at an elementary level. (Alternate Fall)

MUSA 234 Brass Instrument Techniques and Materials (1)
A concentrated course to develop a knowledge of the brass instruments and to acquire sufficient skill to demonstrate good tone, technique, and breath control. (Alternate Spring)

MUSA 235 Percussion Instrument Techniques and Materials (1)
The study of methods and materials for teaching beginning percussion in the public school. Includes practical instruction on the instruments utilized in the marching band, orchestra, and stage band. (Alternate Spring)

MUSA 236 Electronic Instrument Techniques and Materials (2)
The study of methods and materials for the introduction to the use of electronic instruments, including the areas of sound reinforcement (microphones and amplification) and sound generation (synthesis) by electronic means. (Alternate Spring)

MUSA 241 Music and Methods in Early Childhood Education (2)
For students who will be working with preschoolers and kindergarten-age students. Through the creative process students develop simple tunes and gain knowledge and appreciation of music. (Fall/Spring)

MUSA 266 History of Popular Music (3)
Differences in style, musical elements, lyrical content, and outstanding artists/writers in the areas of popular, rock, Country Western, and jazz idioms. Evolutionary aspects and social significance are introduced as background references. Guest lectures, class listening sessions, film strips, and music video augment the lecture sessions. Open to all students. (Alternate Spring)

MUSA 268 Improvisation (2)
Materials and techniques for improvisation, including chord and scale construction, modality, harmonic patterns, linear concepts, with emphasis on technique, style and idiomatic usage. (Alternate Fall)

MUSA 302 Keyboard Literature (3)
Survey of keyboard music from early Baroque composers such as John Bull to present day composers. Emphasis on composers' styles, various editions, performers, and performance practice. Prerequisites: MUSA 230 or consent of instructor. (Spring)

MUSA 303 Symphonic Literature (3)
Survey of music from early instrumental to present-day compositions. Emphasis on composers' styles, orchestras, conductors; chamber orchestra music also included. Prerequisites: MUSA 215. (Fall)

MUSA 310 Accompanying Techniques (2)
Development of accompanying proficiency, including listening skills, form, and analysis of the music to be performed; rehearsing techniques; accompanying repertoire for vocal; instrumental; and ensemble playing. Prerequisites: MUSA 214,216 or consent of instructor. (Alternate Fall)

MUSA 316 Counterpoint (2)
Study and writing of 18th Century counterpoint, analysis of contrapuntal forms including two- and three-part inventions and fugue. Prerequisite: MUSA 215. (Fall)

MUSA 317 Orchestration (2)
Choral and instrumental arranging; instrumentation, scoring, and analysis of harmonic styles of various composers. Students are required to compose and arrange original works. Prerequisite: MUSA 215. (Spring)

MUSA 318 Vocal Literature (3)
Follows the changing patterns, styles, and fashions of the secular art-song from medieval Europe to Europe and America of the day. Prerequisites: MUSA 137,138 or pervious enrollment in private vocal studies. (Spring)

MUSA 326 Music History and Literature I (3)
Literature and styles of the master composers of music through Ancient, Medieval, Renaissance, and Baroque music. Course work is designed for the fine arts major, utilizing a lecture and listening laboratory format and one scholarly research paper of the student's choice. Open to any student with sufficient background. Prerequisite: consent of instructor. (Fall)

MUSA 327 Music History and Literature II (3)
Literature and styles of the master composers of music through the Classic, Romantic, and Modern ages. Course work is designed for the fine arts major, utilizing a lecture and listening laboratory format and one scholarly research paper of the student's choice. Open to any student with sufficient background. Prerequisite: consent of instructor. (Spring)

MUSA 328 Workshop in Music (1,2,3)
Consists of specialized workshops in various aspects of music made possible by visiting artists and/or lecturers. (Fall/Spring, on demand)

MUSA 337 Diction for Singers (3)
Pronunciation of Italian, German, and French as applied to the performance of vocal literature. (Alternate Fall)

MUSA 340 Teaching Elementary and General Music: Methods, Principles and Materials (3)
For music education majors to provide an overview of goals and activities to be included in elementary and general music classes. Weekly laboratory experiences. Prerequisites: MUSA 115, 220. (Alternate Fall)

MUSA 360 The Music Business (1)
Designed to facilitate entry into the professional music arena by providing a background in the business aspects of the profession. Includes contracts, marketing, recording, TV, radio, film, the Musician's Union, AFTRA, royalties, managers, agents, club owners, and alternate careers. Recommended prerequisites: MUSA 266. (Alternate Fall)

MUSA 361 Songwriting (1)
Basic skills for the songwriter including correct notation techniques, phrasing, line and climax, standard forms, harmonic and rhythmic idioms, lyrics and content, and preparation of lead sheets. Recommended prerequisite: MUSA 114, 266. (Alternate Fall)

MUSA 362 Commercial Arranging (1)
Elementary arranging skills including instrumentation, basic problems and principles of orchestration for various groups and functions, standard musical textures, standard voicing techniques, special harmonic practices and analysis of professional arrangements. Prerequisites: MUSA 236, 266. (Alternate Spring)

MUSA 395 Independent Study (1-3)

MUSA 396 Topics (1-3)

MUSA 410 Vocal Pedagogy (3)
The physiology of the human vocal mechanism, various teaching styles, vocal problems related to various age groups, and vocal repertoire pertinent to all age groups and levels of development. Prerequisites: MUSA 137,138 or previous or concurrent enrollment in private vocal studies. (Alternate Spring)

MUSA 428 Workshop in Music (1,2,3)
Consists of specialized workshops in various aspects of music made possible by visiting artists and/or lecturers. (Fall/Spring, on demand)

MUSA 440 Teaching Vocal Music K-12: Methods, Principles, and Materials (3)
Concepts and materials preparatory for teaching vocal music in the public schools. Content deals with the adolescent voice, vocal techniques and rehearsal approaches, development of the elementary, middle/junior high school, and senior high vocal program, and choral repertoire appropriate for each level. Prerequisites: MUSA 216 and MUSA 137, MUSL 137 or MUSP 150. (Spring, alternate years)

MUSA 441 Teaching Instrumental Music K-12 (3)
Designed to investigate many of the problems that future instrumental music teachers will encounter in the profession. Activity will be centered on developing teaching competencies, administration of the program and materials and equipment needed for the instrumental music program. Prerequisites: All MUSA 100-300 courses. (Spring, alternate years)

MUSA 450 Beginning Conducting (2)
Basic concepts and techniques necessary to conduct music competently. Students will be expected to master patterns, fermatas, dynamics, etc. Observation of other conductors and score study is included. Required of all music majors. Prerequisites: MUSA 327. (Alternate Fall)

MUSA 451A Advanced Conducting, Instrumental (2)
MUSA 451B Advanced Conducting, Choral (2)
More difficult techniques such as advanced meters, advanced score study, interpretive conducting and ensemble rehearsal techniques. Required of all music majors. Prerequisites: MUSA 450. (Alternate Spring)

MUSA 495 Independent Study (1-3)

MUSA 496 Topics (1-3)

LESSONS

Applied music lessons may be taken for credit. Students meet weekly with an individual instructor assigned by the music department. An instructional fee is required, and lessons may be taken twice at each level. Music majors required to attend and perform at weekly recitals.

Applied music lessons are offered in the following:

MUSL 130, 230, 330, 430	Keyboard (Fall/Spring)	(1)
MUSL 131, 231, 331, 431	Guitar (Fall/Spring)	(1)
MUSL 132, 232, 332, 432	Strings (Fall/Spring)	(1)
MUSL 133, 233, 333, 433	Woodwind (Fall/Spring)	(1)
MUSL 134, 234, 334, 434	Brass (Fall/Spring)	(1)
MUSL 135, 235, 335, 435	Percussion (Fall/Spring)	(1)
MUSL 136, 236, 336, 436	Electronic Instruments (Fall/Spring)	(1)
MUSL 137, 237, 337, 437	Voice (Fall/Spring)	(1)
MUSL 138, 238, 338, 438	Composition (Fall/Spring)	(1)

PERFORMING

MUSP 101, 201 Music Performance Experience (1)
For students wishing to participate in instrumental and vocal ensembles for fine arts credit toward general education requirements. See music faculty for assignment to appropriate group based on interest and ability. May be taken twice at each level; three semesters are needed to satisfy the fine arts requirement.

MUSP 140, 240, 340, 440 Symphonic Band (1)
An ensemble of music students and students from other disciplines who perform a wide variety of literature selected from standard and current concert band repertoire. (Fall/Spring)

MUSP 141, 241, 341, 441 Symphony Orchestra (1)
Students who demonstrate proficiency on orchestra instruments, through audition with the conductor, may become members of the Grand Junction Symphony and receive credit. (Fall/Spring)

MUSP 144, 244, 344, 444 Jazz Ensemble (1)
A group utilizing stage band instrumentation and performing many local and required concert engagements. By audition; preference given to members of Symphonic Band. (Spring)

MUSP 145, 245, 345, 445	**(Section A) Instrumental Ensemble-Woodwinds**	**(1)**
	(Section B) Instrumental Ensemble-Brass	**(1)**
	(Section C) Instrumental Ensemble-Strings	**(1)**
	(Section D) Instrumental Ensemble-Percussion	**(1)**
	(Section E) Instrumental Ensemble-Guitar	**(1)**

Groups organized upon the talents and interests of the members. Specified ensembles may be offered from time to time in the format of String Quartets, Woodwind, and Brass Choirs, etc. A minimum of one public performance per each term of enrollment is required. (Fall/Spring)

MUSP 146, 246, 246, 446 Community Performance Organizations (1)
Students and other musicians in the community who desire college credit are allowed to demonstrate ability in their medium and to become, by audition, members of various musical groups and receive credit. Each level may be repeated once for credit.

MUSP 150, 250, 350, 450 Concert Choir (1)
The major large choir, open to all students and staff who enjoy singing, with final membership approved by the director. Concert Choir performs great choral literature of all types representing Mesa State College in formal concerts both on and off campus including concert tours, performing large-scale masterworks with orchestra. (Fall/Spring)

MUSP 156, 256, 356, 456 Chamber Choir (1)
An advanced smaller choral ensemble which performs vocal literature from Renaissance to Contemporary art music including jazz. Chamber Choir performs on and off campus, on concert tours, and at the annual Madrigal Dinners. Staff and students are eligible by audition; membership in Concert Choir generally a prerequisite. (Fall/Spring)

MUSP 157, 257, 357, 457 Men's Chorus (1)
Campus-wide chorus open to all interested students and faculty. Performs all types of music written for combined men's voices. Concertizes in conjunction with other college choral ensembles and in separate performances on-off campus. Prerequisites: Taken in sequence or with consent of instructor. (Fall/Spring)

MUSP 158, 258, 358, 458 Women's Chorus (1)
Performances include the complete range of music written for combined women's voices, both on and off-campus, and in conjunction with the other college choral ensembles in Music Department concerts. Prerequisites: consent of director. (Fall/Spring)

MUSP 162, 262, 362, 462 Combo (1)
Interested students team up with a rhythm section in learning tunes and "head" charts, improving skills and making practical application of improvisation. (Fall/Spring)

MUSP 164, 264, 364, 464 Commercial Big Band (1)
A laboratory band which focuses on the swing styles of the 1940s big bands. Instruction in phrasing, interpretation, improvisation, tone production, and reading. Enrollment by audition; preference given to those enrolled in Symphonic Band. (Fall)

MUSP 395 Independent Study (1-3)

MUSP 396 Topics (1-3)

MUSP 420 Senior Recital (2)
Preparation for senior level recital in student's performance medium. Recital must be given during term in which the student is registered in this course and must be supervised by the student's major applied music professor. (Fall/Spring)

MUSP 495 Independent Study (1-3)

MUSP 496 Topics (1-3)

NURSING

School of Nursing and Allied Health

NURS 113 Nursing Concepts I (7)
NURS 113L Nursing Concepts I Laboratory (2)
The concept of man as a system with focus on the holistic approach to nursing. Blends theory and practice including the scientific principles for basic nursing procedures and skills. The nursing process provides the method for practice of basic skills to individuals undergoing medical and surgical interventions to correct dysfunctions. Prerequisite: acceptance into the ADN program. (Fall)

NURS 123 Nursing Concepts II (5)
NURS 123L Nursing Concepts II Laboratory (4)
Evaluation of common mental and physical dysfunctions experienced by patients of all ages, including those experiencing childbirth, with focus on identifying the input, output, and throughput when using the nursing process in providing care to patients. (Spring)

NURS 133 LPN-ADN Bridge Course (3)
Designed to ensure that the licensed practical nurse graduate possesses the knowledge and skill to succeed in upper level associate degree courses. Introduction to selected content related to care of adults and the childbearing family. Clinical laboratory allows students to apply content. Previous nursing course credit will be held in escrow until successful completion of the course. Prerequisites: Graduation from a state approved licensed practical nurse program with evidence of a current license. Corequisite: NURS 210, 210L. (On demand)

NURS 210 Nursing Concepts III (5)
NURS 210L Nursing Concepts III Laboratory (5)
General systems theory in evaluation of dysfunctions of all ages including the human adaptive capabilities throughout the life span and utilization of the nursing process. The impact on the child and adolescent is emphasized. (Fall)

NURS 225 Introduction to Nursing (2)
Theoretical foundation of nursing practice. Historical, legal, political and ethical issues affecting nursing and the health care delivery system are examined. Co-requisite: enrollment in NURS 245 and 245L. Prerequisite: acceptance into the BSN program, successful completion of BIOL 141, 141L, 250, and 250L. (Fall)

NURS 230 Nursing Concepts IV (5)
NURS 230L Nursing Concepts IV Laboratory (5)
General systems approaches to patients throughout the life span; dysfunction of various subsystems with emphasis on the psychological components of man and the use of the nursing process. (Spring)

NURS 245 Fundamentals of Nursing (3)
NURS 245L Fundamentals of Nursing Laboratory (2)
Development of selected interpersonal, communication, and psychomotor skills to assist individuals in meeting their health care needs. Begins to use the nursing and teaching process in assisting individuals to meet health needs. Co-requisite: concurrent enrollment in NURS 225. Prerequisite: successful completion of BIOL 141, 141L, 250 and 250L.

NURS 273 Issues in Nursing (2)
ADN Exit course exploring the effect of recent trends and issues while examining historical components of nursing. Students are encouraged to become aware of potential problems experienced during the transition from student to practicing nurse. (Spring)

NURS 315 Professional Role Transition (2)
Designed to facilitate the transition between the technical nurse graduate to the professional practice of nursing at the baccalaureate level. For returning RN and LPN students. (Fall)

NURS 316 RN-BSN Bridge Course (4)
Designed to ensure that the technical nurse (RN) graduate possesses the knowledge and skill to succeed in upper level baccalaureate courses. Will introduce selected content related to care of adults and the childbearing family. Clinical laboratory allows students to apply content and gain skills in physical assessment techniques. Previous nursing course credits will be held in escrow until successful completion of the course. Prerequisites: Graduation from a state-approved diploma or associate degree program in nursing. Corequisites: NURS 315. (On demand)

NURS 325 Pharmacology in Nursing (2)
Modern drug therapy with the study of specific classifications, terminology, theories, and techniques of safe administration. Prerequisite: concurrent enrollment in NURS 345, 345L or all of the following: 355, 355L and 365, 365L. (Fall)

NURS 335 Health Assessment (3)
NURS 335L Health Assessment Laboratory (1)
Assessment of the health status, history taking, and physical examination of adults and children. Prerequisite: concurrent enrollment in NURS 345, 345L or all of the following: 355, 355L and 365, 365L. (NURS 335L for RNs only - on demand) (Fall)

NURS 345 Nursing Process I: The Adult (4)
NURS 345L Nursing Process I: The Adult Laboratory (4)
Application of the nursing process in the care of individuals. Pathophysiological problems of moderate intensity and relative stability are explored. (Fall/Spring)

NURS 355 Nursing Process II: Expanding Family (2)
NURS 355L Nursing Process II: Expanding Family Laboratory (2)
The cognitive, psychomotor and affective skills essential to the care of the expanding family through the trimesters of pregnancy. (Fall/Spring)

NURS 361 Living with Loss (2)
Theories of attachment and loss applied to situational and maturational losses. (Alternate Spring)

NURS 362 Spiritual Aspects of Caring (2)
Theoretical approaches to man's spiritual nature and the application of theories to the helping relationship. (Alternate Spring)

NURS 363 Women's Health Issues (2)
Topics and issues that influence women's health in contemporary society. Foundations of alternative health services are discussed. (Alternate Fall)

NURS 365 Nursing Process III: The Child (2)
NURS 365L Nursing Process III: The Child Laboratory (2)
Health and illness needs of the child within the developing family. Pathophysiological and psychosocial dysfunctions of children and adolescents are explored. (Fall/Spring)

NURS 395 Independent Study (1-3)

NURS 396 Topics (1-3)

NURS 425 Nursing Process IV: Community Health (3)
NURS 425L Nursing Process IV: Community Health Laboratory (2)
Orientation to community public health including a study of background, development and trends. Students apply community health principles in the care for individuals, families, and groups in a community setting. Prerequisites: completion of 300 level nursing courses. (Fall/Spring)

NURS 435 Nursing Process V: Mental Health (3)
NURS 435L Nursing Process V: Mental Health Laboratory (2)
In-depth examination of psychosocial adaptive modes in relation to mental health maintenance and restoration; emphasis on psychosocial developmental theories, principles of communication and relationship development. Includes assessment of emotional disorders and psychotherapeutic interventions. Prerequisite: completion of 300 level nursing courses. (Fall/Spring)

NURS 443 Power and Political Dynamics in Nursing (2)
Political influences and social forces in history which impact nursing. The utilization of power and politics are analyzed as methods to further the potential of nursing. Topics include role conflict of the working woman, attitudes toward masculinity and femininity, finances and economy, networking, and keys of career success. (Alternate Spring)

NURS 445 Nursing Process VI: Advanced Nursing Process (3)
NURS 445L Nursing Process VI: Advanced Nursing Process Laboratory (4)
Advanced concepts essential for nursing care of clients requiring intervention in relation to complex multisystem illness or injury. Provides opportunities for direct patient care in both structured and unstructured settings. Prerequisites: completion of required 300 level nursing courses. (Fall/Spring)

NURS 455 Leadership Process: Theory and Practice (3)
NURS 455L Leadership Process: Theory and Practice Laboratory (2)
Focuses on the humanistic management process. The systems approach to management theory, principles, and concepts is developed. Planning, organizing, directing, and controlling are examined as they apply to the delivery of nursing care. Prerequisite: completion of required 300 level nursing courses. (Fall/Spring)

NURS 461 Health Care Systems (2)
Overview of the multiple roles of the health care delivery system including both traditional and alternative methods; and the impact of insurance programs, federal government, and consumerism on health delivery. The roles of providers and personnel in the delivery of health care in the U.S. and other countries are discussed. Prerequisite: consent of instructor. (Alternate Fall)

NURS 462 Psychosocial Issues (2)
Current psychosocial issues which affect individual, family and community systems. Behavior is viewed in the context in which it occurs, with emphasis on interactions between the client and his environment. Assessment of dysfunctions and facilitation of health promoting or restorative behaviors are discussed. Prerequisite: consent of instructor. (Alternate Fall)

NURS 464 The Older Adult (2)
Theories of aging with emphasis on the age normal changes as well as social influences affect the older adult. Ethical and legal considerations of the elderly as well as resources are identified. Prerequisite: senior standing or instructor consent. (On demand)

NURS 475 Research Process (2)
The relationship between nursing research and the system of nursing are examined; processes and methodology of scientific investigation involving content relevant to the use of research studies in nursing are presented. Prerequisite: STAT 200 or other acceptable statistic course. (Fall/Spring)

NURS 485 Professional Perspectives (2)
Trends and issues affecting nursing and health care delivery systems with emphasis on the role of the professional nurse in shaping health care for the future. Marketing strategies are identified. Prerequisite: completion of 300 level nursing courses.

NURS 495 Independent Study (1-3)

NURS 496 Topics (1-3)

OFFICE ADMINISTRATION

School of Business

OFAD 101 Bookkeeping for Small Business (3)
For persons keeping accounting records in a legal, medical, or other professional office or those who will work in the accounting department of a small retail firm. Fundamental accounting principles including opening through closing a set of books. Not advised for four-year accounting majors. No credit allowed if credit already established in ACCT 201. (Fall/Spring)

OFAD 147 Medical Terminology (3)
Basic medical terminology as applied to major systems of the body and related diseases. Includes special applications related to medical practice with emphasis on spelling. (Fall)

OFAD 151 Keyboarding (3)
Keyboard, basic word processing commands, minimum skill with instruction and practice on letters, reports, and tables. (Fall/Spring)

OFAD 153 Beginning Word/Information Processing (3)
Introduces word/information processing concepts, functions, and terminology; provides an overview of the document production cycle with related hardware and software; provides in-depth, hands-on experience with a leading microcomputer word processor. Such features as creating a document, revising, formatting, paginating, merging, document assembly, disk management, and other relevant features will be covered. Two to three hours per week of arranged laboratory is required in addition to regularly scheduled classes. Prerequisites: OFAD 151 or knowledge of keyboard. (Fall/Spring)

OFAD 154 Laboratory Techniques (2)
Basic lab procedures such as blood counts, urinalysis, EKG, etc. Actual lab experience. Prerequisite: BIOL 141 or consent of instructor. (Spring)

OFAD 159 Medical Office Procedures (3)
Medical office management, patient reception, record keeping, care of equipment and supplies, communication skills, and assisting the physician and patient including examination room techniques. Prerequisites: OFAD 147, 215, or consent of instructor. (Spring)

OFAD 201 Office Management (3)
Office organization including work in the office, office layout, equipment, supplies and forms, personnel problems, costs, control of office work, methods of recognizing and solving office communication problems, awareness of successful human relations, changing technologies and philosophies of business, and technical terminology used in business. (Spring)

OFAD 202 Records Management (3)
Institutional and legal requirements for developing, storing and maintaining business and personnel information systems. Management of computerized and non-computerized systems emphasized including storage and retrieval using alphabetic, geographic, numeric and subject methods for manual, micro-records, and computerized systems; and control of records management programs. (Fall)

OFAD 215 Document Format/Skill Development (3)
Emphasizes skill development and formatting of mailable letters, manuscripts, and business forms to a level required in the average office on electronic typewriters and microcomputers. Prerequisite: OFAD 153 or consent of instructor. (Fall/Spring)

OFAD 221 Transcription Machines (3)
Fundamental skills, speed, and accuracy of transcription on electronic equipment. Prerequisites: OFAD 215. (Fall/Spring)

OFAD 244 Legal Procedures (3)
American court systems, branches of civil and criminal law, and secretarial procedures relating to ethical behavior and office management techniques in a law office. Includes practice in preparing legal forms and documents with emphasis on speed, accuracy, and mailability, and procedures to help develop confidence and poise necessary in a professional office. Prerequisite: typing proficiency. (Fall)

OFAD 253 Intermediate Word/Information Processing (3)
Continuation of OFAD 153. Provides hands-on experience with the more advanced features of word processing, including graphics and desktop publishing. Prerequisite: OFAD 153. (Fall/Spring)

OFAD 266 Word/Information Processing: Document Production (4)
Office standards examined and applied to the production of business documents on microcomputers and electronic typewriters; document analysis procedures and productivity measurement techniques presented with emphasis on decision-making and problem-solving. Prerequisites: OFAD 215. (Fall/Spring)

OFAD 270 Office Automation: Microcomputer Applications (3)
Microcomputer applications used in the office automation environment, including accounting applications, integrated software (word processing, spreadsheets, data base, graphs), desktop managers, graphics, telecommunication, electronic mail; hands-on experience according to student's major and software availability. Arranged laboratory is required in addition to regularly scheduled classes. Prerequisites: CISB 101. (Fall)

OFAD 271 Office Automation: Procedures and Technology (2)
Concepts of office automation through the integration of technology, procedures, and people; procedures of the traditional office contrasted with those of the evolving automated office in relation to both document production skills and administrative support functions; emphasis on decision-making and problem-solving skills needed in the evolving automated office environment. Prerequisites: OFAD 215. (Spring)

OFAD 295 Independent Study (1,2)

OFAD 296 Topics (1,2,3)

OFAD 298 Related Work Experience (1,2)
See ACCT 298. (Fall/Spring)

OFAD 299 Internship (6,12)
On-the-job office occupations training for a minimum of 17 hours per week for six semester hours credit in a two-year program and 34 hours per week for 12 semester hours credit in a four-year program at an approved work station in the business community. Job placement is on the basis of the student's program of study and employment goals. Prerequisites: sophomore standing and consent of instructor. (Fall/Spring)

PARKS AND RECREATION RESOURCE MANAGEMENT

School of Business

PRRM 200 Cultural Foundations of Play, Recreation, Leisure (2)
Psychological, physiological, and sociological influences which impact the technological, economic, and political significance of play, recreation, and leisure in American society. (Fall)

PRRM 210 The Parks and Recreation Professions (2)
History and development of formalized park and recreation professions including specialized professional competencies, agency duties, professional development, organizational structure, and ethics. (Spring)

PRRM 220 Professional Foundations of Therapeutic Recreation (3)
Introduction to content and service of therapeutic recreation. Includes public and clinical role and mission, credentialing, professional competency, performance standards, and the understanding of the psychological, sociological, and historical significance of therapeutic recreation. (On demand)

PRRM 300 Recreation Programming: Designing Experiences (3)
Comprehensive program methodology with topics on development of program mission statements, assessment of patrons' needs, preparation of program plans, registration systems, pricing, promotion, and development of evaluation models. Prerequisites: PRRM 200. (Fall)

PRRM 305 Therapeutic Recreation Program Design (3)
Principles and procedures for a comprehensive systems approach to therapeutic program planning. Topics include program design, implementation, evaluation, activity analysis, and assessment. Prerequisite: PRRM 220. (On demand)

PRRM 310 Resource Planning: National and State Parks (3)
Application of design process and procedures for planning design and construction of national and state park systems. Prerequisite: PRRM 300. (Spring)

PRRM 311 Resource Planning: Community Recreation Systems (3)
Application of design process and procedures for the planning, design, and construction of public and semi-public indoor special use facilities. Prerequisites: PRRM 300. (Spring)

PRRM 312 Resource Planning: Resort Development (3)
Special planning and design considerations applicable to effective management and operation of private for profit resort businesses. Prerequisite: PRRM 300. (Fall)

PRRM 313 Resource Planning: Outdoor Play Settings/Children (3)
Planning, design, and management of outdoor play settings for all children. Topics include site plan and design, setting design and management, play programming, risk management, and the integration of the disabled. Prerequisite: PRRM 300. (Fall)

PRRM 314 Resource Planning: Therapeutic Systems (3)
Comprehensive process of planning, evaluating, and adapting areas and facilities for public and private therapeutic service agencies. Prerequisite: PRRM 300, PRRM 320. (On demand)

PRRM 350 Private and Commercial Recreation Systems (3)
Profit-based recreation industry, including managing the recreation enterprise, economic feasibility studies, small business entrepreneurship, market characteristics, professional opportunities, and trade association research and publications. Prerequisites: PRRM 210. (Fall)

PRRM 351 Community Tourism Systems (3)
Community as a tourist destination area with concentration on identification of linkages between tourism industries and local economies, and the process developing and managing park and recreation resources to serve the tourist. Prerequisites: PRRM 200 and 210. (Spring)

PRRM 352 National and State Park Systems (3)
National and state outdoor recreation resource management systems including a variety of administrative tools applicable to operation and maintenance as well as comprehensive discussion of legislation, land use policy, forest recreation planning, and governmental designation programs. Prerequisites: PRRM 200, 210. (Fall)

PRRM 353 Public and Municipal Parks and Recreation Systems (3)
Agency management applicable to municipal and special recreation and park districts, including topics on fiscal policies and practices, community development, maintenance systems management, revenue resources and budget formulation. Prerequisites: PRRM 200, 210. (Spring)

PRRM 354 Therapeutic Recreation Systems (3)
Interpretation, conceptualization, application and development of professional skills and knowledge necessary for supervising, assessing, and managing therapeutic agency service. Prerequisite: PRRM 220. (On demand)

PRRM 395 Independent Study (1-3)

PRRM 396 Topics (1-3)

PRRM 410 Managing Human Resources in Parks and Recreation (3)
Personnel management for the park and recreation administrator. Topics include recruitment, planning and organizing personnel, leadership, supervision, motivation, performance appraisal, compensation, training, discipline and grievance, employee separations, collective bargaining, and employee well being. Field experience required. Prerequisites: two courses from PRRM 350, 351, 352 or 353. (Fall)

PRRM 420 Financing, Managing & Marketing Recreation/Park Resources (3)
Various techniques of financing, budgeting, and fiscal accountability processes with emphasis on revenue resource development and marketing of services and facilities. Prerequisites: two courses from PRRM 350, 351, 352 or 353. (Fall)

PRRM 430 Computer Applications for Parks, Recreation, and Physical Education (3)
Practical application of computer software for management, design, and operation of public and commercial recreation and fitness industries. Content includes packaged scheduling programs, membership systems, elementary CAD, advanced spreadsheet applications, graphics, advanced DBM systems, and assessment programs. Prerequisite: PRRM 200, 210 and 300. (Spring)

PRRM 440 Research Studies, Methods, and Tools (3)
Purpose, basic procedures, interpretation, and application of research and evaluative methodology for park and recreation services. Includes computer applications and use of elementary statistical packages. Prerequisites: PRRM 300, 430. (Spring)

PRRM 450 Legal Liabilities & Legislative Foundations (2)
Legal foundations affecting the professional responsibilities of athletic, physical education and recreation resource managers. Topics include legal liabilities, legislative princesses, incident management, rationale for lawsuits, liability immunity, and risk management planning. Prerequisites: PRRM 210, and two courses chosen from 310, 311, 312 or 313. (Spring)

PRRM 460 Senior Seminar: Issues and Trends (2)
Students review, discuss and apply skills and knowledge for the effective solving of contemporary leisure service problems. Students will identify contemporary issues and trends and apply problem solving models and techniques. Comprehensive exam required. Prerequisites: PRRM 200, 210, 20 hours of upper division PRRM course work. (Spring)

PRRM 491 Field Experience (1-3)
Placement of upper division students within public and private recreation and park agencies. Selected agencies must meet Mesa State College Supervisory Guidelines. Prerequisite: consent of instructor. (Fall/spring)

PRRM 495 Independent Study (1-3)

PRRM 496 Topics (1-3)

PRRM 499 Internship (10)
A full-time continuing experience in a public or private leisure service agency. A minimum of 400 clock hours must be completed in not less than a ten-week period. Prerequisites: 2.5 GPA in major and application requirements as stated in the Published Handbook for Professional Internship (note: for NTRC certification this requirement must be completed under the direct supervision of a certified therapist), PRRM 410, 420, 450, 460. See additional Internship Handbook requirements. (Summer)

PHILOSOPHY

School of Humanities and Fine Arts

PHIL 110 Introduction to Philosophy (3)
Includes an orientation to the discipline's concerns, branches, major schools of thought, and its relationship to other disciplines; a selection of readings from philosophers of all historical periods concerning major philosophical issues; practice in the process of philosophical reasoning, the critical analysis of philosophical writings, and the most basic rules of logic.

PHIL 275 Introduction to Logic (3)
Forms of reasoning, valid versus fallacious inferences, strong versus weak arguments. Designed to increase the ability to reason clearly and correctly and follow and critically evaluate the reasoning of others. (Fall/Spring)

PHIL 352 Ethics (3)
Introduction to theoretical and applied Ethics. Major moral philosophers and moral theories are surveyed; a general approach to moral reasoning is developed. This is then applied to the discussion of recent writings on such issues as euthanasia, abortion, war, capital punishment, affirmative action, etc. Prerequisites: PHIL 110, or 275 or consent of instructor.

PHIL 373 History of Philosophy I (3)
Philosophical problems including relation of the individual to the state, death and the afterlife, the physical universe, and existence of God, as seen through Greek and Medieval thinkers such as Plato, Aristotle, Augustine, and Thomas Aquinas. Prerequisites: PHIL 110, or 275, or consent of instructor. (Every third semester)

PHIL 374 History of Philosophy II (3)
Continuation of PHIL 251, with topics as seen through thinkers of the modern period, such as Hobbes, Berkeley, Kant, Nietzsche, and the Existentialists. Prerequisites: PHIL 110, or 275, or consent of instructor. (Every third semester)

PHIL 375 Twentieth-Century Philosophy (3)
The main philosophical themes and schools of recent philosophy. Characteristic methods and positions of such schools as Pragmatism, Phenomenology, Existentialism, and various Analytic Movements—especially as they bear on central philosophical problems regarding truth, meaning, knowledge of the external world, and the relationship between language and reality. Prerequisites: PHIL 110, or 275, or consent of instructor. (Every third semester)

PHIL 395 Independent Study (1-3)

PHIL 396 Topics (1-3)

PHIL 495 Independent Study (1-3)

PHIL 496 Topics (1-3)

PHYSICS

School of Natural Sciences and Mathematics

PHYS 100 Concepts of Physics (3)
A non-mathematical survey of fundamental concepts in physics. Particular attention is given to the cultural development of these ideas. The roots of physics are traced from early Greek thought through the Renaissance. Next, the Newtonian revolution of the seventeenth and eighteenth centuries is studied, followed by the nineteenth-century rise of field theory and thermodynamics. The course concludes with a discussion of the simple ideas underlying relativity and modern quantum theory. These latter topics include the elementary building blocks of matter and the unification of force. Lecture demonstrations are used throughout the course. (Fall)

PHYS 101 Elementary Astronomy (3)
A nonmathematical introduction to modern stellar and extragalactic astronomy. Topics include planetary exploration, stellar evolution, galaxies, and the big-bang cosmology. Current research results are discussed. Evening observing will be scheduled when possible. (Spring)

PHYS 111, 112 General Physics (4,4)
PHYS 111L, 112L General Physics Laboratory (1,1)
A survey of physics fundamentals. Topics include mechanics, electricity, magnetism, thermodynamics, sound, optics, and modern physics. Problem solving is emphasized. Prerequisite: a mastery of algebra and trigonometry. Four lectures and one two-hour laboratory per week. (Fall/Spring)

PHYS 121 Classical Physics I (4)
First of a series of foundation physics courses for scientists and engineers. Newtonian mechanics is used to model the behavior of matter. Principles of particle motion are discussed in the context of momentum and energy conservation laws. Specific force laws are used to analyze problems drawn from engineering, biology, astronomy and atomic physics. Galilean relativity is discussed and special relativity introduced. Cultural as well as philosophical and practical aspects of physics are examined. The language of calculus and vector spaces is used throughout. Corequisite: MATH 151. (Fall/Spring)

PHYS 122 Classical Physics II (4)
PHYS 122L Experimental Mechanics Laboratory (1)
A continuation of PHYS 121 primarily concentrating on many-particle systems and matter in bulk. General conservation laws are developed and used to analyze collisions. Further applications are made to rigid body dynamics, oscillations, and wave motion. Elastic solids and fluids are discussed. Special relativity is studied. The course concludes with an introduction to thermodynamics and statistical mechanics. Corequisite: MATH 152. Prerequisite: PHYS 121. Four lectures and one two-hour laboratory per week. (Fall/Spring)

PHYS 223 Classical Physics III (3)
PHYS 223L Experimental Electromagnetism Laboratory (1)
A foundation course in electromagnetic theory. The field concept is introduced with static electric and magnetic fields, both in free space and in matter. Electrodynamics is developed, including a discussion of Kirchoff's laws and circuit concepts. The course concludes with Maxwell's equations and a discussion of radiation. Laboratory work concentrates on the properties of fields and charged matter and on the experimental foundations of optics. Elementary electronic circuit design is included. Three lectures and one two-hour laboratory per week. Corequisite: MATH 253. Prerequisite: PHYS 122. (Fall/Spring)

PHYS 224 Modern Physics (3)
An introduction to relativity and quantum theory. Applications of the theory are chosen from atomic and nuclear physics and from solid-state physics. The course concludes with a discussion of quarks, leptons, and the unification of force. Prerequisite: PHYS 122. (Fall)

PHYS 311 Electromagnetic Theory (3)
A mature study of electromagnetic fields. The course begins with a review of Maxwell's equations. Static fields are next analyzed and multipole expansion techniques exploited. Fields in dielectric and magnetic materials are then examined, and capacitance and inductance introduced. Electrodynamics is developed, along with concepts of field momentum and energy. The role of special relativity is emphasized. Electromagnetic wave propagation and radiation are the concluding topics of the course. Vector analysis in both integral and differential forms is used throughout. Prerequisites: PHYS 223, PHYS 223L, MATH 260. (Fall)

PHYS 321 Quantum Theory I (3)
A foundation course in quantum physics. No prior background in modern physics is assumed of students. The failure of classical physics is first discussed, with particular attention given to thermal radiation, photons, the Rutherford-Bohr atom, and the de Broglie wave hypothesis. The Schroedinger wave theory for single particles is then used to introduce modern concepts. Measurement theory, wave packets, square-well potentials and harmonic oscillators are examined in a one-dimensional context. The time-dependent and stationary-state formalisms are both developed. The entire subject is set in the frame-work of Hilbert space, and operator algebra is used throughout. Prerequisites: PHYS 223 and MATH 260. (Spring)

PHYS 322 Quantum Theory II (3)
A continuation of PHYS 321. Quantum theory is extended to three dimensions. Symmetry principles are introduced. Angular momentum conservation is discussed and particle spin defined. The quantum theory of many-particle systems is then studied, with particular attention given to simple atoms. Fermi-Dirac and Bose-Einstein statistics are introduced. Perturbation theory is developed and applied to the study of atoms and their interaction with radiation. A brief discussion of quantum field theory concludes the course. Prerequisite: PHYS 321. (Fall)

PHYS 331, 332 Junior Laboratory I, II (2,2)
A course in experiment design and technique. Laboratory investigations provide experience in instrumental methods, planning of laboratory experiments, data analysis, preparation of reports according to professional standards, and training in the use of microprocessors for data acquisition and processing. The experiments to be performed are selected from electromagnetism, atomic, nuclear, solid-state, and high-energy physics. Prerequisites: PHYS 223 and 223L. Two two-hour laboratories per week. (Fall/Spring)

PHYS 352 History and Philosophy of Physics (3)
Material varies from year-to-year. The course addresses problems in the interpretation and development of physics. Case studies of crucial experiments are analyzed. The interaction of physics with other philosophical and cultural pursuits is discussed. Prerequisite: one year of physics or consent of instructor. (Fall/Spring, on demand)

PHYS 362 Statistical and Thermal Physics (3)
A study of the physics of bulk matter. Beginning with fundamental principles of quantum mechanics, statistical methods are employed to explain the macroscopic laws of thermodynamics and to make detailed predictions about the large-scale behavior of solids, liquids, and gases. Applications include the specific heat of solids, thermal radiation, magnetic susceptibilities, stellar equilibrium and chemical reactions. Corequisite: MATH 260. Prerequisite: PHYS 122. (Spring)

PHYS 395 Independent Study (1-3)

PHYS 396 Topics (1-3)

PHYS 421 Advanced Dynamics (3)
A survey of analytical methods in classical physics. The Lagrangian formulation of mechanics is used to examine various applications, including rigid-body motion, celestial mechanics, and collision theory. Symmetry principles and accompanying conservation laws are introduced. The course concludes with an introduction to Hamilton's equations and field theory. Prerequisites: PHYS 223 and MATH 260. (Fall, alternate years)

PHYS 432 Nuclear and High-Energy Physics (3)
An introduction to the structure and interactions of nuclear and subnuclear particles. Topics include a survey of the intrinsic properties of nuclei, descriptions of various nuclear models, studies of radioactivity and nuclear reactions, and an overview of the technologies of high-energy accelerators and detectors. The course concludes with an introduction to the properties and structures of elementary particles and discussions of current developments in unified theories of force. Prerequisite: PHYS 322. (Spring, alternate years)

PHYS 441 Solid State Physics (3)
The structure and properties of solids. This course is a study of the crystalline state of matter, including crystal classifications, vibrational specific heats, electronic structures and conductivities, cohesive energies, magnetic susceptibility, and optical properties. Prerequisite: PHYS 322. (Spring, alternate years)

PHYS 482 Senior Research (1)
An individual research project, supervised by a faculty adviser. The project may be selected from experimental or theoretical physics. The research concludes with a formal report written in accordance with the American Institute of Physics Style Manual. Normally taken in the second semester of the senior year. Prerequisite: senior standing and consent of instructor. One one-hour consultation per week. (Fall/Spring)

PHYS 494 Seminar (1)
A forum for topical physics. In this seminar, faculty and students of physics participate in both informal discussions and formal oral presentations of selected topics of scientific interest, including significant current advances and crucial historical developments. The course may be repeated for a maximum of four semester hours of credit. Prerequisite: upper division standing and consent of instructor. (Fall/Spring)

PHYS 495 Independent Study (1-3)

PHYS 496 Topics (1-3)

POLITICAL SCIENCE

School of Social and Behavioral Sciences

POLS 101 American Government (3)
Structures and functions of the American political system and the constitutional development of federalism and separation of powers. Also, citizen participation and influence in politics, the congress, presidency and the supreme court, and public policy including civil rights and liberties. (Fall/Spring)

POLS 110 Development of the American Constitution (3)
Historical overview of the making of the U.S. Constitution, including examination of early documents and philosophies that influenced the writers of the document. Prerequisite: POLS 101. (Spring)

POLS 236 State and Local Government (3)
Theories of state formation and constitutional development, city charters, county government, and intergovernmental relations with emphasis on Colorado. (Fall/Spring)

POLS 240 Parliamentary Procedure (2)
A study of parliamentary procedure based on Robert's Rules of Order. The course includes the study of the process, history, development, and limited practice of parliamentary procedure. (Fall/Spring)

POLS 261 Comparative Politics (3)
Introduction to conceptual models and approaches utilized in the comparative study of nations and their politics. Application of these theories to selected democratic, communist, and developing political systems. Prerequisites: POLS 101 or HIST 102, sophomore standing. (Fall)

POLS 325 The American Presidency (3)
A study of the American chief executive, emphasizing the historical development of the office, the various functions of the modern chief executive and a brief comparison with the executive officer of other national states. Prerequisites: POLS 101 or consent of instructor. (Fall)

POLS 342 Public Administration (3)
Historical development of public administration including organizational structure and theory, management, personnel administration, fiscal administration, and administrative responsibility. Prerequisites: POLS 101. (Fall)

POLS 345 Political Parties and Interest Groups (3)
Development of political parties and interest groups in the United States and their role in contemporary politics. Includes focus on elections, voting behavior, and the dynamics of public opinion. Prerequisites: POLS 101 or consent of instructor. (Fall)

POLS 350 American Political Thought (3)
Political ideas, theories, and concepts that have shaped American political institutions. Prerequisites: POLS 101, or equivalent, or consent of instructor. (Spring)

POLS 365 European Government and Politics (3)
Study of the political systems of Great Britain, France, Federal Republic of Germany, Soviet Union and other European nations. Emphasizes political development, the sources, processes and evaluation of policy making, and contemporary challenges facing these countries. (Alternate Spring)

POLS 370 World Politics (3)
Introduction to the structures, processes, and behaviors shaping the world political configuration. Emphasis on states and their interactions as well as non-state actors and the cultural, economic and environmental forces, issues, and resources influencing an emerging world community. Prerequisites: POLS 101 or HIST 102. (Spring)

POLS 395 Independent Study (1-3)

POLS 396 Topics (1-3)

POLS 412 Constitutional Law (3)
Selected decisions of the Supreme Court of the United States emphasizing recent cases involving freedom of religion and speech, equal protection of the laws, and criminal procedure. Prerequisite: 6 hours of political science. (Spring)

POLS 424 The Legislative Process (3)
A study of the legislative process emphasizing the U.S. Congress. Attention will be given to the development of legislative systems, the operation of legislatures, the election of legislators, and a comparison with legislatures in other national states. Prerequisites: POLS 101 or consent of instructor. (Spring)

POLS 428 The American Court System (3)
The American court system; local, state, and national, including consideration of the impact of prosecutors, defense personnel, judges, and other factors on court decisions and the criminal justice system. (Spring, alternate years)

POLS 452 Political Theory: Classical and Medieval (3)
POLS 453 Political Theory: Modern (3)
Study of the development of political theory in the Western tradition. Emphasizes the teaching of main thinkers: Socrates, Plato, Aristotle, Augustine, Aquinas, More, Machiavelli, Hobbes, Locke, Rousseau, Mill, and Marx. Develops ideas in relation to historical and cultural contexts, textual consistency, and the evolving tradition of political discourse in Western civilization. (Fall/Spring)

POLS 475 American Foreign and National Security Policy (3)
American foreign and national security policy with emphasis on 1945 to the present and beyond. Foreign and domestic factors shaping policy, the mechanisms and dynamics of policy making, the role of perception and motives underlying decision and action, and case studies of historical crises and contemporary debates are examined. (Spring, alternate years)

POLS 490 Senior Seminar for Political Science (3)
Arranged tutorials and seminars with political science faculty and students, design and execution of a research project, and submission of a senior thesis. Prerequisites: senior standing. (Fall/Spring)

POLS 495 Independent Study (1-3)

POLS 496 Topics (1-3)

POLS 499 Internship (1-15)
Students will be assigned to work in civic, political or legal areas. Prerequisites: junior or senior standing.

PSYCHOLOGICAL COUNSELING AND GUIDANCE

School of Social and Behavioral Sciences

PCGU 320 Career Development (3)
Theories of, and factors influencing, career development such as assessment, career maturity, decision making, problem solving, and planning. Current developments in adult career and life development will be discussed including life stages, transitions, midlife crisis, stress, and adjustments necessary for career development effectiveness. Prerequisites: PSYC 121 or consent of instructor. (Fall)

PCGU 324 Career Counseling (3)
Types and sources of career information and its various uses in career counseling with special emphasis on decision making theories and processes. Prerequisites: PSYC 121 or consent of instructor. (Fall)

PCGU 396 Topics (1-3)

PCGU 420 Counseling Processes and Techniques (3)
Counseling principles and practices which facilitate interpersonal communication and effective personal and social development. Counseling skills in attending behavior, listening, problem exploration, responding, understanding, and modes of action are examined, discussed and applied in classroom counseling situations. Prerequisites: PSYC 121, or consent of instructor. (Spring)

PCGU 422 Interviewing Techniques (3)
Interviewing methods in classroom situations. Topics include various types of interviews used in personnel and management situations, questioning techniques, and interpretation of interview findings. Counts as management course for all BBA candidates. Prerequisites: PSYC 121, or consent of instructor. (Spring)

PCGU 424 Group Processes (3)
Group procedures and processes for helping others to develop self-understanding and other personal and social skills. Prerequisites: PSYC 121 and SPCH 101 or consent of instructor. (Spring)

PCGU 496 Topics (1-3)

PCGU 497 Practicum (4)
Interpersonal training and counseling practice under professional supervision. A typed paper/journal must be submitted for approval and course credit. Prerequisite: senior status and consent of instructor. Practicum must be arranged for the semester prior to enrollment. (Fall/Spring/Summer)

PCGU 499 Internship (4)
Counseling experience in external field locations according to needs and career goals of the student. A typed paper/journal must be submitted for approval and course credit. Prerequisite: consent of instructor. Internship must be arranged for the semester prior to enrollment. (Fall/Spring/Summer)

PSYCHOLOGY

School of Social and Behavioral Sciences

PSYC 121, 122 General Psychology (3,3)
Fundamental principles of psychology. (Fall/Spring)

PSYC 200 Psychology of Human Adjustment (3)
Problems of mental health and the strategies useful in the pursuit of effective living in today's society. Introduces abnormal psychology, emphasizing prevention of serious problems through understanding change and growth in the modern world. (Spring)

PSYC 210 Environmental Psychology (3)
Principles and findings of general psychology applied to the challenge of mankind's living in the environment. Prerequisites: PSYC 121,122 or consent of instructor. (Fall)

PSYC 220 Psychology of Women (3)
Historical and theoretical considerations in the understanding of women's psychology in areas of physiology, love, work, friendship, marriage, and psychological relationships. (Fall)

PSYC 233 Human Growth and Development (3)
Developmental principles, ages and stages of the life span, and adjustment techniques. Not intended for behavioral science majors. (Fall/Spring)

PSYC 310 Child Psychology (3)
A study of the principles of human development and psychology from conception to puberty. Prerequisites: PSYC 121,122. (Spring)

PSYC 311 Quantitative Research Methods (3)
Application of statistics in psychological research with an emphasis on the selection of appropriate quantitative techniques, computer analysis of data, and interpretation of statistical results within the context of the research endeavor. Topics to be covered include descriptive statistics, hypothesis testing, parametric and non-parametric statistics. Prerequisites: PSYC 121, PSYC 122, STAT 200. (Spring)

PSYC 312 Experimental Psychology (2)
PSYC 312L Experimental Psychology Laboratory (2)
Fundamentals of experimental methodology. Application of principles of laboratory research in areas of psychophysics, learning and memory, and biofeedback. Formal reports of projects required. Prerequisites: PSYC 121,122, Stat 200. (Spring)

PSYC 314 Psychology of Learning (2)
PSYC 314L Psychology of Learning Laboratory (2)
Classic and modern explanations of the phenomena of learning in both lower animals and humans. Laboratory experiments in classical and operant conditioning with formal scientific reports required. Prerequisites: PSYC 121,122, STAT 200, consent of instructor. (Fall)

PSYC 320 Social Psychology (3)
Social influences upon behavior with consideration given to topics such as: social perception, attitude formation and change, communication, and leadership. Prerequisites: PSYC 121. (Fall)

PSYC 322 Motivation (3)
Classical and contemporary psychological explanations of forces that originate, direct, and sustain human behavior. Prerequisites: PSYC 121,122,314. (Spring)

PSYC 330 Adolescent Psychology (3)
Principles of human physiological and psychological development from puberty through young adulthood. Prerequisites: PSYC 121, 122. (Fall)

PSYC 332 Individual and Group Differences (3)
The ways and extent to which individuals and groups differ from one another and of the factors responsible for those differences. (On demand)

PSYC 340 Abnormal Psychology (3)
Concepts related to psychopathology and personality disorders including functional causation, general psychological theory, and behavior deviation patterns. Prerequisites: PSYC 121, 122. (Fall)

PSYC 350 Psychology of Aging (3)
Problems of aging in physiological, social, and psychological perspectives with attention to such problems as health, housing, interpersonal relationships, finances, mobility, retirement, and death. Prerequisites: PSYC 121,122. (Fall)

PSYC 395 Independent Study (1-3)

PSYC 396 Topics (1-3)

PSYC 400 Psychological Testing (3)
Theory, problems, methods, and content of psychological measurement, including concepts of the purpose of testing, test administration and scoring, standardization, reliability, validity test evaluation, and a survey of the major tests used in educational and psychological testing. Prerequisites: PSYC 121,122, STAT 200. (Fall)

PSYC 412 Industrial and Organizational Psychology (3)
Psychological principles applied to formal, productive organizations such as businesses, governments, and schools. Personnel selection, placement, training, evaluation, motivation to work, job satisfaction, and morale are examined. Counts as a management course for BBA candidates. Prerequisites: PSYC 121, STAT 200, or consent of instructor. (Spring)

PSYC 414 Systems and Theories of Psychology (3)
Systems and theories of modern psychology and the development of scientific psychology since 1879. Prerequisites: PSYC 121,122 or at least 12 semester hours upper division psychology course work or consent of instructor. (Spring)

PSYC 416 Memory and Cognition (3)
Study of the mental processes that underlie our abilities to recognize stimuli, think, remember, learn language, and solve problems. Current research in each of these areas will be discussed. Includes a research paper written in APA style. Prerequisites: PSYC 121, 122 or consent of instructor. (Spring)

PSYC 420 Personality (3)
Personality theories from the time of Freud through the present emphasizing the development and functioning of the normal personality. Prerequisites: PSYC 121,122. (Spring)

PSYC 422 Sensation and Perception (3)
Visual and auditory information processing systems. Includes frequent classroom demonstrations and occasional experiments. Prerequisites: PSYC 121,122, STAT 200. (On demand)

PSYC 430 Physiological Psychology (3)
The biological bases of the behaviors of the organism, emphasizing the structure and function of the nervous system. The role of biological factors in such behaviors as sleep, sexual behavior, drug addiction, emotion, etc. will be examined. Prerequisites: PSYC 121,122; biology course recommended. (Spring)

PSYC 495 Independent Study (1-3)

PSYC 496 Topics (1-3)

RADIOLOGIC TECHNOLOGY

School of Nursing and Allied Health

RADT 110 Radiologic Introduction (3)
Overview of radiologic technology with emphasis on history, the health-care delivery system, ethics, professional conduct, organization and development, introduction to medical terminology, communications, body mechanics, asepsis, vital signs, and emergencies. This course also presents an introduction to the educational program and basic radiation protection. Prerequisite: acceptance into the Radiology Program.

RADT 121 Radiologic Technology I (2)
RADT 121L Radiologic Technology I Laboratory (1)
Instruction in every phase of radiologic technology in an integrated coverage of appendicular skeletal system, abdomen, thoracic viscera, and body systems. Radiographic anatomy and positioning are discussed and applied in the energized laboratory. Prerequisite: RADT 110.

RADT 122 Radiologic Principles I (2)
RADT 122L Radiologic Principles I Laboratory (1)
Fundamentals of factors which govern and influence the radiographic image receptor, equipment, accessory devices, exposure mathematics, manual and automatic processing. Technical and prime exposure factors are discussed and applied in the energized laboratory. Prerequisite: RADT 110.

RADT 123 Clinical Experience I (4)
Areas covered in RADT 121 and 122 emphasized. Includes one hour of film critique provided by the clinical instructor. Prerequisite: RADT 110.

RADT 125 Radiologic Science I (2)
Basic physics, fundamentals of x-ray generating equipment, x-ray production and interaction, beam characteristics, and units of measurement. Prerequisite: RADT 110.

RADT 131 Radiologic Technology II (2)
RADT 131L Radiologic Technology II Laboratory (1)
Continuation of RADT 121 with instruction in every phase of radiography of the axial skeleton, digestive system, urinary system, cranium, spinal column, and facial bones. Prerequisites: RADT 121, 121L, 122, 122L, 125.

RADT 132 Radiologic Principles II (2)
RADT 132L Radiologic Principles II Laboratory (1)
Continuation of RADT 122 including equipment utilized to produce diagnostic images, recording media and techniques, quality assurance and computer applications in diagnostic radiology. Prerequisites: RADT 121, 121L, 122, 122L, 125.

RADT 133 Clinical Experience II (4)
Continuation of RADT 123 in all phases of radiology. Includes one hour a week of film critique provided by the clinical instructor. Prerequisite: RADT 123 or consent of instructor.

RADT 135 Radiologic Science II (2)
Principles of radiation interaction in cells and the effect and factors affecting cell response to radiation, acute and chronic effects of radiation, maximum permissible dose, regulatory involvement, and radiation protection responsibilities by the radiographer to patients, personnel, and the public. Prerequisites: RADT 121, 121L, 122, 122L, 125.

RADT 243 Clinical Experience III (10)
Continuation of RADT 133 in all phases of radiology. Emphasis on material presented in RADT 121, 122, 131 and 132. Includes film critique provided by the clinical instructor or radiologist. Prerequisite: completion of all 100 level radiology courses.

RADT 251 Radiologic Technology III (3)
Special equipment, opaque media, radiographic anatomy, and pathology involved in specialized and highly technical procedures. Pharmacology is also covered. Prerequisite: all RADT 100 level lecture and laboratory courses.

RADT 253 Clinical Experience IV (10)
Continuation of RADT 243 in all phases of radiology. Includes film critique provided by the clinical instructor or radiologist. Prerequisites: RADT 243 or consent of instructor.

RADT 261 Radiologic Technology IV (3)
Departmental administration, radiologic records, and job-seeking skills. The last few weeks of this course are devoted to a review and preparation for the national registry examination. Prerequisites: all RADT 100 level lecture and laboratory courses.

RADT 263 Clinical Experience V (10)
Continuation of RADT 253 in all phases of radiology. Includes film critique provided by the clinical instructor or radiologist. Prerequisites: RADT 253 or consent of instructor.

SOCIAL SCIENCE

School of Social and Behavioral Sciences

SOCI 199 Internship (1,2)
Social science students explore areas of interest through work experience in schools, public offices, human services agencies, etc. (Fall/Spring)

SOCI 310 Methods of Social Research (3)
Research methods and their application to the social sciences. Prerequisites: PSYC 121,122 or SOCO 260 and STAT 200. (Spring)

SOCI 340 Methods of Teaching Social Studies: Secondary Schools (3)
Examination and comparison of the social studies, exploring both new and traditional curricula, philosophies, and teaching methods. Prerequisites: upper division status and 21 semester hours of social sciences. (On demand)

SOCI 351 History of Ideas: Ancient and Medieval Periods (3)
The major ideas of man and society in ancient Greece and Rome with attention to social conditions influencing their development and transmission into the social thought of Medieval Europe. (On demand)

SOCI 352 History of Ideas: Modern Period (3)
The emergence of the Idea of Progress, a set of ideas which underlie the social sciences, including history writing. Critiques the effectiveness of these ideas for a social science capable of meeting the problems of modern society. Prerequisites: SOCI 351 or PHIL 353 or consent of instructor. (On demand)

SOCI 395 Independent Study (1-3)

SOCI 396 Topics (1-3)

SOCI 495 Independent Study (1-3)

SOCI 496 Topics (1-3)

SOCIOLOGY

School of Social and Behavioral Sciences

SOCO 144 Marriage and the Family (3)
Sociology of the marriage and family institutions in contemporary America. Includes an examination of important aspects of courtship and marriage, problems commonly experienced in contemporary man-woman relationships, parenting in modern America, and alternatives to traditional marriage. (Fall/Spring)

SOCO 260 General Sociology (3)
Sociological concepts designed to acquaint students with terminology, basic principles, and important theories. Not open to freshmen. (Fall)

SOCO 264 Social Problems (3)
Major contemporary social problems including crime, race relations, war, educational systems, unequal distribution of wealth, and political apathy. Prerequisite: Sophomore standing. (Spring)

SOCO 300 Political Sociology (3)
The interactions and interrelationships between social and political forces. Prerequisite: SOCO 260, or POLS 101 or consent of instructor. (Spring)

SOCO 310 Sociology of Religion (3)
The social and cultural manifestations of religion giving attention to the insights of sociologists, recent studies, and contemporary social movements. Prerequisite: SOCO 260 or consent of instructor. (Fall)

SOCO 312 Collective Behavior and Popular Culture (3)
The dynamics of forming new social structures with emphasis on contrasting popular cultures and their structures with collective behavior models of the study areas. (On demand)

SOCO 314 Population Impact Problems and Urbanization (3)
Surveys population problems and theories of population growth, industrialization, and urbanization. (On Demand)

SOCO 316 Social Stratification (3)
Major theories regarding the causes and effects of the differential distribution of desirables by race, social class, and other variables. Prerequisites: SOCO 260 or consent of instructor. (Spring)

SOCO 330 Crime and Delinquency (3)
Crime, delinquency, and deviance including the social and psychological factors of such behavior, trends in theory, correctional procedures, control, prevention, and laws. Prerequisite: SOCO 260 or consent of instructor. (Fall)

SOCO 350 Sociology of Death and Dying (3)
A critical review of concepts and findings of social scientists and a semi- scientific review of literature dealing with death. (Fall)

SOCO 360 Social Influences of Small Groups (3)
Small-group processes in schools, peer groups, industry, and other selected institutions; small groups as related to the larger social system; group structure, communications, and the dynamics of social interaction. (On demand)

SOCO 395 Independent Study (1-3)

SOCO 396 Topics (1-3)

SOCO 400 History of Sociology (3)
The development of sociology as a discipline from early times to the present. Prerequisite: SOCO 260 or consent of instructor. (Fall)

SOCO 410 Contemporary Social Theory (3)
Sociological theories emphasizing 20th century contributions and the relationships of sociology to allied fields such as anthropology, psychology, economics, and political science. Prerequisite: SOCO 260 or consent of instructor. (Spring)

SOCO 495 Independent Study (1-3)

SOCO 496 Topics (1-3)

SPEECH

School of Humanities and Fine Arts

SPCH 101 Interpersonal Communications (3)
Language, listening, response, defense of statement, and nonverbal communication between two or more people. (Fall/Spring)

SPCH 102 Speechmaking (3)
The preparation, organization, and delivery of a speech. (Fall/Spring)

SPCH 112 Voice and Diction (3)
The use of the speaking voice emphasizing voice placement, speech sounds, breath control, projection, and the phonetic alphabet. Recommended for theatre majors, teachers, pre-law, ministers and business majors. (Fall)

SPCH 231 Debate (3)
Research and development of various types of debate formats using national and international topics of current interest. (On demand)

SPCH 303 Nonverbal Communication (3)
The opportunity to observe, record and interpret the nonverbal dimensions of communication behavior and the opportunity to enhance awareness and skill in nonverbal communication behavior in mass media, law, theatre, group dynamics, etc. (Spring)

SPCH 304 Communication and Conflict (3)
The nature of conflict, conflict structure, conflict styles, and the use of "power" in conflicts. Application of theories to analyze and set goals to plan strategies and tactics. Study of intervention principles and practices. Prerequisites: upper division standing. (Alternate Spring)

SPCH 395 Independent Study (1-3)

SPCH 396 Topics (1-3)

SPCH 403 Teaching of Speech and Drama (3)
Teaching communication, speechmaking, debate and discussion, creative drama, oral interpretation, play selection and direction in the public schools. Prerequisite: junior standing in English education or speech/theatre programs. (Fall)

SPCH 495 Independent Study (1-3)

SPCH 496 Topics (1-3)

STATISTICS

School of Natural Sciences and Mathematics

STAT 200 Probability and Statistics (3)
Statistics and statistical methods including analysis of data, elementary probability, binomial distribution, random sampling, normal distribution, t-distribution, regression and correlation, chi-square and F-distribution, and nonparametric methods. Prerequisite: MATH 110, 113 or consent of instructor. (Fall/Spring)

STAT 214 Business Statistics (3)
Methods employed for the collection, description, and analysis of data for business decision making purposes including measures of central tendency and dispersion, probability, normal and t-distributions, estimation of parameters, one-sample tests of hypothesis, and linear correlation and regression. Prerequisite: MATH 113 or consent of instructor. (Fall/Spring)

STAT 311 Statistical Methods (3)
Simple and multiple analysis of covariance and nonparametric statistical techniques and design of experiments. Prerequisite: STAT 200 or 214, or consent of instructor. (Fall)

STAT 312 Correlation and Regression (3)
Graphical and numerical least-squares analysis for simple and multiple correlation and regression problems, both linear and curvilinear, time series and multivariate analysis. Prerequisites: STAT 200 or 214, or consent of instructor. (Spring)

STAT 313 Sampling Techniques (3)
Designs, simple random, cluster, stratified and systematic samples, systems of sampling, methods of estimation, sample size, and the minimized costs of sampling. Prerequisite: STAT 200 or 214, or consent of instructor. (Spring)

STAT 325 Design and Analysis of Experiments (3)
Design and analysis of single and multiple factor experiments including multiple comparison procedures, transformations, fixed, mixed and random effects designs, completely randomized designs, randomized block designs, Latin square designs, and nested designs. Prerequisite: STAT 311. (Alternate years)

STAT 395 Independent Study (1-3)

STAT 396 Topics (1-3)

STAT 450 Mathematical Statistics (3)
The mathematical development of discrete and continuous random variables including the underlying distributions, conditions, and marginal probability laws, sampling distributions and an introduction to the theory of estimations and hypothesis testing. Prerequisites: STAT 311, MATH 253. (Alternate years)

STAT 494 Seminar (1)
Discussions of specialized topics by students, faculty, or visiting professors. One-hour meeting per week. (On demand)

STAT 495 Independent Study (1-3)

STAT 496 Topics (1-3)

THEATRE AND DANCE

School of Humanities and Fine Arts

THEA 114 Summer Theatre (3)
Professional summer theatre experience. The student is expected to participate in all phases of the theatre operation including acting, technical work, directing, box office management, etc. It is advisable for a student enrolled in summer theatre not to enroll in any other class. Five plays are presented in a seven-week period.

THEA 117,118 Play Production (1,1)
A practical course in stagecraft concerned with the production of plays. The student works in all phases of production. Students will work six hours per week unless other arrangements are made with the instructor. (Fall/Spring)

THEA 119,120 Technical Performance (1,1)
Direct participation in the technical aspects of various productions. Grade will depend upon the preparatory work involved and upon the final technical production. Students must work a minimum of two productions in order to receive credit. (Fall/Spring)

THEA 128,129 Workshop in Theatre (1,1)
Specialized workshops in various aspects of theatre made possible by visiting artists and/or lecturers. (On demand)

THEA 141 Theatre Appreciation (3)
Examination of basic presentation techniques of theatre, motion picture, television, and radio.

THEA 142 Make-Up (2)
All types of make-up for the stage. Students do straight and character make-up and learn the use of crepe hair, prosthesis, and other materials.
(Fall/Spring)

THEA 143 Costuming (2)
Costume design, construction, and history of costume. (Fall/Spring)

THEA 145 Introduction to Dramatic Literature (3)
Dramatic literature from the Greeks to the modern dramatists. (Spring)

THEA 147,148 Drama Performance (1,1)
Requires a student to appear in a major production on campus. The grade will depend upon the preparatory work on the play's character and upon the final performance. (Fall/Spring)

THEA 151 Acting I: Beginning Acting (3)
Fundamentals of acting through the use of improvisation and study of scenes. Students perform in solo, duo and/or group scenes. Laboratory includes participation in student-directed plays. Prerequisite: SPCH 112 or consent of instructor. (Fall)

THEA 152 Acting II: Stage Movement (3)
Basic techniques of gesture, movement styles and combat. Developing an awareness of the use of the body as a means of expression is emphasized. (Spring)

THEA 160 Theatre Studies (1)
Introductory studies for the theatre major in resumes, portfolios, auditions, stage and house managing. Helps to prepare students for juries and professional theatre work experiences. (Fall)

THEA 213 Creative Play Activities-Drama (2)
Creative dramatics in a learning situation. Includes subject matter of interest to anyone in early childhood education, general education, social work, religious education, and/or recreation. (Fall/Spring)

THEA 214 Summer Theatre (3)
See THEA 114.

THEA 217,218 Play Production (1,1)
See THEA 117, 118. Prerequisites: courses must be taken in sequence or by consent of the instructor. (Fall/Spring)

THEA 219,220 Technical Performance (1,1)
See THEA 119, 120. (Fall/Spring)

THEA 228,229 Workshop in Theatre (1,1)
See THEA 128, 129. (On demand)

THEA 241 Oral Interpretation (3)
The reading aloud of prose, poetry, and essays with the intention of conveying the author's ideas to a listening audience. (On demand)

THEA 243 Theatre Practice: Scene Construction, Painting, and Design (3)
Techniques of construction and painting of scenery and properties for the theatre and basic principles of scene design. (Fall)

THEA 244 Theatre Practice: Beginning Lighting (3)
A basic course in the use of light and instrumentation in various stage productions, including plays, dance concerts, and music programs. (Spring)

THEA 247,248 Drama Performance (1,1)
See THEA 147, 148. (Fall/Spring)

THEA 270 Music Theatre Principles (3)
Principles of Musical Threatre, including analysis of song, dance, and acting and their application in performance. Course will culminate in a performance project.

THEA 314 Summer Theatre (3)
See THEA 114.

THEA 317,318 Play Production (1,1)
See THEA 117,118. Prerequisites: courses must be taken in sequence or by consent of the instructor. (Fall/Spring)

THEA 319,320 Technical Performance (1,1)
See THEA 119, 120. (Fall/Spring.)

THEA 328,329 Workshop in Theatre (1,1)
See THEA 128, 129. (On demand)

THEA 331 History of Theatre (3)
History of the theatre as an institution and its relationship to the other arts and to the social and economic environment. (Spring)

THEA 341 Musical Theatre History and Literature (3)
In-depth study of the literature and styles of the master composers of music theatre from its beginnings through the present day. Course work is designed for the Musical Theatre major, utilizing lecture and listening lab format and a research paper on a subject of the student's choice. (Spring)

THEA 343 Scene Design (3)
Experience in designing scenery for various types of productions with emphasis on drafting, perspective, and rendering techniques. Pre-requisite: THEA 243 or consent of instructor. (Spring)

THEA 344 Advanced Stage Lighting (3)
Advanced training in the design and execution of lighting for the stage. Prerequisite: THEA 244 or consent of instructor. (Fall)

THEA 345 World Drama (3)
Greek through Elizabethan drama. (Fall)

THEA 347,348 Drama Performance (1,1)
See THEA 147, 148. (Fall/Spring)

THEA 351 Acting III: Studies in Acting (3)
Techniques are learned in stage dialects, styles in acting or other techniques in the approach to a role. Prerequisites: THEA 152 or consent of instructor. (Fall)

THEA 352 Acting IV: Studies in Advanced Acting (3)
Techniques are learned in acting for the camera, auditioning, or other specialized acting techniques. Prerequisites: THEA 152. (Spring)

THEA 370,470 Music Theatre (2,2)
THEA 371,471 Music Theatre (2,2)
Continuation of THEA 270. Advanced scene study, ensemble work, and choreography. Prerequisite: THEA 270, and audition. (Fall/Spring)

THEA 395 Independent Study (1-3)

THEA 396 Topics (1-3)

THEA 401 Theatre Management (3)
The business aspects of producing plays including publicity, dealing with agents, artists, union representatives, tickets, accounting procedures, and scheduling. Practical experience gained from working with college theatre. (Spring)

THEA 411 American Drama (3)
From the first American playwright to the plays of today. (Spring)

THEA 412 Contemporary Drama (3)
Realistic and absurd playwrights of the world within the past 35 years. (Fall)

THEA 414 Summer Theatre (3)
See THEA 114.

THEA 417,418 Play Production (1,1)
See THEA 117, 118. Prerequisites: courses must be taken in sequence or by consent of the instructor. (Fall/Spring)

THEA 419,420 Technical Performance (1,1)
See THEA 119, 120. (Fall/Spring)

THEA 428,429 Workshop in Theatre (1,1)
See THEA 128, 129. (On demand)

THEA 445,446 Projects in Theatre (3,3)
Work experience in various aspects of theatre such as scene/prop design and/or construction, lighting/sound design, sound, costume/makeup design or projects involving acting/directing, music theatre, theatre management, playwriting or other projects deemed worthwhile and vital by the instructor. Prerequisites: consent of instructor. (On demand)

THEA 447,448 Drama Performance (1,1)
See THEA 147, 148. (Fall/Spring)

THEA 451 Beginning Directing (3)
The fundamentals of play production allowing the student to direct scenes for projects. To receive credit for this course, the student must also complete THEA 452. (Fall)

THEA 452 Advanced Directing (3)
Direction and production of a one-act play for public viewing. Prerequisite: THEA 451 or consent of instructor. (Spring)

THEA 495 Independent Study (1-3)

THEA 496 Topics (1-3)

THEA 499 Internship (3,6,9)
Work in acting/directing, design/tech, music theatre and theatre management, or other situations that meet the instructor's approval. Prerequisites: senior standing and consent of the instructors. (On demand)

TRAVEL & RECREATION MANAGEMENT

School of Business

TRAV 101 Travel Industry I (3)
Introduction to tourism and its relationship to the business world, an overview of all sectors of business and the components of the travel, tourism, and hospitality industry. Travel methods, destination resorts, and other businesses which serve the traveler are evaluated. A requirement for all Travel, Recreation, and Hospitality Management students. (Fall)

TRAV 102 Travel Industry II (3)
Evaluation of job opportunities in the travel, recreation, and hospitality fields. Travel trends, feasibility studies, and marketing techniques are analyzed. Students are provided an opportunity to make preparations and acquire skill instructions for work in the student's career objective. Field trips and visiting lecturers are included. Prerequisite: TRAV 101 or consent of instructor. (Spring)

TRAV 103 Travel and Tourism Marketing Techniques (3)
Interpretation of marketing problems, strategies, and techniques of industries engaged in serving the traveler, methods of identifying potential markets, preferences, and likely responses to promotional programs of private and governmental travel entities. Required of all Travel, Recreation, and Hospitality Management students. MARK 231 recommended for baccalaureate students. Prerequisite: TRAV 101 or consent of instructor. (Spring)

TRAV 199 Employment Concepts (1)
Introduction of the concepts of employment in conjunction with the internship experience. It will provide students with an opportunity to share their concerns with the instructor and other students, allow employers to discuss the internship with students and assist the student in developing his or her career goals. The student will enroll in this course the spring semester immediately preceding the summer they intend to do their TRAV 299 Internship. Prerequisites: TRAV 101. (Spring)

TRAV 201 Management in the Travel Industry I (3)
An opportunity to explore operating techniques and problems of the major industries involved in tourism, travel, and hospitality through the eyes of the operating manager. Specific skills used within various industries are developed. Prerequisite: TRAV 102 or consent of instructor. (Spring)

TRAV 211 Travel Destinations (3)
For the individual who plans to work, study, or travel internationally including the professional who is, or plans to be, part of the travel industry. Life styles and current local aspects in foreign destinations are considered and guest lecturers are included. Open to all students but strongly recommended for Travel, Recreation, and Hospitality Management students. (Spring/on demand)

TRAV 215 Computerized Reservations (3)
An introductory course providing an overview of operation of a computerized reservations system. Prerequisites: TRAV 101 and 102. (Spring)

TRAV 217 Hotel Operations (3)
Introductory course providing an overview of the operation of a hotel front office. This will include the use of the personal computer and state-of-the-art software for reservations, check-in, check-out and creating the daily report. Prerequisite: TRAV 101. (Fall)

TRAV 295 Independent Study (1,2)

TRAV 296 Topics (1,2,3)

TRAV 298 Related Work Experience (1,2)
Practical experience and an opportunity to apply academic knowledge in a work situation approved by the School of Business. Students must apply for this course through their advisers at least six weeks prior to end of the semester preceding the semester in which they wish to take the course. For additional requirements, see adviser. Prerequisite: nine semester hours of course work in the field chosen, cumulative GPA of 2.50 or higher, and consent of instructor. (Fall/Spring)

TRAV 299 Internship (12)
Classroom studies combined with salaried work in an experience which relates to the student's career goal. Only for, and required of, Travel, Recreation, and Hospitality students. Credit not available through competency or challenge. Prerequisite: TRAV 102, GPA of 2.00 or higher, or consent of instructor. (Summer)

WELDING

School of Technology

WELD 110 SMAW I (1)
WELD 110L SMAW I Laboratory (7)
Safe use of equipment in shop practice; covers Shielded Metal Arc Welding mild steel in all positions. One hour lecture, eleven hours laboratory per week. (Fall/Spring)

WELD 112 Welding Theory (4)
Classroom instruction in the care and use of welding equipment, selection of the proper rods and processes, and safety as it applies to welding and welding equipment. Four hours per week. (Fall)

WELD 117 OFW and C I (1)
WELD 117L OFW and C I Laboratory (1)
Shop practice and skill development in safe use of Oxy-Fuel Welding/Cutting equipment. Basic Oxy-Fuel Welding on mild steel in flat and vertical positions is covered with some emphasis on oxy-fuel cutting of various thicknesses of mild steel plate. One hour lecture, one and one-half hours laboratory per week. (Fall/Spring)

WELD 118 OFW and C II (1)
WELD 118L OFW and C II Laboratory (1)
Continuation of WELD 117 with increased emphasis on shop practice in safe use of Oxy-Fuel Welding/Cutting equipment. Oxy-fuel welding and brazing, both ferrous and non-ferrous, on both pipe and plate in all practical thicknesses. One hour lecture, one and one-half hours laboratory per week. Prerequisites: WELD 117 or equivalent and consent of instructor. (On demand)

WELD 120 SMAW II (1)
WELD 120L SMAW II Laboratory (7)
Continuation of WELD 110. Skills for welding mild steel in all positions are refined. One hour lecture, eleven hours laboratory per week. Prerequisite: WELD 110 or consent of instructor. (Fall/Spring)

WELD 121 Blueprint Reading I (2)
The basic principles of blueprint interpretation and visualization of objects as applied to industry as well as the use and interpretation of welding symbols. Six hours per week; seven and one-half weeks. (Spring)

WELD 122 Blueprint Reading II (2)
Continuation of WELD 121 emphasizing working with shop drawings. Six hours per week; seven and one-half weeks. Prerequisites: Six hours per week; seven and one-half weeks. WELD 121 or consent of instructor. (Fall)

WELD 131 Fabrication Layout I (2)
Basic layout techniques from shop drawings to fabrication of sheet metal, plate, structural shapes, and pipe. Six hours per week; seven and one-half weeks. (Spring)

WELD 132 Fabrication Layout II (2)
Continuation of WELD 131. Six hours per week; seven and one-half weeks. Prerequisite: WELD 131 or consent of instructor. (Spring)

WELD 141 Shop Management and Structural Theory (4)
Shop operations, expenditures, floor-plan design, and equipment of the modern- day shop as well as various codes applied to industry. Four hours per week. (Fall)

WELD 145 Metallurgy (3)
Smelting, refining, and alloying with discussion of heat treating methods and the effects of welding on metals. Three hours per week. (Spring)

WELD 151 Industrial Welding (1)
WELD 151L Industrial Welding Laboratory (2)
Introductory level mild steel shielded metal arc welding (SMAW) and oxy-fuel methods. Instruction includes safety; equipment use; stick electrode welding in the flat, horizontal, vertical, and overhead positions. Oxy-fuel cutting, fusing, brazing and soldering, air arc, plasma arc, slice torch, build up and hard face are included. Five hours per week. (Fall)

WELD 210 GMAW (1)
WELD 210L GMAW Laboratory (2)
Safe use of GMAW equipment and shop practices. Covers GMAW on mild steel, alloy steel, and aluminum in all positions. One hour lecture and four hours laboratory per week. (Fall/Spring)

WELD 220 FCAW (1)
WELD 220L FCAW Laboratory (1)
Safe use of FCAW equipment and shop practices. Covers FCAW on mild and alloy steels. One hour lecture and four hours laboratory per week. (Fall/Spring)

WELD 230 GTAW (1)
WELD 230L GTAW Laboratory (2)
Safe use of GTAW equipment and shop practices. Covers GTAW of mild and alloy steel as well as aluminum and copper base metals in all positions. One hour lecture and four hours laboratory per week. (Fall/Spring)

WELD 240 SMAW III (1)
WELD 240L SMAW III Laboratory (7)
Continuation of WELD 120 emphasizing pipe welding. One hour lecture, eleven hours laboratory per week. Prerequisite: WELD 120 or consent of instructor. (Fall/Spring)

WELD 261 Testing & Inspection (3)
An advanced course covering testing and inspection of welds to determine soundness; visual, destructive, and nondestructive testing; and a study of codes and welder certification. Three hours per week. (Spring)

WELD 295 Independent Study (1,2)

WELD 296 Topics (1,2)

WELD 299 Internship (7,14)
On-the-job training by local companies in fabrication, construction, or main- tenance welding. The student is responsible for securing the position and arranging work hours. Written papers are required and a minimum of 300 clock hours required for seven semester hours credit or 600 clock hours for 14 semester hours credit. Four hours per day for 15 weeks will equate to seven semester hours credit, eight hours per day for 15 weeks will equate to 14 semester hours credit. Work experience is scheduled each semester and may be taken as an elective after completion of the second semester of welding laboratory. Prerequisites: WELD 110, 112, 120, 121, 131, 141, 145, 230 or consent of instructor. (Fall/Spring/Summer)

GOVERNING BOARD AND ADMINISTRATION

TRUSTEES OF THE STATE COLLEGES IN COLORADO

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JOHN ROYBAL . . . . . Blanca
TENNIE ANN CAPPS, Faculty Trustee . . . . . Grand Junction
DAWNYELL HALEY, Student Trustee . . . . . Grand Junction

THE STATE COLLEGES IN COLORADO

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Adams State College . . . . . Alamosa
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Metropolitan State College . . . . . Denver
Western State College . . . . . Gunnison

MESA STATE COLLEGE ADMINISTRATIVE PERSONNEL

ROBERT E. ANTHONY (1984), Coordinator of Intramural Sports and Recreational Services; B.S., M.S., Southern Illinois University.

RICHARD E. BACA (1972), Director, Academic Records; B.S., University of Colorado; M.A., Ed.D., University of Northern Colorado.

VELDA M. BAILEY (1982), Director of Continuing Education; A.A., Mesa Junior College; B.A., M.A., University of Northern Colorado.

TILMAN M. BISHOP (1962), Director of Testing and International Student Services; B.A., M.A., University of Northern Colorado.

MICHAEL BLACK (1991), Director of Housing and Residence Life; Acting Director of College Center; B.S., Utah State University

CAROL G. BONNET, M.D., (1978), Campus Physician, B.A., UCLA, M.D., Baylor University.

BARBARA A. BORST (1981), Librarian, Head of Research Services and Interlibrary Loan Department; B.A., Sterling College; M.L.S., Library Science, Indiana University.

TIM BRENNAN (1992), Acting Assistant to the Controller; B.A., Mesa State College.

ELIZABETH BRODAK (1989), Head, Library Reference Department; B.A., Carthage College; M.L.S., University of Hawaii.

RONALD BRUMMETT (1990), Coordinator/Contractual Services and Director of Placement; B.A., Metropolitan State College; M.B.A., University of Colorado; M.A., University of Northern Colorado.

KIMBERLY D. CROSBY (1991), Admission Counselor; B.A., Mesa State College.

NITA S. CURREY (1991), Director, Montrose Higher Education Center; B.A., University of Northern Colorado; M.A., University of Oklahoma.

MARIUS G. DEGABRIELE (1990), Coordinator of Non-Traditional Adult Students and Registration Specialist; B.S., Northern Michigan University.

TAMMY L. ERICKSON (1990), Assistant Director of Housing and Residence Life; B.B.A., Mesa State College.

JULIE C. ETHRIDGE (1991), Coordinator of Programming; B.B.A., Mesa State College.

JAY P. GASS (1991), Acting Controller; B.A., Mesa State College.

DAVID H. GILBERT (1991), Director of Computer Services; B.S., Syracuse University.

RONALD GRAY (1988), Director of Campus Facilities and Physical Plant; B.S., South Dakota School of Mines and Technology.

THOMAS HARRIS (1991), Assistant Reference Librarian; B.S., M.L.I.S., University of Wisconsin.

JIM HEAPS (1991), Assistant Basketball Coach; B.S., Mesa State College; M.S., Southern Illinois University.

DOROTHY HOSKIN (1990), Program Manager, Retired Senior Volunteer Program.

JOHN W. (JAY) JEFFERSON (1967), Director of Intercollegiate Athletics; B.A., M.A., Adams State College.

M. KATHLEEN JEFFERSON (1974), Associate Director of Housing.

JANEEN KAMMERER (1990), Acting Vice President Financial and Administrative Services and Controller; B.S., University of Colorado.

KATRINE KAUFMANIS (1992), Acting Director of Information Services; B.A., Mesa State College; M.P.A., Arizona State University.

FRANK KELLER (1973), Acting Vice President for Student Services; B.A., Adams State College; M.A., University of Northern Colorado.

STEVE KIRKHAM (1992), NCAA Compliance Officer/Head Women's Basketball Coach; B.A., University of Northern Colorado; M.S., Ft. Hays State University.

RAYMOND N. KIEFT (1989), President; B.S., Calvin College; M.S., Colorado State University; Ed.D., University of Northern Colorado.

NANCY KOSMICKE (1992), Tutorial Training Coordinator; B.A., McCalester College.

MARY LOCKE (1992), Mesa State College RSVP Sr. Scholar Project Manager; B.A., Mesa State College.

KIM LOCKLIN (1991), Admissions, Recruitment Counselor; Assistant Football Coach.

TERESA M. MILLER (1990), Project Coordinator, Banner Software; B.S., Mesa State College.

BEVERLY J. MONDRAGON (1989), Professional Staff Assistant to the President.

SUSAN M. MOORE (1982), Bookstore Manager; B.A., Chestnut Hill College.

JERRY W. MOORMAN (1990), Assistant Vice President for Academic Affairs; Dean, School of Technology; M.Ed., Delta State University; Ed.D., B.S., Mississippi State University.

MICHAEL NEIL (1992), Acting Assistant Controller; B.A., Mesa State College.

GERALD N. NOLAN (1984), Coordinator of Academic Computer Services; B.A., Northern Illinois University; M.A., University of Oregon.

MICHAEL NYIKOS (1989), Executive Assistant to the President for Special Projects; A.B., New Mexico Highlands University; M.A., Ph.D., University of Michigan.

SHERRI L. PE'A (1983), Acting Associate Vice President for Student Life and Director of Admissions; B.A., University of Hawaii, M.A., Adams State College.

MARLA K. PEYTON (1986), Coordinator of Student Employment, Financial Aid Counselor; B.A., Mesa State College; M.B.A., Western State College.

NANCY PIERCE (1992), Vocational Integration Specialist; B.A., M.S., Central Connecticut State University.

ANDREW J. RODRIGUEZ (1989), Director of Purchasing; B.S., University of Northern Colorado.

RAFAEL RODRIGUEZ (1990), Minority Student Recruitment and Retention Specialist, B.A., M.A., University of Colorado-Colorado Springs.

ROBERT RYAN (1992), Athletic Trainer; B.A., Colorado University; M.A., University of Northern Colorado.

JAMES P. RYBAK, Professional Engineer (1972), Vice President for Academic Affairs; Professor of Engineering; B.S.E.E., Case Western Reserve University; M.S., University of New Mexico; Ph.D., Colorado State University.

PATRICK SCHUTZ (1992), Acting Director of Tutorial and Learning Center; B.S., Eastern Michigan University; M.S., University of Utah.

SCOTT H. SMILEY (1990), Associate Director of Admissions; B.B.A., Texas Tech University.

JACK SMITH (1992), Director of Sponsored Programs, B.S., Michigan State University; Ph.D./M.E.D., Colorado State University; B.S., Michigan State University.

REGINA SOWELL (1991), Non-Credit Coordinator, Montrose Higher Education Center; B.S., Southern Colorado State College.

PHILIP W. SWILLE (1988), Director of Financial Aid and Student Employment; B.A., Adams State College; M.A., Ed.S., Western State College.

JOY L. THYER (1988), Director, Health Center; A.D.N., Mesa State College.

KATHLEEN R. TOWER (1972), Head, Special Collections/Government Documents Librarian; Assistant Professor of Library Science; B.M.E., M.A., University of Denver.

DOUGLAS G. TUCKER (1975), Director of Personnel and Payroll; B.A., M.B.A., Western State College.

BERNADETTE WEBER, (1989), Assistant Director of Admissions; B.A., Mesa State College.

JAN WILLIAMS (1990), Director of Budget and College Services; B.S., Colorado State University.
JULIA WOODS (1990), Director of the Learning Resource Center; B.A., Kearney State College; M.L.S., University of Oklahoma; M.P.A., Florida International University.
SANDRA WYMORE (1986), Coordinator, Physically and Learning Disadvantaged and Supplemental Services, Handicapped; B.A., University of Denver

+ Deans of Academic Schools
School of Business, Kenneth Blair
School of Humanities and Fine Arts, Michael Gerlach (Acting Dean)
School of Technology, Jerry Moorman
School of Natural Sciences and Mathematics, James B. Johnson (Acting Dean)
School of Nursing and Allied Health, Mary A. Turley
School of Social and Behavioral Sciences, Daniel Arosteguy (Acting Dean)

+ Department Chairs
Accounting and Business Computer Information Systems, David Rogers
Art, Charles Hardy
Behavioral Sciences, Harry A. Tiemann
Biological Sciences, Phyllis Chowdry
Business Administration, Elgin Mallory
Chemistry and Physics, ~~Gordon Gilbert~~ Carl Madsen (Chair) Marshall (Physics)
Computer Science, Mathematics, and Engineering, Edwin C. Hawkins
Geology, Del Foutz
Human Performance and Wellness, Byron Wiehe
Languages and Literature, Janine Rider
Music, Monte Atkinson
Nursing, Associate Degree, Cheryl Roy
Nursing, Baccalaureate Degree, Judy Goodhart
Social Science, Louis Morton
Technology, Gary Looft
Theatre and Communications, David Cox

+ See individual listings under Instructional Personnel.

MESA STATE COLLEGE FACULTY

(Figures in parentheses indicate year of regular appointment to Mesa State College professional staff for half time service or more. Prior temporary or part-time service is not indicated.)

DANIEL J. AROSTEGUY (1976), Professor of Economics; Acting Dean, School of Social and Behavioral Sciences, B.S., M.S., University of Nevada-Reno; Ph.D., Colorado State University.
MONTE ATKINSON (1985), Associate Professor of Music; Chairperson, Department of Music; A.S., Snow College, Utah; B.F.A., Utah State University; M.M., D.M.A., University of Illinois.
CHARLES W. BAILEY (1965), Professor of Mathematics; B.A., M.A., University of Northern Colorado.
RICHARD BALLARD (1985), Associate Professor of Biology; B.A., M.S., California State University; Ph.D., Utah State University.
BRUCE A. BAUERLE (1972), Professor of Biology; B.A., University of Kansas; M.S., University of Missouri-Kansas City; D.A., University of Northern Colorado.
BRENDA K. BEDEN (1986), Instructor of Applied Technology (Graphic Communications); A.A.S., Mesa State College.
VIRGINIA L. BEEMER (1968), Professor of Early Childhood Ed; Director of Early Childhood Education Program; B.S., M.A., Northern Arizona University.
RICHARD L. BERKEY (1967), Associate Professor of English; B.A., Fort Lewis College; M.A., Eastern New Mexico University.
PIERRE G. BETTELLI (1985), Assistant Professor of Business Computer Information Systems; B.S., Southern Colorado State College; M.S., Colorado State University.

KENNETH BLAIR (1992), Professor of Business Administration; Dean, School of Business; B.S., M.S., Colorado State University; Ph.D., Arizona State University.

EDWARD A. BOEHLER, C.P.A. (1981), Professor of Accounting; B.S., University of California-Berkeley; M.B.A., Golden Gate University.

ORVILLE L. BOGE (1956), Professor of Chemistry; B.A., M.A., University of Northern Colorado.

WILLIAM T. BRANTON (1970), Assistant Professor of Applied Technology (Welding); Certified Instructor, State Board for Community Colleges and Occupational Education.

JAMES R. BROCK (1988), Associate Professor of Engineering Technology; B.S., M.S., University of Illinois.

ESTHER BROUGHTON (1991), Assistant Professor of English; B.A., Utah State University; M.S., University of Texas.

CLIFFORD C. BRITTON (1964), Professor of Mathematics; B.A., Adams State College; M.A., University of San Diego.

JEFF BRIGHAM (1991), Professor of Teacher Certification; B.A., M.A., University of Wisconsin; Ed.D., University of Wyoming.

BRADLEY A. BUCHHOLZ (1987), Instructor of Applied Technology (Auto Body Repair); A.A.S., Mesa State College.

C. JAMES BUCKLEY, C.P.A. (1972), Professor of Accounting; B.A., Western State College, M.S.; Colorado State University.

CHRISTIAN J. BUYS (1983), Professor of Psychology; B.A., Hope College; Ph.D., University of Colorado.

SUZANNE CAHILL (1986), Assistant Professor of Art; M.F.A., University of Denver.

TENNIE ANN CAPPS (1964), Associate Professor of Office Administration; B.S., M.Bus.Ed., University of Oklahoma.

PERRY H. CARMICHAEL (1969), Associate Professor of Speech; B.A., M.A., Western State College.

LEWIS M. CHERE (1980), Associate Professor of History; B.A., Wilkes College; M.A., University of North Carolina; Ph.D., Washington State University.

PHYLLIS L. CHOWDRY (1976), Professor of Biology; Chairperson, Department of Biology; B.S., University of Denver; M.N.S., Arizona State University; D.A., University of Northern Colorado.

CARRIE CLARK-SORENSEN, R.T.(R) (1986), Assistant Professor of Radiologic Technology; B.S., University of Nebraska.

DAVID M. COX (1981), Professor of Theatre; Acting Chairperson, Department of Theatre and Communication; B.A., Mesa State College; M.F.A., University of Utah.

WILLIAM H. DAVENPORT (1988), Associate Professor of Mathematics; B.S., University of Tennessee; M.S., Texas A & M University; Ph.D., University of Alabama.

JACK DELMORE (1992), Assistant Professor of Music, B.M., University of Lowell, Lowell, MA; M.M., New England Conservatory of Music; D.M.A., University of Arizona.

DALE L. DICKSON (1969), Professor of Business Management; B.S.B.A., University of Denver; M.Ed., Colorado State University; Ed.D., University of Northern Colorado.

DICKSON, SUSAN, R.N. (1986), Assistant Professor of Nursing; B.S.N., M.S., University of Colorado.

JO F. DORRIS (1977), Professor of Psychology; B.A., Oklahoma College for Women; M.S., Oklahoma State University; Ed.D., Arizona State University.

MATTS G. DJOS (1976), Professor of English; B.A., University of Washington; M.A., University of Idaho; Ph.D., Texas A & M University.

DAVID R. DUFF (1973), Associate Professor of Applied Technology (Graphic Communications); B.A., M.Ed., Colorado State University.

ARUN EKTARE (1986), Professor of Computer Science; Ph.D., University of Roorkee (India).

BYRON EVERS (1989), Assistant Professor of Mass Communications; B.S., M.S., Murray State University.

PATRICE FEELY, R.T.(R) (1990), Instructor of Radiologic Technology; A.A.S., Mesa State College

CHARLES R. FETTERS (1976), Associate Professor of Applied Technology (Electronics); B.S., New Mexico State University; M.A., University of Northern Colorado.

KAREN E. FORD (1984), Professor of Psychology; B.A., Mississippi College; M.A., Northeast Louisiana; Ph.D., University of Mississippi.

MARCIA FORREST, R.N. (1980), Professor of Nursing; M.S.N., University of Miami; Ph.D., University of Texas.

DELL R. FOUTZ (1972), Professor of Geology; Chairperson, Department of Geology; B.S., M.S., Brigham Young University; Ph.D., Washington State University.

D'ANN FUQUAY (1991), Professor of Computer Science; B.A., Oklahoma Baptist University; M.A., University of Oklahoma; M.S. Colorado State University; D.A., Idaho State University.

JOSE L. GALLEGOS (1976), Professor of English; B.A., Western State College; M.A., Ph.D., University of Colorado.

MICHAEL C. GERLACH (1988), Professor of Theatre; Acting Dean, School of Humanities and Fine Arts; B.S., Fairleigh Dickinson University; M.A., Ph.D., University of Michigan.

GORDON GILBERT (1980), Professor of Physics; Chairperson, Department of Chemistry and Physics; B.S., M.S., Ph.D., Massachusetts Institute of Technology.

JUDY GOODHART, R.N. (1990), Assistant Professor of Nursing; Chairperson, Department of Nursing, BSN; B.S. Loretto Heights; M.S.N., University of Colorado.

THOMAS D. GRAVES (1966), Professor of Counseling and Psychology; B.A., M.A., Adams State College; Ed.D., University of Northern Colorado.

RAYMOND GREB (1983), Professor of Applied Technology (Machine and Manufacturing Trades); Technology; B.A., M.A., University of Northern Colorado.

DONNA K. HAFNER (1967), Associate Professor of Mathematics; B.A., University of Northern Colorado; M.A.T., Colorado State University.

CHARLES HARDY (1979), Associate Professor of Art; Chairperson, Department of Art; B.A., Colorado State University; M.F.A., University of Arizona.

EDWIN C. HAWKINS (1963), Professor of Mathematics; Chairperson, Department of Computer Science, Mathematics, and Engineering; B.A., M.A., University of Northern Colorado.

MYRA D. HEINRICH (1963), Professor of Psychology; B.S., M.A., Ph.D., University of North Dakota-Grand Forks.

FORREST S. HOLGATE (1979), Assistant Professor Applied Technology (Electric Lineman); B.A., Texas Tech University.

EDWARD C. HURLBUT (1976), Professor of Biology; B.A., Western State College; M.S., Purdue University; Ph.D., University of Missouri-Columbia.

MARILYN JEFFERSON (1992), Instructor of Nursing, R.N.; A.D.N., B.S.N., Mesa State College.

JAMES B. JOHNSON (1967), Professor of Geology; Acting Dean, School of Natural Sciences and Mathematics; B.A., University of Colorado; M.S., University of Utah; Ph.D., University of Colorado.

ROBERT L. JOHNSON (1962), Professor of English; B.A., M.A., Western State College; Ph.D., University of Northern Colorado.

VERNER JOHNSON (1989), Associate Professor of Geology; B.A., M.S., Southern Illinois University; Ph.D., University of Tennessee.

WALTER A. KELLEY (1977), Professor of Biology; B.A., M.S., California State University-Northridge; Ph.D., Colorado State University.

CARL M. KERNS (1969), Professor of Mathematics; B.A., Western State College; M.S., University of Oregon; Ed.D., University of Northern Colorado.

JOHN KNAPPENBERGER (1992), Assistant Professor of Business Administration; B.A., University of Central Florida; M.B.A., University of Colorado-Denver; Ph.D. University of Colorado-Boulder.

JILL KRAUSS (1992), Assistant Professor of Physical Education; B.A., M.A., Humboldt State University, Arcata, CA; Ph.D., University of New Mexico.

GARY LOOFT (1987) Instructor of Applied Technology (Heavy Equipment Mechanics); Chairperson, School of Technology; Certificate, Commercial Trades Institute.

DANIEL W. MacKENDRICK (1964), Professor of English; B.A., M.A., Western State College.

LAWRENCE J. MADSEN (1988), Associate Professor of Chemistry; B.S., Oregon State University; M.S., Ph.D., University of Washington.

ELGIN A. MALLORY (1990), Assistant Professor of Business Administration; B.S., M.S., Eastern New Mexico University; Ph.D., Colorado State University.

DEBRA MARINER, C.P.A. (1991), Assistant Professor of Business Computer Information Systems; B.S., Northern State College, Aberdeen, S.D.; M.B.A., Western State.

JOHN T. MARSHALL (1982), Professor of Physics; B.S., University of New Mexico; M.S., Ph.D., Washington University.

ROBERT W. MAYER (1987), Assistant Professor of Travel, Recreation and Hospitality; B.A., M.S., University of Northern Colorado.

GARY L. McCALLISTER (1973), Professor of Biology; B.S., M.S., Brigham Young University; D.A., University of Northern Colorado.

HAROLD B. McINTIRE (1987), Assistant Professor of Business Administration; M.B.A., Eastern New Mexico University.

BETTY McMECHEN, C.P.A. (1986), Associate Professor of Accounting; B.S. Ed., University of Arkansas; M.S., Colorado State University.

WAYNE MEEKER (1966), Professor of Sociology; B.A., M.A., Western State College; Ph.D., University of Colorado.

BARRY P. MICHRINA (1990), Assistant Professor of Anthropology; B.S., St. Francis College; M.S., Colorado State University; Ph.D., Pennsylvania State University.

PRASANTA K. MISRA (1988), Professor of Physics; B.S., M.S., Utkal University, India; Ph.D., Tufts University.

JERRY MOORMAN (1991), Professor of Business Administration; Dean, School of Technology; Assistant Vice President for Academic Affairs; B.S., Mississippi State University; M.Ed., Delta State University, Cleveland, MI; Ed.D., Mississippi State University.

RICHARD MORAN (1984), Assistant Professor of Agriculture; B.S., M.S., Southern Illinois University.

LOUIS G. MORTON (1966), Professor of Political Science; Chairperson, Department of Social Sciences, B.S., University of Missouri-Columbia; M.A., Ed.S., Western State College.

LAVERNE MOSHER (1990), Assistant Professor of Art; B.A., University of Northern Colorado; M.F.A., Arizona State University.

TIMOTHY NOVOTNY (1989), Associate Professor of Statistics, B.A., B.S., University of Notre Dame; M.A., Creighton University; M.S.B.A., University of Denver; Ph.D., University of Wyoming.

JAMES F. PARONTO (1990), Assistant Professor of Physical Education; Head Football Coach; B.A., M.A., Adams State College; Ed.D., Brigham Young University.

JOSE M. PEER (1988), Associate Professor of Political Science; B.A., M.A., University of Nevada; Ph.D., Washington State University.

KAREN M. PERRIN (1977), Assistant Professor of Physical Education; B.S., Eastern New Mexico University; M.S., Kansas State University.

THOMAS RALSER, C.F.A. (1987), Associate Professor of Business Administration; B.S., Illinois State University; M.S., University of Utah.

PAUL L. REDDIN (1970), Professor of History; B.A., Adams State College; M.A., Ph.D., University of Missouri-Columbia.

DAVID M. REES (1983), Professor of Economics; B.S., Utah State University; M.S., Ph.D., University of Oregon.

KRISTINE L. REUSS, R.N. (1990), Assistant Professor of Nursing; B.S., M.S.N., University of Colorado.

JOHN H. REUSZER (1990), Associate Professor of Engineering; B.S., M.S., Ph.D., Purdue University.

JANINE RIDER (1991), Assistant Professor of English; Chairperson, Department of Languages and Literature; B.A., Miami University; M.A., University of Michigan, Ph.D., Indiana University of Pennsylvania.

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P. DOUGLAS SCHAKEL (1978), Instructor, Physical Education; Head Basketball Coach; B.A., Central College; M.A., Adams State College.
PAUL G. SCHNEIDER (1969), Associate Professor of Music; Director of Bands; B.A., M.A., University of Northern Colorado.
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STEVEN WERMAN (1990), Assistant Professor of Biology, B.S., M.S., California State University; Ph.D., University of Miami.
BYRON E. WIEHE (1974), Associate Professor of Physical Education; Chairperson, Department of Human Performance and Wellness; Head Baseball Coach; B.A., M.A., Adams State College, Ph.D., University of New Mexico.
EILEEN M. WILLIAMS, R.N. (1968), Professor of Nursing; B.S., University of Denver; M.S., University of Colorado.
ZHONG CHAO WU (1989), Associate Professor of Mathematics; B.S., China University of Science and Technology; Ph.D., University of Cambridge.
SUSAN A. YEAGER (1988), Associate Professor of Physical Education; B.A., Luther College; M.S., South Dakota State; P.E.D., Indiana University.
JOHN S. ZEIGEL (1975), Professor of English; B.A., Pomona College; M.A., Ph.D., Claremont Graduate School.
MARY E. ZIMMERER (1988), Associate Professor of Business Administration; B.A., M.S., University of Wyoming; Ph.D., Colorado State University.

MESA STATE COLLEGE EMERITUS FACULTY

ARLYNN D. ANDERSON, B.S., M.Ed., Ed.S., Professor of Applied Technology; Dean, School of Industry and Technology; Director of Vocational-Technical Education (1991).
THEODORE E. ALBERS, B.A., M.A., Ed.D., President.
WALTER F. BERGMAN, B.S., M.Ed., Associate Professor of Physical Education (1980).
WALTER J. BIRKEDAHL, B.Mus.Ed., M.Mus.Ed., Associate Professor of Music (1980).

DARRELL C. BLACKBURN, B.Mus.Ed., M.Mus.Ed., Professor of Music; Head, Department of Music (1982).
HAROLD R. BOLLAN, B.S., M.A., Professor of Applied Technology (1987).
LORRAINE N. BOSCHI, B.A., M.A., Associate Professor of English (1984).
JAMES C. CARSTENS, B.A., M.A., Ph.D., Professor of Business Administration; Dean, School of Business (1987).
JOHN D. CHARLESWORTH, B.Ed., M.Ed., Associate Professor of Applied Technology (Auto Mechanics) (1984).
R. BRUCE CROWELL, B.A., M.A., B.D., Ph.D., Professor of English (1992).
J. LEON DAILEY, B.A., M.A., Social Science (1974).
JAMES C. DAVIS, B.A., M.A., Professor of Mathematics (1985).
PATRICIA A. FINK, B.A., M.A., Professor of Psychology (1983).
JOSE ELI FRESQUEZ, B.A., M.Ed., Professor of Applied Technology (Auto Mechanics), (1992).
RICHARD R. FROHOCK, B.A., M.A., Associate Professor of English (1992).
MAXINE GABELMAN, B.A., M.A., English (1973).
BETTY GOFF, B.A., M.A., Assistant Professor of Library Science (1986).
ALFRED J. GOFFREDI, B.A., M.A., Professor of Business; Dean, School of Industry and Technology (1979).
MAEBETH GUYTON, B.F.A., Assistant Professor of Music; Chair, Department of Music; (1989).
HELEN M. HANSEN, B.A., M.A., Professor of Office Administration (1976).
JAMES T. HARPER, B.A., M.A., J.D., Professor of Economics (1983).
JOHN G. HENSON, B.S., M.A.T., Professor of Mathematics (1987).
CHRISTOPHER M. HOLLOWAY, B.A., M.A., Associate Professor of History (1983).
CHEO HUMPHRIES, B.S., Assistant Professor of Physical Education (1987).
BRUCE E. ISAACSON, Assistant Professor of Business (1987).
MAY BELLE KANAVEL, B.A., M.A., Chairperson, Department of Business (1964).
JAMES L. KRAMER, P.E., B.S., Associate Professor of Engineering Technology (1991).
DORIS R. LAY, B.A., M.A., Professor of English (1982).
MAURINE M. LEIGHTON, B.S., M.H.E., Professor of Home Economics (1977).
KENNETH E. LEMOINE, B.A., M.Ed., Mathematics, Dean of Special Services (1972).
MILTON F. LENC, B.A., M.S., Ed.D., Professor of Chemistry (1987).
CALVIN J. LUKE, B.S., M.A.T., Associate Professor of Mathematics (1987).
DONALD A. MacKENDRICK, B.S., M.A., Professor of History; Dean, School of Social and Behavioral Sciences (1990).
WILLIAM MEDESY, B.S., M.F., M.A., Ed.D., President (1970).
PAULINE O. MESSENGER, B.A., M.S., Professor of Library Science (1979).
DONALD E. MEYERS, B.F.A., M.A., Associate Professor of Art; Chair, Department of Art (1990).
LOUISE G. MOSER (R.N.), B.A., M.N., Chairperson, Division of Health Programs (1972).
THOMAS MOUREY, B.A., M.S., Assistant Professor of Computer Science (1984).
ELIZABETH MUSTEE, R.N., B.S., M.S. Professor of Nursing (1990)
MURIEL MYERS, B.A., M.Ed. Ph.D., Professor of Office Administration (1991).
WAYNE W. NELSON, B.S., M.S., Professor of Physical Education (1987).
I. J. NICHOLSON, B.A., M.A., Professor of Sociology (1983).
MORTON PERRY, B.S., M.A., M.Phil., Associate Professor of Political Science (1983).
W. DAVID PILKENTON, B.A., M.A., Associate Professor of Foreign Language (1987).
WILLIAM E. PUTNAM, B.S., M.S., Ph.D., Professor of Chemistry (1992).
WOODROW W. RAMSEY, B.S.C.E., P.E., L.A., R.L.S., Associate Professor of Engineering (1980).
ELAINE RIPLEY, B.A., M.A., Biology (1974).
MAI N. ROBINSON, B.S., Assistant Professor of English, (1989).
WILLIAM S. ROBINSON, B.A., M.A., Professor of Drama (1987).
WILMA E. SCHUMANN, R.N., B.Ed., Assistant Professor of Nursing (1984).
BERTHA L. SHAW, B.A., M.A., Humanities (1974).
DAN M. SHOWALTER, B.A., M.A., Professor of English; Dean, School of Humanities and Fine Arts (1979).
CLARICE S. TAYLOR, B.S., M.S., Assistant Professor of Home Economics (1991).
CARROLL C. TIMPTE, A.S., Instructor of Applied Technology (Electronics) (1982).

JAY W. TOLMAN, B.S., M.S., Professor of Geology, Vice President for Student Affairs (1977).
JOHN U. TOMLINSON, B.A., M.S, Ph.D., Distinguished Professor of Political Science (1992).
C. E. TOOKER, B.A., M.A., Associate Professor of Physical Education.
H. HERBERT WELDON, B.A., M.A., Professor of Mathematics, Vice President for Academic Affairs (1982).
JERRY D. WETHINGTON, B.S., M.S., Associate Professor of Computer Science (1991).
KENNETH L. WHITE, B.A., M.A., Assistant Professor of Chemistry (1988).
DONALD H. YONKER, B.S., M.A., D.D.S., Professor of Biology (1978).
JOAN W. YOUNG, B.A., M.A., Associate Professor of Biology (1978).
ROBERT D. YOUNGQUIST, B.S., B.A., M.Ed., Associate Professor of Business (1987).

MESA STATE COLLEGE VISITING PROFESSORS

CARL ABBOTT (1985), Wayne N. Aspinall Professor of History; B.A., Swathmore College; M.A., Ph.D., University of Chicago.
KENNETH E. BOULDING (1984), Wayne N. Aspinall Professor of Economics; B.A., M.A., Oxford (England).
PETER G. BOYLE (1989), Wayne N. Aspinall Professor of History and American Studies; M.A., Glasgow University, Scotland; Ph.D., University of California, Los Angeles.
JOANNE CARLSON BROWN (1988), Cosmicos Professor of Religious Studies; A.B., Mount Holyoke College; M. Div., Garrett Theological Seminary; Ph.D., Boston University.
VIVIAN BROWN (1982), Walter Walker Professor in Theatre.
RICHARD BULL (1983), Walter Walker Professor in Theatre.
WALKER CONNOR (1992), Wayne N. Aspinall Professor of Political Science; John R. Reitmayer Professor of Political Science, Trinity College, Hartford, Connecticut.
ROGER DINGMAN (1991), Wayne N. Aspinall Professor of History; B.A., Stanford; M.A., Ph.D. Harvard.
ALLAN DUFFUS (1989), Professor of Accounting; Charles Sturt University, Australia.
EMMANUEL FELDMAN (1987 and 1991), Cosmicos Professor of Religious Studies; B.S., M.A., Johns Hopkins University; Ph.D., Emory University.
RICHARD FUNSTON (1987), Wayne N. Aspinall Professor of Political Science; B.A., M.A., Ph.D., University of California - Los Angeles; J.D., University of San Diego.
JIM (BLOSZIES) HARDIE (1984), Walter Walker Professor in Theatre.
DENIS HINE (1985), Cosmicos Professor of Religious Studies; A.B., St. Benedict's Seminary; S.T.L., S.E.O.L., Oriental Institute, Rome.
FRANK LOVERDE (1982), Walter Walker Professor in Theatre.
ROBERT A. MORTIMER (1986), Wayne N. Aspinall Professor of Political Science; B.A., Wesleyan University; M.A., Ph.D., Columbia University.
FR. THOMAS N. MUNSON (1990 AND 1992), Cosmicos Professor of Theology; A.B., Loyola University; Ph.L., S.T.L. West Baden College; Ph.D., University of Louvain, Belgium.
HARVEY POTTHOFF (1984), Cosmicos Professor of Religious Studies; Th.M., Th.D., Iliff School of Theology.
WILLIAM G. ROBBINS (1990), Wayne N. Aspinall Professor of History; B.S. Western Connecticut; M.A., Ph.D., University of Oregon.
TEE SCATUORCHIO (1982), Walter Walker Professor in Theatre.
LILIA SKALA (1981), Walter Walker Professor in Theatre; Academy Award nominee, Golden Globe nominee, Emmy Award nominee and Heritage Award winner.
JEROME O. STEFFEN (1988), Wayne N. Aspinall Professor of History; B.S., University of Wisconsin, Madison; M.A., Eastern Michigan University; Ph.D., University of Missouri.
ROBERT W. VENABLES (1983), Wayne N. Aspinall Professor of History; B.A., Northwestern University; M.A., Ph.D., Vanderbilt University.
RICHARD A. WATSON (1982), Wayne N. Aspinall Professor in Political Science; A.B., Bucknell; L.L.B. and Ph.D., University of Michigan.

BUILDINGS AND EQUIPMENT

Houston Hall (1940), the first permanent building on the present campus, includes classrooms where a variety of subject areas are taught such as business, humanities, and social and behavioral sciences. This structure was totally remodeled in 1979-80.

Wubben Hall (1962), contains classrooms, laboratories, staff offices and storage areas for physical and life sciences, mathematics, computer sciences, and engineering. Special features of the building are an octagonal lecture hall which seats one hundred persons, an electron microscopy laboratory, and the only herbarium in western Colorado.

Lowell Heiny Hall (1967), a four-level building housing faculty and admin-istrative offices, was totally remodeled in 1986-87.

The John U. Tomlinson Library (1986), expands the traditional library concept to include storage and circulation for all commonly used forms of information such as microfilm, microfiche, audio tapes, video tapes, slides, films, records and computer disks.

Walter Walker Fine Arts Center (1969), includes classroom and studio facilities for art, music, and drama together with a multi-purpose Little Theatre.

William A. Medesy Hall (1969, remodeled in 1992), houses offices, classrooms, and laboratories for the School of Nursing and Allied Health programs, Early Childhood Education, Graphic Communications and other operations of the School of Technology.

The Industrial Energy Training Center (1982), houses staff offices, shops, training areas and classrooms. Additionally, the College experimental farm is locatd at this site. The IETC serves high school, college, and continuing education students. Located at 29 and D Roads, this facility is approximately three miles from the main campus.

The Unified Technical Education Center (1992) houses staff offices, shops, a computer lab, training areas and classrooms. UTEC serves high school, college, and continuing education students. Additionally, the facility is available on a contract basis for use by area business and industry. UTEC is located on Blichmann Avenue in the Foresight Industrial Park.

The Mesa State College Montrose Center contains classrooms, a computer lab, and staff offices. It is a leased facility located on East Main Street in Montrose, Colorado. The facility was occupied in late summer 1991 and serves college and continuing education students.

Roe F. Saunders Physical Education Center (1968), provides facilities for a variety of physical education and recreation activities. Major features include an all-purpose gymnasium, swimming and diving pools, locker and shower rooms, classrooms, and office space for the Department of Human Performance and Wellness faculty. Physical education and practice athletic fields are located immediately west of the Physical Education Center with tennis courts to the north of the facility.

Three 200-student residence halls - Tolman, Rait, and Pinon Halls (1966, 1967), provide comfortable living quarters for students. Most of the rooms are doubles, but a few single rooms are available. All rooms are furnished with modern, wall-hung furniture.

Walnut Ridge Apartments (1978), are available to sophomores, juniors, and seniors. Forty-eight attractively furnished two- and three-bedroom units provide complete housekeeping facilities.

The W. W. Campbell College Center (1962, remodeled 1990-91), contains a bookstore, copy center, art gallery, outing program, student government offices, radio station, school paper, gameroom, snack bar, information desk, dining hall, outdoor cafe, student lounges, and meeting rooms.

The Early Childhood Education Center (1964) provides facilities for Mesa State College's training program for directors and other personnel of childcare centers and the Parent Education and Preschool program.

Mesa State College Day Care Center is organized for the convenience of Mesa State College students who have small children.

The Student Life Center provides a central location for counseling, career development, employment, and placement services.

The Auto-Tutorial Laboratory houses audio-visual, library aids, and simulated patient rooms for specialized training in Nursing and Allied Health programs.

The Student Health Center includes office space and clinical facilities for the College Health Service staff.

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ADMISSION TO MESA STATE COLLEGE

To be considered for admission to Mesa State College all students are required to submit a completed application with a $20.00 non-refundable application fee. As indicated by the chart below, the following information is also needed to make an admission decision:

	ACT or SAT	G.E.D. Scores	H. S. Trans.	College Trans.
H. S. Graduate	X		X	
G.E.D. Recipient	X	X		
Transfer Student	*	*	*	X

*Transfer students with less than 30 semester hours (45 quarter hours) of college credit must submit official high school transcripts and either the SAT or ACT results in addition to the official college transcripts.

To provide sufficient time to process an application, all required information must be received two weeks prior to the semester a student plans to attend.

Mesa State College will not offer financial aid to a student until he or she has been admitted to the college. To be considered for all funds available through need-based aid programs (grants, loans) and merit-based aid programs (scholarships) for the fall semester, a financial aid application should be submitted as soon as possible after January 1 and no later than March 15. For a financial aid application, please contact the Office of Financial Aid, P.O. Box 2657, Grand Junction, Colorado 81502 or call (303) 248-1396.

Students applying to the School of Nursing and Allied Health must submit a separate application to that school in addition to the Mesa State College application. Please contact the School of Nursing and Allied Health at (303) 248-1398 to receive the additional application. All students applying to the School of Nursing and Allied Health must have either the ACT or SAT results.

An Official Transcript is one that is sent directly to the Office of Admission from the issuing institution(s) previously attended.

Hand delivered or facsimiles of transcripts will not be accepted.

Send the application and all other pertinent information directly to:

Office of Admission
Mesa State College
P.O. Box 2647
Grand Junction, CO 81502

High School Graduates: All high school graduates with no previous college level study are classified as a New Freshman. Contact the high school and request that an official high school transcript and SAT or ACT scores be sent directly to the Office of Admission.

G.E.D. Recipients: Anyone who received a G.E.D. but has no previous college level study is classified as a New Freshman. Students must contact the G.E.D. testing agency and request that G.E.D. scores be sent to the Office of Admission. The ACT or SAT test results are also required. Contact the appropriate testing agency and have the test results sent to the Office of Admission. Students who have not taken the ACT or SAT, please contact the Mesa State College Testing Center at (303) 248-1215 to receive information on the next available testing opportunity. All test results must be received prior to admission and registration.

Transfer Students: Any student who has been or is currently enrolled in any college or university is classified as a Transfer Student. Transfer Students are required to submit official transcripts for all the institutions previously attended. For those with less than 30 semester hours (45 quarter hours) of college credit, high school transcripts and ACT or SAT test scores are also required.

Transcripts will not be evaluated for transfer credit until a student has been admitted to Mesa State College.

All Applicants: Complete the attached application and pay close attention to all the information being requested. Failure to provide accurate or complete information may result in delay of admission, loss of credit, and/or dismissal. Any questions about the application procedures should be directed to the Office of Admission at 1-800-983-MESA (in Colorado) or (303) 248-1376.

Mesa State College is an equal opportunity educational institution and will not discriminate on the basis of race, color, national origin, sex, age and handicap in its activities, programs, or employment practices.

Mesa State College is a Drug-Free Workplace. All employees and students of the College agree to abide by the requirements in the Federal Drug-Free Workplace Act.

1993

MESA STATE
COLLEGE

P.O. BOX 2647
GRAND JUNCTION, CO 81502

CATALOG

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