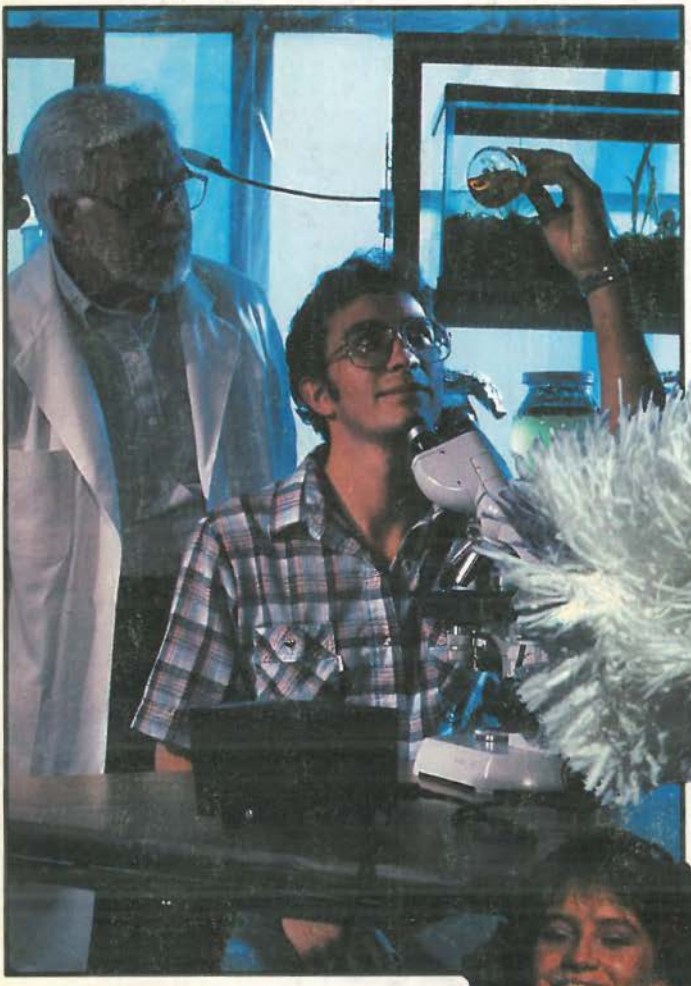


Mesa college

1986-88 GENERAL CATALOG

HOW TO APPLY FOR ADMISSION

Students Attending Mesa College for the First Time

1. Secure an Application for Admission form from your high school counselor, principal or from the Mesa College Admissions Office.
2. Complete the Application for Admission and have your high school counselor send a copy of your high school transcript to the Admissions Office at Mesa College. Applications may be filed at any time after the close of the first semester of the senior year in high school and must be in the Mesa College Admissions Office by August 1 for Fall Semester and at least two weeks in advance of registration for Spring Semester. (The College reserves the right to deny admission to any student who has not completed the application process by these dates.)
3. Upon receipt of your application and the $10 application fee Mesa College will inform you of your admission status. (Admission status will be tentative until the record of the final semester of your senior year has been received.)
4. A.C.T. test scores (PREFERRED), or S.A.T. test scores must be in the Admissions Office before final acceptance is granted.
5. Mesa College's ACT code number is 0518 and SAT code number is 4484.
6. Students living outside Mesa County must make arrangements for and secure approval of their housing through the office of the Director of Housing.
7. Prior to registration each applicant will receive additional information and preliminary registration instructions and materials.

Transfer Students

1. File with the Admissions Office at Mesa College:
   a. The Standard Application for Admission form. (A $10 application fee must accompany the admission application.)
   b. An official transcript of all credits earned from each college or university previously attended. Failure to list all institutions previously attended may result in loss of credit and/or dismissal.
   c. An official report of A.C.T. or S.A.T. scores. (Transfer students who have fewer than 60 transferable semester credits and who have not taken these tests previously must make arrangements with the Admissions Office to take them prior to registration.)
   d. An official transcript from the high school attended or GED test scores.

Mailing address:
MESA COLLEGE
P. O. Box 2647
Grand Junction, CO 81502

REGISTRATION AND ADMISSION TESTS

All first-time new students seeking admission to Mesa College to work toward a baccalaureate degree or an associate degree are required to have a copy of their A.C.T. (American College Test (A.C.T. test is preferred) or S.A.T., Scholastic Aptitude Test, scores on file in the Admissions Office. Prospective students are encouraged to take one of the admission tests during their senior year of high school. See your high school counselor for information concerning national test dates, fees, test center locations and registration forms.

For students who have not taken either the A.C.T. or S.A.T., on one of the national test dates, a special residual A.C.T. test will be administered on the Saturday morning (promptly at 8:00 a.m.) immediately prior to the registration period each semester. A $15.00 test fee will be charged and collected from each student immediately prior to taking the test. Identification with a recent picture is required. For more information, contact the Mesa College Admissions Office. If in-state, call toll free: 1-800-982-MESA, others may call Area Code 303-248-1076, or the Testing Office, 248-1215.

Mesa college

P. O. Box 2647
Grand Junction, Colorado 81502

CATALOG
1986-88

THIS CATALOG BELONGS TO:

NEED MORE INFORMATION?

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

Admissions ..... Sherri Pe'a, Director of Admissions, 248-1376
in Colorado, Toll Free 1-800-982 MESA
Housing ..... Lee Seebo, Director of Housing, 248-1536
Scholarships, Loans, Grants ..... Bud Snock, Director of Financial Aid, 248-1396
Pre-College Counseling ..... Bob Stokes, Student Life Center, 248-1366

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

In matters related to admission and education of students; availability of student loans, grants, scholarships, and job opportunities; employment and promotion of teaching and non-teaching personnel; student and faculty activities conducted on premises owned or occupied by the College; student and faculty housing situated on premises owned or occupied by the College; and all other activities and endeavors, Mesa College does not discriminate against any person on account of race, religion, color, national origin, sex, or handicap.

TABLE OF CONTENTS

(See Alphabetical Index for specific topics)

FOREWARD

MESA COLLEGE is a comprehensive coeducational institution operated under the governance of the Trustees of the Consortium of 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 the current or forthcoming academic year. Mesa 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 subject to adequate appropriations by the Colorado General Assembly.

GENERAL INFORMATION

Mesa College is a democratic center of learning dedicated to the improvement of human capability. The College extends its services to anyone regardless of age, sex, race, religion, color, cultural background, economic status, 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;
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.

Mesa College was organized as Grand Junction State Junior College in 1925 and effective July 1, 1974, the legislation authorized the expansion of Mesa College's programs to include baccalaureate degrees.

Enrollment, now about 4500, provides students with a favorable student instructor ratio along with access to quality learning materials and facilities.

ACCREDITATION

Mesa College is accredited by the North Central Association of Colleges and Schools. Accreditation by this agency places credits earned at Mesa 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 Committee on Allied Health Education of the American Medical Association (Radiologic Technology), and the American Dental Association Commission on Dental Accreditation.

LOCATION

The campus is bordered by an attractive and modern residential section. Stores and other conveniences are located within walking distance of the campus, and many others, including large shopping centers, are nearby.

Grand Junction's location in a scenic part of the Rocky Mountain West provides unlimited opportunity for the outdoor enthusiast. Many College activities involve the physical advantages of the region and the College's physical education program in skiing is conducted at the Powderhorn Ski Area on Grand Mesa. Students take advantage of the city's parks, golf courses and swimming pools, and the numerous outdoor attractions to be found in the nearby mountains.

Directly to the southeast of Mesa College, Lincoln Park includes a football field, quarter-mile track, baseball diamond and stands, eight concrete tennis courts, and a nine-hole golf course with grass fairways and greens, all available to college students.

BUILDINGS AND EQUIPMENT

Houston Hall (1940), the first permanent building on the present campus, has classrooms for a variety of subject areas including business and humanities. This structure was totally remodeled in 1979-80.

Horace 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 Library (1967) is a four-level building presently being redesigned to house faculty and administrative offices.

Learning Resource Center (1986) expands the traditional library to include storage and circulation for all commonly used forms of information including microfilm, microfiche, cassette tapes, video tapes, slides, films, records, computer disks and television.

Walter Walker Fine Arts Center (1969) includes classroom and studio facilities for art, music, and drama and a multi-purpose Little Theatre.

William A. Medesy Vocational-Technical Center (1969) has shops, laboratories, and classrooms for auto mechanics, auto body and fender, electronics, dental assisting, and graphic-communications departments. The Mesa College Area Vocational School serves both youth and adults of the region as a training center for various occupations.

Industrial Energy Training Center (1982) houses shops, specialty training area and classrooms for Heavy Equipment/Diesel Mechanics, and shops, classrooms and specialty training area including facilities for oxyacetylene, electric arc and specialty welding training; electric training center, shops, classroom and overhead and under-ground transmission training area is located at this site as well as the College experimental farm. This Center serves high school, college, and adults. It is located at 29 & D Roads approximately three miles from the main campus.

Roe F. Saunders Physical Education Center (1968) provides facilities for a variety of physical education and recreation activities. Major features include all-purpose gymnasium, swimming and diving pools, locker and shower rooms, class-

rooms, and office space for the Department of Physical Education and Recreation. Physical education and practice athletic fields are located immediately west of the Physical Education Center. Tennis courts are just north of the facility.

Three 200-student residence halls - **Tolman, Rait, and Pinon** (1966, 1967), provide comfortable living quarters for boarding students. Most of the rooms are doubles, but a few singles 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.

W. W. Campbell College Center (1962 remodeled 1980-81) contains cafeteria, bookstore, art gallery, study and recreational lounges for students and faculty, office and conference facilities for student leaders, a snack bar, and game rooms.

Early Childhood Education Center (1964) provides facilities for Mesa College's training program for directors and other personnel of childcare centers and also for the Parent Education and Preschool program.

Mesa College Day Care Center, organized for the convenience of Mesa College students who have small children, is located on the lower level of the Early Childhood Education Center.

College Service Center (1968) houses all types of equipment and shops used in general campus upkeep. It also includes areas for the Purchasing Department, central receiving, supply storage, and campus mail service.

Student Life Center provides a central location for counseling, career development, employment, and placement services.

Audio-Tutorial Laboratory houses audio-visual, library aids, and simulated patient rooms for specialized training in Nursing and Allied Health programs.

Student Health Center includes office space and clinical facilities for the College Health Service staff.

COLLEGE COMMUNITY RELATIONS

Through mutual cooperation with the community, Mesa College has become an integral factor in the development of Colorado West. Faculty members are available for lectures and discussions on a wide range of subjects and student groups appear before both public and private audiences for information or entertainment programs. The forensic, religious, athletic, and those devoted to public affairs and international relations. 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 College students have an opportunity to participate in several cooperative programs, including an annual Contemporary Affairs Symposium held each spring semester, an annual course and public lecture offered by a distinguished visiting lecturer honored as the occupant of Wayne N. Aspinall Chair of History, Political Science and Public Affairs, and the Wayne N. Aspinall Scholarships awarded to a student whose course of study is directed toward a career in public affairs. Details of these programs may be obtained from the Dean, School of Social and Behavioral Sciences.

CONSORTIUM OF STATE COLLEGES IN COLORADO

The institutions governed by the Trustees of the Consortium of State Colleges in Colorado (Adams State College, Mesa College, Metropolitan State College, and Western State College) are joined in a consortium, the purpose of which is to identify and facilitate cooperative efforts among the institutions. Mesa 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 additional details see the Consortium Programs Section of this catalog.

CONSORTIUM STUDENTS

A purpose of the Consortium of State Colleges is to establish procedures for facilitating the best kinds of programs through shared resources— physical, professional, organizational, and curricular.

The registrars of the four institutions of the Consortium have developed a form to be used for inter-institutional registration. Using this registration form, a student in good standing at any of the schools will be accepted as a student at any of the others. Before a consortium student registers at another school, agreements will 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 registrar of his/her home institution to obtain further information on arrangements.

Institutions of the Consortium of State Colleges in Colorado have agreed on the following:

1. Credit for consortium courses shall be treated as resident courses and not as transfer courses for purposes of fulfilling major and minor requirements and for graduation.
2. Grades for consortium students shall be awarded by cooperating institution faculty in the normal manner. The cooperating institution shall provide the grades of consortium students to the home institution registrar for posting to students' educational records.

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 a 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 shall administer all student services, including financial aid. The home and host institutions shall share responsibilities for academic advising.
2. A "host institution" is defined as any consortium institution, other than the home institution, at which a consortium student enrolls in courses.

AREA VOCATIONAL SCHOOL

Recognizing the national need for better-trained manpower, Mesa College as an approved Area Vocational School provides a variety of training opportunities for persons who wish to become more 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 upgrading skills. The further the student progresses in a program area the greater the degree of skill development.

Students who wish to earn a degree or a certificate must have a high school diploma or a General Education Development (GED) certificate and must take the tests of the American College Testing (ACT) Program for enrollment in programs greater than one year in length. They must also meet all general education requirements and follow the suggested curriculum for the skill training in which they enroll. Students who do not seek a degree may enroll in individual courses as desired.

OCCUPATIONAL EDUCATION COURSES AND PROGRAMS INCLUDE:

Accounting
Data Processing
Auto Body and Fender
Auto Mechanics
Electric Lineman
Mining/MSHA
Civil Engineering Technology
Computer Information Systems
Drafting Technology
Early Childhood Education
Law Enforcement Technology
Medical Office Assistant
Secretarial Programs and Upgrading
Travel, Recreation and Hospitality Management
Electronics Technology
Graphic Communications
Welding
Heavy Equipment/Diesel Mechanics
Mechanic-Welder
Nursing, Associate Degree
Radiologic Technology

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

CONTINUING EDUCATION

One of Mesa College's finest traditions is providing special opportunities for members of the Community to participate in academic, vocational, cultural, and recreational activities. The Office of Continuing Education serves many residents each year through offerings that include cultural, informational, vocational, basic education, and general education courses, self-improvement and hobby classes, recreation groups, parent-education and preschool classes, and public forums and discussion groups concerned with timely topics.

Most of these offerings are provided in the evenings for either credit or no-credit and for varying lengths of time. Many regular students register for night classes to facilitate schedules or to provide free time during the day for part-time job opportunities. Learning activities are varied and include discussions, demonstrations, laboratories, shop work, and field trips. Members of the regular Mesa college faculty

are utilized in the evening program along with many qualified guest instructors from business, industry, the arts, and other academic institutions who add new experience and lend greater interest to the various offerings.

The College cooperates with various other colleges and universities in the state to provide facilities for on- and off-campus extension classes and other services. Most of the courses made available through this arrangement are at the upper-division or graduate level.

The Mesa College Continuing Education Outreach Program is part of a statewide outreach education program sponsored by the Colorado Commission on Higher Education. The system, which is made up 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 College's Outreach Program currently offers a number of non-credit classes and programs on campus and both credit and non-credit classes in several neighboring cities. The program is funded entirely by tuition and fees.

A complete class schedule and information is available from the Office of Continuing Education, Mesa College, Houston Hall, Rm. 110.

SUMMER SESSION

Mesa 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 the areas of Biology, Business, Data Processing, Engineering, Fine Arts, Home Economics, Humanities, Mathematics, Nursing and Allied Health, Physical Education, Physical Science, Social Science, and Occupational Education.

The typical session will include a twelve-week term and two six-week terms. Registration is usually scheduled on or about May 18. Courses may be taken in more than one term if schedule permits. Classes are held during mornings only. Tentative bulletins on Summer Session offerings are usually available in early spring.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT OF 1974

The College's practice in regard to student record keeping is based on the provisions of the Educational Privacy Act of 1974 (the Buckley Amendment) and is 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 Mesa College Student Handbook.

DEGREES AND PROGRAMS

Mesa College grants the Bachelor of Business Administration, Bachelor of Science in Nursing, Bachelor of Arts and Bachelor of Science degrees in a number of areas. The College awards Associate in Arts, Associate in Commerce, and Associate in Science degrees in a variety of disciplines, as well as Associates in Applied Science and Certificates in occupational (vocational-technical) areas. Specific requirements for each degree are described in the **Graduation Requirements** as well as in the text which describes each school of the College.

Mesa College and their respective subject-matter areas are:

School of Business - Administrative Office Management, Accounting, Computer Information Systems, Business Administration, Business Economics, Business Software Engineering, Data Processing, Finance, Management, Marketing, Medical Office Assistant, Office Administration, Personnel Management, Secretary - Legal or Medical, Travel, Recreation and Hospitality Management and Word Processing.

School of Humanities and Fine Arts - Art, Creative and Technical Writing, English, Foreign Languages, Mass Communications, Music, Philosophy, Speech, Theatre and Dance.

School of Industry and Technology - Auto Body and Fender, Auto Mechanics, Heavy Equipment/Diesel Mechanics, Mechanic-Welder, Electric Lineman, Electronics, Graphic Communications, Welding.

School of Natural Sciences and Mathematics - Agriculture, Astronomy, Biology, Botany, Chemistry, Computer Science, Engineering, Engineering Technology, Geology, Home Economics, Mathematics, Physics, Physical Science, Statistics, and Zoology.

School of Nursing and Allied Health - Dental Auxiliary, Nursing, and Radiologic Technology.

School of Social and Behavioral Sciences - Anthropology, Archaeology, Career Counseling and Guidance, Dance, Early Childhood Education, Economics, Education, Geography, History, Human Services, Law Enforcement, Military Science (ROTC), Physical Education, Political Science, Psychology, Recreation, Social Science, Sociology and Teacher Education.

Area Vocational School - The coordinating entity for the various occupational programs taught in the different schools of the College and Mesa County.

Continuing Education and Outreach - The coordinating office for adult education, night classes, and off-campus classes.

DEGREES AND PROGRAMS OF STUDY

Studies undertaken by a student at Mesa College depend upon career plans and educational objectives. The college offers baccalaureate degrees in Accounting, Biological and Agricultural Sciences, Business Administration, Recreation and Lei-

sure Services, Liberal Arts, Nursing, Physical and Mathematical Sciences, Selected Studies, and Social and Behavioral Sciences, with a variety of options available in some of these four-year degree areas.

A student may first receive an associate degree before continuing toward the baccalaureate degree, but such a plan is entirely optional.

Some students may choose to take courses at Mesa College which will fulfill lower-division requirements for transfer to a college or university that offers baccalaureate or professional programs not currently available at Mesa 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 of their total educational goals.

Mesa 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

Bachelor of Arts (B.A.)
- Social and Behavioral Science
- Recreation and Leisure Services
- Liberal Arts
- Selected Studies

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

Bachelor of Science (B.S.)
- Accounting
- Biological and Agricultural Sciences
- Physical and Mathematical Sciences

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

Associate of Arts (A.A.)
- Available in numerous disciplines
- ~~Associate of Commerce (A.C.)~~
- Accounting
- Office Administration, Secretarial

Associate of Science (A.S.)
- Nursing
- Dental Science
- Available in numerous other disciplines

Associate of Applied Science (A.A.S.)
- Auto Body and Fender
- Computer Information Systems, Business
- Commercial Art
- Early Childhood Education
- Electronics Technology
- Engineering Technology, Civil
- Engineering Technology, Drafting
- Graphic Communications
- Law Enforcement
- Legal Secretary
- Medical Secretary

Mechanics-Automotive
Radiologic Technology
Travel, Recreation, and Hospitality
Welding

Certificate Programs
Data Processing
Dental Assisting
Drafting Technology
Early Childhood Education
Electric Lineman
Electronics Technology
Heavy Equipment/Diesel Mechanics
Legal Secretary
Mechanics-Automotive
Mechanic-Welder
Medical Office Assistant
~~Office Career Exploration~~
Office Clerical-Secretary
Welding
Word Processing

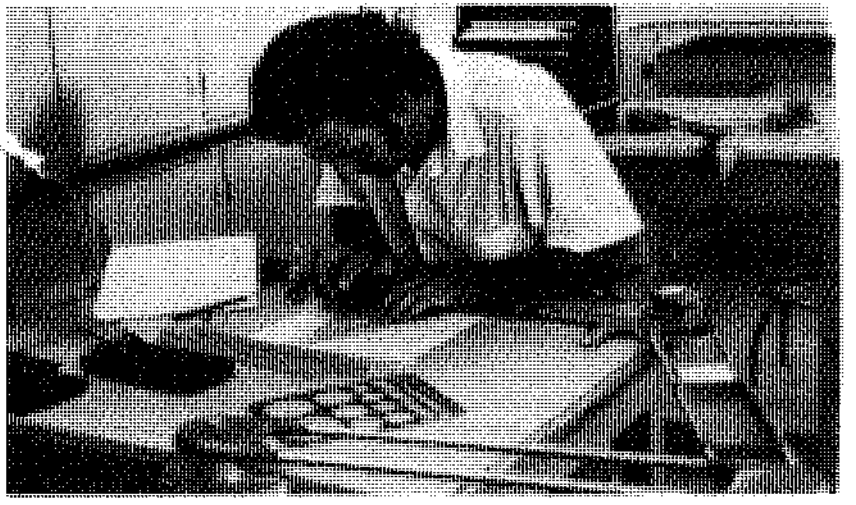
Consortium Programs

Master of Arts (M.A.)
Education Administration (Western State College)
Elementary Education (Western State College)
Guidance and Counseling (Adams State College)

Master of Business Administration (M.B.A.)(Western State College)

Teacher Certification
Elementary (Metropolitan State College and Western State College)
Secondary (Metropolitan State College)

Certificate Endorsement
Educable Mentally Handicapped Endorsement (Metropolitan State College)



ADMISSIONS INFORMATION

(For additional application and admission information, see How to Apply For Admission on inside front cover of this catalog.)

MESA COLLEGE ADMISSIONS INFORMATION

Admission standards for Mesa College are currently being reviewed for consideration of revision. The standards and admission requirements stated in this catalog are only for the year 1986-87. Admission criteria for Mesa College will vary depending on the program to which a student seeks admission.

FOUR-YEAR BACCALAUREATE DEGREE PROGRAMS

In general, *first time freshmen* wishing to enroll in a baccalaureate program must meet two out of three of the following criteria:

1. Have an A.C.T. composite standard score of 19 or higher or an S.A.T. combined score of 810 or higher. (MESA COLLEGE PREFERS THE A.C.T. TEST SCORES).
2. Be in the upper 2/3 of your graduating class;
3. Have a cumulative high school grade point average of 2.5 or better on the 4.0 scale.

Students *not* meeting the minimum criteria stated above can be admitted under an appropriate associate degree program or certificate program. Students are eligible to transfer to a baccalaureate degree program after they have completed at least 12 semester hours of course work with cumulative grade point average of 2.3 or higher or an awarded associate degree.

TWO-YEAR ASSOCIATE DEGREE AND CERTIFICATE PROGRAMS

Students wishing to enroll in a two year associate degree or certificate program will be accepted under general open door policy guidelines, but associate degree applicants should have either the ACT or SAT test scores on file in the Admissions Office prior to registration.

An Application for Admission must be properly filled out by the applicant, signed by the high school counselor or principal and submitted to the Admissions Office no later than August 1, for Fall semester.

For Spring semester and Summer session the Application for Admission must be filled out and on file in the Admissions Office at least two weeks prior to the beginning of the term.

Individuals who have not graduated from high school but have earned a GED High School Equivalency Certificate with an average score of 45 or higher will be accepted for admission. An application form must be filled out and submitted to the Admissions Office along with a copy of the GED test scores.

TRANSFER STUDENTS

Students in good standing with another college or university may be admitted to Mesa College. A total cumulative grade point average of 2.3 or an associate degree is required of students wanting to transfer into a four-year baccalaureate degree program. Students transferring to Mesa College must provide the Admissions Office with *an official transcript* of all college work attempted at another institution. If a student attended more than one college or university, a transcript from each institution is required. Individuals who have attended another institution cannot disregard a collegiate record and apply for admission as a first-time freshman. Failure to comply is cause for dismissal.

An official high school transcript is required of all transfer students with fewer than 60 semester hours of credit. Transfer students with fewer than 60 semester hours of credit are required to take the ACT prior to registration unless the ACT or the SAT has been previously taken and an official record of the scores are on file in the Admissions Office.

All applicants for the nursing program, regardless of the number of credit hours transferred, are required to have ACT or SAT test scores on file in the Admissions Office. Test scores are not usually a regular part of an official transcript and are released by the student's former school only at the student's specific request.

Transfer students who are on probation or suspension from a previous college or university cannot be admitted to a baccalaureate degree program until they have been approved by the Director of Admissions. However, students in this situation will be admitted to an associate degree program or certificate program.

It is Mesa College's general policy to:

1. accept transfer credits from 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. accept transfer credits from private and out-of-state colleges and universities provided the institution is currently accredited or that it was a candidate for accreditation at the time the credit was earned.
3. accept transfer credits up to 60 semester hours from accredited two-year community or junior colleges,
4. accept transfer credits with grades "S" or "P" if the granting institution states that such a grade is equal to a grade of "C" or better.

FOREIGN STUDENTS

To be considered for admission, foreign students must complete and submit the following to the Admissions Office at Mesa College prior to August 1 for Fall Semester and at least two weeks prior to Spring Semester and Summer Session: (1) Application form with $10 non-refundable application fee; (2) Medical examination report; (3) Copy of American College Test (ACT) scores or Scholastic Aptitude Test (SAT) Scores; (4) High school transcript, translated into English; (5) Transcripts from other college(s) or universitie(s) attended (must be translated in English); (6) Certificate of financial support; and (7) Required form verifying proof of immunization or documentation of actual cases of Rubeola or Rubella measles or completion of a General Waiver. The General Waiver states that individuals may be denied presence on the Mesa College campus should an outbreak/epidemic be determined by State Health Officials.

Foreign students must also 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) Submit scores of Test of English as a Foreign Language (TOEFL) with an average of 450 or higher; (2) Submit results of Michigan Test of English Language with minimum score of 70; (3) Complete a recognized English Language Institute with an achievement level of 108; or (4) A foreign student who has been enrolled as a regular full-time student at another college or university in the United States may be considered on an individual basis.

Before admission is granted, a foreign 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 $10,000 per calendar year. The sum of $300 must be deposited with the Mesa College Business Office by August 1 for Fall Semester and at least two weeks prior to Spring Semester and Summer Session. This money will be applied to the first semester's expenses and will be refunded if admission is not granted.

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

PHYSICALLY & LEARNING DISADVANTAGED STUDENTS

Mesa College admits physically and learning disadvantaged students and works with the local Division of Rehabilitation Office and other agencies in assisting these students with support services. These services may include: class scheduling, housing, tutors, health problems, counseling, parking, etc.

Currently most physical barriers in buildings and other facilities on campus have been removed in order to accommodate physically and learning disadvantaged students and it is hoped that adequate funding will allow completion of this project. It is highly recommended that a prospective student visit the campus prior to enrollment and meet with counselors to discuss special needs and determine the feasibility of completing a program of the student's choice.

VETERANS

Programs offered by Mesa College, with certain exceptions, are approved by the State Board for Community Colleges and Occupational Education for the education and training of those veterans and dependents of veterans eligible under applicable public laws. Veterans or dependents planning a course of training in special programs 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 College must contact the Office of Veterans Affairs as soon as the decision to attend Mesa is made. Application for benefit assistance must be made at least six weeks prior to the initial registration if the student plans to have the benefit check on hand for payment of expenses at the time of registration. Without this advance payment, 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. This represents the normal processing time required for the VA to establish the applicant's file. Further information may be obtained from the Office of Veterans Affairs or Registrar's Office.

Credit is 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 Registrar. All credit granted will be lower division credit.

STUDENTS NOT SEEKING A DEGREE

Students wishing to enroll and not wanting to pursue any degree or certificate program, must fill out and file an "unclassified student form" with the Admissions Office. This form is available at the Admissions Office, or the Continuing Education Office.

It is necessary for each individual to sign a statement of understanding of unclassified status BEFORE registering for a credit class. Unclassified students cannot register for more than six semester credits per semester. Unclassified students are not required to submit high school or prior college transcripts and will not be assigned an adviser unless they request one. Individuals who have previously been enrolled as a degree seeking student at Mesa College cannot re-enroll as an unclassified student.

If, at some future date, an individual decides to seek regular status and pursue a baccalaureate degree, associate degree or certificate program, it will be necessary to fulfill the regular admission requirements.

ADMISSION TO CERTAIN PROGRAMS

Admission to Mesa College does not automatically constitute admission to programs which require special admission procedures. Such programs include the Early Childhood Education Program, and all programs offered by the School of Nursing and Allied Health. Students applying for these programs must have their ACT or SAT scores on file in the Admissions Office.

ADMISSIONS AND COUNSELING TESTS

Either the American College Test, ACT (PREFERRED) or the Scholastic Aptitude, SAT is required of students attending Mesa College. Test scores must be on file in the Admissions Office before official admittance is granted. (See inside front cover.) A student's ACT composite standard score of 19 or higher or SAT combined score of 810 or higher is one of the three criteria considered for admission to a baccalaureate degree program. Certain other programs like the Early Childhood Education Program and programs offered by the School of Nursing and Allied Health have a minimum ACT or SAT score requirement. (For specifics, refer to these programs elsewhere in the catalog.) In addition to being one of the admissions criteria, ACT and SAT test results are used by the counseling center and by the student and adviser as the basis for planning a course of study, and as an aid in placement in certain class sections, keeping within the student's abilities and interests. Extra classroom instruction is provided on a limited basis for those whose test scores indicate weakness or deficiencies in certain areas such as English and mathematics. The results may also be used for scholarship consideration and institutional research.

There are some exceptions and exemptions to this admissions requirement. Students who are exempt from having to submit their ACT or SAT scores as part of their admissions requirement are:

1) Students enrolled only in credit classes offered through the Continuing Education Outreach Program.
2) Students who are enrolled in a certificate program of one year or less.
3) Students transferring to Mesa College from other accredited colleges or universities with 60 or more semester hours of credit. This does not apply to School of Nursing and Allied Health applicants, who must submit either the ACT or SAT test scores regardless of the number of credit hours transferred.
4) Students enrolled in resident instruction for nine or fewer semester hours of credit for the first two semesters.
5) Students who have already earned an associate or bachelor degree from another college. (See exception in item 3.)

When a student has accumulated 12 or more hours of credit and enrolls in the resident-instruction program in either an associate-degree or baccalaureate-degree

program, the student is required to have ACT or SAT scores on file in the Office of Admissions.

It is recommended that prospective students take the ACT or SAT during their high school senior year. Transfer students (unless exempt under item 3 or 5 above) are required to have their ACT or SAT scores on file in the Admissions Office prior to registration. ACT or SAT scores from a previous college or university are acceptable. A special residual ACT test is scheduled prior to registration each semester for applicants who did not take the ACT on one of the national test dates. Contact the Director of Admissions or the Testing Office for further details. The results will be available to the student and the student's adviser during registration. A special testing fee of $15.00 will be collected from the student immediately prior to taking the test.

WITHDRAWAL FROM ONE OR MORE CLASSES

Students are permitted to withdraw from one or more classes up to five days after the first day mid-term grades are available to students from Faculty Advisers. Proper forms and signatures are required and must be turned in to the Registrar's Office. Forms are available at the Registrar's Office or Dean's Office. Students who officially withdraw from class(es) by the deadline are given the grade of "W". Exceptions to the withdrawal deadline are at the discretion of the instructors, deans and the Registrar.

In addition to regular withdrawal from class(es) by the student, an instructor may initiate a withdrawal from his/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

A student who desires to withdraw from the College should notify his faculty adviser and report to the Registrar's Office. The necessary withdrawal papers will be filled out by the student and officially signed by an appropriate College official. Such withdrawal may be made at any time during the semester prior to the sixth day after midterm grades are posted and available to students from their faculty advisers. Grades of "W" will be given. Exceptions to the withdrawal deadline are at the discretion of the instructors, deans and the Registrar. Students who must withdraw after the deadline due to an emergency situation beyond their control will be considered on an individual basis.

ADVANCED COURSE/CREDIT PROGRAM

Mesa College is in the process of reviewing its policy on Advanced Placement. For information on the status of this review, please contact the Office of Academic Affairs.

ACCELERATION OF COLLEGE STUDY

It is possible for students to satisfy the requirements for baccalaureate degrees in less than the traditional four years (eight regular academic year semesters). The various things that can be done to accomplish this should, when possible, be discussed with a faculty adviser. They include: enrolling in college classes while in high school; exceeding the normal course load at Mesa 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). Further 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 take the final examinations or receive grades or credit, should register No Credit Desired in these courses. Credit for such courses may not be established at a later date.

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

COLLEGE CREDIT BY EXAMINATION

Students attending Mesa 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 College. Students must have completed or be enrolled in twelve credit hours before challenge credits will be recorded on a transcript. Maximum credit by examination:

AA, AC, AS.....~~12~~ credit hours 15 AS - [illegible] 18 cr
AAS.....20 credit hours
Baccalaureate.....~~20~~ credit hours 30

For more information contact the appropriate College Dean or the College Testing Office at 248-1215.

IMMUNIZATION POLICY

All students who attend class on the Mesa College campus must have filed an Immunization Documentation/Waiver in the Records Office before they will be permitted to register for classes. Forms are available in the Health Service, Office of Continuing Education, Office of Admissions and the Records Office.

This form requires proof of immunization, documentation of actual cases of rubeola and rubella measles *or* the completion of a general waiver. The general waiver states that individuals may be denied presence on the Mesa College campus should an outbreak/epidemic be determined by State health officials.

Students attending resident instruction classes in locations other than the Mesa College campus should also complete the form in order to avoid registration problems should they later elect to attend classes on campus.

EXPENSES AT MESA COLLEGE

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

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 just 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 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 residency on their own qualifications.

Examples of actions which can establish 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 institution. Questions regarding residence (tuition) status should be referred only to the Director of Admissions. Opinions of other persons are not official or binding upon the institution.

Tuition and fees for the 1986-88 academic years could not be determined when this catalog was printed. The following rates are those actually charged during the 1985-86 academic year. Students are invited to write for the most current rates, available in July each year.

TUITION AND FEE SCHEDULE

(in effect during 1985-86)

Full-Time Students, Regular Academic Year:	**Semester**	**Year**
COLORADO RESIDENTS (Enrolled in 10 or more hours)		
Tuition	$ 423.00	$ 846.00
Student Services Fees	120.00	240.00
TOTAL	$ 543.00	$1086.00
NON-COLORADO RESIDENTS (Enrolled in 10 or more hours)		
Tuition	$1480.00	$2960.00
Student Services Fees	120.00	240.00
TOTAL	$1600.00	$3200.00

Part-Time Students, Regular Academic Year:

COLORADO RESIDENTS (Enrolled in 9 or fewer hours)	
Tuition per semester hour	$42.00
Student Services Fees per semester hour	9.00
TOTAL	51.00
NON-COLORADO RESIDENTS (Enrolled in 9 or fewer hours)	
Tuition per semester hour	$98.00
Student Services Fees per semester hour	9.00
TOTAL	$ 107.00

Summer Session

Tuition charges equal those for the regular academic year; however, Student Services Fees are $6.00 per semester hour regardless of the number of hours taken.

PAYMENT OF TUITION AND FEES

A student, by the act of registration, automatically incurs a financial obligation to the College. This obligation must be satisfied by appropriate payment to the College. This means that a student who registers for one or more classes (unless the student officially withdraws from the College within the time frame for a partial refund), is obligated to pay the full amount of his/her tuition and fees, whether or not the student attends class. No student having unpaid financial obligations of any nature due the College shall be allowed to graduate or to receive a transcript of credits.

REFUNDS OF TUITION AND FEES

Beginning with the first day of classes and continuing through the sixth day, if a student officially withdraws, the College will retain 25% of his/ her tuition and fees; if tuition and fees have been paid, the remainder will be refunded; if tuition and fees have not been paid, the student will be billed for 25% of his/her incurred debt.

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

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

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

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

ROOM AND BOARD

Two types of on-campus housing are 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 and four person rooms) and, (2) College apartments available for freshmen (with prior approval) sophomores, juniors, and seniors.

These apartments are modern living units for three or four students consisting of bedrooms, bath, kitchen and living room. *Freshman students who do not reside in the Grand Junction area are required to live on campus.*

Most halls are designed with a central bathroom or two on each floor. Rooms are furnished with beds, mattress, drapes, wastebasket, desks, chairs, desk light, closet and drawer space.

Coin-operated washing machines and dryers are located on each floor of the residence halls and in two central locations for the apartment complex residents. Students need to provide their own irons and ironing boards.

Each room in a residence hall 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 credit card must be obtained from the local Mountain Bell office in Grand Junction.

The residence halls are staffed with a resident director, assistant director, and resident assistants who are trained to counsel, stimulate, and significantly influence the development of students. These staff members assist residents in dealing with new ideas, programs, policies, resident hall government and problems of college life.

Assignment of rooms will be made early in the summer and the student will be notified by the first part of August as to their room and hall assignment, also their roommates name, his home address, and academic major will be included. If you have any questions concerning housing on campus, please stop by the housing office located in the Student Life Center at 1152 Elm Ave., across from the W. W. Campbell College Center.

General Requirements. A housing deposit of $100 is required in addition to the signed contract, before a room reservation will be made. This guarantees the holding of a room space for a period not later than 9 a.m. on the first day of classes of the semester for which the space is reserved. Upon the student's occupancy of the room and the completion of registration, the $100 room reservation deposit becomes a security deposit held by the College Business Office. If all provisions of the contract have been complied with and no damage charges have been assessed, the $100 security deposit will be refunded within 60 days from the date of official check-out. **When a reservation is cancelled in writing 30 days prior to registration for the semester for which accommodations have been reserved, the full $100 reservation deposit will be refunded. Otherwise, there will be no refund of the reservation deposit.**

There are three meal plans (10, 15, or 19 meals per week) available for students living in the Residence Halls. Students residing in the college apartments or off-campus have the option of purchasing these three meal plans. Meals are served 7 days a week. Two meals are served (brunch and dinner) ON WEEKENDS ONLY. For 10 or 15 meal plans any meals served can be selected to total 6 or 15 meals eaten per week. On the 10 meal plan, students are given coupons which can be used in the cafeteria or snack bar to purchase the remaining 4 meals.

Room Refund Policy. Students who withdraw from the College and/or residence hall after officially checking into a hall will receive a refund of rent based on the date of official check-out in accordance with the following scale.

1st week of the semester, 90% of semester rent refunded.
2nd week of the semester, 80% of semester rent refunded.
3rd week of the semester, 70% of semester rent refunded.
4th week of the semester, 60% of semester rent refunded.
5th week of the semester, 50% of semester rent refunded.
6th week of the semester, 40% of semester rent refunded.
7th week of the semester, 30% of semester rent refunded.

NO refunds of rent will be made for check-outs that occur after the 7th week of the semester.

Board Refund Policy. Departing students are charged for meals through the week in which formal check-out occurs. Students leaving during the last two weeks of the semester are charged the full semester rate for meals.

Off-Campus Housing. The College has no jurisdiction over off-campus housing but attempts to assist students in locating housing by soliciting listings of accommodations that may be available in the Grand Junction area.

PAYMENT OF ROOM AND BOARD

Room and board is contracted on a yearly basis and is payable each semester at the time of registration. Special deferred payments can be arranged through the College Business Office. Registration is not complete until the student's obligation is met in full. The following reflect 1985-86 prices. The rates will vary for the next academic year.

APARTMENTS:

(Expanded occupancy)

2 bedrooms - for 3 students ..... $649.00 per student per semester

3 bedrooms - for 4 students ..... $649.00 per student per semester

(Normal occupancy)

2 bedrooms - for 2 students ..... $978.00 per student per semester

3 bedrooms - for 3 students ..... $978.00 per student per semester

RESIDENCE HALLS:		Semester	Year
Double occupancy	New Student	$ 550.00	$1042.00
Returning Student		$ 532.00	$1064.00
Single occupancy	New Student	$ 740.00	$1480.00
Returning Student		$ 716.00	$1432.00

BOARD:

19 meal plan	$ 642.00	$1284.00
15 meal plan	$ 613.00	$1226.00
10 meal plan	$ 580.00	$1160.00

REFUNDS ON ROOM AND BOARD

Refund on Housing and Boarding Contract for Residence Halls. The housing and boarding contract is a contract for the full academic year (Fall and Spring semesters), payable on a semester basis. Normally, no student will be permitted to break the contract unless the student is getting married, has special health problems, or is terminating enrollment at the College.

If the student marries during the semester, the housing contract may be terminated if the student wishes. The student will be assessed charges for room and board in accordance with the following refund policy. The $100 security deposit, less damages, will be refunded.

Refund on Housing Contract for on-campus apartment tenants who cancel their lease, in writing, 30 days prior to the first day of registration will receive the full $100.00 deposit as refund. Tenants who cancel less than 30 days prior to the first day of registration will be held responsible for up to 1/2 of that semester's rent.

BOOKS AND SUPPLIES

Required text books and supplies are sold at the College Bookstore, located in the College Center Building. 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 $150 to $180. Supply costs vary depending upon student preference and course requirements.

Textbooks may be returned during the first four weeks of Fall and Spring semesters, providing the cash register receipt is shown as proof of purchase.

The bookstore sponsors a book buy-back program which is conducted during Finals Week of Fall and Spring semesters only.

Used books may be available for some classes and are sold on a first-come, first-serve 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 7:00 p.m.
Friday	7:45 a.m. to 4:00 p.m.
Saturday and Sunday	Closed

PRIVATE AND SPECIAL INSTRUCATIONAL FEES

When private and special instructional services are required, additional charges will be incurred by the student. These fees vary with the nature of the instruction. Private instruction in applied music is available through the College from instructors approved by the College. Cost of this instruction is $85 per semester for one lesson each week. Other special instructional services available to students which require extra fees include bowling, skiing, and physical education classes with locker and towel facilities.

APPLICATION AND EVALUATION FEES

Application and Evaluation Fee (non-refundable)	$ 10.00

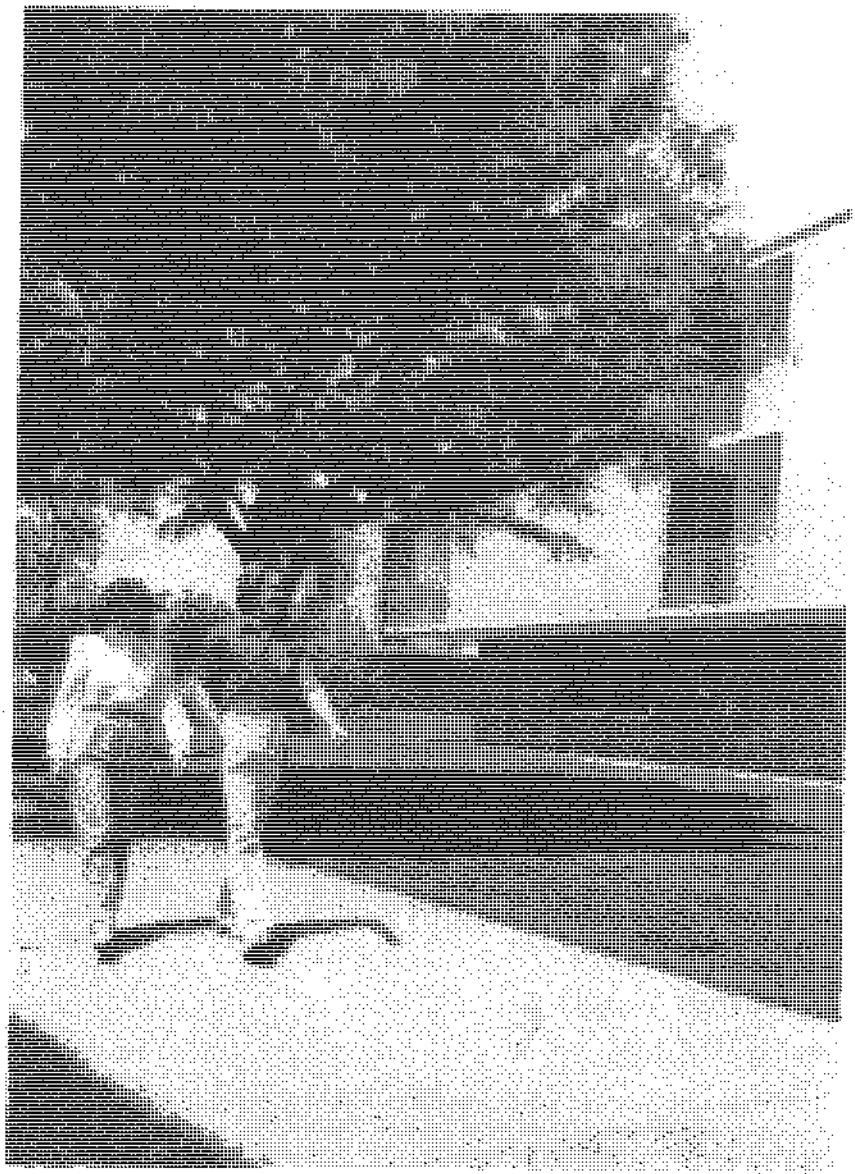
Valid only for the semester for which the student makes application.

MISCELLANEOUS FEES

Graduation (diploma, application processing)	10.00
Room damage deposit (refundable)	100.00
Parking permit	12.00
Student health insurance per semester (subject to change)	60.00
Telephone (per housing resident) per semester	10.00
I.D. card fee	5.00

STUDENT HEALTH INSURANCE

Student health insurance fees will be billed to every student who does not complete a waiver form in the business office.



FINANCIAL AID

Financial aid at Mesa 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 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 an accepted needs-analysis system.

Financial aid awards, based on need, consider family resources as the primary source of funding for education with federal and state sources secondary and supplemental. Therefore, in considering students for financial aid, the following order of priority is used for determining need and responsibility for meeting that need:

1. As stated in federal law, the parent is primarily responsible for payment of educational expense. 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. At Mesa College the student is expected to contribute no less than $1,000 per academic year from summer savings.
3. The third level of responsibility is from other outside sources such as communities, clubs, corporations, etc.
4. The final and last resort is and should be federal and state financial aid programs. There has never been enough funding to assist all needy students, which emphasizes the requirement that the family make every effort financially to support the student.

Students who are self-supporting may not be expected to receive support from parents. However, if they are a single student without dependents they will be expected to save no less than $1,200 toward their educational expenses and to show income of no less than $4,000 for the prior tax year. Students who do not show a $4,000 income can expect to have their self-supporting status challenged.

The spouse of a self-supporting student may be expected to work and support the student financially even though there may be children in the home. The spouses' minimum expectation will be at least $3,150 for an academic year which is the equivalent of $350 per month.

The accuracy and timeliness of 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 follow-up the application may result in reduction, if not total loss of aid.

COLORADO STUDENT-AID PROGRAMS

(Available to full-time and half-time students. Half-time students will be considered for assistance only when the needs of full-time students have been met.)

1. Colorado Grants - Grants not to exceed $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 - This program is an effort by the State of Colorado to recognize Colorado resident students for outstanding achievement in academic and talent areas. This award shall not exceed $600 and need is not a factor in determining recipients. Students who receive Colorado Scholarships and who do not wish to apply for other financial aid but plan to seek employment off campus may contact the Mesa College Job Placement officer for assistance.
3. Colorado Work-Study - This program is designed to provide employment, both on and off campus, for students with documented need.
4. Colorado Student Incentive Grant - (CSIG) is a matching program between the State of Colorado and the federal government. Half of the grant to a student is provided by the state and half of the grant is funded by the federal government. Awards are made only to students with extreme need, and the maximum CSIG that may be awarded any student is $2000.

MESA COLLEGE FOUNDATION PROGRAMS

The Mesa College Foundation, is a non-profit agency comprised of prominent citizens of the area who are interested in aiding deserving students at Mesa 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 of the 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 of the Grand Junction area. The amounts of these awards vary but all are designed to apply toward tuition and fees.
2. Student Loans - The College provides short-term and intermediate-term loan funds from which students may borrow to help meet financial obligations temporary in nature. By definition, short-term loans are limited to a maximum of $50, repayable within 60 days or by the end of the semester, whichever comes first. Intermediate-term loans are repayable within six months or, in any event, not later than September 1 following the date of the loan. Loans in this category are normally limited to $900. There is a service charge for loans made from this fund: $4 per $100 borrowed and $4 for any fraction over $100. For loans exceeding $150, co-signers may be required.
3. Army (ROTC) Scholarships - The United States Army offers qualified male and female applicants one-, two- and three-year fully paid ROTC scholarships to attend Mesa College.

OUT-OF-STATE GRANT IN AID

In an effort to encourage quality students from states other than Colorado to attend Mesa College, a tuition waiver equal to one-half non-resident tuition may be available to students who have achieved a minimum grade point average of at least a 2.80. Students will be required to live in Mesa College housing in order to qualify for one of these grants.

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. Pell (formerly the B.E.O.G.) Program 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 office of financial aid at any eligible post-secondary institution. The student applies directly to the Pell Grant analysis center and, upon receipt of a Student Report (SAR) from Pell, submits the SAR 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 post-secondary 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 College.
2. College Based Programs - Mesa College participates in many of the other federal student-aid programs. These include: (1) the National Direct Student Loan Program, (2) Supplemental Educational Opportunity Grants Program and, (3) the College Work Study Program. Supplemental Educational Opportunity Grants (SEOG) are available to exceptionally needy students who wish to attend Mesa College. Under this program, students from low-income families who have exceptional financial need may receive an outright grant of from $200 to $2,000. The amount of grant is geared to the parental contribution but may not exceed one-half of the student's total financial need. It is the last consideration in preparing a financial-aid package.

Financial need for educational expenses is an essential requirement to qualify for assistance from any of these 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 half time students may receive consideration.

Since financial need is the primary requirement for determining eligibility for assistance under any of the federal student aid programs, Mesa College requires that the student applicant submit the Family Financial Statement (FFS) of the American College Testing Program. 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 College.

There is no absolute deadline for submitting applications for any of the federal student-aid programs; however, students who have all application material complete and on file with the Admissions Office and Financial Aid Office by March 15, and have demonstrated financial need, will receive consideration in the first screening of applications. In addition, any application other than the Pell Grant received after July 1 may be too late to be funded for the fall semester.

Guaranteed Student Loans may be obtained up to a maximum of $2,500 for dependent students but not to exceed the student need for an academic year. Applications are submitted to participating banks, savings and loans associations, and credit unions. These loans are available at nine per cent interest repayable after students complete their education. A need analysis is required of applicants whose annual family income is more than $30,000.

STUDENT SERVICES

The college setting 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 of self-understanding, interpersonal relations, realistic decision-making, value clarification, and setting life goals.

STUDENT ADVISING

All students, including transfers, are assigned academic advisers on the basis of program interest. A faculty adviser helps the student plan a course of study, complete the registration process and continues to provide assistance in such matters during the entire period of enrollment.

STUDENT LIFE CENTER

The Center is committed to helping teach life skills. Consideration is given to personal, interpersonal, academic, physical, and health issues of students. Center services encourage students to think for themselves and to activate their inherent potential. The Student Life Center offers the following services:

Counseling, Career Planning and Placement. Educational counseling and career development is available in both individual and group settings. Many variations are used in working with students, including the use of interest inventories, personality testing and information searches. Students needing short-term psychological counseling, crisis intervention, or developmental groups can find well qualified staff to aid them. A placement service is offered for graduates with part-time and full-time job listings available, along with skill development workshops for students wanting help in resume writing, interviewing and job application procedures.

Housing Administration/Residence Life. Three residence halls and an on campus apartment complex provide the nucleus to house 847 students.

STUDENT CONDUCT

Mesa College is a community whose members are its 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 purposes 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 they are beneficiaries of the same safeguards of rights as non-students. See the Student Handbook for more specific conduct rules.

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, it serves as a fixed and readily available source of medical assistance for the student who is away from home.

Mesa College operates as an out patient clinic which provides health services for all students regardless of number of 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 three-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. Office hours for receiving students are as follows:

Monday through Thursday only
7:30 a.m. 11:30 p.m. 12:30 p.m.-4:00 p.m.
7:30 a.m.-1:30 p.m. Fridays

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 St. Mary's or one of the other area hospitals. In extreme emergencies call the local Rescue Squad. Telephone is 911.

INTRAMURALS-RECREATION SERVICES

The Intramural-Recreational Sports program at Mesa College offers the student a variety of activities ranging from competitive and non-competitive team and individual sports, such as basketball, softball, racquetball and skiing, to group and individual fitness activities, such as aerobics and fitness program design, to drop in recreation activities, such as swimming and weightlifting. There are many other activities offered and you are encouraged to offer us your ideas for new activities as we have been adding them yearly, such as soccer and water-polo.

Your participation in our program is a key to your positive growth experience at Mesa College, and to obtaining the skills and knowledge you will take with you for the rest of your life. In addition to the opportunities for physical activity and fitness, our program also provides valuable opportunities for social interaction with your friends and fellow students of both sexes. All students who are currently enrolled in credit courses at Mesa College are eligible for all activities within the Intramural Recreational Sports program.

DENTAL CARE

Dental preventative care is available for students at a greatly reduced cost. Contact the Mesa College Dental Clinic for information.

STUDENT ACTIVITIES

Mesa College promotes an active co-curricular program to enhance a student's educational experience. An extensive and varied program, available to all students, includes such activities as intercollegiate athletics, intramurals, drama, theater, dance, numerous art and music groups, academic clubs, student government and student organizations of special interest.

The student newspaper, The Criterion, and the student radio station, KMSA, provide news of current happenings both on and off campus. The Criterion offices are located in the W. W. Campbell College Center; KMSA operates from Houston Hall.

The Student Body Association provides a means for Mesa College Students to participate in both curricular and co-curricular programs and policies. The association operates through the Student Cabinet; a legislative body composed of students elected by the student body. The cabinet provides a legal aid service and coordinates collegiate clubs and organizations. Student Body Association offices are located in the W. W. Campbell College Center.

The Mesa College Activities Council provides an opportunity for students to participate in leadership and entertainment activities. The chair and vice chair are selected at the end of the Spring term and are salaried through the next year. The volunteer body is active in providing a broad program of social, educational, recreational, non-traditional and cultural activities. The MCAC office is located in the W. W. Campbell College Center.

THE COLLEGE CENTER

Located in the main artery of the campus, the W. W. Campbell College Center serves as a meeting place for many Mesa College students and faculty members. The College Center Advisory Board, the Student Body Association and the Mesa College Activities Council help to make the Center the hub of cultural, recreational, and social activities throughout the year. The College Center Advisory Board also acts in areas of college community concern, and proposes appropriate recommendations to the College Center Staff and educators. In addition to housing offices for the Student Body Association, Activities Council and Student Publications, it includes an art gallery, cafeteria, snackbar, bookstore, varied sizes of meeting rooms, a multi-purpose room for special events, an active games room and student lounge. An extensive Outdoor Program is administered through the College Center as well.

MESA COLLEGE DAY-CARE CENTER

Day care is available for children of college students. A minimum fee is charged by the hour or by the day for children 2 to 5 years of age.

For further information, write Mesa College Day Care Director.

CAMPUS PARKING

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

GENERAL ACADEMIC REGULATIONS

LATE REGISTRATION

Students who register late must make up work missed. Students who register after the first week are advised to enroll for less than a normal 15 semester hour load. Late registration must be completed within ten calendar days including the first day of registration. A special fee is charged for late registration.

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 any time during a semester, a student who fails to attend regularly may be dropped from college rolls.

Absences will be excused when incurred by reason of a student's participation in required field trips, intercollegiate games and other trips arranged by the College only if previously approved by the Office of Student Affairs. The coach, instructor or other official whose activities require students to be absent from classes shall file with the Vice President for Administrative and Student Affairs a list of the names of the students involved at least 24 hours before the activity.

Absences due to serious illness or strictly unavoidable circumstances may be excused if the instructor in charge of the course is completely satisfied as to the cause. Being excused for an absence in no way relieves the student of the responsibility of completing all the work of the course to the satisfaction of the instructor in charge.

STUDENT LOAD AND LIMITATIONS

The normal student load is 15 semester hours (18 for engineering students). The minimum load to be recognized as a full-time student is 12 semester hours. Students may register for less than 12 semester hours, in which case they are classified as part-time students.

Students receiving scholarships and/or financial aid are generally expected to enroll for, and complete, 12 hours of credit courses each semester.

In order to receive full G.I. financial benefits, veterans must be enrolled in twelve or more semester hours each semester of attendance.

INDEPENDENT STUDY

Independent study courses are offered in a number of programs in the various Schools. Credit earned through independent study is limited to 6 semester hours toward an associate degree and 12 semester hours toward a baccalaureate degree.

Students are not allowed to enroll for credit in a lower-division independent-study course until they have completed a minimum of 6 semester hours of work in the field in which the independent study is planned and also have attained a cumulative grade-point average of 2.5 or higher. Students must attain a cumulative grade-point average of 2.75 or higher and complete a minimum of 8 semester hours of work in the field in which upper-division independent study is planned before they can enroll in an upper-division independent study course. In all cases, consent of the instructor is required.

Some schools or departments have specific requirements regarding independent study; for example, in some areas the student must obtain permission at least one semester in advance. The student should check with his or her adviser for specific information. Independent-study courses cannot be used to fulfill general education degree requirements.

ACADEMIC STANDARDS

The scholastic standing of a student at Mesa College is computed on the basis of all courses attempted. This includes grades transferred, as well as those earned at Mesa College. Mesa 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 F's. 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

30 points divided by 15 semester hours = 2.00 GPA

If a student repeats a course previously taken at Mesa College, only the second grade received is computed in determining the cumulative average. Courses taken at Mesa College may not be repeated at another college for improvement of the original grade and/or courses taken at another college may not be repeated at Mesa for improvement of the original grade. Courses taken at Mesa may not be repeated at other colleges for grade improvement nor may courses taken at other colleges be repeated at Mesa for grade improvement. Incomplete grades are considered as 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. It is important to remember that a student must achieve a cumulative gradepoint average of 2.00 (C), or higher, in order to graduate at either the associate or baccalaureate levels. However, the student is considered to be making "satisfactory progress" toward a degree if he attains a cumulative GPA according to the

table listed below. It is important to note that if the student plans to graduate at the end of two years with an associate degree, the 2.00 must be achieved prior to graduation.

Credit Hours	Cumulative GPA
0 - 19	1.50
20 - 29	1.60
30 - 39	1.70
40 - 49	1.80
50 - 59	1.90
60 and above	2.00

ACADEMIC PROBATION AND SUSPENSION

"Good Standing" signifies that the student is making satisfactory academic progress and is eligible to continue studies at Mesa 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 may result. The student is permitted to continue studies for one term during which he is expected to improve his cumulative grade point average to the minimum required level.

"Academic Suspension" represents a temporary involuntary separation of the student from the college for failure to meet minimum academic standards.

A student is subject to academic probation for the next semester(s) during which he is enrolled, if he does not achieve a cumulative grade-point average set forth above. At the end of any semester in which a student's cumulative grade-point average falls below the above requirement, the student will be placed on probation.

Once placed on probation, the student may not be reinstated in satisfactory academic standing based upon less than minimum full-time performance (12 semester hours credit completed) for the semester on probation. Part-time achievement (less than 12 semester hours) can only continue the student on probation for another semester or result in suspension, depending upon whether the student's academic performance for the semester on probation meets the minimum GPA requirement prescribed above or falls below this requirement. If the student, at the end of the semester on probation, fails to bring his/her cumulative GPA to the minimum required, such student shall be subject to academic suspension.

After a student has completed 60 or more semester hours, probation and suspension shall be based on the 2.00 cumulative grade-point average which is the minimum required to be making satisfactory progress toward a degree. If at the end of any given semester a student permits his/her cumulative grade-point average to fall below a 2.00 such student shall be placed on academic probation for the next semester enrolled.

If at the end of the semester on academic probation, the student fails to earn a 2.00 or higher GPA, such student will be considered immediately subject to suspension. In the event a student placed on academic probation earns the minimum 2.00 GPA for the semester on probation, but fails to raise his/her cumulative grade-point average up to the minimum 2.00 requirement, such student may be continued on academic probation for an additional semester(s), provided the student's average meets the requirement of 2.00 or higher GPA.

Any student, regardless of previous academic standing, may be considered subject to suspension if his/her grade-point average falls below .75 for any semester enrolled, as either a part-time or full-time student.

A first suspension shall be for a period of one semester, summer term excluded. Subsequent suspension shall be for one calendar year.

Where extenuating circumstances exist, a suspended student may appeal to the Registrar for permission to be continued on probation for the next semester.

Any suspended student may not enroll as a part-time student except during the summer term or with permission from the Registrar. Such permission shall be granted only in unusual situations.

All of the above measures are to be viewed from the standpoint that academic probation and suspension are not disciplinary in nature, but rather an attempt to guide the student in the direction of the student's highest academic potential.

POLICY ON CHEATING

Faculty members may, at their discretion, take any of the following actions regarding a student who has cheated (including plagiarism):

a. Give a score of "zero" on the work involved;
b. Withdraw a student from the class;
c. Give the student a grade of "WF" of Withdrawn Failing. This would mean that the student is through with the class and has a grade of F. The hours for which the student is considered to be enrolled would immediately decrease just as if the student has withdrawn voluntarily;
d. File a request to the Vice President for Administrative and Student Affairs that the student be expelled or placed on probation.

Students have the right to appeal any of the above actions. The first contact in such an appeal would be with the faculty member involved, then to the school dean, then to the Vice President for Administrative and Student Affairs. (The appeal process is spelled out in full under "Student Grievance Procedures" in the student handbook).

EVALUATION

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

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.

SYSTEM OF GRADES

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

INCOMPLETES

A grade of "I" (incomplete) is given to a student only in emergency cases. Once given, the incomplete grade must be made up by the end of the next term, summer term excluded. If the incomplete grade is not made up, the "I" grade will automatically be changed to a grade of "F".

This policy does not exclude extension of the incomplete grade in exceptional circumstances. An incomplete grade is not to be made up by a second or subsequent enrollment for credit in the same course.

A student must be enrolled during the semester the incomplete grade is being made up.

HONOR LISTS

The President's List is made up of those students who earn a straight "A" (4.00 grade-point) average while enrolled in a minimum of 12 semester hours for a particular semester.

The Dean's List includes students who achieve a grade-point average of 3.5 or higher while enrolled in a minimum of 12 semester hours.

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

GRADUATION WITH HONORS

Each year during formal commencement ceremonies Mesa College recognizes the following categories of academic achievement.

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

With High Distinction - Associate-degree graduates with cumulative grade-point averages of 3.75 to 4.0.

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 4.0.

Honors are figured on gpa at end of semester preceding final semester

GRADUATION REQUIREMENTS

Students are expected to assume responsibility for planning their academic programs in accordance with College and department policy. 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 department and faculty adviser.

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

REQUIREMENTS FOR ALL DEGREES

Candidates for all degrees must accomplish or be governed by, as appropriate, the following:

Petition

File a petition to graduate and a degree plan with the Registrar before the term in which final requirements are to be met.

Deficiencies

Remove all academic and financial deficiencies. (For example, incomplete grades and/or unpaid financial obligations.)

Transfer

Mesa College generally accepts credit from regionally accredited colleges and universities. However, when transferred credit will complete the student's degree requirements and will result in a petition to graduate from Mesa College the following restrictions apply:

1. No more than 15 semester hours of credit will be accepted.
2. Credit must be earned in no more than one calendar year immediately following final enrollment in Mesa College.
3. Specific approval of the proposed institution and courses must be given by the appropriate dean and the Registrar during the time of the student's last enrollment in Mesa College.

CHANGES IN ACADEMIC REQUIREMENTS

The requirements for graduation for each student are the requirements stated in the catalog in effect at the time of a student's first registration at Mesa College. This is true provided a student remains in continuous residence (excepting summer

sessions) until graduation. If an interruption in enrollment occurs the requirements applicable at the time of re-enrollment shall apply.

Mesa College reserves the right to evaluate on a course-by-course basis any credits earned 15 or more years prior to re-enrollment which the student wishes to apply toward any degree or certificate program.

If any requirements change while a student is in residence, he or she shall have the option of meeting the new requirements. However, the old and the new requirements cannot be combined; one set or the other must be elected.

If a candidate is unable to meet these requirements because of such events as removal of a required course from the offerings of the College, a change of course of study, or other unforeseeable academic changes, it shall be the candidate's responsibility to arrange an exception or understanding approved by the Registrar and the appropriate dean.

BACHELOR'S DEGREE REQUIREMENTS

Candidates for bachelors' degrees must accomplish or be governed by, as appropriate, the following:

Credit

Earn a minimum of 124 semhrs credit (120 hours if physical education exempt) with at least 40 semhrs in courses numbered 300 and higher and with a cumulative grade point average of 2.00 or higher.

Emphasis

Complete the specific requirements of a program core and emphasis of the various baccalaureate degree programs included in the sections of this catalog dealing with each academic school.

Residency

Earn a minimum of 28 semhrs credit in no fewer than two semesters of study at Mesa College with at least 20 hours in emphasis discipline courses numbered 300 or higher taken at Mesa College.

General Education

Earn a minimum of 44 semhrs credit (40 hours if physical education exempt) distributed as follows:

I. English Composition, 6 semhrs. Usually ENGW 111 and 112, but in a few programs with ENGW 111 and 115, or, for those who qualify, ENGW 126 and 127.

II. Physical Education, 4 semhrs. This requirement must be satisfied with PHYE courses numbered between 100 and 199 encompassing at least three different activities and with no two of them taken at the same time (in the same module). This is not required of persons twenty-five or more years of age at the time of Mesa College matriculation or veterans of military service.

III. 34 semester hours in four areas (a), (b), (c), (d), distributed as follows:

(a) 8-9 semester hours in Biological Sciences and Psychology with a minimum of 3 semester hours in each, chosen from the following:

Biology	
BIOL 101, 101L	General Biology & Lab
BIOL 102, 102L	General Biology & Lab
BIOL 105, 105L	Attributes of Living Systems & Lab

BIOL 106, 106L	Principles of Animal Biology & Lab
BIOL 107, 107L	Principles of Plant Biology & Lab
BIOL 141, 141L	Human Anatomy & Physiology & Lab

Psychology

PSYC 121, 122	General Psychology
PSYC 200	Psychology of Human Adjustment
PSYC 210	Environmental Psychology
PSYC 220	Psychology of Women
PSYC 233	Human Growth & Development

(b) 8-9 semester hours in Humanities and Fine Arts, divided over two program areas.

Area One, The Arts. Three hours are to be chosen from one of the five groups following:

Art

NEW

ARTE 101 or	Two Dimensional Design
ARTE 102	Three-Dimensional Design
ARTE 115	Art ~~Applications~~ Appreciation
ARTE 120	Jewelry
ARTE 140	Ceramics
ARTE 150	Sketching
ARTE 151	Basic Drawing
ARTE 170	Printmaking
ARTE 180	Sculpture
ARTE 190	Water Media
ARTE 211, 212	Art History

Art 100: Art Foundations no longer approved or offered

Fine Arts

FINE 101	Man Creates

Music

MUSA 110	Standard Notation
MUSA 114, 115	Theory I & II
MUSA 130	Class Piano I
MUSA 220	Music Appreciation
MUSA 270, 271	Music Theatre

Speech

SPCH 101	Interpersonal Communications
SPCH 102	Speechmaking
SPCH 202	Business and Professional Speaking
SPCH 241	Oral Interpretation

Spch 235: Discussion no longer approved or offered

Theatre

THEA 115	Problems in Modern Theatre
THEA 141	Theatre Appreciation
THEA 235	Development of World Cinema
THEA 236	Development of American Cinema

Area Two, The Humanities. The remaining 6 hours may be satisfied either wholly in literature, or in a combination of literature with philosophy or foreign languages. Three hours must be from literature.

Literature

ENLI 131, 132	World Literature
ENLI 134, 135	Mythology
ENLI 141	Intro. to Fiction
ENLI 142	Intro. to Poetry
ENLI 143	Intro. to Drama
ENLI 145	Intro. to Oriental Literature
ENLI 254, 255	English Literature
ENLI 261, 262	U.S. Literature

Philosophy

PHIL 251, 252	History of Philosophy I, II
PHIL 275	Introduction to Logic

French

FLAF 111, 112	First Year French
FLAF 251, 252	Second Year French

German

FLAG 111, 112	First Year German
FLAG 251, 252	Second Year German

Spanish

FLAS 111, 112	First Year Spanish
FLAS 251, 252	Second Year Spanish

(c) 8-9 semester hours in Physical Sciences and Mathematics chosen from:

Chemistry

CHEM 100	Chemistry & Society
CHEM 121 & 121L	General Chemistry & Lab
CHEM 122 & 122L	Introduction to Organic Chemistry & Lab
CHEM 131, 132	General Inorganic Chemistry
CHEM 131L, 132L	General Inorganic Chemistry Lab
CHEM 221 & 221L	Instrumental Methods of Analysis & Lab

Computer Science

CSCI 100	Computers in Our Society
CSCI 111	Computer Science I
CSCI 112	Computer Science II
CSCI 131 & 131L	FORTRAN Programming & Lab
CSCI 133 & 133L	PASCAL Programming & Lab
CSCI 230	Assembly Language Programming
CSCI 240	Computer Architecture
CSCI 250	Data Structures

Geology

GEOL 100	Survey of Earth Science
GEOL 101, 102	Introduction to Geology
GEOL 101L, 102L	Introduction to Geology Lab
GEOL 103	Weather & Climate
GEOL 105	Geology of Colorado
GEOL 111 & 111L	Principles of Physical Geology & Lab
GEOL 112 & 112L	Principles of Historical Geology & Lab
GEOL 201 & 201L	Stratigraphy & Lab
GEOL 203	Introduction to Environmental Geology

Mathematics

MATH 101	Programming
MATH 105, 106	Elements of Mathematics I, II
MATH 110	Finite Mathematics
MATH 113	College Algebra
MATH 119	Precalculus Mathematics
MATH 121	Mathematical Foundations of Business
MATH 127	Mathematics of Finance
MATH 130	Trigonometry
MATH 131	Logarithms
MATH 132	Right and Oblique Triangles
MATH 133	Conditional Equations/Trigonometric Identities
MATH 134, 135	Advanced Trigonometry
MATH 146	Calculus for Biological Sciences
MATH 151	Calculus I

MATH 152	Calculus II
MATH 161	Programmable Calculator
MATH 253	Calculus III
MATH 260	Differential Equations
MATH 265	Linear Algebra
Physics	
PHYS 100	Concepts of Physics
PHYS 101	Elementary Astronomy
PHYS 111, 112	General Physics
PHYS 111L, 112L	General Physics Lab
PHYS 121	Classical Physics I
PHYS 122	Classical Physics II
PHYS 122L	Experimental Mechanics Lab
PHYS 224	Modern Physics
Statistics	
STAT 200	Probability and Statistics
STAT 214	Business Statistics

(d) 8-9 semester hours in Social Sciences chosen from:

Anthropology	
ANTH 101	Physical Anthropology
ANTH 102	Cultural Anthropology
ANTH 221	Old World Archaeology
ANTH 222	New World Archaeology
Economics	
ECON 201	Principles of Macroeconomics
ECON 202	Principles of Microeconomics
Geography	
GEOG 101, 102	Introduction to Geography
History	
HIST 101, 102	Western Civilizations
HIST 120	History of Colorado
HIST 131, 132	United States History
HIST 136	Introduction to the Afro-American Experience
HIST 137	Introduction to the Chicano Experience
HIST 205	Introduction to the Civilization of China and Japan
Political Science	
POLS 101, 102	American Government
POLS 256	State and Local Government
POLS 261, 262	Comparative Governments
Social Science	
SOCI 210	Religion in the American Experience
Sociology	
SOCO 144	Marriage and the Family
SOCO 260	General Sociology
SOCO 264	Social Problems

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.

Minimum Credit for a Second Bachelor's Degree

A student seeking a second bachelor's degree at Mesa College must earn a minimum of 30 semhrs of credit, at least 18 of which must be in courses numbered 300 and higher, with no fewer than two semesters of residence at Mesa College.

after the award of the first degree and satisfy all specific program requirements of the new degree and emphasis.

ASSOCIATE DEGREE REQUIREMENTS

Candidates for associate degrees must accomplish or be governed by, as appropriate, the following:

Credit

Earn a minimum of 64 semhrs credit (60 hours if physical education exempt) with a cumulative grade point average of 2.00 or higher.

Residency

Earn a minimum of 16 semhrs credit in no fewer than two semesters of study at Mesa College.

General Education

I. English Composition, 6 semhrs. Usually satisfied with ENGW 111 and 112, but in a few programs with ENGW 111 and 115, or, for those who qualify, with ENGW 126 and 127. For *Associate of Applied Science* degrees this requirement can also be satisfied with one of the following sequences: ENGW 106 and 107, ENGW 110 and 111, ENGW 110 and 115, ENGW 111 and 107, ENGW 106 and 115, ENGW 111 and 121, or ENGW 106 and 121.

II. Physical Education, 4 semhrs. This requirement must be satisfied with PHYE courses numbered between 100 and 199 encompassing at least three different activities and with no two of them taken at the same time (in the same module). This is not required of persons twenty five or more years of age at the time of Mesa College matriculation or veterans of military service.

Additional Requirements for A.A. degree:	*SemHrs*
Literature/Humanities	6
Social Science	6
Physical Science or Mathematics	6
Biology or Psychology	6
Approved electives	30
Additional Requirements for A.C. degree Accounting:	
Principles of Economics	6
General Education (humanities and social, behavioral, and natural sciences)	18
Approved Business School Courses	30
Additional Requirements for A.C. degree, Office Administration:	
Social or Behavioral Science or Literature	12
Approved Business School Courses	33
Approved electives	9
Additional Requirements for A.S. degree:	
Social Science or Literature	6
(Associate Degree Nursing requires PSYC 122, General Psychology)	
Laboratory Science or Mathematics	26
Approved electives	22

Additional Requirements for A.A.S. degree:

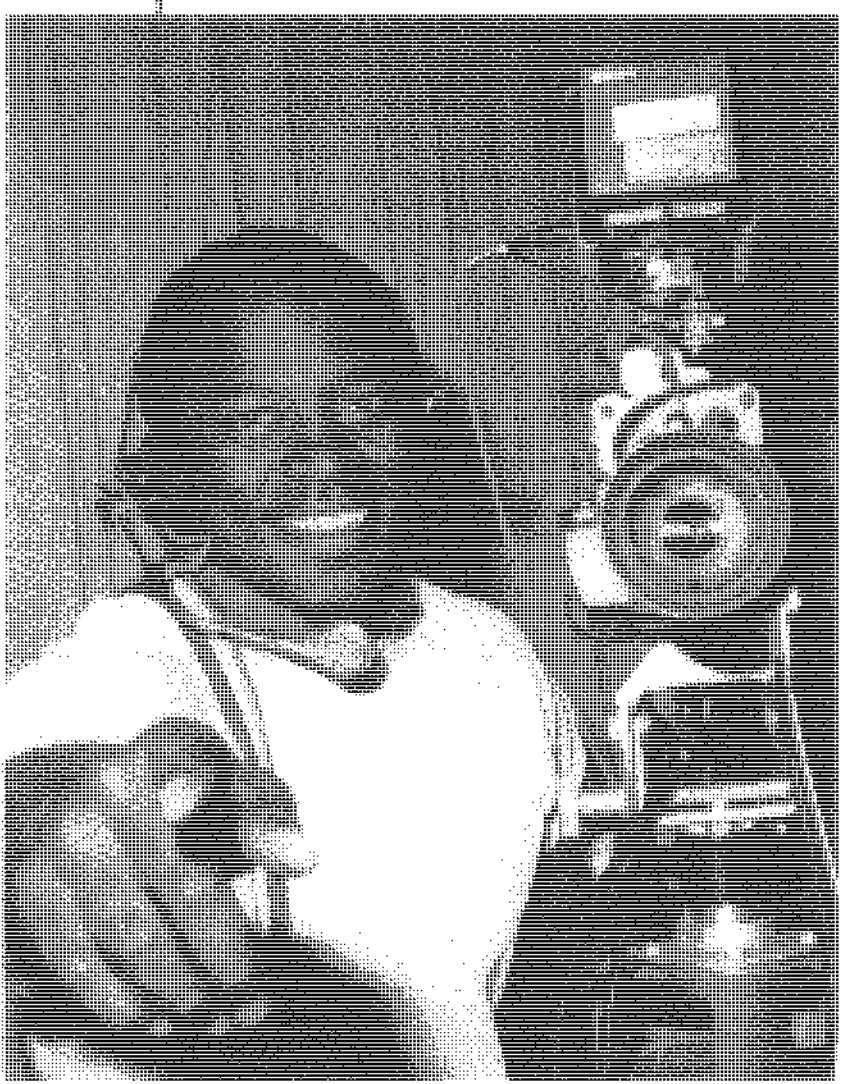
Social or Behavioral Science or Literature	6
Occupational Education program courses	varies

Vocational Credits

Six hours only of vocational credits, as defined by each school may count toward the A.A., A.C., and A.S. degrees.

Minimum Credit for a Second Associate Degree

A student seeking a second associate degree at Mesa College must earn a minimum of 15 sem hrs of credit with a minimum of one semester of residence at Mesa after the award of the first degree and satisfy all specific requirements of the new degree.



INSTRUCTIONAL PROGRAMS

The following sections of this catalog are divided by academic school and list degrees, courses, and suggested course sequences available in each school.

Students who have selected specific programs will find essential information listed under the appropriate school and degree listing. Undecided students who have not selected a specific program but wish to work towards a degree should consult a faculty adviser to insure the courses they choose will fulfill necessary requirements for graduation. Specific information and requirements for graduation for all degrees at Mesa College are listed under *Graduation Requirements* in this catalog.

Mesa College reserves the right to add any courses due to sufficient demand, withdraw any courses not justified by enrollment and/or offer certain courses on an alternate year basis only.

SCHOOL OF BUSINESS

James C. Carstens, Dean

Faculty

N. Anderson	B. Heath	M. Myers
P. Bettelli	B. Isaacson	P. Paxson
E. Bochler	E. Johnson	N. Roadifer
J. Buckley	D. Mariner	D. Rogers
T. Capps	B. Muff	R. Youngquist
D. Dickson	F. Mull	

Departments

Accounting and Computer Information Systems ... ~~C. James Buckley~~, Chair
Business Administration ... Dale Dickson, Chair
Office Administration ... Muriel Myers, Chair

General Information

The School provides specialized training to enhance self reliance and economic opportunity. Courses will aid students in developing and understanding the business principles necessary for success, personal economic planning, wise consumer buying, and developing a complete understanding of business enterprises and ethics. Programs are practical as well as providing a background for advanced business study.

Four year programs provide professional or graduate school preparation. Two year programs provide immediate employment opportunity or will transfer to another institution. One year certificates are designed for students desiring immediate employment.

Disciplines

Accounting—Public, Managerial or Computer~~ized~~
Administrative Office Management
Business Administration
Business Economics
Computer Information Systems, Business
Data Processing
Finance
Legal Secretary
Management
Marketing
Medical Office Assistant
Medical Secretary
Office Administration (Secretarial)
Office Clerical (Secretarial)
Personnel Management
Software Engineering
Travel, Recreation and Hospitality Management
Word Processing

Degrees & Certificates

Four-Year Degrees

BACHELOR OF SCIENCE IN ACCOUNTING

Emphases

Computer Information Systems
Managerial Accounting
Public Accounting

BACHELOR OF BUSINESS ADMINISTRATION

Emphases
- Administrative Office Management
- Business Economics
- Computer Information Systems
- Finance
- Management
- Marketing
- Personnel Management
- Software Engineering

Two-Year Degrees

ASSOCIATE OF APPLIED SCIENCE

Emphases
- Computer Information Systems
- Legal Secretary
- Medical Secretary
- Travel, Recreation, and Hospitality Management

ASSOCIATE OF ARTS

Emphasis
- Business Administration

ASSOCIATE OF COMMERCE

Emphases
- Accounting (Accounting Technician)
- Office Administration (Secretarial)

One-Year Certificates
- Data Processing
- Legal Secretary
- Medical Office Assistant
- Office Clerical (Secretarial)
- Word Processing

Bachelor of Science in Accounting

The student will work closely with his/her adviser and utilize a program sheet listing specific course requirements and sequences needed.

Minimum Semester Hours Required (124)

	SemHrs
***General Education (GE)**	**44**
***Core**	**43**
***Emphasis:**	
Computer Information Systems	21
OR	
Managerial Accounting	21
OR	
Public Accounting	24
***Electives**	**15-18**

Requirements

-Computer Information Systems

-Managerial Accounting

-Public Accounting

Detailed Core Requirements

Accounting	
ACCT 201,202,321,322, 331,332,401,441	28
Business	
BUGB 351,352	6
Computer Information Systems	
CISB 102,103,104 or 105 (modules) and 305	6
Management	
MANG 201	3

Suggested Course Sequence

first year

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
ACCT 231	(Prin/Acct I)	3
CISB 102	(Compt Ltrcy)	1
CISB 103	(Bus Compt Cpts)	1
CISB 104	(Basic Prog) or	
CISB 105	(Intro/Bus Softwr)	1
GE	(phy sci or math)	3-4
GE	(psy or biol)	3
		15-16

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp) or	
ENGW 115	(Tech Writ)	3
ACCT 232	(Prin/Acct II)	3
SPCH 102	(Spch Making)	3
GE	(psy or biol)	3
GE	(phy sci or math)	3
		15

second year

Fall Semester		*SemHrs*
ACCT 321	(Int Acct I)	4
MANG 201	(Prin/Mgmt)	3
ECON 201	(Prin/Econ)	3
PHYE	(PE activity)	2
GE	(lit)	3
GE	(soc sci) or elective	3
		18

Spring Semester		*SemHrs*
ACCT 322	(Int Acct II)	4
~~CISB 131~~	~~(COBOL Prog I)~~	~~3~~
ECON 202	(Prin/Econ)	3
PHYE	(PE activity)	2
GE	(psy or biol)	3
GE	(lit)	3
		~~18~~ 15

Bachelor of Business Administration

The student will work closely with his/her adviser and utilize a program sheet listing specific course requirements and sequences needed.

Minimum Semester Hours Required (125-126)

Requirements

-Administrative Office Management
-Business Economics
-Computer Information Systems
-Finance
-Management
-Marketing
-Personnel Management
-Software Engineering

	SemHrs
•General Education (GE)	**44**
•Core	**33-40**
•Emphasis:	
*Administrative Office Management	21
OR	
##Business Economics	25
OR	
Computer Information Systems	21
OR	
Finance	24
OR	
Management	21
OR	
Marketing	21
OR	
Personnel Management	21
OR	
#Software Engineering	39
•Electives	**4-18**

ALL BBA PROGRAMS except AOM require 40 hours of upper division courses.

AOM requires 46 hrs. upper Division

Detailed Core Requirements

Accounting	
ACCT 201,202, and one of the following: ACCT 311,321 or 331	9
Business	
BUGB 101,351,352	9
Computer Information Systems	
CISB 102,103,104 or 105 (modules)	3
Economics (Business Economics emphasis only)	
ECON 201,202,320,342,343	15
Finance	
FINA 339	4
Management	
MANG 201,491	6
Marketing	
MARK 231	3
Any two lower division business courses	6

*ADMINISTRATIVE OFFICE MANAGEMENT requires ACCT 311, BUGB 351, MANG 371, and 9 hours of upper division business electives. It does not require BUGB 101 or 352. (Program requires 46 hours of upper division courses.) ##BUSINESS ECONOMICS does *not* require ACCT 311,321,331. BUGB 101, FINA 339, MARK 231, MANG 491, or the two lower division courses. #SOFTWARE ENGINEERING requires MANG 331, but not BUGB 101 or the two lower division courses.

Suggested Course Sequence

Administrative Office Management

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp) or	
CISB 102	(Compt Ltrcy)	1	ENGW 115	(Tech Writ)	3
CISB 103	(Bus Compt Cpts)	1	MANG 201	(Prin/Mgmt)	3
CISB 104	(Basic Prog) or		OFAD	(work with adviser)	3
CISB 105	(Intro/Bus Softwr)	1	OFAD	(work with adviser)	3
OFAD	(work with adviser)	3	GE	(humanities)	3
OFAD	(work with adviser)	3			15
OFAD	(work with adviser)	3			
		15			

second year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ACCT 201	(Prin/Acct I)	3	ACCT 202	(Prin/Acct II)	3
SPCH 102	(Prin/Econ)	3	ECON 202	(Prin/Econ)	3
ECON 201	(Prin/Econ)	3	MATH 113	(Col Algebra)	4
PHYE	(PE activity)	1	OFAD	(work with adviser)	3
GE	(psy or biol)	3	PHYE	(PE activity)	1
GE	(soc sci)	3	GE	(psy or biol)	3
		16			17

Suggested Course Sequence

-Business Economics## -Computer Information Systems★ -Finance# Management★ -Marketing -Personnel Management

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp) or	
##BUGB 101	(Intro/Bus)	3	ENGW 115	(Tech Writ)	3
CISB 102	(Compt Ltrcy)	1	MATH 121	(Math Found/Bus)	3
CISB 103	(Bus Compt Cpts)	1	★★MANG 201	(Prin/Mgmt)	3
CISB 104	(Basic Prog) or		★GE	(humanities)	3
CISB 105	(Intro/Bus Softwr)	1	★GE	(psy or biol)	3
MATH 113	(Col Algebra) or				15
MATH 127	(Math/Fin)	4-3			
★#GE	(psy or biol)	3			
		16-15			

★ Substitute ACCT 201 for GE.
##Substitute GE (soc sci) for BUGB 101 (Intro/Bus).
Substitute GE (soc sci) for GE (psy or biol).

★ Substitute SPCH 102 and ACCT 202.
★★Substitute business elective.

second year

EMPHASES VARY. Work from detailed program sheet available through your adviser in the Business School.

Suggested Course Sequence

first year

-Software Engineering

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
ACCT 201	(Prin/Acct I)	3
CISB 102	(Comp Ltrcy)	1
CISB 103	(Bus Compt Cpts)	1
CISB 104	(Basic Prog) or	
CISB 105	(Intro/Bus Softwr)	1
CSCI 111	(Compt Sci I)	3
MATH 113	(Col Algebra) or	
MATH 127	(Math/Fin)	4-3
		16-15

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp) or	
ENGW 115	(Tech Writ)	3
ACCT 202	(Prin/Acct II)	3
CSCI 112	(Compt Sci I)	3
MATH 121	(Math Foun/Bus)	3
MANG 201	(Prin/Mgmt)	3
		15

second year

Fall Semester		*SemHrs*
ACCT 311	(Mgrial Acct) or	
ACCT 321	(Int Acct I) or	
ACCT 331	(Cost Acct I)	4
CISB 231	(Assembler Lang)	3
STAT 214	(Bus Stat)	3
ECON 201	(Prin/Econ)	3
PHYE	(PE activity)	2
GE	(soc sci)	3
		18

Spring Semester		*SemHrs*
CISB 131	(COBOL Prog I)	3
SPCH 102	(Spch Mkng)	3
ECON 202	(Prin/Econ)	3
PHYE	(PE activity)	2
GE	(lit)	3
GE	(psy or biol)	3
		17

Associate of Applied Science

Students should work closely with their adviser while completing this degree. General Education requirements are standard and listed under *Graduation Requirements* in this catalog.

Minimum Semester Hours Required (64)

	SemHrs
•General Education (GE)	**16**
•Core	**24-36**
•Restricted Electives (work with adviser)	**9-18**

Requirements

-Computer Information Systems

-Legal Secretary

-Medical Secretary

Suggested Course Sequence

first year

-Computer Information Systems

Fall Semester		*SemHrs*	*ConHrs*
ENGW 111	(Eng Comp)	3	47
ACCT 201	(Prin/Acct I)	3	47
CISB 102	(Compt Ltrcy)	1	16
CISB 103	(Bus Compt Cpts)	1	16
CISB 104	(Basic Prog) or		
CISB 105	(Intro/Bus Softwr)	1	16
MANG 201	(Prin/Mgmt)	3	47
MATH 121	(Math Foun/ Bus)	3	47
PHYE	(PE activity)	1	24
		16	260

Spring Semester		*SemHrs*	*ConHrs*
ENGW 115	(Tech Writ)	3	47
ACCT 202	(Prin/Acct II)	3	47
CISB 131	(COBOL Prog I)	3	47
MATH 127	(Math/Fin)	3	47
SPCH 102	(Spch Makg) or		
SPCH 202	(Bus/Pro Spkng)	3	47
PHYE	(PE activity)	1	24
		16	259

Suggested Course Sequence

-Legal Secretary

second year

Fall Semester		*SemHrs*	*ConHrs*
ACCT 211	(Mgmt Acct)	3	47
CISB 231	(Assembler Lang)	3	47
CISB 332	(COBOL Prog II)	3	47
ECON 201	(Prin Econ)	3	47
STAT 214	(Bus Stat)	3	47
PHYE	(PE activity)	2	48
		17	283

Spring Semester		*SemHrs*	*ConHrs*
CISB 391	(Automated Sys)	3	47
CISB 234	(RPG Prog)	3	47
CSCI 133	(Intro PASCAL)	3	47
ECON 202	(Prin Econ)	3	47
PHYE	(PE activity)	1	24
Elective		3	47
		16	259

first year

Fall Semester		*SemHrs*	*ConHrs*
ENGW 111	(Eng Comp)	3	47
BUGB 211	(Bus Comm)	3	47
OFAD 152	(Int Type)	3	47
OFAD 221	(Transcrp Mach)	3	47
PHYE	(PE activity)	2	48
GE	(soc/behav sci or lit)	3	47
		17	283

Spring Semester		*SemHrs*	*ConHrs*
ENGW 112	(Eng Comp)	3	47
BUGB 141	(Bus Math)	3	47
OFAD 112	(Int Shrthnd)	3	47
OFAD 251	(Adv Type)	3	47
PHYE	(PE activity)	2	48
GE	(soc/behav sci or lit)	3	47
		17	283

second year

Fall Semester		*SemHrs*	*ConHrs*
OFAD 101	(Bkkpng: Small Bus)	3	47
OFAD 244	(Legal Proc)	3	47
OFAD 283 OFAD 284	(Word Proc) or (Adv Word Process)	3	47
Elective	(bus)	6	94
		15	235

Spring Semester		*SemHrs*	*ConHrs*
OFAD 201 OFAD 202	(Off Mgmt) or (Rcrds Mgmt)	3	47
OFAD 271	(Office Sim)	3	47
BUGB 231	(Survey Bus Law)	3	47
SPCH 101	(Interprs Comm)	3	47
Elective	(bus)	3	47
		15	235

TYPING & SHORTHAND are subject to challenge. Approved business electives may be substituted.
SUGGESTED BUSINESS ELECTIVES: Business Data Processing, Introduction to Business, Human Relations in Business.

Suggested Course Sequence

-Medical Secretary

first year

Fall Semester		*SemHrs*	*ConHrs*
ENGW 111	(Eng Comp)	3	47
OFAD 152	(Int Type)	3	47
BUGB 141	(Bus Math)	3	47
PHYE	(PE activity)	2	48
GE	(soc/behav sci or lit)	3	47
Elective		3	47
		17	283

Spring Semester		*SemHrs*	*ConHrs*
ENGW 112	(Eng Comp)	3	47
OFAD 101	(Bkkpng/Small Bus)	3	47
OFAD 251	(Adv Type)	3	47
BUGB 211	(Bus Comm)	3	47
PHYE	(PE activity)	2	48
GE	(soc/behav sci or lit)	3	47
		17	283

second year

Fall Semester		*SemHrs*	*ConHrs*
BIOL 141	(Human Anat/ Physio)	3	47
BIOL 141L	(Human Anat/ Physio Lab)	2	60
OFAD 147	(Medical Term)	3	47
PSYC 233	(Human Grth Dev)	3	47
PHYA 265	(First Aid)	2	32
SOCO 260	(Gen Socio)	3	47
		16	280

Spring Semester		*SemHrs*	*ConHrs*
OFAD 159	(Medical Office Proc)	3	47
OFAD 231	(Medical Transcrp)	3	47
OFAD 154	(Lab Tech)	2	32
Electives		6	94
		14	220

RECOMMENDED ELECTIVES: Related Work Experience, Office Management, Personal and Community Health, Nutrition, Human Relations in Business, Word Processing.

Requirements

-Travel Recreation and Hospitality Management

Minimum Semester Hours Required (76)

	SemHrs
•General Education (GE)	**16**
•Core	**21**
•Emphasis (courses must be taken in sequence)	**30**
•Electives	**9**

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*ConHrs*
ENGW 111	(Bsg Comp)	3	47
TRAV 101	(Trav Ind I)	3	47
MARK 135	(Salesmanship)	3	47
BUGB 142	(Bus Math)	3	47
BUGB 101	(Intro/ Bus)	3	47
PHYE	(PE activity)	2	48
		17	283
Summer			
TRAV 299	(Internship)	15	640

Spring Semester		*SemHrs*	*ConHrs*
ENGW 115	(Tech Writ)	3	47
MANG 121	(Human Rel Bus)	3	47
TRAV 102	(Trav Ind II)	3	47
TRAV 203	(Trav-Tour Mkt Tech)	3	47
PHYE	(PE activity)	2	48
		14	236

second year

Fall Semester		*SemHrs*	*ConHrs*
TRAV 201	(Mgmt/Trav Ind I)	3	47
ACCT 201	(Prin/Acct I)	3	47
ECON 201	(Prin/Econ) or		
PSYC 121	or 122 (Gen Psy)	3	47
HIST 130	(Hist/Colo)	3	47
Elective		3	47
		15	235

Spring Semester		*SemHrs*	*ConHrs*
TRAV 202	(Mgmt/Trav Ind II)	3	47
BUGB 231	(Survey/Bus Law)	3	47
CISB 102	(Compt Ltrcy)	1	16
CISB 103	(Basic Compt Cpts)	1	16
CISB 104	(Basic Prog) or		
CISB 105	(Intro/Bus Softwr)	1	16
Elective		6	94
		15	236

Associate of Arts

The associate degree is designed primarily for those students wishing to complete two years of course work toward the baccalaureate degree. General education requirements are standard and listed under *Graduation Requirements* in this catalog.

Minimum Semester Hours Required (64)

Requirements

-Business Administration

	SemHrs
•General Education (GE)	**34**
•Core	
Computer Information Systems	
CISB 102,103,104 or 105 (modules)	3
Business	
BUGB 101,211	6
Accounting	
ACCT 201,202	6
•Electives	**15**

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*ConHrs*
ENGW 111	(Eng Comp)	3	47
MATH 113	(Col Algebra) or MATH 121 (Math Found Bus)	3-4	47-63
BUGB 101	(Intro/ Bus)	3	47
PHYE	(PE activity)	1	24
GE	(psy or biol)	3	47
Elective	(suggest SPCH 102)	3	47
		16-17	259-275

Spring Semester		*SemHrs*	*ConHrs*
ENGW 112	(Eng Comp)	3	47
BUGB 211	(Bus Comm)	3	47
CISB 102	(Compt Lrcy)	1	16
CISB 103	(Bus Comp/ Cpts)	1	16
CISB 104 / CISB 105	(Basic Prog) or (Intro/ Bus Softwr)		16
MATH 121 / STAT 214	(Math Found Bus) or (Bus Stat)	3	47
PHYE	(PE activity)	1	24
GE	(psy or biol)	3	47
		16	260

second year

Fall Semester		*SemHrs*	*ConHrs*
ACCT 201	(Prin/Acct)	3	47
ECON 201	(Prin/Econ)	3	47
ENLI	(lit)	3	47
PHYE	(PE activity)	1	24
Elective	(suggest MANG 201)	3	47
Elective	(suggest STAT 214)	3	47
		16	259

Spring Semester		*SemHrs*	*ConHrs*
ACCT 202	(Prin/Acct)	3	47
ECON 202	(Prin/Acct)	3	47
ENLI	(lit)	3	47
PHYE	(PE activity)	1	24
Electives		6	47
		16	259

Associate of Commerce

Students should work closely with their adviser while completing this degree. General education requirements are standard and listed under *Graduation Requirements* in this catalog.

Minimum Semester Hours Required (65)

Requirements

-Accounting Accounting Technician

	SemHrs
•General Education (GE)	**34**
•Core	
Accounting	
ACCT 201,202,205	7
Business	
BUGB 211,231,241	9
Computer Information Systems	
CISB 102,103,104 or 105 (modules)	3
Management	
MANG 201	3
Office Administration	
OFAD 101,201,263	9

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*ConHrs*
ENGW 111	(Eng Comp)	3	47
OFAD 101	(Bkkpng/Small Bus)	3	47
CISB 102	(Compt Lrcy)	1	16
CISB 103	(Bus Comp/ Cpts)	1	16
CISB 104 / CISB 105	(Basic Prog) or (Intro/Bus Softwr)	1	16
PHYE	(PE activity)	2	48
GE		6	94
		17	284

Spring Semester		*SemHrs*	*ConHrs*
ENGW 112 / ENGW 113	(Eng Comp) or (Tech Writ)	3	47
ACCT 201	(Prin/Acct)	3	47
MANG 261	(Prin/Mgmt)	3	47
PHYE	(PE activity)	2	48
GE	(suggest SPCH 102)	3	47
GE		3	47
		17	283

second year

Fall Semester		*SemHrs*	*ConHrs*
ACCT 202	(Prin/ Acct)	3	47
ACCT 205	(Ten-Key Op)	1	24
BUGB 211	(Bus Comm)	3	47
ECON 201	(Prin/ Econ)	3	47
OFAD 263	(Bgn Word Process)	3	47
GE		3	47
		16	259

Spring Semester		*SemHrs*	*ConHrs*
ECON 202	(Prin/ Econ)	3	47
BUGB 231	(Survey/ Bus Law)	3	47
BUGB 241	(Income Tax)	3	47
OFAD 201	(Office Mgmt)	3	47
GE		3	47
		15	235

Requirements -Office Administration (Secretarial)

Minimum Semester Hours Required (64)

	SemHrs
•General Education (GE)	**22**
•Core	
Business	
BUGB 141,211	6
Computer Information Systems	
CISB 102,103,104 or 105 (modules)	3
Office Administration	
OFAD 101,112,152,201,221, 263,271,251 or 264.	24
•Electives (including 3 hrs of business)	**9**

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*ConHrs*
ENGW 111	(Eng Comp)	3	47
OFAD 152	(Int Type)	3	47
BUGB 141	(Bus Math)	3	47
CISB 102	(Compt Ltrcy)	1	16
CISB 103	(Bus Compt Cpts)	1	16
CISB 104 CISB 105	(Basic Prog) or (Intro/Bus Softwr)	1	16
PHYE	(PE activity)	1	24
Elective	(soc/behav sci or lit)	3	47
		16	260

Spring Semester		*SemHrs*	*ConHrs*
ENGW 112	(Eng Comp)	3	47
OFAD 101	(Bkkpng/Small Bus)	3	47
OFAD 112	(Int Shrthnd)	3	47
PHYE	(PE activity)	1	24
GE	(soc/behav sci or lit)	3	47
Elective		3	47
		16	259

second year

Fall Semester		*SemHrs*	*ConHrs*
OFAD 221	(Transcrp Mach)	3	47
OFAD 263	(Bgn Word Process)	3	47
BUGB 211	(Bus Comm)	3	47
PHYE	(PE activity)	1	24
GE	(soc/behav sci or lit)	3	47
Elective		3	47
		16	259

Spring Semester		*SemHrs*	*ConHrs*
OFAD 201 OFAD 202	(Off Mgmt) or (Rcrds Mgmt)	3	47
OFAD 271	(Office Sim)	3	47
OFAD 251 OFAD 264	(Adv Type) or (Adv Word Process)	3	47
PHYE	(PE activity)	1	24
GE	(soc/behav sci or lit)	3	47
Elective		3	47
		16	259

SUGGESTED ELECTIVES: Survey of Business Law, speech, management, economics.

One-Year Certificate Programs

All programs are flexible enough to meet individual needs. Substitutions or additions may be made in the suggested course sequences with the approval of the student's adviser.

Suggested Course Sequences

(If indicated by ACT scores, ENGW 110 & 111 can be substituted for ENGW 111 & 112.)

-Data Processing

Minimum Semester Hours Required (30)

Fall Semester		*SemHrs*	*ConHrs*	*Spring Semester*		*SemHrs*	*ConHrs*
ENGW 111	(Eng Comp).....	3	47	ENGW 115	(Tech Writ).....	3	47
ACCT 201	(Prin/Acct).....	3	47	ACCT 202	(Prin/Acct).....	3	47
BUGB 141	(Bus Math).....	3	47	BUGB 241	(Income Tax)....	3	47
CISB 102	(Compt Lttcy) ..	1	16	CISB 131	(COBOL Prog I).....	3	47
CISB 103	(Bus Compt Cpts).....	1	16	CISB 234	(RPG Prog).....	3	47
CISB 104 or CISB 105	(Basic Prog) or (Intro/Bus Softwr).....	1	16			15	235
MANG 201	(Prin/Mgmt).....	3	47				
		15	236				

-Legal Secretary

Minimum Semester Hours Required (33)

Fall Semester		*SemHrs*	*ConHrs*	*Spring Semester*		*SemHrs*	*ConHrs*
ENGW 111	(Eng Comp).....	3	47	ENGW 112 or ENGW 115	(Eng Comp) or (Tech Writ).....	3	47
OFAD 221	(Transcrp Math).....	3	47	OFAD 101	(Bkkpng/Small Bus).....	3	47
OFAD 244	(Legal Proc).....	3	47	OFAD 251	(Adv Type).....	3	47
OFAD 152	(Int Type) or			OFAD 263	(Bgn Word		
Elective	(Business).....	3	47		Process).....	3	47
BUGB 141	(Bus Math).....	3	47	OFAD 271	(Office Sim).....	3	47
Elective	(American Govt, socio, econ, or psy).....	3	47			15	235
		18	282				

TYPING & SHORTHAND courses are subject to challenge. Approved business electives may be substituted.

-Medical Office Assistant

Minimum Semester Hours Required (32)

Fall Semester		*SemHrs*	*ConHrs*	*Spring Semester*		*SemHrs*	*ConHrs*
ENGW 111	(Eng Comp).....	3	47	OFAD 152	(Int Type).....	3	47
BIOL 141	(Human Anat/ Physio).....	3	47	OFAD 154	(Lab Tech).....	2	32
BIOL 141L	(Lab).....	2	60	OFAD 159	(Medical Office Proc).....	3	47
OFAD 101	(Bkkpng/Small Bus).....	3	47	OFAD 231	(Medical Transcrp).....	3	47
OFAD 147	(Medical Term)	3	47	BUGB 211	(Bus Comm).....	3	47
PSYC 121	(Gen Psy).....	3	47	PHYA 265	(First Aid).....	2	32
		17	295			16	252

-Office Clerical (Secretarial)

Minimum Semester Hours Required (33)

Fall Semester		*SemHrs*	*ContHrs*	*Spring Semester*		*SemHrs*	*ContHrs*
ENGW 111	(Eng Comp)	3	47	ENGW 112	(Eng Comp) or		
OFAD 152	(Int Type)	3	47	ENGW 315	(Tech Writ)	3	47
OFAD 253	(Transcrp Mach)	3	47	OFAD 161	(Bkkpng Small Bus)	3	47
OFAD 263	(Bgn Word Process)	3	47	BUGB 141	(Bus Math)	3	47
Elective	(OFAD)	3	47	BUGB 211	(Bus Comm)	3	47
		15	235	Elective	(OFAD)	6	94
						18	282

OFAD 263 requires concurrent enrollment in OFAD 152 or one year of high school typewriting.

-Word Processing

Minimum Semester Hours Required (33)

Fall Semester		*SemHrs*	*ContHrs*	*Spring Semester*		*SemHrs*	*ContHrs*
ENGW 111	(Eng Comp)	3	47	ENGW 112	(Eng Comp) or		
OFAD 152	(Int Type)	3	47	ENGW 315	(Tech Writ)	3	47
OFAD 253	(Transcrp Mach)	3	47	OFAD 261	(Off Mgmt) or		
OFAD 263	(Bgn Word Process)	3	47	OFAD 262	(Rcrds Mgmt)	3	47
CISB 102	(Comput Lrcy)	1	16	OFAD 264	(Adv Word Process)	3	47
CISB 103	(Bus Comput Cpts)	1	16	OFAD 271	(Office Sim)	3	47
CISB 104	(Basic Prog) or			BUGB 211	(Bus Comm)	3	47
CISB 165	(Intro Bus Softwr)	1	16	Elective	(Bus)	3	47
		15	236			18	282

SCHOOL OF HUMANITIES AND FINE ARTS

R. Bruce Crowell, Dean

Faculty

M. Atkinson	J. Gallegos	J. Rider
J. Ball	M. Guyton	M. Robb
S. Baseler	C. Hardy	M. Robinson
R. Berkey	J. Hoth	W. Robinson
W. Birkedahl	R. Johnson	A. Sanders
E. Broughton	J. Keener	P. Schneider
P. Carmichael	M. Krasnow	R. Sowada
G. Cope	Dan MacKendrick	M. Spelman
D. Cox	D. Meyers	B. Tharaud
V. Cukro	D. Pilkenton	T. Wedel
M. Djos	K. Richards	J. Zeigel
R. Frohock	D. Richter	

Departments

Art	... Donald E. Meyers, Chair
Languages and Literature	... Robert L. Johnson, Chair
Music	... Maybeth Guyton, Chair
Speech and Theatre	... William S. Robinson, Chair

General Information

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.

Music, art, and drama students may apply directly to their respective departments for scholarship consideration. Auditions or portfolio of work may be required. General scholarships and grants are available through the Office of Financial Aid. Major awards are available in humanities and theatre (Herr Memorial, Zeigel, and Fletcher scholarships) and music (Krey Memorial, and Zeigel scholarships).

The Mesa College Art Department reserves the right to maintain and display one piece of art work from each student enrolled in a studio class.

A program in Commercial Art is available through the School of Industry and Technology.

Disciplines

Art
Creative & Technical Writing
Dance
English
Foreign Languages
Mass Communications
Music
Music Theatre
Philosophy
Speech
Theatre

Degrees & Certificates

Four Year Degree

Emphases

BACHELOR OF ARTS IN LIBERAL ARTS

English
Fine Arts
Humanities
Mass Communications
(Secondary Education English)*

*CONSORTIUM PROGRAMS SECTION of this catalog contains information about certification for public school teaching.

Two Year Degrees

Emphases

ASSOCIATE OF ARTS

Art
English
Music
Theatre
Humanities

Bachelor of Arts in Liberal Arts

This program is designed for students who wish a broad experience in the arts and humanities. The degree requires a variable core of studies in addition to general education and specific emphasis requirements. The courses indicated or their equivalents are required. Emphases traditional to liberal arts but located in other schools of the college (i.e., history, biology, psychology, etc.) may be accommodated under this degree.

Minimum Semester Hours Required (124)

Requirements
-English
-Fine Arts
-Humanities
-Mass Communications

	SemHrs
•**General Education (GE)**	**44**
•**Core**	**30**
•**Emphasis**	**20**
English	
OR	
Fine Arts	
art	
general	
music	
music theatre	
theatre	
OR	
Humanities	
the arts	
history of the arts	
foreign languages	
English literature	
philosophy	
speech	
OR	
Mass Communications	
broadcast	
print	
public relations	
OR	
Teaching Minors	
English	
music (for elementary education majors)	
•**Electives**	**30**

Detailed Core Requirements

Requires 30 semester hours total from at least 3 departments with a maximum of 18 semester hours from any single field of study. GE courses may not be counted in the core. Courses indicated in each category or their equivalents are required.

		SemHrs
I.	Introductory Studies	6
	Art ARTE 115, FINE 101 Communications MASS 101 English Literature ENLI 131 or 132, 141 Music MUSA 220 Theatre THEA 141	
		SemHrs
II.	Historical Studies (Must include at least two disciplines.)	9-12
	Art ARTE 211 or 212, 315, FINE 301 or 302 Communications MASS 121 or 131 English Literature ENLI 134 or 135, 142, 143, 145, 254 or 255, 261 or 262, 318, 326 or 327, 411, 413 Music MUSA 224, 264, 266, 324, 325, 326, 327, 424, 425 Philosophy PHIL 251 or 252 Theatre THEA 331	
		SemHrs
III.	Applied Studies (Must include at least two disciplines.)	9-12
	Art ARTE 100, 120, 130, 140, 150, 151, 154, 170, 180, 190, 192, 193, 257, all 200 level "Processes and Media" courses Communications MASS 221, 231, 397 or 497 Foreign Language Any introductory or advanced Music MUSA 110, 114, 115, 116, 117, 214, 215, 266, 326, 327, 350, 351, 370, 371, MUSP 100-400, MUSL 100-400 Speech SPCH 101 or 102,112 Creative Writing ENGW 251 or 252 Theatre THEA 142, 143, 243, 244, 251, 252, 114-414, 115, 315, 451, 452	
		SemHrs
IV.	Critical Studies	3
	Art FINE 494 Communications MASS 494 Criticism ENSS 421, 422	

Semester hours completed in areas II and III must total 21.

Suggested Course Sequence

Studies are required in several areas: English literature from the beginning to 1800; 19th Century British literature; American literature to 1900; 20th Century literature; History of the Language or Linguistics; Shakespeare; Chaucer or Milton.

first year

-English

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
ENLI 131	(World Lit)	3
FLAS 111	(1st Yr Span) or	
FLAG 111	(1st Yr Ger) or	
FLAF 111	(1st Yr Fren)	3
FINE 101	(Man Creates)	3
PHYE	(PE activity)	1
GE	(soc sci)	3
		16

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
ENLI 132	(World Lit)	3
FLAS 112	(1st Yr Span) or	
FLAG 112	(1st Yr Ger) or	
FLAF 112	(1st Yr Fren)	3
PHYE	(PE activity)	1
GE	(soc. sci)	3
		13

second year

Fall Semester		*SemHrs*
ENGW 251	(Crea Writ) or	
SPCH 132	(Spchmking)	3
ENLI 254	(Eng Lit) or	
ENLI 261	(US Lit)	3
ARTE 211	(Hist/Art) or	
MUSA 324	(Hist/Music) or	
THEA 311	(Hist/Thea)	3
PHYE	(PE activity)	1
GE	(psy or biol)	3
GE	(phy sci or math)	3
		16

Spring Semester		*SemHrs*
ENGW 252	(Crea Writ)	3
ENLI 255	(Eng Lit) or	
ENLI 262	(US Lit)	3
PHIL 251	(Hist/Phil)	3
PHYE	(PE activity)	1
GE	(psy or biol)	3
GE	(phy sci or math)	3
		16

Other Suggested Courses

ARTE 212
FINE 101
ENLI 134, 135, 142, 316, 318, 324, 350, 355, 360, 370, 380, 381
ENGW 394
ENSS 421, 440, 450
MASS 131

-English Teaching Minor in English

The following sequence will satisfy certification requirements for the teaching minor in English. Students seeking certification must contact Dr. Mary Ryder, Coordinator of the Mesa/Metro Consortium for Teacher Education.

Required Courses

		SemHrs
ENLI 261	or 262 (US Lit)	3
ENLI 254	or 255 (Eng Lit)	3
ENGW 121	(Spelling/Vocab)	3
ENGW 115	(Tech Writ) or	
ENGW 251	(Crea Writ)	3
ENSS 455	(Meth/Teach Eng)	3
	plus	
Upper Division English courses (choice of)		9

Music Minor

The following sequence provides the required courses for a Music Minor for Elementary Education majors.

Required Courses

		SemHrs
MUSA 110	(Std Notation)	2
MUSA 114	(Theory I/Intro)	3
MUSA 116	(E T & SS)	2
MUSA 130	(Class Piano I)	2
MUSA 231	(Guitar Tech/Mtrls)	2
MUSA 233B	(Recorder/Woodwind Tech)	2
MUSA 341	(Music Meth/Elem Clsrm)	2
Electives	(MUSL or MUSP or Music Hist)	5

-Fine Arts Art

Required areas of study include Drawing, Design, Art History, Processes and Media Studios at both lower and upper division levels, Exhibitions and Management, and a senior seminar in art.

Suggested Course Sequence:

first year

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
ARTE 151	(Basic Draw)	3
ARTE 211	(Art Hist)	3
FINE 101	(Man Creates)	3
PSYC 121	(Gen Psy)	3
PHYE	(PE activity)	1
		16

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
ARTE 161	(Two Dimen Dsgn) or	
ARTE 102	(Three Dimen Dsgn)	3
ARTE 212	(Art Hist)	3
PSYC 122	(Gen Psy)	3
PEYE	(PE activity)	1
Elective		3
		16

second year

Fall Semester		*SemHrs*
ARTE 261	(Painting)	3
ARTE 281	(Sculpture)	3
PHIL 251	(Hist/Phil)	3
HIST 205	(Civ/China/Japan)	3
CSCI 100	(Compt/Our Society)	3
PHYE	(PE activity)	1
		16

Spring Semester		*SemHrs*
ARTE 271	(Printmkg)	3
ARTE 251	(Figure Draw)	3
ARTE 241	(Ceramics)	3
ENLI 136	(Mythology)	3
PHYE	(PE activity)	1
		13

-Fine Arts General

A balanced program containing at least three of the arts, which may include both performing and visual arts. Must fulfill 21 semhrs.

Music

The semester hours shown must be taken in addition to the general education and fine arts core requirements. Many of the courses are offered only on alternating years and students are strongly encouraged to plan ahead as far as possible and meet regularly with the assigned faculty adviser.

Required areas of study include music theory and history, private music lessons, conducting and participation in at least one major musical organization per semester. Each student is required to pass a piano proficiency test at the end of the sophomore year. The course sequence provides a strong background for an undergraduate transfer program in music education or music therapy. Several of the courses listed in this sequence can fulfill the core requirements in the school:

		SemHrs
FINE 101	(Man Creates)	3
SPCH 112	(Voice/Diction)	3
FINE 301	(Civ/the Arts)	3
FINE 494	(Crit Analysis/Arts)	3

Detailed Emphasis Requirements

	SemHrs
•Emphasis	
History	
MUSA 220, 326, 337	12
Theory	
MUSA 114, 115, 116, 117, 214, 316, 317	19
Conducting	
MUSA 350, 351	4
Music Lessons	
MUSL	8
Major musical organizations	
MUSP	8

Suggested Course Sequence

first year

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
MUSA 114	(Theory I)	3
MUSA 116	(Ear T & SS)	2
MUSA 130	(Class Piano I)	2
MUSL	(music lessons)	1
MUSP	(performing organiz)	1
PHYE	(PE activity)	1
GE	(soc sci or lit)	3
		16

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
MUSA 115	(Theory II)	3
MUSA 117	(Ear T & SS)	2
MUSA 131	(Class Piano II)	2
MUSL	(music lessons)	1
MUSP	(performing organiz)	1
PHYE	(PE activity)	1
GE	(soc sci or lit)	1
		16

second year

Fall Semester		*SemHrs*
MUSA 214	(Theory III)	3
FINE 101	(Man Creates)	3
MUSL	(music lessons)	1
MUSP	(performing organiz)	1
PHYE	(PE activity)	1
GE	(phy sci or biol/psy)	3
GE	(soc sci or lit)	3
Electives		3
		18

Spring Semester		*Sem Hrs*
MUSA 220	(Music Apprec)	3
SPCH 112	(Voice/Diction)	3
MUSL	(music lessons)	1
MUSP	(performing organiz)	1
PHYE	(PE activity)	1
GE	(phy sci or biol/psy)	3
GE	(soc sci or lit)	3
Electives		3
		18

Other Suggested Courses

MUSA 137, 138, 160, 241, 260, 266, 270, 271, 316, 317, 326, 327, 337A, B, C, 350, 351

Music Theatre

Required areas of study include voice, piano, acting, music notation, sight singing, dance, music theatre, and make-up as well as participation in three musical productions. Approval of both Theatre and Music Departments is required for graduation.

Suggested Course Sequence

first year

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
MUSA 130	(Class Piano I)	2
MUSA 137	(Class Voice I)	2
MUSA 110	(Std Notation)	2
MUSA 116	(E T & SS)	2
THEA 251	(Beg Acting)	3
PHYE 176	(Beg Ballet)	1
GE	(soc sci or lit)	3
		18

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
MUSA 138	(Class Voice II)	2
MUSA 131	(Class Piano)	2
MUSA 117	(E T & SS)	2
THEA 252	(Stage Movement)	3
PHYE	(tap or jazz dance)	1
MUSP	(Ensemble)	1
GE	(soc sci or lit)	3
		17

second year

Fall Semester		*SemHrs*
MUSA 220	(Music Apprec) or	
THEA 141	(Thea Apprec) or	
ARTE 115	(Art Apprec)	3
MUSA 270	(Music Thea)	2
THEA 142	(Make-Up)	2
MUSL	(Voice Lessons)	1
MUSP	(Ensemble)	1
PHYE	(dance)	1
GE	(phy sci or biol/psy)	3
GE	(soc sci or lit)	3
Electives		2
		18

Spring Semester		*SemHrs*
FINE 101	(Man Creates)	3
MUSA 271	(Music Thea)	2
MUSL	(Voice Lessons)	1
MUSP	(Ensemble)	1
PHYE	(dance)	1
GE	(phy sci or biol/psy)	3
GE	(soc sci or lit)	3
Electives		3
		17

Other Suggested Courses

MUSA 326, 327, 337A, B, C, 370, 371, 470, 471

THEA 331, 455, 456

Theatre

Required areas of study include Makeup, Costuming, Acting I, Scenery Construction, Beginning and Advanced Directing, Theatre Management, and one course from among the following: World Drama, American Drama, Contemporary Drama, or Shakespeare.

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp)	3
THEA 142	(Make-Up)	2	THEA 143	(Costuming)	2
FINE 101	(Man Creates)	3	THEA 244	(Thea Prac) or	
THEA 243	(Thea Prac) or		THEA 252	(Acting II)	3
THEA 251	(Acting I)	3	SPCH 112	(Voice and Diction)	3
MUSA 157	(Class Voice)	2	PHYE	(tap or jazz dance)	1
PHYE	(ballet or mod dance)	1	GE	(soc sci or lit)	3
GE	(soc sci or lit)	3	GE	(thea/art/musik appre)	3
		17			18

second year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
THEA 243	(Thea Prac) or		THEA 244	(Thea Prac) or	
THEA 251	(Acting I)	3	THEA 252	(Acting II)	3
MUSA 270	(Music Thea)	2	MUSA 271	(Music Thea)	2
PHYE	(ballet or mod dance)	1	PHYE	(jazz or tap dance)	1
GE	(phy sci/biol/psy)	3	GE	(soc sci or lit)	3
GE	(soc sci or lit)	3	GE	(phy sci or biol/psy)	3
Electives		6	GE	(soc sci or lit)	3
		18	Electives		6
					18

THE STUDENT WISHING to continue in the Acting/Directing sequence should consult with the acting faculty for course of study for upper division. The student wishing to continue in the Technical sequence should consult with the technical director.

-Humanities

This emphasis requires that twenty-one credits be selected in a balanced program representing at least three of the following areas:

art
foreign language
history of the arts
literature
philosophy
speech

The program must be carefully designed in consultation with an adviser and approved by the dean of the school.

-Mass Communications

Print

Required areas of study include Introduction to Journalism, Newswriting and Reporting, Persuasion Communications, Broadcast Writing and Announcing, Television Production, Journalism Law and Ethics, and Internship in Mass Communications.

Broadcast

Required areas of study include Introduction to Broadcasting, Radio Production, Newswriting and Reporting, Persuasion Communications, Broadcast Writing and Announcing, Television Production, Journalism Law and Ethics, and Internship in Mass Communications.

Public Relations

Required areas of study vary. For details, consult Mass Communications faculty.

Suggested Course Sequence

first year

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
*MASS 131	(Intro/Journ)	3
PHYE	(PE activity)	1
GE		9
		16

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
*MASS 121	(Intro/Bdcstg)	3
MASS 221	(Radio Prod)	3
PHYE	(PE activity)	1
GE		6
		16

*FRESHMEN ARE REQUIRED to complete either MASS 121 or 131. They are encouraged to take both.

second year

Fall Semester		*SemHrs*
MASS 231	(News Wr/Rep)	3
PHYE	(PE activity)	1
GE		12
		16

(Print)

Spring Semester		*SemHrs*
MASS 341	(Copy Ed/Makeup) or	
MASS 351	(Public Affairs/Feature Rep)	3
PHYE	(PE activity)	1
GE		12
		16

(Broadcast)

Spring Semester		*SemHrs*
MASS 321	(Broadcast Writ)	3
MASS 361	(TV Prod)	3
PHYE	(PE activity)	1
GE		9
		16

Associate of Arts in Liberal Arts

Study directed toward the Associate of Arts degree will serve as a basis for the Bachelor of Arts in Liberal Arts and also for programs offered in other academic schools at Mesa College. Faculty advisers will assist students in planning programs to meet requirements. General education (GE) requirements are standard and listed under *Graduation Requirements* in this catalog.

Minimum Semester Hours Required (64)

Requirements

-Art
-English
-Music
-Theatre
-Humanities

	SemHrs
•General Education (GE)	34
•Emphasis	
Art	
ARTE 101, 102, 115, 151, 211, 212	18
English Literature	
ENLI 131, 132, 134 or 135, 141 or 142, 254, 261	18
Music	
MUSA 114 (110 if required), 115, 116, 117, 130 or 137, 220, MUSP (ensembles)	19
Theatre	
THEA 141, 142, 143, 243, or 244, 251 or 252 and THEA 147, 148, 247, 248, or THEA 117, 118, 217, 218 (choice of)	17
•Electives	varies

Specialized Study Programs

A number of specialized programs of study are available under the auspices of this school. An adviser should be consulted for further information.

-Foreign Languages

Foreign languages are essential for many bachelor's degree programs, especially in English and science. Lower division students should consider a foreign language in the first two years and students seeking a BA in Liberal Arts with subsequent certification for teaching should take at least two semesters of a language. Students desiring to teach English should have at least two years of a foreign language.

-Internships

Off-campus student work in a professional setting related to the emphasis is available in all areas of Humanities and Fine Arts for variable credit. In Mass Communications internships are required.

-Religious Studies

A number of courses from various disciplines have been identified as pertinent to religious studies students.

Suggested Courses

Philosophy
PHIL 251, 252, 352, 353, 354
Social sciences & literature
SOCI 210, SOCO 310, ENLI 335
Anthropology
ANTH 230

Allied Courses

Literature
ENLI 131, 132, 134, 135, 145, 340, 341
General
HIST 205, ANTH 232

-Reading

A number of reading courses are offered in conjunction with Metropolitan State College through Mesa/Metro teacher education programs.

SCHOOL OF INDUSTRY AND TECHNOLOGY

A. D. Anderson, Dean

Faculty

B. Beden	D. Duff	R. Grebs
H. Bollan	C. Fetters	F. Holgate
W. Branton	E. Fresquez	P. Wells
J. Charlesworth	E. Goodwin	K. Youngblood

Departments

IETC ... W. Branton
Area Vocational School ... P. Wells

General Information

The School offers a variety of training and associate degrees or certificates. Programs are approved by the State Board for Occupational Education.

Disciplines

Auto Body-Fender
Electric Lineman
Electronics
Graphic Communications Technology
  Graphic Arts
  Commercial Art
Mechanics-Automotive
Mechanics-Heavy Equipment/Diesel
Mechanic Welder
Welding

Degree & Certificates

Two Year Degrees

ASSOCIATE OF APPLIED SCIENCE

Emphases

Auto Body-Fender
Electronics Technology
Graphic Communications Technology
  Graphic Arts
  Commercial Art
Mechanics-Automotive
Welding

Short-term Certificates

CERTIFICATE OF OCCUPATIONAL PROFICIENCY

Emphases

Electric Lineman
Electronics Technology
Mechanics-Automotive
Mechanics-Heavy Equipment/Diesel
Mechanic Welder
Welding

Mech. Mfg trades

Associate of Applied Science

Course work for the degree consists of general education (GE), as well as specific core requirements for each option and electives. General education requirements are standard for all degrees and listed under *Graduation Requirements* in this catalog. All students should work closely with their adviser while completing this degree.

Minimum Semester Hours Required (varies)

Requirements

-Auto Body & Fender
-Mechanics (Automotive)
-Electronics Technology
-Graphic Communications Technology
-Welding

	SemHrs
•**General Education (GE)**	**16**
•**Core**	**varies**
•**Electives**	**varies**

-Auto Body & Fender

Practical application covers all phases of body and fender repair, including a comprehensive unit in auto painting. The training covers necessary shop skills, knowledge of theory, principles and related subjects essential to enter and progress competitively in the occupation. Students may enter the program any semester.

Minimum Semester Hours Required (76)

Detailed Core Requirements

	SemHrs
Auto Body & Fender	
AUBF 100, 110, 120, 130, 140, 150, 200, 210, 220, 230, 240, 250	55
Business	
MANG 121	3

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*ConHrs*	*Spring Semester*		*SemHrs*	*ConHrs*
AUBF 100	(Apl Math)	2	32	AUBF 120	(Auto Body Rep/Ref II)	8	227
AUBF 110	(Auto Body Rep/Ref I)	8	227	AUBF 130	(Auto Recond)	3	77
AUBF 140	(Oxy Weld)	2	47	AUBF 141	(Suspen Alignmt)	2	47
PHYE	(PE Activity)	2	48	AUBF 150	(Arc Weld)	2	47
GE	(Eng Comp or Voc Comm)	3	47	PHYE	(PE activity)	2	48
		17	401	GE	(Eng Comp or Voc Comm)	3	47
						20	483

second year

Fall Semester		*SemHrs*	*ConHrs*	*Spring Semester*		*SemHrs*	*ConHrs*
AUBF 200	(Panel/Spot Paint)	6	152	AUBF 240	(Auto Body Rep/Ref IV)	8	302
AUBF 210	(Frame Rep)	4	92	AUBF 250	(Estimating)	3	47
AUBF 220	(Shop Mgmt)	3	47	MANG 121	(Human Rel/Bus or approv equiv)	3	47
AUBF 230	(Auto Body Rep/Ref III)	6	152	GE	(soc sci)	3	47
GE	(soc sci)	3	47			17	443
		22	490				

-Electronics Technology

Applied electrical science and electronics with emphasis areas in computers (hardware/software concepts and applications), industrial control circuits (automation and robotics) and communications. The electronics technician will be able to produce acceptable results quickly, install and operate technical systems, configure hardware from proven concepts, service machines and systems and provide customer support. Graduates are employed in the electronics field in product support, process control, testing and evaluation, and field engineering. Beginning students should have at least one year of high school algebra or equivalent knowledge.

Minimum Semester Hours Required (71)

Detailed Core Requirements

	SemHrs
Electronics Technology, ELCT 117, 117L, 118, 118L, 153, 153L, 154, 154L, 254, 254L, 256, 256L, 257, 257L, 265, 265L, 266, 266L, 270, 270L, 275, 275L, 276, 276L	48
Math ENGT 101, 102, or MATH 113, 130	7

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*ContHrs*
ENGW 111	(Eng Comp)	3	47
ELCT 117	(DC Pass Circ I)	3	50
ELCT 117L	(Lab)	1	32
ELCT 118	(AC Pass Circ)	3	50
ELCT 118L	(Lab)	1	32
ENGT 101	(Tech Math I) or		
MATH 113	(Col Algebra)	4	62
PHYE	(PE activity)	2	48
		17	321

Spring Semester		*SemHrs*	*ContHrs*
ENGW 115	(Tech Writ)	3	47
ELCT 153	(Solid State I)	3	52
ELCT 153L	(Lab)	1	30
ELCT 154	(Solid State II)	3	52
ELCT 154L	(Lab)	1	30
ELCT 270	(Lin Integ Circ Ap)	3	52
ELCT 270L	(Lab)	1	36
ENGT 102	(Tech Math II) or		
MATH 130	(Trig)	4	62
		19	361

second year

Fall Semester		*SemHrs*	*ContHrs*
ELCT 256	(Comm Circ I)	3	47
ELCT 256L	(Lab)	1	30
ELCT 265	(Digital Circ I)	3	50
ELCT 265L	(Lab)	1	32
ELCT 275	(Digital Circ II)	3	50
ELCT 275L	(Lab)	1	32
PHYE	(PE activity)	2	48
GE	(soc sci)	3	47
		17	336

Spring Semester		*SemHrs*	*ContHrs*
ELCT 254	(Ind Circ)	3	47
ELCT 254L	(Lab)	1	30
ELCT 257	(Comm Circ II)	3	47
ELCT 257L	(Lab)	1	30
ELCT 266	(Microprocess I)	3	50
ELCT 266L	(Lab)	1	32
ELCT 270	(Microprocess II)	3	50
ELCT 276L	(Lab)	1	32
GE	(soc sci)	3	47
		19	365

CERTIFICATE REQUIREMENTS ARE exactly the same as the Associate of Applied Science degree in Electronics Technology except English, social science, and physical education requirements are deleted.

-Graphic Communications Technology (Graphic Arts)

A two-year technical program designed to prepare a student for business, industry, and education graphics reproduction systems. The student develops basic skills in visual information design, visual information reproduction, and visual information recording, storage, and retrieval. A commercial art option is also available to students as they progress in this program.

Minimum Semester Hours Required (71)

Detailed Core Requirements

	SemHrs
Advertising	
MARK 232	3
Art	
ARTE (any 3 semhrs art)	3
English	
ENGW 111,112	6
Graphic Communications	
GRCO 120, 130, 140, 140L, 141, 141L, 230, 230L, 231, 231L, 240, 240L, 241, 241L, 250, 250L, 251, 251L, 260	38
Mathematics	
MATH 110 or BUGB 141	3

Suggested Course Sequence

first year

Fall Semester		SemHrs	ConHrs
ENGW 111	(Eng Comp)	3	47
ARTE	(art)	3	92
GRCO 120	(Basic Layout/ Dsgn I)	2	32
GRCO 140	(Basic Typset)	1	17
GRCO 140L	(Lab)	2	45
PHYE	(PE activity)	2	48
GE	(soc sci or psy)	3	47
		16	328

Spring Semester		SemHrs	ConHrs
ENGW 112	(Eng Comp)	3	47
MARK 232	(Advertising)	3	47
GRCO 121	(Graph Arts Layout/Dsgn II)	2	32
GRCO 141	(Adv Typeset)	1	17
GRCO 141L	(Lab)	2	45
PHYE	(PE activity)	2	48
GE	(soc sci or psy)	3	47
Elective		3	47
		19	330

second year

Fall Semester		SemHrs	ConHrs
BUGB 141	(Bus Math) or		
MATH 110	(Finite Math)	3-2	47-32
GRCO 230	(Process Photo I)	1	17
GRCO 230L	(Lab)	3	60
GRCO 240	(Image Prep I)	1	17
GRCO 240L	(Lab)	3	60
GRCO 250	(Offset Press I)	1	17
GRCO 250L	(Lab)	3	60
Elective		3	47
		18-17	325-310

Spring Semester		SemHrs	ConHrs
GRCO 231	(Process Photo II)	1	17
GRCO 231L	(Lab)	3	60
GRCO 241	(Image Prep II)	1	17
GRCO 241L	(Lab)	3	60
GRCO 251	(Offset Press II)	1	17
GRCO 251L	(Lab)	3	60
GRCO 266	(Cost Est)	3	47
Elective		3	47
		18	325

-Graphic Communications Technology (Commercial Art)

Program is designed to prepare a student for the advertising industry in agencies, corporate marketing or advertising departments. The student will develop basic skills in visual information design, pre-reproduction preparation including typesetting, camera ready copy and illustration.

Minimum Semester Hours Required (71)

Detailed Core Requirements

	SemHrs
Advertising	
MARK 232	3
Art	
ARTE 100, 151, 251, 197, 257, 292 Choose 2 of 154, 190 or 192	16
Graphic Communications	
GRCO 110, 120, 130, 131, 140, 140L, 220, 221, 230, 230L, 240, 240L, 241, 241L, 270	30

SOME COMMERCIAL ART courses can be used towards a B.A. in Liberal Arts. See School of Humanities and Fine Arts

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*ConHrs*
ENGW 111	(Eng Comp)	3	47
ARTE 109	(Art Foun)	3	92
ARTE 151	(Basic Draw)	3	92
GRCO 120	(Basic Layout/ Dsgn I)	2	32
GRCO 130	(Basic Photo)	2	47
GRCO 140	(Basic Typset)	1	17
GRCO 140L	(Lab)	2	45
PSYC 121	(Gen Psy)	3	47
PHYE	(PE activity)	1	48
		20	435

Spring Semester		*SemHrs*	*ConHrs*
ENGW 112	(Eng Comp)	3	47
ARTE 251	(Figure Draw)	3	92
GRCO 141	(Adv Typset)	1	17
GRCO 141L	(Lab)	2	45
GRCO 121	(Basic Layout/ Dsgn II)	3	47
PSYC 122	(Gen Psy)	3	47
PHYE	(PE activity)	2	48
		17	343

second year

Fall Semester		*SemHrs*	*ConHrs*
ARTE 193	(Airbrush)	1	32
ARTE 154	(Ink Draw) or ARTE 190 (Water Med) or ARTE 192 (Pastels) (2 of 3)	2	62
GRCO 220	(Adv Layout/ Dsgn I)	3	45
GRCO 230	(Process Photo I)	1	17
GRCO 230L	(Lab)	3	60
GRCO 240	(Image Prep I)	1	17
GRCO 240L	(Lab)	3	60
Elective		3	47
		17	340

Spring Semester		*SemHrs*	*ConHrs*
ENGW 115	(Tech Writ) or ENGW 251 (Crea Writ)	3	47
ARTE 257	(Cartoon)	1	32
ARTE 252	(Paint/Acrylics)	3	92
GRCO 133	(Photo Finish)	1	17
GRCO 221	(Adv Layout/ Dsgn II)	3	45
GRCO 241	(Image Prep II)	1	17
GRCO 241L	(Lab)	3	60
GRCO 270	(Portfolio Dev)	1	17
MARK 232	(Advertising)	3	47
		19	374

-Mechanics (Automotive)

The Mechanics (Automotive) program covers all facets of domestic and some foreign car repair. Students learn proper servicing, maintaining, and repairing procedures of all components of an automobile. Includes the proper use of tools and specialized equipment. Diagnosis and troubleshooting receive special emphasis throughout the program. Instruction includes combination lecture/lab situations with the ratio of classroom to lab hours determined for each course. Extensive lab work experience on both mockups and line units is part of the training. Supportive courses in mathematics, communication skills, and human relations are also included.

Mesa College is an approved regional Ford Technician Training Center and GMC Technician Testing Center.

Minimum semester hours required (82)

Detailed Core Requirements

	SemHrs
Management	
MANG 121 or equivalent	3
Math	
MECH 111	2
Mechanics	
MECA 122, 123, 142, 214, 227, 239, 243, 250, 254, MECH 105, ~~28~~, 113, 121, 124, 125, 133	~~41~~ 54

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*ContHrs*	*Spring Semester*		*SemHrs*	*ContHrs*
ENGW 106	(Voc Comm).....	3	47	*MECH 111	(Apl Math/ Mechanics).....	2	32
MECH 105	(Intro/Shop Pract).....	3	77	MECH 113	(Air Cond).....	3	52
MECH 113	(Intrnl Combust Engn).....	5	77	MECA 122	(Drvlns/ Differtls).....	2	52
MECH 121	(Clutches/ Standard Trans).....	2	52	MECA 142	(Suspsn/ Alignment).....	7	127
MECA 122	(Auto Tune-up)	7	127	MANG 131	(Human Rel/Bus or equiv).....	3	47
MECH 124	(Elect Sys).....	4	52			17	310
MECH 126	(Lt Duty Brakes).....	3	65				
		27	497				

*STUDENTS MUST DEMONSTRATE basic mathematic skill through ACT or pre test before registering for this course. MATH 015 may be prerequisite to MECH 111.

second year

Fall Semester		*SemHrs*	*ContHrs*	*Spring Semester*		*SemHrs*	*ContHrs*
ENGW 115	(Tech Writ).....	3	47	MECA 239	(Emission Cntrl)	6	55
MECA 214	(Engn Rebuild)..	7	152	MECA 243	(Transaxles).....	3	52
MECA 227	(Auto Trans).....	4	65	MECA 250	(Trblshtn/Diag)	3	65
PHYE	(PE activity).....	2	48	MECA 254	(Auto Elect).....	4	68
GE	(soc sci).....	3	47	PHYE	(PE activity).....	2	48
		19	359	GE	(soc sci).....	3	47
						19	342

-Welding

In addition to the Associate of Applied Science degree, both three-semester and four-semester certificate programs are offered.

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, GTAW, FCAW and OFW 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 (79)

Detailed Core Requirements

	SemHrs
Welding	
WELD 110, 112, 116, 120, 121, 122, 131, 132, 141, 145, 230, 240	53

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*ContHrs*	*Spring Semester*		*SemHrs*	*ContHrs*
ENGW 106	(Voc Comm) or			ENGW 107	(Voc Comm) or		
ENGW 111	(Eng Comp).....	3	47	ENGW 111	(Eng Comp).....	3	47
WELD 110	(Weld Lab I).....	8	227	WELD 120	(Weld Lab II).....	8	227
WELD 112	(Weld Theory)...	4	70	WELD 121	(Blueprint Read I)	2	47
WELD 116	(Apl Math).....	2	32	WELD 131	(Fabricatn Layout I). ...	2	47
PHYE	(PE activity).....	2	48	PHYE	(PE activity).....	2	48
		19	424			17	416

second year

Fall Semester		*SemHrs*	*ConHrs*
WELD 122	(Blueprt Read II)	2	47
WELD 141	(Shop Mgmt/ Structural Theory)	4	92
WELD 230	(Weld Lab III)	8	227
GE	(soc sci)	3	47
		17	383

Spring Semester		*SemHrs*	*ConHrs*
WELD 132	(Fabricato Layout II)	2	47
WELD 145	(Metallurgy)	3	47
WELD 240	(Weld Lab IV)	8	227
GE	(soc sci)	3	47
Electives		5	77
		21	445

Certificate of Occupational Proficiency

Programs are designed to be employment directed and essential preparation for beginning jobs. Requirements for each certificate stand alone and in most cases do not require any general education courses.

-Electric Lineman (One-Year)

Trains highly qualified people for employment in electrical service and construction companies. Students receive field training and practical theory in all phases of power-line insulation 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.

Laboratory and classroom training acquaints the student with materials, hardware, and theory of the trade. Basic trade fundamentals in electricity, construction techniques, transmission, distribution systems, underground procedures, hotline, and safety are emphasized.

Minimum Semester Hours Required (40)

Requirements

		SemHrs	*ConHrs*
ELCL 111	(Math Basic Elec)	5	77
ELCL 120	(Fund/Elec I)	5	77
ELCL 131	(Elec Dist Theory I)	4	77
ELCL 132	(Elec Dist Theory II)	6	115
ELCL 136	(Related Fund I)	4	190
ELCL 137	(Related Fund II)	6	152
ELCL 140	(Undergnd Proc)	5	152
ELCL 145	(Hotline Proc)	3	82
PHYA 265	(Std 1st Aid/CPR)	2	32
		40	954

-Mechanics (Automotive) (One-Year)

Program offers students a shorter training period with the opportunity to take selected essential courses to prepare for beginning jobs in less technical, basic skill areas. Curriculum is employment directed or upon successful completion, qualifies for acceptance into the second year Associate of Applied Science program.

Minimum Semester Hours Required (44)

MAMT
requires 40 hrs.
3 hrs. Eng. 106 or 110 or Eng. 111
or Eng. 112 or Eng 115
31 hrs. MAMT

Suggested Course Sequence

Fall Semester		*SemHrs*	*ConHrs*
ENGW 106	(Voc Comm)	3	47
MECH 105	(Intro/Shop Prac)	3	77
MECH 113	(Intrnl Combust Engn)	5	77
MECH 121	(Clutch/Std Trans)	2	52
MECH 124	(Elect Sys)	4	52
MECH 125	(Lt Duty Brakes)	3	65
		20	370

Spring Semester		*SemHrs*	*ConHrs*
*MECH 111	(Apl Math Mech)	2	32
MECH 133	(Air Cond)	3	52
MECA 122	(Drvlns/ Diffrntls)	2	52
MECA 123	(Auto Tune-up)	7	127
MECA 142	(Suspen/ Alignmt)	7	127
MANG 121	(Human Rel/Bus or equiv)	3	47
		24	437

*STUDENTS MUST DEMONSTRATE basic mathematic skill through ACT or pre-test before registering for this course. MATH 015 may be prerequisite to MECH 111.

-Mechanics (Heavy Equipment/ Diesel) (Two-Year)

Program is designed to provide a wide range of training in the field of mechanics-heavy equipment/diesel 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 (80)

Suggested Course Sequence:

first year

Fall Semester		*SemHrs*	*ConHrs*
MECH 105	(Intro/Shop Prac)	3	77
*MECH 111	(Apl Math/ Mech)	2	32
MECH 113	(Intrnl Combust Engn)	5	77
MECH 121	(Clutch/Std Trans)	2	52
MECH 124	(Elect Sys)	4	52
MECH 125	(Lt Duty Brakes)	3	65
MECD 131	(Hvy Duty Brakes)	4	65
		23	420

Spring Semester		*SemHrs*	*ConHrs*
MECD 115	(Hvy Equip Maint)	3	52
MECD 120	(Dsl Engn Recond I)	4	77
MECD 150	(Hydrl Sys I)	3	65
MECD 231	(Hvy Equip Drvtrn I)	5	102
MECD 260	(Pneumatic Sys)	3	65
		18	361

second year

Fall Semester		*SemHrs*	*ConHrs*
MECD 211	(Equip Pnt/ Glass Rep)	1	27
MECD 222	(Fuel Sys)	4	90
MECD 225	(Dsl Engn Recond II)	4	90
MECD 232	(Hvy Equip Drvtrn II)	5	102
INSA 220	(Ind Safety Pract)	3	52
WELD 151	(Ind Weld I)	2	47
**Elective	(common)	3	47
		22	465

Spring Semester		*SemHrs*	*ConHrs*
DIHY 275	(Hvy Equip Trblshoot)	3	65
MECD 223	(Dsl Engn Analysis/ Trblshoot)	3	77
MECD 251	(Hydrl Sys II)	3	65
MECH 133	(Air Cond)	3	52
WELD 152	(Ind Weld II)	2	47
MANG 121	(Human Rel/Bus or equiv)	3	47
		17	353

*STUDENTS MUST DEMONSTRATE basic mathematic skill through ACT or pretest before registering for this course. MATH 015 may be prerequisite to MECH 111.
**EXACT COURSE TO be approved by faculty adviser according to individual need.

-Mechanic Welder

Program gives students an opportunity to prepare for employment requiring skill in more than one area of expertise. Employers tend to hire people with both general welding and general heavy-equipment-mechanics skills. Students may enter the program at any semester.

Minimum Semester Hours Required (58)

		SemHrs	ConHrs
ENGW 106	(Voc Comm I)	3	47
MANG 121	(Human Rel/Bus or equiv)	3	47
MECD 115	(Hvy Equip Main)	3	52
MECD 150	(Hydrl Sys I)	3	65
MECD 251	(Hydrl Sys II)	3	65
MECD 260	(Pneumatic Sys)	3	65
MECH 105	(Intro/Shop Pract)	3	77
MECH 111	(Apl Math/Mech)	2	32
MECH 124	(Elect Sys)	4	52
MECH 125	(Lt Duty Brakes)	3	65
WELD 110	(Weld Lab I)	8	227
WELD 117	(Oxy-fuel Weld I)	2	47
WELD 118	(Oxy-fuel Weld II)	2	47
WELD 112	(Weld Theory)	4	70
WELD 120	(Weld Lab II)	8	227
WELD 145	(Metallurgy)	3	47
INSA 220	(Ind Safety Pract)	3	52

-Welding

Programs are of shorter duration than A.A.S. degree welding. Content depends on individual need and faculty adviser should be consulted.

(Four Semesters)

Minimum Semester Hours Required (59)

First Semester		*SemHrs*	*ConHrs*
ENGW 106	(Voc Comm)	3	47
WELD 110	(Weld Lab I)	8	227
WELD 112	(Weld Theory)	4	70
WELD 115	(Apl Math)	2	32
Elective	(restricted)	3	47
		20	423

Second Semester		*SemHrs*	*ConHrs*
WELD 120	(Weld Lab II)	8	227
WELD 122	(Blueprt Read I)	2	47
WELD 131	(Fabricatn Layout I)	2	47
		12	321

Third Semester		*SemHrs*	*ConHrs*
WELD 122	(Blueprint Read II)	2	47
WELD 141	(Shop Mgmt/ Structural Theory)	4	62
WELD 230	(Weld Lab III)	8	227
		14	336

Fourth Semester		*SemHrs*	*ConHrs*
WELD 132	(Fabricatn Layout II)	2	47
WELD 145	(Metallurgy)	3	47
WELD 240	(Weld Lab IV)	8	227
		13	321

(Three Semesters)

Minimum Semester Hours Required (43)

First Semester		*SemHrs*	*ConHrs*
ENGW 106	(Voc Comm)	3	47
WELD 110	(Weld Lab I)	8	227
WELD 112	(Weld Theory)	4	70
WELD 115	(Apl Math)	2	32
		17	376

Second Semester		*SemHrs*	*ConHrs*
WELD 120	(Weld Lab II)	8	227
WELD 122	(Blueprt Read I)	2	47
WELD 131	(Fabricatn Layout)	2	47
		12	321

Third Semester		*SemHrs*	*ConHrs*
WELD 122	(Blueprint Read II)	2	47
WELD 141	(Shop Mgmt/ Structural Theory)	4	62
WELD 230	(Weld Lab III)	8	227
		14	336

SCHOOL OF NATURAL SCIENCES AND MATH

William E. Putnam, Dean

Faculty

C. Bailey	J. Henson	G. McCallister
R. Ballard	E. Hurlbut	R. Moran
B. Bauerle	J. Johnson	D. Mottram
O. Boge	V. Johnson	M. Peters
C. Britton	W. Kelley	J. Roadifer
P. Chowdry	C. Kerns	J. Rybak
J. Davis	J. Kramer	C. Taylor
D. Foutz	M. Lenc	J. Wethington
G. Gilbert	C. Lake	K. White
D. Hafner	O. Malocarne	
E. Hawkins	J. Marshall	

Departments

Agriculture and Home Economics	... Maylon D. Peters, Chair
Biological Sciences	... Edward C. Hurlbut, Chair
Computer Science, Mathematics and Engineering	... Edwin C. Hawkins, Chair
Chemistry and Physics	... Gordon Gilbert, Chair
Geology	... Jack E. Roadifer, Chair

General Information

Degrees

Baccalaureate studies in the School of Natural Sciences and Mathematics lead to Bachelor of Science in Biological and Agricultural Sciences and Bachelor of Science in Physical and Mathematical Sciences degrees.

Some Associate of Science degrees may be earned with the first two years of study toward bachelor's degrees in this school. Other Associate of Science degrees may be earned with two years of study planned as parts of baccalaureate programs not available at Mesa College and thus requiring completion elsewhere. Yet other Associate of Science degrees may be earned with the expectation that the degree represents the student's final collegiate experience.

Preparation for the Health Professions

Preparation for entrance into colleges of dentistry, medicine, optometry, osteopathy and veterinary medicine is possible in the School of Natural Sciences and Mathematics. While these colleges' minimum entrance requirements may not specify bachelors degrees, competition for their limited spaces is keen and most successful applicants do have such degrees. A student entering health preprofessional studies should plan to earn a Bachelor of Science degree with one of the designated academic emphases since no preprofessional study is an emphasis in itself.

Preparation for the baccalaureate health professions, medical technology, pharmacy, and physical therapy can begin with two years of study in the School of Natural Sciences and Mathematics.

Teacher Certification

Certification to teach mathematics or science in secondary schools can be obtained with Bachelor of Science degrees along with prescribed study in professional education courses. For further information the student should refer to the Consortium Section of this catalog.

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 cannot be earned toward graduation for a class or laboratory unless credit is earned in both.

Disciplines

Agriculture
Agronomy
Animal Science
Astronomy
Biology
Botany
Chemistry
Computer Science
Engineering
Engineering Technology
Geology
Home Economics
Mathematics
Physics
Statistics
Zoology

Degrees & Certificates

Four-Year Degrees

BACHELOR OF SCIENCE IN BIOLOGICAL AND AGRICULTURAL SCIENCES

Emphases

Agriculture (currently not being offered)
Biology
Biology/Secondary Education

BACHELOR OF SCIENCE IN PHYSICAL AND MATHEMATICAL SCIENCES

Emphases

Computer Science
Computer Science Business Software
Computer Science - Mathematics
Geology
Mathematics
Mathematics/Secondary Education
Physics
Physics/Secondary Education

Two-year Degrees

ASSOCIATE OF APPLIED SCIENCE

Emphasis

Engineering Technology
Civil Engineering
Drafting

ASSOCIATE OF SCIENCE

Emphases

Agriculture
Biology
Chemistry
Computer Science
Engineering
Forestry
Geology
Mathematics
Medical Technology
Pharmacy
Physical Therapy
Physics

Certificate Program

Drafting

Bachelor of Science in Biological and Agricultural Sciences

The curriculum is intended to provide a broad education in biological and agricultural sciences. A specialization in one of the disciplines prepares a student for employment or graduate study. Certain disciplines require specific courses outside the emphasis. While these courses usually satisfy GE requirements, a faculty adviser should be consulted.

Minimum Semester Hours Required (124)

Requirements

	SemHrs
•**General Education (GE)**	44
•**Core**	40
•**Emphasis**	20
Agriculture (currently not being offered) OR Biology OR Biology/Secondary Education	
•**Electives**	20

-**Agriculture**
-**Biology**
-**Biology/** Secondary Education

Detailed Core Requirements

	SemHrs
Specifically Required	
Agriculture	
AGRI 301,301L,499 or BIOL 499	8
Biology	
BIOL 105, 105L, 106, 106L, 107, 107L	14
Choices	18

(No more than 10 semhrs from any single area.)

Agriculture
AGRI 110, 110L, 113, 113L, 142, 202, 202L, 251, 251L, 254

Chemistry
CHEM 121, 121L, 122, 122L, 131, 131L, 132, 132L, 201, 201L, 202, 202L

Computer Science
CSCI 111, 131, 131L

Geology
GEOL 101, 101L, 102, 102L, 111, 111L

Mathematics
MATH 113, 130, 146, STAT 200

Physics
PHYS 111, 111L, 112, 112L

Suggested Course Sequence

first year

-**Agriculture** (Agronomy)

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp)	3
BIOL 105	(Anr/Liv Sys)	3	MATH 113	(Col Algebra)	4
BIOL 105L	(Lab)	1	AGRI 110	(Crop Prod)	3
AGRI 113	(Intro/Animal Sci)	3	AGRI 110L	(Lab)	1
AGRI 113L	(Lab)	1	AGRI 205	(Farm/Ranch Mgmt)	5
AGRI 142	(Econ Organiz/Agri)	3	PHYE	(PE activity)	1
PHYE	(PE activity)	1			17
GE		3			
		18			

second year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
BIOL 106	(Prin/Animal Biol) or		BIOL 106	(Prin/Animal Biol) or	
BIOL 107	(Prin/Plant Biol)	3	BIOL 107	(Prin/Plant Biol)	3
BIOL 106L	(Lab) or		BIOL 106L	(Lab) or	
BIOL 107L	(Lab)	2	BIOL 107L	(Lab)	2
CHEM 121	(Gen Chem)	4	CHEM 122	(Intro/Organic Chem)	4
CHEM 121L	(Lab)	1	CHEM 122L	(Lab)	1
AGRI 211	(Intro/Range Sci)	3	AGRI 202	(Soils)	3
AGRI 211L	(Lab)	1	AGRI 202L	(Lab)	1
AGRI 254	(Livestock Feeding)	3	PHYE	(PE activity)	1
PHYE	(PE activity)	1	GE		3
		18			18

Suggested Course Sequence

-Agriculture (Animal Science)

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp)	3
BIOL 105	(Am Liv Sys)	3	MATH 113	(College Algebra)	4
BIOL 105L	(Lab)	1	AGRI 205	(Farm/Ranch Mgmt)	3
AGRI 113	(Intro/Animal Sci)	3	AGRI 260	(Func Anat/Domes Animals)	3
AGRI 113L	(Lab)	1	AGRI 260L	(Lab)	1
AGRI 142	(Econ Organz/Agri)	3	GE		3
PHYE	(PE activity)	2			
GE		3			
		18			18

second year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
BIOL 106	(Prin/Animal Biol) or		BIOL 106	(Prin/Animal Biol) or	
BIOL 107	(Prin/Plant Biol)	3	BIOL 107	(Prin/Plant Biol)	3
BIOL 106L	(Lab) or		BIOL 106L	(Lab) or	
BIOL 107L	(Lab)	2	BIOL 107L	(Lab)	2
CHEM 121	(Gen Chem)	4	CHEM 122	(Intro/Org Chem)	4
CHEM 121L	(Lab)	1	CHEM 122L	(Lab)	1
AGRI 211	(Intro/Range Sci)	3	AGRI 202	(Soils)	3
AGRI 211L	(Lab)	1	AGRI 202L	(Lab)	1
AGRI 254	(Livestock Feeding)	3	PHYE	(PE activity)	1
PHYE	(PE activity)	1	GE		3
		18			18

Suggested Course Sequence

-Biology

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp)	3
BIOL 105	(Am Liv Sys)	3	BIOL 106	(Prin/Animal Biol) or	
BIOL 105L	(Lab)	1	BIOL 107	(Prin/Plant Biol)	3
CHEM 131	(Gen Inorg Chem)	4	BIOL 106L	(Lab) or	
CHEM 131L	(Lab)	1	BIOL 107L	(Lab)	2
MATH 113	(College Algebra)	4	CHEM 132	(Gen Inorg Chem)	4
PHYE	(PE activity)	2	CHEM 132L	(Lab)	1
		18	MATH 146	(Calculus/Biol Sci)	5
					19

second year

Curriculum presently under development. See your faculty adviser for details.

Suggested Course Sequence

-Biology/ Secondary Education

Curriculum for secondary education in biology is the same as suggested course sequence for biology.

Bachelor of Science in Physical and Mathematical Sciences

The curriculum is intended to provide a broad education in the physical and mathematical sciences. A specialization in one of the disciplines prepares a student for employment or graduate study. Certain disciplines require specific courses outside the emphasis. While these courses usually satisfy general education requirements, a faculty adviser should be consulted.

Minimum Semester Hours Required (124)

Requirements

	SemHrs
•**General Education (GE)**	**44**
•**Core**	**35-40**
•**Emphasis**	**20**
Computer Science	
OR	
Computer Science/Mathematics	
OR	
Computer Science/Business Software	
OR	
Geology	
OR	
Mathematics	
OR	
Mathematics/Secondary Education	
OR	
Physics	
OR	
Physics/Secondary Education	
•**Electives**	**25**

-Computer Science
-Computer Science/ Mathematics
Computer Science/ Business Software
-Geology
-Mathematics
Mathematics/ Secondary Education
-Physics
-Physics/ Secondary Education

Detailed Core Requirements

	SemHrs
Choices	35-40

(No fewer than 9 and no more than 15 semhrs must be earned in each of 3 disciplines. Some choices from the following list are restricted. A faculty adviser should be consulted.)

Chemistry
CHEM 121, 121L, 122, 122L, 131, 131L, 132, 132L

Computer Science
CSCI 111, 112, 131, 131L, 133, 133L, 230

Geology
GEOL 101, 101L, 102, 102L, 111, 111L, 112, 112L, 201, 201L

Mathematics
MATH 113, 119, 130, 151, 152, 253, STAT 200

Physics
PHYS 111, 111L, 112, 112L, 121, 122, 123, 122L, 123L

Suggested Course Sequence

-Computer Science -Computer Science/ Mathematics

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 115	(Tech Writ)	3
MATH 151	(Calculus I)	5	CSCI 112	(Compt Sci II)	3
CSCI 111	(Compt Sci I)	3	CSCI 131	(FORTRAN Prog)	3
GE	(biol or psy)	3	CSCI 131L	(Lab)	1
GE	(soc sci)	3	MATH 152	(Calculus II)	5
		17	GE	(biol or psy)	3
					18

second year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
CSCI 230	(Assemb Lang Prog)	3	CSCI 240	(Compt Arch)	4
CSCI 250	(Information Struct)	3	MATH 260	(Diff Equations)	3
MATH 253	(Calculus III)	4	MATH 265	(Linear Algebra)	3
MATH 270	(Discrete Math)	3	STAT 200	(Prob/Stat)	3
PHYE	(PE activity)	2	PHYE	(PE activity)	2
GE	(hum)	3	GE	(biol or psy)	3
		18			18

Suggested Course Sequence

-Computer Science/ Business Software

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp) or ENGW 115 (Tech Writ)	3
MATH 151	(Calculus I)	5	MATH 152	(Calculus II)	5
MANG 201	(Prin/Mgmt)	3	CISB 131	(COBOL I)	3
CSCI 111	(Compt Sci I)	3	CSCI 112	(Compt Sci II)	3
GE	(psy)	3	GE	(soc sci)	3
		17			17

second year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
BUGB 251	(Bus Law I)	3	CSCI 131	(FORTRAN Prog)	3
CSCI 250	(Data Structures)	3	CSCI 131L	(Lab)	1
CSCI 230	(Assembly Lang)	3	STAT 200	(Prob/Stat) or STAT 244 (Bus Stat)	3
ACCT 201	(Prin/Acct I)	3	ACCT 202	(Prin/Acct II)	3
MATH 253	(Calculus III)	4	GE	(psy)	3
PHYE	(PE activity)	2	GE	(hum)	3
		18			16

40 hrs upper div. per Hawkins

PhyE (PE activity) 2

Suggested Course Sequence

-Geology

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 115	(Tech Writ)	3
GEOL 111	(Prin/Phys Geol)	4	GEOL 112	(Prin/Hist Geol)	4
GEOL 111L	(Lab)	1	GEOL 112L	(Lab)	1
MATH 113	(College Algebra)	4	MATH 130	(Trigonometry)	3
GE	(fit or foreign lang or hist)	3-5	PHYE	(PE activity)	2
PHYE	(PE activity)	2	GE	(fit or foreign lang or hist)	3-5
		17-19			16-18

second year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
GEOL 201	(Stratigraphy)	2	GEOL 203	(Intro/Environ Geol)	3
GEOL 201L	(Lab)	1	CHEM 132	(Gen Inorg Chem)	4
CHEM 131	(Gen Inorg Chem)	4	CHEM 132L	(Lab)	1
CHEM 131L	(Lab)	1	PHYS 112	(Gen Phys)	4
PHYS 111	(Gen Physics)	4	PHYS 112L	(Lab)	1
PHYS 111L	(Lab)	1	ECON 202	(Prin/Econ) or ACCT 202 (Prin/Acct)	3
ECON 201	(Prin Econ) or ACCT 201 (Prin/Acct)	3			16
		16			

Suggested Course Sequence

first year -Mathematics

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
MATH 151	(Calculus I)	5
CSCI 111	(Compt Sci I)	3
GE	(soc sci)	3
GE	(biol or psy)	3
		17

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp) or	
ENGW 115	(Tech Writ)	3
MATH 152	(Calculus II)	5
CSCI 112	(Compt Sci II)	3
CSCI 131	(FORTRAN Prog)	3
CSCI 131L	(Lab)	1
GE	(biol or psy)	3
		18

second year

Fall Semester		*SemHrs*
CSCI 230	(Assem Lang Prog)	3
CSCI 250	(Info Struct)	3
MATH 253	(Calculus III)	4
MATH 270	(Discrete Math)	3
GE	(hum)	3
		~~16~~ 18
PHYE	(PE activity)	2

Spring Semester		*SemHrs*
MATH 260	(Diff Equations)	3
MATH 265	(Linear Algebra)	3
STAT 200	(Prob/Stat)	3
PHYE	(PE activity)	2
GE	(soc sci)	3
GE	(biol or psy)	3
		17

Suggested Course Sequence

first year -Mathematics/ Secondary Education

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
MATH 151	(Calculus I)	5
CSCI 111	(Compt Sci I)	3
EDUC 221	(Intro/Educ)	3
PHYE	(PE activity)	2
		16

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp) or	
ENGW 115	(Tech Writ)	3
CSCI 112	(Compt Sci II)	3
MATH 152	(Calculus II)	5
EDUC 222	(Intro/Classrm)	3
PHYE	(PE activity)	2
		16

second year

Fall Semester		*SemHrs*
MATH 253	(Calculus III) or	
MATH 260	(Diff Equations)	4-3
CSCI 131	(FORTRAN)	3
CSCI 131L	(Lab)	1
EDU 320	(Adolescent Learner)	3
PHYS 211	(Gen Physics) or	
CHEM 131	(Gen Inorg Chem)	4
PHYS 211L	(Lab) or	
CHEM 131L	(Lab)	1
GE	(psy)	3
		18-19

Spring Semester		*SemHrs*
STAT 200	(Prob/Stat)	3
MATH 265	(Linear Algebra)	3
RDG 328	(Teach Reading)	3
PHYS 212	(Gen Physics) or	
CHEM 132	(Gen Org Chem)	4
PHYS 212L	(Lab) or	
CHEM 132L	(Lab)	1
GE	(psy)	3
		17

Suggested Course Sequence

first year -Physics

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
PHYS 121	(Classical Phys I)	4
MATH 151	(Calculus I)	5
HIST 101	(Western Civ)	3
PHYE	(PE activity)	2
		17

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
PHYS 122	(Classical Phys II)	4
PHYS 122L	(Lab)	1
MATH 152	(Calculus II)	5
HIST 102	(Western Civ)	3
PHYE	(PE activity)	2
		18

second year

Fall Semester		*SemHrs*
PHYS 223	(Classical Phys III)	3
PHYS 223L	(Exper Electromag Lab)	1
MATH 253	(Calculus III)	4
BIOL 105	(Afr/Liv Sys)	3
BIOL 105L	(Lab)	1
CSCI 131	(FORTRAN Prog)	3
CSCI 131L	(Lab)	1
		16

Spring Semester		*SemHrs*
PHYS 262	(Meth/Theoret Phys)	3
MATH 260	(Diff Equations)	3
CHEM 151	(Engrg Chem)	4
CHEM 151L	(Lab)	1
ENLI 142	(Intro/Lit Poetry)	3
MUSA 234	(Music Appre)	2
		16

Suggested Course Sequence

-Physics/ Secondary Education

Curriculum for secondary education in physics is the same as suggested course sequence for physics.

Associate of Applied Science

Engineering Technology provides support to engineering efforts by helping to move design, research, or planning ideas to application. General education (GE) requirements are standard and listed under *Graduation Requirements* in this catalog. A faculty adviser should be consulted during planning.

Requirements

-Engineering Technology (Civil)

-Engineering Technology (Drafting)

Minimum Semester Hours Required (73)

	SemHrs
•General Education (GE)	16
•Core	57

Suggested Course Sequence

first year

-Engineering Technology (Civil)

Fall Semester		SemHrs	ConHrs	*Spring Semester*		SemHrs	ConHrs
ENGW 111	(Eng Comp)	3	47	ENGW 115	(Tech Wrt)	3	47
ENGR 111	(Engr Graphic/ Dsgn)	3	47	ENGT 102	(Tech Math II)	4	62
ENGT 101	(Tech Math I)	4	62	ENGR 126	(Engr Econ)	3	47
ENGT 125	(Soils Test/ Dsgn)	2	~~47~~ 32	CSCI 131	(FORTRAN Prog)	3	47
ENGT 125L	(Lab)	1	30	CSCI 131L	(Lab)	1	~~75~~ 30
PHYE	(PE activity)	2	48	PHYE	(PE activity)	2	48
GE	(soc sci)	3	47	GE	(soc sci)	3	47
		18	~~328~~ 313			19	~~473~~ 328

second year

Fall Semester		SemHrs	ConHrs	*Spring Semester*		SemHrs	ConHrs
ENGT 230	(Pipe Dsgn)	~~2~~ 3	47	ENGT 220	(Spec/Cost Est)	3	47
~~ENGT 230L~~	~~(Lab)~~	~~1~~	~~45~~	ENGT 225	(Concrete Test/ Dsgn)	2	47
ENGT 241	(Statics/Strngth/ Mat I)	3	47	ENGT 223L	(Lab)	1	30
ENGT 245	(Fluid Mech/ Hydrlcs)	2	~~45~~ 32	ENGT 240	(Timber/Steel Dsgn)	3	47
ENGT 245L	(Lab)	1	~~45~~ 30	ENGT 253	(Topo/Civ Drft/ Dsgn)	2	~~47~~ 32
ENGT 257	(Elec Pwr Sys)	3	47	ENGT 253L	(Lab)	1	~~45~~ 30
ENGR 231	(Survey I)	2	32	ENGR 232	(Survey II)	2	32
ENGR 231L	(Lab)	1	~~60~~ 45	ENGR 232L	(Lab)	1	~~60~~ 45
ENGR 159	(Intro Energy)	3	47				
		18	~~417~~ 321			19	~~366~~ 310

Suggested Course Sequence

-Engineering Technology (Drafting)

first year

Fall Semester		*Sem Hrs*	*Cont Hrs*
ENGW 111	(Eng Comp)	3	47
ENGT 101	(Tech Math I)	4	62
ENGT 156	(Arch Bldg/ Drftg)	2	47
ENGT 156L	(Lab)	1	45
ENGR 112	(Engr Graph/ Design)	3	47
PHYE	(PE activity)	2	48
GE	(soc sci)	3	47
		18	343

Spring Semester		*Sem Hrs*	*Cont Hrs*
ENGW 115	(Tech Writ)	3	47
ENGT 102	(Tech Math)	4	62
ENGT 120	(Engr Econ)	3	47
ENGT 152	(Arch/Mech/ Elec/Drftg II)	3	47
ENGT 152L	(Lab)	1	45
CSCI 131	(FORTRAN Prog)	3	47
CSCI 131L	(Lab)	1	45
PHYE	(PE activity)	2	48
		19	420

second year

Fall Semester		*Sem Hrs*	*Cont Hrs*
ENGT 241	(Stat/Surgth/ Matls I)	3	47
ENGT 251	(Elec Dftg/ Design I)	2	47
ENGT 251L	(Lab)	1	45
ENGT 254	(Piping Dftg)	2	47
ENGT 254L	(Lab)	1	45
ENGR 231	(Surveying I)	2	32
ENGR 231L	(Lab)	1	45
ENGR 159	(Intro/Energy)	3	47
GE	(soc sci)	3	47
		18	417

Spring Semester		*Sem Hrs*	*Cont Hrs*
ENGT 220	(Specs/Cost Est)	3	47
ENGT 242	(Strength/Matls II)	3	47
ENGT 252	(Structural Dftg)	2	47
ENGT 252L	(Lab)	1	45
ENGT 253	(Topo/Civ Dftg/ Design)	2	47
ENGT 253L	(Lab)	1	45
ENGT 255	(Elec Dftg/ Design)	2	47
ENGT 255L	(Lab)	1	45
ENGT 256	(Machine/Elec Dftg)	2	47
ENGT 256L	(Lab)	1	45
		18	462

Associate of Science

-Biology
-Chemistry
-Computer Science
-Geology
-Mathematics
-Physics

Associate of Science degrees in the School of Natural Sciences and Mathematics are, as noted elsewhere in this catalog, of two different kinds.

Those with traditional arts and sciences emphases are normally earned with the expectation of continuing baccalaureate studies at Mesa College or terminating collegiate experiences. General education (GE) requirements are standard and are listed under *Graduation Requirements* in this catalog.

Minimum Semester Hours Required (64)

•General Education (GE)	**16**
•Core	
Biology	
BIOL 105, 105L, 106, 106L, 107, 107L	14
BIOL 201, 201L, 202, 202L, 211, 211L (choice of)	4
Chemistry	
CHEM 131, 131L, 132, 132L, 311, 311L, 312, 312L	20
Computer Science	
CSCI 111, 112, 131, 131L, 230, 240, 250	19
Geology	
GEOL 111, 111L, 112, 112L, 201, 201L, 203	16
Mathematics	
MATH 151, 152, 253, 260, 265	20
Physics	
PHYS 121, 122, 122L, 123, 123L, 262	16
•Electives	**varies**

-Agriculture (Agronomy)
-Agriculture (Animal Science)
-Engineering
-Forestry
-Medical Technology
-Pharmacy
-~~Physical~~ Therapy

Other Associate of Science degree programs, that require transfer to other institutions for baccalaureate degrees, have curricula strongly influenced by transfer institutions' requirements. For instance, the engineering and forestry requirements are governed by written transfer agreements with Colorado State University. Thus, while minimum general education and other requirements are those listed under *Graduation Requirements* in this catalog, consultation with a faculty adviser about deviations from he following suggested course sequences is strongly recommended.

Minimum Semester Hours Required (64)

Pre-Professional for Putnam

	SemHrs
•**General Education (GE)**	16
•**Core**	48

Suggested Course Sequence

first year

-Agriculture (Agronomy)

Fall Semester		SemHrs
ENGW 111	(Eng Comp)	3
BIOL 105	(Atr/Liv Sys)	3
BIOL 105L	(Lab)	1
AGRI 113	(Intro/Animal Sci)	3
AGRI 113L	(Lab)	1
AGRI 142	(Econ Organiz/Agri)	3
PHYE	(PE activity)	1
GE		3
		18

Spring Semester		SemHrs
ENGW 112	(Eng Comp)	3
MATH 113	(Col Algebra)	4
AGRI 110	(Crop Prod)	3
AGRI 110L	(Lab)	1
AGRI 205	(Farm/Ranch Mgmt)	5
PHYE	(PE activity)	1
		17

second year

Fall Semester		SemHrs
BIOL 106 or BIOL 107	(Prin/Animal Biol) or (Prin/Plant Biol)	3
BIOL 106L or BIOL 107L	(Lab) or (Lab)	2
CHEM 121	(Gen Chem)	4
CHEM 121L	(Lab)	1
AGRI 211	(Intro/Range Sci)	3
AGRI 211L	(Lab)	1
AGRI 254	(Livestock Feeding)	3
PHYE	(PE activity)	1
		18

Spring Semester		SemHrs
BIOL 106 or BIOL 107	(Prin/Animal Biol) or (Prin/Plant Biol)	3
BIOL 106L or BIOL 107L	(Lab) or (Lab)	2
CHEM 122	(Into/Organic Chem)	4
CHEM 122L	(Lab)	1
AGRI 202	(Soils)	3
AGRI 202L	(Lab)	1
PHYE	(PE activity)	1
GE		3
		18

Suggested Course Sequence

first year

-Agriculture (Animal Science)

Fall Semester		SemHrs
ENGW 111	(Eng Comp)	3
BIOL 105	(Atr/Liv Sys)	3
BIOL 105L	(Lab)	1
AGRI 113	(Intro/Animal Sci)	3
AGRI 142	(Econ Organiz/Agri)	3
PHYE	(PE activity)	2
GE		2
		17

Spring Semester		SemHrs
ENGW 112	(Eng Comp)	3
MATH 113	(College Algebra)	4
AGRI 205	(Farm/Ranch Mgmt)	3
AGRI 260	(Func Anat/Domes Animals)	3
AGRI 260L	(Lab)	1
GE		3
		17

second year

Fall Semester		SemHrs
BIOL 106 or BIOL 107	(Prin/Animal Biol) or (Prin/Plant Biol)	3
BIOL 106L or BIOL 107L	(Lab) or (Lab)	2
CHEM 121	(Gen Chem)	4
CHEM 121L	(Lab)	1
AGRI 211	(Intro/Range Sci)	3
AGRI 211L	(Lab)	1
AGRI 254	(Livestock Feeding)	3
PHYE	(PE activity)	1
		18

Spring Semester		SemHrs
BIOL 106 or BIOL 107	(Prin/Animal Biol) or (Prin/Plant Biol)	3
BIOL 106L or BIOL 107L	(Lab) or (Lab)	2
CHEM 122	(Intro/Org Chem)	4
CHEM 122L	(Lab)	1
AGRI 202	(Soils)	3
AGRI 202L	(Lab)	1
PHYE	(PE activity)	1
GE		3
		15

Suggested Course Sequence

-Engineering

first year

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
CSCI 131	(FORTRAN Prog)	3
CSCI 131L	(Lab)	1
MATH 151	(Calculus I)	5
CHEM 151	(Engr Chem)	4
CHEM 151L	(Lab)	1
PHYE	(PE activity)	2
		19

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
ENGR 111	(Engr Graph/Design)	3
MATH 152	(Calculus II)	5
PHYS 121	(Classical Phys I)	4
PHYE	(PE activity)	2
		17

second year

Fall Semester		*SemHrs*
ENGR 240	(Statics)	3
ENGR 251	(Circuit Analysis)	3
ENGR 251L	(Lab)	1
MATH 253	(Calculus III)	4
PHYS 122	(Classical Phys II)	4
PHYS 122L	(Lab)	1
GE	(soc sci)	3
		19

Spring Semester		*SemHrs*
ENGR 241	(Dynamics)	3
ENGR 252	(Circt Analysis)	3
ENGR 252L	(Lab)	1
ENGR 253	(Electromech Devices)	2
ENGR 255	(Intro Thermal Sci)	3
MATH 260	(Differ Equations)	3
GE	(soc sci)	3
		18

ELECTRICAL ENGINEERING students must enroll in ENGR 252, 252L, and 253 while others may elect ENGR 252, 252L, or 253. CIVIL ENGINEERING students should substitute ENGR 231 and 232 for the social science GE.
MATH 265 and PHYS 123 and 123L should be strongly considered for transfer to certain programs.

Suggested Course Sequence

-Forestry

first year

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
BIOL 105	(Att/Liv/Sys)	3
BIOL 105L	(Lab)	1
CHEM 121	(Gen Chem)	4
CHEM 121L	(Lab)	1
MATH 113	(College Algebra)	4
PHYE	(PE activity)	2
		18

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
BIOL 106	(Prin/Animal Biol)	3
BIOL 106L	(Lab)	2
CHEM 122	(Intro/Org Chem)	4
CHEM 122L	(Lab)	1
MATH 130	(Trigonometry)	4
PHYE	(PE activity)	2
		18

second year

Fall Semester		*SemHrs*
~~AGRI 202~~	~~(Soils)~~	~~3~~
~~AGRI 202L~~	~~(Lab)~~	~~1~~
BIOL 197	(Prin/Plant Biol)	3
BIOL 197L	(Lab)	2
~~ECON 201~~	~~(Prin/Econ)~~	~~3~~
MATH 146	(Calculus/Biol Sci)	5
		16
Soc. Sci.		3
Humanities		3

Spring Semester		*SemHrs*
~~BIOL 111~~	~~(Cons/Environ)~~	~~3~~
BIOL 211	(Ecosys Biol)	4
BIOL 211L	(Lab)	1
CSCI 131	(FORTRAN Prog)	3
CSCI 131L	(Lab)	1
~~ECON 202~~	~~(Prin/Econ)~~	~~3~~
SPCH 102	(Spchmkg)	3
		~~17~~
Soc. Sci.		3
Humanities		3
		16

Suggested Course Sequence

-Medical Technology

first year

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
BIOL 105	(Att/Liv Sys)	3
BIOL 105L	(Lab)	1
CHEM 131	(Gen Inorg Chem)	4
CHEM 131L	(Lab)	1
MATH 119	(Precalculus Math)	5
		17

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
BIOL 106	(Prin/Animal Biol)	3
BIOL 106L	(Lab)	2
CHEM 132	(Gen Inorg Chem)	4
CHEM 132L	(Lab)	1
MATH 151	(Calculus I)	5
		18

second year

Fall Semester		*SemHrs*
BIOL 341	(Gen Physio)	3
BIOL 341L	(Lab)	1
BIOL 342	(Histology)	2
BIOL 342L	(Lab)	2
CHEM 311	(Org Chem)	3
CHEM 311L	(Lab)	2
PHYE	(PE activity)	2
GE	(soc sci)	3
		18

Spring Semester		*SemHrs*
BIOL 250	(Gen Microbiol)	3
BIOL 250L	(Lab)	2
BIOL 343	(Immunology)	2
BIOL 343L	(Lab)	1
CHEM 312	(Org Chem)	3
CHEM 312L	(Lab)	2
PHYE	(PE activity)	2
GE	(soc sci)	3
		18

Suggested Course Sequence

-Pharmacy

first year

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
BIOL 105	(Atr/Liv Sys)	3
BIOL 105L	(Lab)	1
CHEM 131	(Gen Inorg Chem)	4
CHEM 131L	(Lab)	1
MATH 119	(Precalculus Math)	5
		17

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
BIOL 106	(Prin/Animal Biol)	3
BIOL 106L	(Lab)	2
CHEM 132	(Gen Inorg Chem)	4
CHEM 132L	(Lab)	1
MATH 151	(Calculus I)	5
		18

second year

Fall Semester		*SemHrs*
ECON 201	(Prin/Econ)	3
PHYS 111	(Gen Physics)	4
PHYS 111L	(Lab)	1
CHEM 311	(Org Chem)	3
CHEM 311L	(Lab)	2
SPCH 102	(Spchmkng)	3
		16

Spring Semester		*SemHrs*
ECON 202	(Prin/Econ)	3
PHYS 112	(Gen Physics)	4
PHYS 112L	(Lab)	1
CHEM 312	(Org Chem)	3
CHEM 312L	(Lab)	2
PHYE	(PE activity)	2
		15

Suggested Course Sequence

~~-Physical Therapy~~

first year

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
BIOL 105	(Atr/Liv Sys)	3
BIOL 105L	(Lab)	1
CHEM 121	(Gen Chem)	4
CHEM 121L	(Lab)	1
PHYE	(PE activity)	2
GE	(soc sci)	3
		17

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
BIOL 106	(Prin/Animal Biol)	3
BIOL 106L	(Lab)	2
CHEM 122	(Intro/Org Chem)	4
CHEM 122L	(Lab)	1
MATH 119	(Precalculus Math)	5
		18

second year

Fall Semester		*SemHrs*
BIOL 142	(Human Anat/Physio)	3
BIOL 141L	(Lab)	2
PHYS 111	(Gen Physics)	4
PHYS 111L	(Lab)	1
PSYC 121	(Gen Psy)	3
PHYA 309	(Anat Kinesiology)	2
		15

Spring Semester		*SemHrs*
PHYS 112	(Gen Physics)	4
PHYS 112L	(Lab)	1
PSYC 233	(Human Grwth/Dev)	3
PHYE	(PE activity)	2
GE	(soc sci)	3
Elective		3
		16

Certificate Program

A Drafting Certificate is available utilizing courses in the Engineering Technology Drafting program. A faculty adviser should be consulted.

Minimum Semester Hours Required (35)

(con't next page)

Requirements

			SemHrs	ConHrs
-Engineering Technology (Drafting)	ENGT 101	(Tech Math I)	4	62
	ENGT 102	(Tech Math II)	4	62
	ENGR 111	(Engr Graphic/Dsgn)	3	47
	ENGT 158	(Arch Drft/Bldg)	~~2~~ 3	47
	ENGT 158L	(Lab)	1	~~45~~ 30
	ENGT 162	(Arch Drft Mech/Elec)	~~2~~ 3	47
	ENGT 162L	(Lab)	1	~~45~~ 30
	ENGT 251	(Electrnc Drft/Dsgn)	2	~~47~~ 32
	ENGT 251L	(Lab)	1	~~45~~ 30
	ENGT 252	(Struc Drft)	2	~~47~~ 32
	ENGT 252L	(Lab)	1	~~45~~ 30
	ENGT 253	(Topo/Civ Drft/Dsgn)	2	~~47~~ 32
	ENGT 253L	(Lab)	1	~~45~~ 30
	ENGT 254	(Piping Drft)	2	~~47~~ 32
	ENGT 254L	(Lab)	1	~~45~~ 30
	ENGT 255	(Electrnc Drft/Dsgn)	2	~~47~~ 32
	ENGT 255L	(Lab)	1	~~45~~ 30
	ENGT 256	(Mach/Elec Drft)	2	~~47~~ 32
	ENGT 256L	(Lab)	1	~~45~~ 30
			~~35~~ 37	~~907~~ 977

SCHOOL OF NURSING AND ALLIED HEALTH

Theresa Neofotist, Dean

Faculty

D. Dea	J. Goodhart	J. Martinez
S. Dickson	A. Harvey	E. Mustee
M. Eicher	F. Higgins	V. Ownbey
M. Forrest	M. Jansen	C. Roy
H. Gabriel	A. Lambeth	J. Stickel
A. Goley	B. Magenheim	E. Williams

Departments

Dental	... Helen Gabriel, Director
Nursing (RN)	... Eileen Williams, Chair
Nursing (BSN)	... Elizabeth Mustee, Chair
Radiologic Technology	... Andrea Harvey, Director

General Information

Curricula include baccalaureate and associate degree nursing as well as associate degree curricula in dental assisting and radiologic technology. Each program requires a separate admission application which must be received by March 1 of the desired year of admission.

A certificate program is offered in dental assisting.

All programs are fully accredited by the appropriate source including the Commission on Dental Accreditation, the National League for Nursing, and the Committee of Allied Health Accreditation of the American Medical Association.

Disciplines

Associate Degree Nursing
Baccalaureate Nursing
Dental Assisting
Radiologic Technology

Degrees & Certificates

Four Year Degrees

BACHELOR OF SCIENCE IN NURSING (BSN)

Two Year Degrees

ASSOCIATE OF APPLIED SCIENCE

Emphasis

Radiologic Technology

ASSOCIATE OF SCIENCE

Emphasis

Registered Nurse (RN)

Certificate Programs

Dental Assisting

Bachelor of Science in Nursing

The BSN program is presently designed for registered nurses (RN's) who are graduates of community colleges with associate degrees in nursing or of hospital-based programs. The curricula provides educational and clinical experiences to prepare a professional nurse generalist to practice in variety of health care settings. Individuals from diploma and non-credited associate degree programs must seek advanced standing through validation examinations. This program is being phased out by 1989 (the last admission into this program will be spring 1988) and will be replaced by a new BSN program explained further below. A cumulative grade point average of at least 2.00 (C) is required in course in order to continue in the program.

Minimum Semester Hours Required (124)

Admission Requirements (RN/BSN)

Current Colorado licensure as a Registered Nurse (RN) and professional liability insurance.
A cumulative grade point average of 2.50 and a grade of 2.00 (C) in all nursing courses.
Completed the specified prerequisites for admission.

Prerequisites	*SemHrs*
Anatomy & Physiology	*5-6*
Computers	*3*
Human Growth & Development	*3*
Microbiology	*3-4*
Nutrition	*2-3*
Organic Chemistry	*3-4*
Pathophysiology	*3-4*
Psychology	*3*
Statistics	*3*

Requirements

	SemHrs
•**General Education (GE)**	**44**
•**Core**	**39**
•**Electives**	**9**

Suggested Course Sequence

third year

Fall Semester		*SemHrs*
NURS 320	(Matrix)	3
NURS 340	(Hlth Assess/Phy)	3
NURS 340L	(Lab)	1
STAT 200	(Prob/Stat)	3
GE	(soc sci)	3
		13

Spring Semester		*SemHrs*
NURS 330	(Rsrch Technique)	3
NURS 350	(Com Hlth Nursing Cpts I)	2
CSCI 100	(Comput/Our Society	3
Electives	(upper division)	3
		11

fourth year

Fall Semester		*SemHrs*
NURS 420	(Com Hlth Nursing Cpts II)	2
NURS 420L	(Lab)	5
NURS 430	(Hlth Asses/Psysoc)	3
NURS 430L	(Lab)	1
NURS 441	(Nursing Mgmt)	2
NURS 441L	(Lab)	1
		14

Spring Semester		*SemHrs*
NURS 442	(Nursing Mgmt II)	2
NURS 442L	(Lab)	1
NURS 450	(Adv Nursing/Episodic Set)	2
NURS 450L	(Lab)	2
NURS 460	(Hlth Delivery)	2
Electives	(upper division)	3
		12

Bachelor of Science in Nursing

Beginning fall 1986, the BSN program curriculum is designed for individuals with no previous nursing experience. The four-year program provides educational experiences to prepare a professional nurse generalist to practice in a variety of health care settings. The program integrates nursing theory, practice, and science with a broad liberal arts education. The program will develop competent nursing care professionals with the education to meet today's need for quality health care.

Minimum Semester Hours Required (124)

Admission Requirements (BSN)

Interested persons should contact the Dean, School of Nursing and Allied Health for information and current admission criteria. It is recommended that students complete high school courses in chemistry, biology, and algebra.

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp)	3
PSYC 122	(Gen Psy)	3	CHEM 122	(Intro/Organic Chem)	5
PHYE	(PE activity)	2	PSYC 233	(Human Grth/Dev)	3
GE	(soc sci)	3	PHYE	(PE activity)	2
GE	(lr)	3	GE	(soc sci)	3
		14			16

second year

(Curriculum under development)

Courses will build on previous semesters. The second year will consist of additional biological, social, and behavioral sciences as well as liberal arts. Introductory nursing courses will be offered in fall with clinical nursing beginning spring.

third year

(Curriculum under development)

Additional support and general education courses will build on the second year. Nursing courses will be both theoretical in content and provide clinical experiences in maternal-child, pediatrics, physical assessment, and medical-surgical. Nursing electives will be offered.

fourth year

(Curriculum under development)

The final year will focus entirely on nursing courses. Curriculum will offer a higher level of theory and practice including community health, mental health, leadership, research, and critical care nursing. Nursing electives will be offered.

Associate of Applied Science

The Radiologic Technology graduate is eligible to take the examination administered by the American Registry of Radiologic Technologists. The curriculum allows students flexibility in the first semester. Applications for spring semester must be received by November 1 and by March 1 for summer session. Admissions are limited and a pre-admission interview with the program director is required. Students are selected on the basis of academic preparation, ACT scores, aptitude for service within the field, and positions available in the program. Applicants should complete high school courses in biology, physics, algebra or its college equivalent.

Radiologic Technologists are employed in hospital radiologic departments where they perform duties of diagnostic radiography, in physicians' offices, public health organizations, veterinary clinics, industrial radiography. Teaching, commercial positions connected with the manufacture, sales and service of radiographic equipment.

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 to continue in the program. General education (GE) requirements are standard and listed under *Graduation Requirements* in this catalog.

Minimum Semester Hours Required (87)

	SemHrs
•**General Education (GE)**	**16**
•**Core**	**71**

Requirements -Radiologic Technology

Suggested Course Sequence

first year

Spring Semester (or Summer Session)		*SemHrs*	*ConHrs*
ENGW 111	(Eng Comp)	3	47
CSCI 100	(Comput Oriz Society)	3	47
RADT 110	(Radiologic Intro)	3	47
PSYC 121	(Gen Psy)	3	47
PHYE	(PE activity)	2	48
		14	236

Fall Semester		*SemHrs*	*ConHrs*
BIOL 141	(Human Anat Physio)	3	47
BIOL 141L	(Lab)	2	60
RADT 121	(Radiologic Tech I)	3	32
RADT 121L	(Lab)	1	30
RADT 122	(Radiologic Prin I)	2	32
RADT 122L	(Lab)	1	30
RADT 123	(Clinical Exp I)	4	180
RADT 125	(Radiologic Sci I)	2	32
PHYE	(PE activity)	1	24
		19	467

Summer Session		*SemHrs*	*ConHrs*
RADT 243	(Clinical Exp III)	10	480

Spring Semester		*SemHrs*	*ConHrs*
ENGW 115	(Tech Writ)	3	47
PSYC 122	(Gen Psy)	3	47
RADT 131	(Radiologic Tech II)	2	32
RADT 131L	(Lab)	1	30
RADT 132	(Radiologic Prin II)	2	32
RADT 132L	(Lab)	1	30
RADT 133	(Clinical Exp II)	4	180
RADT 135	(Radiologic Sci II)	2	32
PHYE	(PE activity)	1	24
		19	454

second year

Fall Semester		*SemHrs*	*ConHrs*
RADT 251	(Radiologic Tech III)	3	47
RADT 253	(Clinical Exp IV)	10	512
		13	559

Spring Semester		*SemHrs*	*ConHrs*
RADT 261	(Radiologic Tech VI)	3	47
RADT 263	(Clinical Exp V)	10	512
		13	559

Associate of Science in Nursing

Degree programs in this emphasis are highly structured with specific pre-requisite 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. General education (GE) requirements are standard and listed under *Graduation Requirements* in this catalog.

Graduates are eligible to take the examination for licensure as a registered nurse who may serve in first level (staff nurse) positions in hospitals, nursing homes, physicians' offices, and other health agencies where adequate direction is provided.

Admission requirements include a composite ACT score of 18 or above and high school courses in biology, chemistry, and algebra or its college equivalent. An admissions committee select students from applicants who best meet requirements. All nursing courses must be completed in sequence.
(Associate Degree students planning to pursue the BSN degree may substitute NURS 320 for NURS 273). Lab experiences are planned in hospitals and health agencies in the community.

Minimum Semester Hours Required (76)

Requirements

	SemHrs
•**General Education (GE)**	**16**
•**Core**	**60**
	76 w/ PE

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*ConHrs*
BIOL 141	(Anat/Physio)	5	77
HMEC 211	(Nutrition)	3	47
NURS 113	(Nursing Cpts I)	7	107
NURS 113L	(Lab)	2	90
PHYE	(PE activity)	2	48
		19	369

Spring Semester		*SemHrs*	*ConHrs*
BIOL 250	(Microbiol)	5	77
NURS 123	(Nursing Cpts II)	5	77
NURS 123L	(Lab)	4	180
PSYC 233	(Human Grth/Dev)	3	47
PHYE	(PE Activity)	2	48
		19	429

second year

Fall Semester		*SemHrs*	*ConHrs*
ENGW 111	(Eng Comp)	3	47
PSYC 122	(Gen Psy)	3	47
BIOL 241	(Pathophysio)	4	62
NURS 210	(Nursing Cpts III)	5	77
NURS 210L	(Lab)	5	225
		20	458

Spring Semester		*SemHrs*	*ConHrs*
ENGW 112	(Eng Comp)	3	47
NURS 230	(Nursing Cpts IV)	5	77
NURS 230L	(Lab)	5	225
NURS 273	(Issues/Nursing)		
or			
NURS 320	(Matrix)	2	32
GE	(see sec)	3	47
		18	428

Certificate Programs

Requirements

-Dental Assisting Technology

The Dental Assisting Program provides training in chairside assisting, lab, and office procedures. Upon completion the graduate is eligible to take the National Dental Assisting Board Examination to earn the title of Certified Dental Assistant (CDA). The program consists of three terms (fall, spring, summer), and includes didactic, laboratory, and clinical training. A faculty adviser should be consulted.

Minimum Semester Hours Required (56)

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*ConHrs*
DENT 110	(Orent/Dent)	3	47
DENT 112	(Dent Sci I)	3	47
DENT 113	(Radiology I)	2	32
DENT 118	(Preventative Dent)	3	47
BIOL 141	(Anat/Physio)	2	60
HMEC 211	(Nutrition)	3	47
		16	280

Spring Semester		*SemHrs*	*ConHrs*
DENT 120	(Dent Sci II)	2	32
DENT 130	(Chairside I)	2	32
DENT 130L	(Lab)	3	60
DENT 140	(Dent Mat)	2	32
DENT 140L	(Lab)	2	60
DENT 150	(Radiology II)	1	17
DENT 155L	(Lab)	1	32
DENT 160	(Dent Office Proc)	2	32
DENT 160L	(Lab)	1	30
PSYC 233	(Human Grth/Dev)	3	47
SPCH 105	(Interprs Commn)	3	47
		21	421

Summer Session (1st 4 wks)

		Semhrs	*Conhrs*
DENT 190	(Clinical Dent)...	2	32
DENT 190L	(Lab).....	2	60
DENT 201	(Adv Odontology)..	1	32
		5	124
(2nd 8 wks)			
DENT 190E	(Clinical Dent Clinic).....	9	405
		14	529

SCHOOL OF SOCIAL AND BEHAVIORAL SCIENCES

Don MacKendrick, Dean

Faculty

D. Arosteguy	T. Madigan	A. Sanders
V. Beemer	W. Meeker	D. Schakel
L. Chere	L. Morton	C. Shepherd
R. Cortese	W. Nelson	G. Starbuck
P. Fink	I. Nicholson	T. Swanson
K. Ford	J. Perrin	H. Tiemann
T. Graves	K. Perrin	E. Tooker
M. Heinrich	M. Perry	B. Wiehe
C. Humphries	P. Reddin	C. Wignall
P. LaChance	D. Rees	

Departments

Behavioral Sciences	Harry Tiemann, Chair
Physical Education & Recreation	Wayne Nelson, Chair
Social Sciences	Daniel Arosteguy, Chair

General Information

A number of options exist within the School including Military Science/ Reserve Officer Training Corps and a Selected Studies program in which a student can design a program of study suited to individual needs.

Options

Anthropology
~~Career~~ Counseling ~~and Guidance~~ Psychology
Criminal Justice
Dance
Early Childhood Education
Economics
Education
Geography
History
Human Services
Military Science (ROTC)
Physical Education
Political Science
Psychology
Recreation
Social Science
Sociology

Degrees & Certificates

Four Year Degrees

BACHELOR OF ARTS IN SOCIAL AND BEHAVIORAL SCIENCES

Emphases

~~Career~~ Counseling ~~and Guidance~~ Psychology
Criminal Justice
Economics
General Social Science
History
Human Services
Political Science
Psychology
Sociology

Emphases

BACHELOR OF ARTS IN RECREATION AND LEISURE SERVICES

- Art
- Camp Management
- Dance
- Industrial Recreation
- Municipal Parks and Recreation Management
- Recreational Sports
- Therapeutic Recreation

Emphases

BACHELOR OF ARTS IN SELECTED STUDIES

- *Elementary Education
- *Secondary Social Studies
- *Secondary Physical Education
- Individually designed curricula

*SEE CONSORTIUM PROGRAMS section in this catalog for details.

Two Year Degrees

Emphasis

ASSOCIATE OF APPLIED SCIENCE

- Early Childhood Education

Emphases

ASSOCIATE OF ARTS

- Anthropology
- Criminal Justice
- History
- Physical Education
- Political Science
- Psychology

Certificate Programs

- Early Childhood Education

Bachelor of Arts in Social and Behavioral Sciences

An interdisciplinary curriculum designed to provide a broad background in the social and behavioral sciences complemented with specialized knowledge and skills.

The curriculum serves students seeking careers as para-professionals in the human services or in ~~career guidance and~~ counseling; in entry level positions in business and government service; or pursuing post-baccalaureate studies leading to professional or graduate degrees in law, public administration, social work, psychology, sociology, history, education, economics and related fields.

Minimum Semester Hours Required (124)

Requirements

-Career Counseling & Guidance
-Economics
-General Social Science
-History
-Human Services
-Political Science
-Psychology
-Sociology

	SemHrs
•General Education (GE)	44-46
•Core	varies
•Emphases:	
Career Counseling	20
OR	
Economics	18
OR	
General Social Science	21
OR	
History	19
OR	
Human Services	18
OR	
Political Science	18
OR	
Psychology	18
OR	
Sociology	18
•Electives	22

Detailed Requirements

-~~Career~~ Counseling ~~& Guidance~~ Psychology

Core:	SemHrs
Behavioral Sciences 22	
COGU 320, EDU ~~251~~, MANG 121, 371, PSYC 400, SOCO, 260, 264	21
Social Sciences	
ECON 301, 202	6
ECON, GEOG, HIST, POLS, SOCI (choice of)	9

Emphasis:	SemHrs
Counseling and Guidance	
COGU 324, 420, 422, 424, 497, 499	20
Occupational Studies	
COGU 290 (consult director for details)	24-30

Suggested Course Sequence

first year

Fall Semester		SemHrs
ENGW 111	(Eng Comp)	3
PSYC 121	(Gen Psy)	3
MATH 110	(Finite Math)	2
MANG 121	(Human Rel/Bus)	3
PHYE	(PE activity)	1
GE	(lit)	3
		15

Spring Semester		SemHrs
ENGW 112	(Eng Comp)	3
PSYC 122	(Gen Psy)	3
STAT 200	(Probability/Stat) or	
STAT 234	(Bus Stat)	3
SPCH 103	(Interpts Comm) or	
Elective	(arts/hum)	3
PHYE	(PE activity)	1
GE	(lit or phil or lang)	3
		16

second year

Fall Semester		SemHrs
SOCO 260	(Gen Socio)	3
ECON 201	(Prin/Econ)	3
COGU	(Occup Studies)	3
PHYE	(PE activity)	1
GE	(biol & soc sci)	6
		16

Spring Semester		SemHrs
SOCO 264	(Social Probs)	3
EDUC 221	(Intro/Educ)	3
PSYC 264	(Educ Psy)	3
PHYE	(PE activity)	1
GE	(phys sci or math)	3
GE	(soc sci)	3
		16

Detailed Requirements -Criminal Justice

Core:	*SemHrs*
Behavioral Sciences	
PSYC 320, 330, SOCO 260, 264, 330	15
HSER 320, PSYC 340, SOCO 300, 312, 314, 316 (Choice of)	12
HSER 301, 499 (recommended)	7
Social Sciences	
POLS 101, 102, 256, 310, 312, SOCI 310	18

Emphasis:	*SemHrs*
Criminal Justice	
CSJU 111, 112, 222, 251, 304, 401	18

9 hrs. electives per Paul Lockhart (Correction)
4 hrs. upper electives

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp)	3
PSYC 121	(Gen Psy)	3	PSYC 122	(Gen Psy)	3
CSJU 111	(Intro/Admin/Justice)	3	SPCH 101	(Interprs Comm) or	
POLS 101	(American Govt)	3	SPCH 102	(Spchmkng)	3
PHYE	(PE activity)	1	CSJU 112	(Police/Society)	3
GE	(lit)	3	POLS 102	(American Govt)	3
		16	PHYE	(PE activity)	1
					16

second year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
SOCO 260	(Gen Socio)	3	SOCO 264	(Social Probs)	3
POLS 256	(State/Local Govt)	3	STAT 206	(Probability/Stat)	3
MATH 110	(Finite Math)	2	CSJU 251	(Laws/Arrest/Srch/Seizr)	3
CSJU 222	(Police Patrol Op)	3	PHYE	(PE activity)	1
PHYE	(PE activity)	1	GE	(lit or phil or lang)	3
GE	(biol)	3	GE	(soc sci)	3
		15			16

Detailed Requirements -Economics

Core:	*SemHrs*
Behavioral Sciences	
ANTH 101, 102 or SOCO 260, 264 or PSYC 121, 122	6
ANTH, EDUC, HSER, CCGU, PSYC, SOCO (choice of)	9
Social Sciences	
ECON, HIST, POLS, SOCI (choice of)	6

Emphasis:	*SemHrs*
Economics	
ECON 301, 310, 312, 401, 410, 420, 496	18
ECON 201, 202, 320, 342, 343	15

(Core)

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp)	3
PSYC 121	(Gen Psy)	3	PSYC 122	(Gen Psy)	3
MATH 110	(Finite Math) or		STAT 206	(Probability/Stat)	3
MATH 121	(Math Foun/Bus)	2-3	PHYE	(PE activity)	1
PHYE	(PE activity)	1	GE	(lit or phil or lang)	3
GE	(lit & soc sci)	6	GE	(soc sci)	3
		15 16			16

second year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ECON 201	(Prin/Econ)	3	ECON 202	(Prin/Econ)	3
ANTH 101	(Phy Anth) or		ANTH 102	(Cultural Anth) or	
SOCO 260	(Gen Socio)	3	SOCO 264	(Soc Probs)	3
PHYE	(PE activity)	1	PHYE	(PE activity)	1
GE	(biol & hum & soc sci)	9	GE	(phys sci)	3
		16	Elective	(behav sci core req)	6
					16

Detailed Requirements -General Social Science

Core: *SemHrs*

Behavioral Sciences
- ANTH 101, 102, SOCO 260, 264 12
- ANTH, EDUC, HSER, CCGU, PSYC, SOCO (choice of) 3

Social Sciences
- ECON 201, 202, GEOG 101, 102 and HIST 101, 102 or HIST 131, 132 18
- Upper Division ANTH, ECON, HIST, POLS, SOCI or SOCO (at least 3 semhrs but not more than 9 semhrs in 3 disciplines) 21

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp)	3
PSYC 121	(Gen Psy)	3	PSYC 122	(Gen Psy)	3
POLS 103	(American Govt)	3	POLS 302	(American Govt)	3
GEOG 101	(Intro/Geog)	3	GEOG 102	(Intro/Geog)	3
PHYE	(PE activity)	1	PHYE	(PE activity)	1
GE	(lit)	3	GE	(lit or phil or lang)	3
		16			16

second year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ECON 201	(Prin/Econ)	3	ECON 202	(Prin/Econ)	3
HIST 101	(Western Civ) or		HIST 102	(Western Civ) or	
HIST 131	(U.S. Hist)	3	HIST 132	(U.S. History)	3
SOCO 260	(Gen Socio)	3	SOCO 264	(Social Probs)	3
PHYE	(PE activity)	1	PHYE	(PE activity)	1
GE	(phys sci or math)	3	GE	(phys sci or math)	3
GE	(biol)	3	GE	(hum)	3
		16			16

Detailed Requirements -History

Core: *SemHrs*

Behavioral Sciences
- ANTH 101, 102, SOCO 260, 264, ... 12
- ANTH, EDUC, HSER, CCGU, PSYC, SOCO (choice of) 3

Social Sciences
- ECON 201, 202, HIST 101, 102, 131, 132, 136 or 137, or SOCI elective 21

Emphasis: *SemHrs*

History
- HIST 300, 330, 400, 430 (choice of) 6
- HIST 320, 410, 420, 440, 442, 444, ECON 312 (choice of) 6
- HIST 210, 340, 401, 403 (choice of) 6
- HIST 404 1

19

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp)	3
HIST 101	(Western Civ)	3	HIST 102	(Western Civ)	3
POLS 301	(American Govt)	3	POLS 102	(American Govt)	3
PHYE	(PE activity)	1	PHYE	(PE activity)	1
GE	(psy or biol)	3	GE	(psy or biol)	3
GE	(lit)	3	GE	(lit or phil or lang)	3
		16			16

second year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
HIST 131	(U.S. Hist)	3	HIST 132	(U.S. Hist)	3
ANTH 101	(Phys Anth)	3	ANTH 102	(Cultural Anth)	3
SOCO 260	(Gen Socio)	3	SOCO 264	(Social Probs)	3
PHYE	(PE activity)	1	PHYE	(PE activity)	1
GE	(psy or biol)	3	GE	(phys sci or math)	3
GE	(hum)	3	GE	(soc sci)	3
		16			16

Detailed Requirements -Human Services

Core: *SemHrs*

Behavioral Sciences

CCGU 420, HSER 301, 499, SOCO 260, 264, SOCO 410 or SOCI 310 22

ANTH, EDU, HSER, CCGU, PSYC, SOCO (choice of) 3

Social Sciences

ECON 201, 202 or HIST 101, 102 or HIST 131, 132 or POLS 101, 102 6

ECON, GEOG, HIST, POLS, SOCI (choice of) 9

Emphasis: *SemHrs*

Human Services

CCGU 320, HSER 310, 320, PSYC 310, 320 340 350, SOCI 314, 316 330, 350, 360 (choice of) 18

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp)	3
PSYC 121	(Gen Psy)	3	PSYC 122	(Gen Psy)	3
SOCO 260	(Gen Socio)	3	SOCO 264	(Social Probs)	3
PHYE	(PE activity)	1	PHYE	(PE activity)	1
GE	(lit)	3	GE	(lit or phil or lang)	3
GE	(soc sci)	3	GE	(soc sci)	3
		16			16

second year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
MATH 110	(Finite Math)	3	STAT 200	(Probability/Stat)	3
PHYE	(PE activity)	1	PHYE	(PE activity)	1
GE	(biol)	6	GE	(phys sci or math)	3
GE	(soc sci)	3	Elective	(soc sci core req)	9
GE	(hum)	3			16
		16			

Requirements -Political Science

Core: *SemHrs*

Behavioral Sciences

ANTH 102, SOCO 260, 264 9

ANTH, CCGU, HSER, PSYC, SOCO (choice of) 6

Social Sciences

HIST 131, 132, POLS 101, 102, 256 15

ECON, GEOG, HIST, POLS, SOCI (choice of) 6

Emphasis: *SemHrs*

Political Science

POLS 302, 310, 312, 313, 350, SOCO 300, SOCI 351, 352, POLS 399A or POLS 399B (choice of) 18

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp)	3
PSYC 121	(Gen Psy)	3	PSYC 122	(Gen Psy)	3
HIST 101	(Western Civ)	3	HIST 102	(Western Civ)	3
POLS 101	(American Govt)	3	POLS 102	(American Govt)	3
PHYE	(PE activity)	1	PHYE	(PE activity)	1
GE	(lit)	3	GE	(lit or phil or lang)	3
		16			16

second year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
HIST 131	(U.S. Hist)	3	HIST 132	(U.S. Hist)	3
POLS 256	(State/Local Govt)	3	SOCO 264	(Social Probs)	3
SOCO 260	(Gen Socio)	3	ANTH 102	(Cultural Anth)	3
SPCH 102	(Speaking)	3	PHYE	(PE activity)	1
PHYE	(PE activity)	1	GE	(phys sci or math)	3
GE	(biol)	3	GE	(soc sci)	3
		16			16

Detailed Requirements -Psychology

Core: *SemHrs*

Behavioral Sciences
- PSYC 314, 320, 322, 414, SOCO 260, 264, SOCI 310 — 21

Social Sciences
- ECON 201, 202 or HIST 101, 102 or HIST 131, 132 or POLS 101, 102 — 6
- ECON, GEOG, HIST, POLS, SOCI (choice of) — 9

Emphasis: *SemHrs*

Psychology
- PSYC 310, 312, 330, 332, 340, 350, 400, 412, 420, 422, HSER 301, 310 (choice of) — 18

Suggested Course Sequences

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp)	3
PSYC 121	(Gen Psy)	3	PSYC 122	(Gen Psy)	3
PHYE	(PE activity)	1	PHYE	(PE activity)	1
GE	(soc sci)	3	GE	(soc sci)	6
GE	(lit)	3	GE	(lit or phil or lang)	3
GE	(phys sci or math)	3			16
		16			

second year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
MATH 110	(Finite Math)	2	STAT 269	(Probability/Stat)	3
SOCO 269	(Gen Socio)	3	SOCO 264	(Social Probs)	3
PHYE	(PE activity)	1	PHYE	(PE activity)	1
GE	(hum)	3	GE	(biol)	3
Elective	(soc sci core req)	6	Elective	(soc sci core req)	6
		15			16

Detailed Requirements -Sociology

Core: *SemHrs*

Behavioral Sciences
- SOCO 260, 264, 400, 410, SOCI 310 — 15
- ANTH, CCGU, EDUC, HSER, PSYC, SOCO (choice of) — 6

Social Sciences
- ECON 201, 202 or HIST 101, 102 or HIST 131, 132 or POLS 101, 102 — 6
- ECON, GEOG, HIST, POLS, SOCI (choice of) — 9

Emphasis: *SemHrs*

Sociology
- SOCO 300, 310, 312, 314, 316, 330, 350, 360, SOCI 351, 352, HSER 301, 310 (choice of) — 18

Suggested Course Sequence

first year

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
PSYC 121	(Gen Psy)	3
PHYE	(PE activity)	1
GE	(soc sci)	3
GE	(lit)	3
GE	(phys sci or math)	3
		16

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
PSYC 122	(Gen Psy)	3
PHYE	(PE activity)	1
GE	(soc sci)	6
GE	(lit or phil or lang)	3
		16

second year

Fall Semester		*SemHrs*
MATH 110	(Finite Math)	2
SOCO 260	(Gen Socio)	3
PHYE	(PE activity)	1
GE	(hum)	3
Elective	(soc sci core req)	6
		15

Spring Semester		*SemHrs*
STAT 200	(Probability/Stat)	3
SOCO 264	(Social Probs)	3
PHYE	(PE activity)	1
GE	(biol)	3
Elective	(soc sci core req)	6
		16

Bachelor of Arts in Recreation and Leisure Services

The curriculum provides a number of career options in the recreation and leisure field. The degree requires an internship during the senior year or the summer preceding. Interns are placed with recreation agencies for one full semester. Normally no other courses may be taken during the internship which requires at least 40 contact hours a week. Students must plan to accommodate this requirement and make arrangements for the internship at least one semester in advance.

Minimum Semester Hours Required (124)

Requirements

-Art
-Camp Management
-Dance
-Industrial Recreation
-Municipal Parks & Recreation Management
-Recreational Sports
-Therapeutic Recreation

	SemHrs
***General Education (GE)**	44
***Core**	37
***Emphases**	20-21
Art OR Camp Management OR Dance OR Industrial Recreation OR Municipal Parks and Recreation Management OR Recreational Sports OR Therapeutic Recreation	
***Electives**	**varies**

Detailed Core Requirements

Fine Arts	
FINE 101	3
Recreation and Leisure Services	
RECR 210, 270, 380, 384, 480, 484, 486, 499	34

Detailed Emphasis Requirements

-Art

Art	*SemHrs*
ARTE 151, 211 or ~~ARTE~~ 212, 300	8
ARTE 120, 231, 241, 242, 251, 271, 272, 282, 291, 292, Advanced Studio Courses (choice of)	12

Suggested Course Sequence

first year

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
RECR 210	(Intro/Rec/Leisure Services)	3
PHYE	(PE activity)	1
GE	(psy or biol)	3
GE	(soc sci)	3
GE	(lit)	3
		16

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
FINE 101	(Man Creates)	3
PHYE	(PE activity)	1
GE	(psy or biol)	3
GE	(lit or phil or lang)	3
GE	(soc sci)	3
		16

second year

Fall Semester		*SemHrs*
ARTE 211	(Art Hist)	3
PHYE	(PE activity)	1
GE	(psy or biol)	3
GE	(phy sci or math)	3
GE	(soc sci)	3
Elective	(emphasis req)	3
		16

Spring Semester		*SemHrs*
RECR 270	(Rec/Spec Popltns)	3
ARTE 151	(Basic Draw)	3
PHYE	(PE activity)	1
GE	(phys sci or math)	3
GE	(hum)	3
Elective	(emphasis req)	3
		16

Detailed Emphasis Requirements

-Camp Management

	SemHrs
Art	
ARTE 110	3
Biology	
BIOL 113	3
Home Economics	
HMEC 211	3
Recreation	
~~PHYA 211, 326, 472,~~ RECR 382, 482, 472	12-15

and 3-6 sem. hrs. Plan Ed Methods Course (see pg. 178 for address)

Suggested Course Sequence

first year

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
RECR 210	(Intro/Rec/Leisure Services)	3
PHYE	(PE activity)	1
GE	(psy or biol)	3
GE	(soc sci)	3
GE	(lit)	3
		16

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
FINE 101	(Man Creates)	3
PHYE	(PE activity)	1
GE	(psy or biol)	3
GE	(lit or phil or lang)	3
GE	(soc sci)	3
		16

second year

Fall Semester		*SemHrs*
ARTE 110	(Early Childd Art)	3
PHYE	(PE activity)	1
GE	(psy or biol)	3
GE	(phys sci or math)	3
GE	(soc sci)	3
Elective	(emphasis req)	3
		16

Spring Semester		*SemHrs*
RECR 270	(Rec/Spec Popltns)	3
HMEC 211	(Nutrition)	3
BIOL 113	(Outdoor Survival)	3
PHYE	(PE activity)	1
GE	(phys sci or math)	3
GE	(hum)	3
		16

Detailed Emphasis Requirements

-Dance

	SemHrs
Dance and Fine Arts	
PHYA 276, 277, 280, 281, PHYE 170, 171, 175, 176, 177, 178, THEA 121, 122, 123, 124, 125, 127 (choice of)	8
PHYA 253, 256, 295, 324, 395, 495 (choice of)	6
FINE 301, 302, 402, PHYA 257, 321, 421, THEA 142, 214, 144, 252, 314, 414 (choice of)	6

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp)	3
RECR 210	(Intro/Rec/Leisure Services)	3	FINE 101	(Man Creates)	3
PHYE	(PE activity)	1	PHYE	(PE activity)	1
GE	(psy or biol)	3	GE	(psy or biol)	3
GE	(soc sci)	3	GE	(lit or phil or lang)	3
GE	(lit)	3	GE	(soc sci)	3
		16			16

second year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
PHYE	(PE activity)	1	RECR 270	(Rec/Spec Popltns)	3
GE	(psy or biol)	3	PHYE	(PE activity)	1
GE	(phys sci or math)	3	GE	(hum)	3
GE	(soc sci)	3	GE	(phys sci or math)	3
Electives	(emphasis req)	6	Electives	(emphasis req)	6
		16			16

Detailed Emphasis Requirements

-Industrial Recreation

SemHrs

Management
FINE 402, MANG 121, ECON 301 9
Recreation
~~PHYE 113, 115, 131, PHYA 213, 215, 224, 231,~~ 265, Phys
375, and Tran. Rec. ? 12
Phys Ed Method Courses
(see pg. 178 for choices)

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ENGW 111	(Eng Comp)	3	ENGW 112	(Eng Comp)	3
RECR 210	(Intro/Rec/Leisure Services)	3	FINE 101	(Man Creates)	3
PHYE	(PE activity)	1	PHYA 265	(Std First Aid/CPR)	2
GE	(psy or biol)	3	PHYE	(PE activity)	1
GE	(soc sci)	3	GE	(psy or biol)	3
GE	(lit)	3	GE	(lit or phil or lang)	3
		16			15

second year

Fall Semester		*SemHrs*	*Spring Semester*		*SemHrs*
ECON 201	(Prin/Econ)	3	RECR 270	(Rec/Spec Popltns)	3
MANG 121	(Human Relations/Bus)	3	ECON 202	(Prin/Econ)	3
PHYE	(PE activity)	1	PHYE	(PE activity)	1
GE	(psy or biol)	3	GE	(phys sci or math)	3
GE	(phys sci or math)	3	GE	(hum)	3
Elective	(emphasis req)	3	Elective	(emphasis req)	3
		16			16

Detailed Emphasis Requirements

-Municipal Parks and Recreation Management

SemHrs

Horticulture
AGRI 201, 201L 4
Management
MANG 201, POLS 256, 312 9
Recreation
PHYA 375, RECR 470, 482 7

Suggested Course Sequence

first year

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
RECR 210	(Intro/Rec/Leisure Services)	3
POLS 101	(American Govt)	3
PHYE	(PE activity)	1
GE	(psy or biol)	3
GE	(lit)	3
		16

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
FINE 101	(Man Creates)	3
POLS 102	(American Govt)	3
PHYE	(PE activity)	1
GE	(psy or biol)	3
GE	(lit or phil or lang)	3
		16

second year

Fall Semester		*SemHrs*
AGRI 201	(Envrmtl Horticltur)	3
AGRI 201L	(Lab)	1
POLS 256	(State/Local Govt)	3
MANG 261	(Prin/Mgmt)	3
GE	(phys sci or math)	3
GE	(psy or biol)	3
		16

Spring Semester		*SemHrs*
RECR 270	(Rec/Spec Popltns)	3
PHYE	(PE activity)	2
GE	(phys sci or math)	3
GE	(soc sci)	3
GE	(hum)	3
Elective		3
		17

Detailed Emphasis Requirements

-Recreational Sports

SemHrs

Physical Education

PHYA 234, 320 5

~~PHYE 115, 116, 117, 132, 133, PHYA 221, 222, 223, 224, 225, 226, 227, 228~~ (choice of) 12

PHYA 240, 241, 242, 243, 244, 245, 246 (choice of) .. 3

Suggested Course Sequence

first year

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
RECR 210	(Intro/Rec/Leisure Services)	3
PHYE	(PE activity)	1
GE	(psy or biol)	3
GE	(soc sci)	3
GE	(lit)	3
		16

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
FINE 101	(Man Creates)	3
PHYE	(PE activity)	1
GE	(psy or biol)	3
GE	(lit or phil or lang)	3
GE	(soc sci)	3
		16

second year

Fall Semester		*SemHrs*
PHYA 234	(Care/Prevent/Athletic Injuries)	2
PHYE	(PE activity)	1
GE	(phys sci or math)	3
GE	(psy or biol)	3
GE	(soc sci)	3
Elective	(emphasis req)	3
		15

Spring Semester		*SemHrs*
PHYA 270	(Rec/Spec Popltns)	3
PHYE	(PE activity)	1
GE	(phys sci or math)	3
GE	(hum)	3
Elective	(emphasis req)	6
		16

Detailed Emphasis Requirements

-Therapeutic Recreation

SemHrs

Recreation

PHYA 265, 472, RECR 390, 410, 450 14

Recreation Related

OFAD 147, BIOL 141 & 141L, PHYA 309, RECR 420, PSYC 200, 310, 330, 340 350, SOCO 316, 330, 360, THEA 213 (choice of) 6

Suggested Course Sequence

first year

Fall Semester		*SemHrs*
ENGW 111	(Eng Comp)	3
RECR 210	(Intro/Rec/Leisure Services)	3
PHYE	(PE activity)	1
GE	(psy or hist)	3
GE	(soc sci)	3
GE	(lit)	3
		16

Spring Semester		*SemHrs*
ENGW 112	(Eng Comp)	3
FINE 101	(Man Creates)	3
PHYE	(PE activity)	1
GE	(psy or hist)	3
GE	(lit or phil or lang)	3
GE	(soc sci)	3
		16

second year

Fall Semester		*SemHrs*
PHYA 265	(Std First Aid/CPR)	2
PHYE	(PE activity)	1
GE	(psy or hist)	3
GE	(phys sci or math)	3
GE	(soc sci)	3
Elective	(emphasis req)	3
		15

Spring Semester		*SemHrs*
RECR 270	(Rec/Spec Popltns)	3
PHYE	(PE activity)	1
GE	(phys sci or math)	3
GE	(hum)	3
Electives	(emphasis req)	6
		16

Bachelor of Arts in Selected Studies

This program leads to teacher certification in some areas or allows students to design a curriculum suited to individual needs, background, interests, and goals.

Early consultation with the program director is essential because a formal declaration of major is required and a curricular plan must be filed before program admission.

Requirements

Minimum Semester Hours Required (124)

	SemHrs
•**General Education (GE)**	**44**
•**Major**	**72**
•**Electives**	**varies**

TEACHER CERTIFICATION STUDIES within this format are detailed in the Consortium Programs section of this catalog.

Detailed Major Requirements

The degree requires the completion of 72 credit hours in two or three subject areas (academic departments). The subject areas of the major shall be designated primary and secondary areas. The faculties of the respective academic departments shall have the prerogative of designating acceptable primary and secondary areas and the courses which shall compose the Selected Studies Major.

A student may elect a two or three area major as follows:

OPTION I: A two area major consisting of two primary areas of at least 36 semester hours each. The two areas cannot be taught in the same academic department.

OPTION II: A two area major consisting of a primary area of at least 48 semester hours and a secondary area consisting of at least 24 semester hours. The two areas cannot be taught in the same academic department.

OPTION III: A three area major consisting of a primary area of at least 36 semester hours and two secondary areas consisting of at least 18 semester hours each. Each area must be taught in a different academic department.

Students may choose a vocational/technical discipline as a secondary area under Option II, or as one secondary area under Option III. No more than 30 credit hours from one vocational/technical discipline and no more than 40 in two disciplines may be counted toward the degree.

Additionally, students seeking this degree must file a formal application for admission to the program. To file an application, the student must:

1. Submit copies of all college transcripts to the Director of the program for evaluation.
2. Present a credit evaluation report from the Registrar's Office.
3. Present a written application statement which includes:
   a. A description of academic and career goals.
   b. A definition and description of a clear, unifying theme in the major program.
   c. A statement of reasons for choosing particular disciplines included in the proposed major program.
   d. Such other information the student may wish to include in support of the application.
4. Have the application statement reviewed by the Director of Selected Studies and the Chairs of the affected departments. Departmental 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 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 affected departmental Chairs.
6. File the approved preliminary program proposal with the Director of Selected Studies.

Of the 72 semester hours composing the major, at least 36 semester hours must be at the upper division level. (One half of all credits in the primary areas and one half of all credits in each secondary area must be at the upper division level, unless the secondary area is in a vocational/technical discipline.

All program areas must include courses which define the philosophy, intellectual tradition and/or methodology of the academic disciplines composing the primary and secondary subject.

All students entering the program must complete 48 semester hours after completion of the application process. At least 24 of these credits must be at the upper division level. Students must have earned at least a 2.50 GPA in coursework completed prior to admission to the program.

Individual academic departments may establish additional requirements for subject areas in their department.

Associate of Applied Science

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.

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.

Minimum Semester Hours Required (64)

Requirements

Early Childhood Education

	SemHrs
•**General Education (GE)**	**16**
•**Core**	**47**
•**Electives**	**1**

Suggested Course Sequence

first year

Fall Semester		*SemHrs*	*ConHrs*
ENGW 111	(Eng Comp)	3	47
PSYC 121	(Gen Psy)	3	47
ARTE 110	(Early Childhd Art)	3	47
EDEC 110	(Toddler Curric)	2	32
EDEC 121	(Intro/Early Childhd)	2	32
THEA 213	(Crea Play/ Drama)	3	47
		16	252

Spring Semester		*SemHrs*	*ConHrs*
ENGW 112	(Eng Comp)	3	47
PSYC 122	(Gen Psy)	3	47
SPCH 111	(Spch Pathology)	3	47
EDEC 111	(Curric/Early Childhd Ed)	3	74
MUSA 241	(Mus/Meth/ Early Childhd)	2	32
PHYE	(PE activity)	2	48
		16	295

second year

Fall Semester		*SemHrs*	*ConHrs*
SOCO 144	(Marriage/ Family)	3	47
HMEC 238	(Childhd Dev)	3	47
ENSS 240	(Child Lit)	3	47
EDEC 252	(Student Teach)	6	240
PHYA 265	(1st Aid/CPR)	2	32
		16	413

Spring Semester		*SemHrs*	*ConHrs*
HMEC 141	(Meals Mgmt)	4	95
HMEC 211	(Nutrition)	3	47
EDEC 260	(Childcare Cntr Mgmt)	3	47
PHYE	(PE activity)	2	48
GE	(lit or soc sci)	3	47
Elective		1	17
		16	301

ELEMENTARY EDUCATION certification students may develop a minor in early childhood education. For details consult with the director, campus Early Childhood Education Center.

Associate of Arts

The associate degree is designed primarily for those students wishing to complete two years of course work. General education requirements are standard and listed under *Graduation Requirements* in this catalog.

Minimum Semester Hours Required (64)

Requirements

Anthropology
-Criminal Justice
-History
-Physical Education
-Political Science
-Psychology

	SemHrs
•General Education (GE)	**34**
•Core	
Anthropology	
ANTH 101, 102, 221, 222, 230, 232, 261, 262 (choice of)	12
Criminal Justice	
CSJU 111, 112, 222, 251, POLS 256, SOCO 260, 264	21
History	
HIST 101, 102, 120, 131, 132, 136, 137, 205, 206 (choice of)	12
Physical Education	
PHYA 200, 234, 250, 251, 256, 257, 260, 265, 276, 277, 280, 281, 297 (choice of) and PHYA 211-133 (choice of 1) and PHYA 240-246 (choice of 1)	12
Political Science	
POLS 101, 102, 261, 262, HIST 131, 132 (choice of)	12
Psychology	
PSYC 200, 210, 220, 233, 254 (choice of)	12
•Electives	**varies**

NO UPPER DIVISION credits may be used to meet either general education or emphasis requirements.

Certificate Programs

Certain courses in early childhood education are required for state certification as well as a current Red Cross First Aid Certificate.

Minimum Semester Hours Required (27-31)

Suggested Course Sequence

-Early Childhood Education

Fall Semester		*SemHrs*	*ConHrs*
PSYC 121	(Gen Psy)	3	47
HMEC 211	(Nutrition)	3	47
HMEC 238	(Childhd Dev)	3	47
EDEC 111	(Curriculum/ Early Ed)	3	74
SOCO 144	(Marriage/ Family)	3	47
*PHYA 265	(Std First Aid/ CPR)	2	32
		17	294

Spring Semester		*SemHrs*	*ConHrs*
EDEC 260	(Childcare Ctr Mgmt)	3	47
EDEC 252	(Student Teach)	5	240
Electives	(select 2) ARTE 110, EDEC 121, ENGW 340, MUSA 241, THEA 213	4-6	32-47
		12-14	319-334

*or current Red Cross First Aid Card.

Specialized Study Programs

-Military Science

Reserve Officers Training Corps (ROTC)

The Department of Military Science presents instruction in general military subjects, with an emphasis on leadership and management, to provide the student with the opportunity to qualify for a commission as an officer in the United States Army, the United States Army Reserve, or the National Guard. Courses in the ROTC program are designed to complement a student's academic major and develop the qualities of leadership and citizenship which are desirable in both military and civilian enterprise.

Basic ROTC

Participation in the first two years of the ROTC program is completely voluntary and no military obligation is incurred during this time. It is during these two years that a student is afforded the opportunity to evaluate the military as a career alternative and qualify for enrollment in Advanced ROTC.

Basic Camp

A freshman or sophomore enrolled in College can complete Basic ROTC by attending a six week ROTC Basic Camp. Participation in Basic Camp is completely voluntary and no military obligation is incurred during this time. Basic Camp affords a student the opportunity to evaluate the military as a career and qualifies the student for enrollment in Advanced ROTC by giving credit for Basic ROTC.

Advanced ROTC

Participation in the last two years of the ROTC program is both elective and selective. Completion of this program and completion of the degree requirements qualify the student for a commission as a second lieutenant in the U.S. Army Reserve or National Guard. Therefore, applicants must demonstrate academic proficiency indicating a reasonable likelihood of completing degree requirements and must exhibit leadership qualities during the first two years of ROTC. A physical examination is required. The Advanced Course includes four semesters of military-science courses on campus and a six-week summer camp to provide training and leadership opportunities not available on campus.

Activities

To provide students with a variety of areas for developing leadership ability, the Department of Military Science sponsors several extracurricular activities in connection with the ROTC program. The activities include a physical training program, an outdoor adventure training program, a drill team and a color guard.

Credit

Students enrolled in ROTC can utilize ROTC credits toward graduation from Mesa College.

Veterans, Reservists and National Guardsmen

Students with prior military service, Reservists and Guardsmen who have completed basic training, may receive advanced placement credit and enter the ROTC program at the Advanced Course level.

Military Supplies

All Military Science sponsors several extracurricular activities in connection with the ROTC program. The activities include a physical training program, an outdoor adventure training program, a drill team and a color guard.

Regular Army Commission

Senior military students who have demonstrated academic proficiency in all subjects and who have shown outstanding leadership may be designated as "Distinguished Military Students." This designation enables a student to apply for a regular Army commission during the senior year and, if appointed, enter military service as a second lieutenant, regular Army, upon graduation.

Scholarships

The United States Army offers qualified male or female applicants one, two and three year fully paid ROTC Scholarships to attend Mesa College. ROTC scholarships pay all tuition and fees, buy all books and supplies required in college courses and pay the student a subsistence allowance of $100 per month during the school year for the duration of the scholarship. Upon graduation, ROTC scholarship students receive commissions and are required to serve four years of active duty in the Army. Individuals interested in applying for an ROTC scholarship should contact high school counselors or the Assistant Professor of Military Science, Mesa College, Room 5, Elm Hall.

Commissioning Requirements

Total Semester Hours Required (24)

			Sem Hrs
MS I - Freshman Year	MILS 101	(Personal Leadership)	1
	MILS 102	(Organiz Leadership)	1
MS II - Sophomore Year	MILS 201	(Leadership Dev)	2
	MILS 202	(Leadership Assess)	2
MS III - Junior Year	MILS 302	(Apl Leadership)	3
	MILS 303	(Adv Camp)	3
	MILS 332	(Hist/Modern Warfare)	3
MS IV - Senior Year	POLS 302	(Internt Relations)	3
	or POLS 261 or 262	(Comparative Govt)	3
	MILS 401	(Mil Assumption of Command)	3
			24

MESA COLLEGE CONSORTIUM PROGRAMS

Departments

Mesa/Adams State	... Dr. Thomas D. Graves
Mesa/Metropolitan State	... Dr. Mary S. Ryder
Mesa/Western State	... Mr. Donald MacKendrick
Mesa/Western State	... Dr. Muriel L. Myers

General Information

Mesa College offers a variety of degrees and graduate programs in conjunction with the Colorado State Consortium Schools. In many cases all course work is completed on the Mesa College campus and the degree is awarded by the cooperating school. The curriculums are usually intra-school and give the student a broad cross-section of course work.

Degrees & Certificates

Graduate Degrees

Emphasis

MASTER OF ARTS (MA)

Counseling and Guidance

MASTER OF BUSINESS ADMINISTRATION (MBA)

Certificates

Emphases

COLORADO TEACHERS CERTIFICATION

Elementary Education

Secondary Education

- Biology
- English
- Mathematics
- Physical Education
- Social Studies

Master of Business Administration

A program of courses offered in the evening at Mesa College in cooperation with Western State College. Completion time is approximately six continuous semesters (30 semester hours).

Contact: Dr. Muriel Myers, School of Business, Mesa College.

Admission Requirements

A four-year baccalaureate degree from an accredited college or university.
An undergraduate GPA of 2.70 or better.
33 hours of undergraduate prerequisites (for non-business majors).

Degree Requirements

30 semester hours of graduate course work at Mesa College.
A cumulative GPA of 3.00 or better.
A satisfactory score on the Graduate Management Aptitude Test.
A comprehensive written examination.

Tuition: $30.00 per semester hour.

Teacher Certification

Colorado Teacher Certification is available on campus through arrangements with Metropolitan State College and Western State College. Programs of study include elementary and secondary education in a number of disciplines. Education methods courses are provided by the cooperating school while Mesa College provides support courses.

CURRICULUM SUBJECT TO Western State and Metropolitan State curricula changes

In cooperation with Metropolitan State College, Denver, Mesa College offers several programs of study leading to a baccalaureate degree with certification to teach in the public schools of Colorado. The student receives a Mesa College baccalaureate degree while Metropolitan State College recommends certification. All coursework is available on the Mesa College campus.

Certification Areas

Elementary Teacher Certification (BA, Selected Studies)
Secondary Teacher Certification in:
- Social Studies (BA, Selected Studies)
- Physical Education (BA, Selected Studies)
- Science (BS, Biological and Agricultural Sciences)
- Mathematics (BS, Physical and Mathematical Sciences)
- English (BA, Liberal Studies)

Minors:
- Reading
- Special Education
- Early Childhood Education

General Requirements

To be admitted to and continue in any teacher certification program students must:

1. Pass, at the 75th percentile or above, the California Achievement Test, Level 19, (English spelling and mathematics). Students should make arrangements in the Testing Center, Library Terrace Level, to take this test.
2. Achieve and maintain a minimum grade point average of 2.75 in all college work attempted, in all work in the teaching discipline, and in all education courses attempted.
3. Complete 200 clock hours of volunteer service by the end of the sophomore year.
4. Pass a public speaking course with a grade of "B" or better.
5. Consult with the Coordinator of Teacher Certification (Room 212, Houston Hall) *before* enrolling in a 300 or 400 level professional education course.
6. Complete 50 semester hours of coursework before beginning professional education courses.

In addition to the above, students must:

*1. File for formal admission to the Selected Studies Program with the Director of Selected Studies *before* beginning any coursework in professional education.

*2. File with the Director of Selected Studies, a department approved program of study in a minor area.

3. Complete no less than eighteen (18) semester hours of coursework at Mesa College. Consortium courses *may not* be used to meet this requirement.

Contact: **Dr. Mary Ryder, Director, Mesa/Metro Consortium for Teacher Education, Mesa College.**

*ONLY SELECTED STUDY Areas.

Certification Areas

In cooperation with Western State College, gunnison, Mesa College offers a program of study leading to a baccalaureate degree with certification to teach in the elementary schools of Colorado. The student receives a BA in Selected Studies from Mesa college while Western State College recommends certification. The program requires the student to spend at last one semester on the Western State campus to complete a block of professional education courses. Secondary school certification under this program is not available at this time.

General Requirements

To be admitted into and continue in this program students must:

*1. Complete an admissions application form and file it with the School of Education, Western State College.
2. Pass with a grade of "B" or better a public speaking course.
3. Pass at the 75th percentile, the California Achievement Test in written English composition, spelling and mathematics based upon 12th grade norms. Students should make arrangements in the Testing Center, Library Terrace Level, to take this test.
*4. Complete a required personality inventory administered by the Western State College staff.
5. Possess an overall grade point average of 2.20 and a 2.20 grade point average in all education courses.
*6. Receive satisfactory faculty evaluation.
*7. Be approved by the Western State College Undergraduate Selection and Retention Committee of the School of Education following a comprehensive evaluation of all pertinent information available.

*Students should consult with a Western State College representative concerning these items either on the Gunnison campus or during one of the periodic visits made by such representatives to the Mesa College campus.

In addition to the above, students must:

1. File for formal admission to Selected Studies Program with the Director of Selected Studies *before* beginning any coursework in professional education.
2. File with the Director of Selected Studies a department-approved program of study in a minor area.
3. Complete no less than eighteen (18) semester hours of coursework at Mesa College. Consortium courses *may not* be used to meet this requirement.

Contact: Don MacKendrick, Dean, School of Social and Behavioral Sciences.

Master of Arts

Through a Consortium agreement with Adams State College, Alamosa, an MA in Counseling and Guidance is available at Mesa College. curriculum is presented in a block basis with courses being taught over a two-year period. Students must make periodic trips to the Adams State College campus for special workshops, short courses and conferences with other graduate students and faculty.

Requirements

Prerequisite courses for admission to this program are: statistics, psychological testing, abnormal psychology, personality and a course in exceptionality (special education). These courses are available on the Mesa College campus.

The offering of this degree at Mesa College depends upon demand.

Contact: Dr. Thomas Graves, Department of Behavioral Sciences, Mesa College.

COURSE PROFILES

The course profiles in this catalog indicate the content of the course and the prerequisites when applicable. Courses are listed in alphabetical order, with a 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(semhrs) hours, for each course. Generally, the number of semhrs is the number of times a class will meet each week. Exceptions are noted in individual course profiles and, in most cases, prerequisites and/or corequisites stated.

In the detailed course profiles, 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 1-99 are preparatory in nature, not intended for transfer purposes and will not fulfill degree requirements.

THE DESIGNATION § denotes a course that will fulfill general education (GE) requirements.

Mesa College reserves the right to withdraw any program or course which is not justified due to lack of enrollment or availability of instructor. 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)
is suitable for all those interested in obtaining the basic skills necessary to understand an accounting system and financial statements. (Fall/Spring/ Summer)

ACCT 202 Principles of Accounting II ••• (3)
continues ACCT 201 expanding on the principles and introducing corporate accounting, partnership accounting for bonds and interest, cost accounting, and managerial accounting. Prerequisite: ACCT 201. (Fall/Spring/Summer)

ACCT 205 Ten-Key Operations ••• (1)
develops skills essential to accountants in the operation of the ten-key electric calculator with emphasis on both speed and accuracy. Enrollment is limited to accounting students. Prerequisite: ACCT 201. (Fall/ Spring)

ACCT 298 Related Work Experience ••• (1,2)
involves working at a position approved by the School of Business. The student receives practical experience and an opportunity to apply academic knowledge in a work situation. The student is responsible for securing the position, arranging work hours, and meeting with an adviser at least once every three weeks. Written papers are required as part of the course. Credit is awarded on the basis of one semhr for each five hours of work performed weekly. A maximum of three semhrs (requiring 15 hours of work weekly) may be earned in this manner. Students must apply for this course through their advisers at least three weeks prior to end of the semester preceding the semester in which they wish to take the course. A maximum of three semhrs credit of Related Work Experience may apply toward an associate degree. Credit not available through competency or challenge. Prerequisite: nine semhrs of course work in the field chosen, cumulative GPA of 2.5 or higher, and consent of instructor. (Fall/ Spring)

ACCT 311 Managerial Accounting ••• (3)
applies accounting information to managerial decision-making. Major topics are budgeting for planning or control, cost volume-profit relationships, and capital budgeting. Prerequisite: ACCT 202. (Fall/Summer)

ACCT 321 Intermediate Accounting I ••• (4)
develops a foundational understanding of Generally Accepted Accounting Principles and their application to external financial statements. Prerequisite: ACCT 202. (Fall)

ACCT 322 Intermediate Accounting II ••• (4)
continues ACCT 321. Prerequisite: ACCT 321. (Spring)

ACCT 331 Cost Accounting I ••• (3)
gives the student a better understanding of costs and their relationship to planning, controlling, inventory valuation, and decision making. Prerequisite: ACCT 202. (Fall/Summer)

ACCT 332 Cost Accounting II ••• (3)
continues ACCT 331. Major topics are capital budgeting, cost allocation, cost-volume-profit relationships, standard costs, and internal control. Prerequisite: ACCT 331. (Spring/Summer)

ACCT 395 Independent Study ••• (1,2)
see MANG 395 course profile. (On Demand)

ACCT 396 Topics ••• (1,2,3)
utilizes varying course material of general interest from year to year. Prerequisite: varies with course material and consent of instructor. (On Demand)

ACCT 401 Governmental Accounting ••• (3)
studies principles as they apply to governmental units and non-profit operations. Prerequisite: ACCT 322. (Summer/Fall)

ACCT 402 Advanced Accounting ••• (5)
is taught in two modules. The first provides in-depth coverage of consolidated financial statements. The other covers partnership accounting, bankruptcy, estates, trusts, and international operations. Prerequisite: ACCT 322. (Spring)

ACCT 411 Auditing I ••• (3)
studies the 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, the theory of accounting systems, and internal control. Prerequisites: ACCT 322 and STAT 214. (Fall)

ACCT 412 Auditing II ••• (3)
continues ACCT 411. Concentrates on the application of auditing theory to financial statements and examines audit programs and procedures used in each phase of an audit, the use of audit workpapers, and completion of the audit report. Prerequisite: ACCT 411. (Spring)

ACCT 421 CPA Review ••• (3)
helps accounting students review and prepare for the CPA examination and the profession of public accounting through a study of difficult problems typical of CPA exam problems. Prerequisite: consent of instructor. Does not count toward accounting core requirements. (Spring)

ACCT 423 Controllership ••• (3)
deals with problems related to the job of corporate controller. Covers accounting controls, cash flow projections, budgets, inventory control, accounts receivable control, and accounting systems. Pre-requisites: ACCT 311, 322. (Spring/Even Numbered Years)

ACCT 441 Income Tax ••• (5)
is for accounting majors covering the Federal Income Tax Law in depth as it deals with individual taxpayers. It also introduces the student to the various tax reference sources that deal with the subject. Prerequisite: ACCT 322 or consent of instructor. (Fall)

ACCT 442 Advanced Tax and Tax Research ••• (5)
covers the Federal Income Tax Law and filing requirements for corporations, partnerships, estates, trusts, and gifts. It also includes comprehensive and complex tax problems requiring the use of various tax reference sources and emphasizing research methods and techniques. In addition, the student will be required to participate in the "VITA" program in order to acquire practical experience in preparing tax returns. Prerequisite: ACCT 441. (Spring)

ACCT 472 Computerized Auditing ••• (3)
covers the current professional requirements and auditing standards as they apply to audits of computer based accounting systems, techniques used to meet the standards, ~~and actual practical experience using these techniques on computerized~~ systems. Corequisite: ACCT 412. (Spring)

Agriculture

School of Natural Sciences and Mathematics

AGRI 101 Agricultural and Natural Resource Occupations ••• (1)
surveys the various fields of agricultural study and their occupational opportunities. Provides guidance in choosing major and minor fields of study. (Fall)

AGRI 110 Crop Production (3)
AGRI 110L Crop Production Lab ••• (1)
studies the 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 lab per week. (Alternate/Spring)

AGRI 112 Farm Power (2)
AGRI 112L Farm Power Lab ••• (1)
consists of theory and demonstration on internal combustion engines, electrical systems, and power transfer, with special attention to operation and maintenance of farm equipment. Two lectures and one two-hour lab per week. (Alternate/Fall)

AGRI 113 Introduction to Animal Science (3)
AGRI 113L Introduction to Animal Science Lab ••• (1)
introduces the livestock industry including production, management, and marketing of livestock products. Three lectures and one two-hour lab per week. (Fall)

AGRI 142 Economic Organization of Agriculture ••• (3)
studies economic principles as they apply to agriculture. (Fall)

AGRI 151 Basic Landscaping (2)
AGRI 151L Basic Landscaping Lab ••• (1)
covers principles of home landscape design, construction, and maintenance, with an emphasis on low maintenance and water conservation. Two lectures and one two-hour lab per week. (On Demand)

AGRI 201 Environmental Horticulture (3)
AGRI 201L Environmental Horticulture Lab ••• (1)
covers horticultural science as applied to the propagation and culture of horticultural crops, landscape design, and improvement of plants. Three lectures and one two-hour lab per week. (Fall)

AGRI 202 Soils (3)
AGRI 202L Soils Lab ••• (1)
studies the formation, properties and management of soils. Special attention is given to all conditions that affect crop yields. Prerequisite: CHEM 121 or CHEM 131. Three lectures and one two hour lab session per week. (Alternate/Spring)

AGRI 203 Artificial Insemination (1)
AGRI 203L Artificial Insemination Lab ••• (1)
covers the principles and practices employed in artificial insemination with emphasis on planning and conducting a successful artificial breeding program. One lecture and one two-hour lab per week. (Alternate/Fall)

AGRI 205 Farm and Ranch Management ••• (5)
covers economics applied to farm or ranch management. Emphasizes keeping and interpreting records for management and income tax purposes. Prerequisites: AGRI 142 or consent of instructor. (Spring)

AGRI 211 Introduction to Range Science (3)
AGRI 211L Introduction to Range Science Lab ••• (1)
introduces ecological principles and management practices required for proper utilization of rangeland. Three lectures and one two-hour lab per week. (Alternate/Spring)

AGRI 222 Livestock Judging and Selection (1)
AGRI 222L Livestock Judging and Selection Lab ••• (1)
covers evaluation and selection of livestock. One lecture and one two-hour lab per week. (On Demand)

AGRI 251 Forage Crops (3)
AGRI 251L Forage Crops Lab ••• (1)
studies the important aspects of forage crop production. Three lectures and one two-hour lab per week. (On Demand)

AGRI 254 Livestock Feeding ••• (3)
is the practical application of the analysis of feeds and requirements of various classes of livestock used in the formulation of balanced rations. (Fall)

AGRI 260 Functional Anatomy of Domestic Animals (2)
AGRI 260L Functional Anatomy of Domestic Animals Lab ••• (1)
surveys the systematic anatomy and physiology of domestic animals as related to production, reproduction, and health. Emphasis is placed on systems unique to domestic animals. Two lectures and one two-hour lab per week. (Alternate/Spring)

AGRI 295 Independent Study ••• (1,2)
allows individualized study in some area of agriculture. Prerequisite: consent of instructor and agricultural background. (Fall/Spring/Summer)

AGRI 299 Internship ••• (2)
provides work experience in a wide variety of agricultural fields. Hours of work required for credit will be determined by the department. (Fall/Spring/Summer)

AGRI 301 Principles of Genetics (3)
AGRI 301L Principles of Genetics Lab ••• (1)
studies variation, breeding, and evolution emphasizing the physical basis of heredity, independent inheritance and linkage as related to human, plant, and animal inheritance. Prerequisites: BIOL 105 or consent of instructor. Three lectures and one two-hour lab per week. (Spring)

AGRI 303 Agriculture Marketing ••• (3)
studies agricultural markets and the various techniques which can be used in marketing agriculture products. Includes a general discussion of the commodity futures market and its use in agriculture. Prerequisite: AGRI 142 or consent of instructor. (Alternate/Fall)

AGRI 311 Range Ecology ••• (3)
covers structure, distribution, and interrelationship of rangeland plant and animal communities. Prerequisites: AGRI 211, BIOL 107, or consent of instructor. (On Demand)

AGRI 320 Irrigation and Drainage ••• (3)
covers the principles of water conveyance, application, efficiency, consumptive use, and drainage. Prerequisite: AGRI 202 or consent of instructor. (On Demand)

AGRI 321 Fruit Production (2)
AGRI 321L Fruit Production Lab ••• (1)
covers the principles and practices utilized in the production, harvesting, and marketing of tree and small fruits. Site selection, harvesting methods, marketing procedures, and the cultural practices of planting, pollination, pruning, thinning, soil management, fertilizing, and irrigation. Prerequisite: five hours of plant science, AGRI 201, or consent of instructor. Two lectures and one three-hour lab per week. (Alternate/Spring)

AGRI 322 Greenhouse Management (2)
AGRI 322L Greenhouse Management Lab ••• (1)
studies the use of enclosed structures for manipulation of environment, effects on growth as applied to floricultural crops, methods of controls, production and marketing costs. Two lectures and one two-hour lab per week. (On Demand)

AGRI 323 Plant Propagation (2)
AGRI 323L Plant Propagation Lab ••• (1)
studies techniques used in propagation of plants. Two lectures and one two-hour lab per week. (On Demand)

AGRI 332 Weed Control (3)
AGRI 332L Weed Control Lab ••• (1)
studies weed control through predators, parasites, pathogens, attractants, irradiation, chemosterilants, and integrated control. Three lectures and one two-hour lab per week. (Alternate/Fall)

AGRI 333 Animal Breeding ••• (3)
studies performance evaluation and prediction of genetic improvement in purebred and commercial livestock. Prerequisite: AGRI 113 or consent of instructor. (Alternate/Fall)

AGRI 334 Animal Hygiene ••• (3)
teaches principles of animal sanitation in relation to disease prevention and control. Prerequisite: AGRI 113 or consent of instructor. (Alternate/Fall)

AGRI 343 Environmental Insects (2)
AGRI 343L Environmental Insects Lab ••• (1)
studies insects with emphasis on major pests including anatomy, physiology, life cycles, and recommended control procedures. Two lectures and one two-hour lab per week. (Alternate/Spring)

AGRI 345 Beef Production ••• (3)
studies production of purebred, commercial, and slaughter cattle; range, farm, and feedlot principles; breeds, breeding, market grades, feeding, and management. Prerequisite: AGRI 113 or consent of instructor. (Alternate/Fall)

AGRI 346 Horse Management ▪▪▪ (3)
studies general principles and practices of stabling, training, and caring for horses. (Alternate/Spring)

AGRI 347 Sheep Production ▪▪▪ (3)
teaches management practices involved in commercial and purebred sheep enterprise; marketing methods, performance testing, and carcass evaluation techniques; wool grading, evaluation, and merchandising of the wool clip; application of nutritional, genetic, and physiological principles to the efficient production of sheep. Prerequisite: AGRI 113 or consent of instructor. (Alternate/Spring)

AGRI 348 Swine Production ▪▪▪ (3)
studies commercial and purebred swine production and management. Both business aspects and applications of the principles of nutrition, genetics, and physiology will be presented. Prerequisite: AGRI 113 or consent of instructor. (Alternate/Fall)

AGRI 352 Applied Animal Nutrition (2)
AGRI 352L Applied Animal Nutrition Lab ▪▪▪ (1)
studies composition, characteristics, and nutritive value of feeds and ration additives; qualitative and quantitative nutrient requirements of each of the classes of livestock with some consideration of wildlife; and formulation of rations for each of the classes of livestock. Prerequisites: AGRI 254, BIOL 106, or consent of instructor. Two lectures and one two-hour lab per week. (Alternate/Spring)

AGRI 403 Soil Fertility and Fertilizer (2)
AGRI 403L Soil Fertility and Fertilizer Lab ▪▪▪ (1)
studies principles of soil fertility and fertilizer practices. Two lectures and one two-hour lab per week. (Alternate/Fall)

AGRI 411 Range Techniques (2)
AGRI 411L Range Techniques Lab ▪▪▪ (1)
studies techniques used to inventory range resources, determine rangeland condition and trend, determine forage utilization and proper stocking rates, and develop management plans. Prerequisites: AGRI 311 or consent of instructor. Two lectures and one two-hour lab per week. (On Demand)

AGRI 442 Animal Nutrition (3)
AGRI 442L Animal Nutrition Lab ▪▪▪ (1)
studies metabolism of proteins, carbohydrates, fats, minerals, vitamins, and the relationship of proper nutrition as it relates to livestock production. Prerequisites: AGRI 352, CHEM 122, or consent of instructor. Three lectures and one two-hour lab per week. (On Demand)

AGRI 450 Reproductive Physiology (3)
AGRI 450L Reproductive Physiology Lab ▪▪▪ (1)
studies intensively the reproductive efficiency of farm animals and the anatomical and physiological factors involved in reproduction. Prerequisite: AGRI 260 or consent of instructor. Three lectures and one two-hour lab per week. (Alternate/Spring)

AGRI 491 Seminar ▪▪▪ (1)
discusses current problems, topics, and research procedures in agriculture. Topics are announced each semester. Prerequisite: sophomore standing and consent of instructor. (Fall/Spring)

AGRI 499 Internship ▪▪▪ (2,4,6,8,10)
provides supervised work experience obtained on a job where the assignments are appropriately related to the agriculture program. The number of semhrs credit assigned to the student will be determined by the school. No more than ten hours of internship credit will be counted toward satisfaction of graduation requirements. Prerequisites: agriculture student, senior standing, and consent of instructor. (Fall/Spring/Summer)

Anthropology

School of Social and Behavioral Sciences

§ANTH 101 Physical Anthropology ••• (3)
surveys basic concepts of physical anthropology including the biological nature of man, evolution theory, evaluation of primates including man, genetics, the emergence of cultural essentials, and human variation. (Fall)

§ANTH 102 Cultural Anthropology ••• (3)
surveys basic concepts of cultural anthropology including the nature, development, and history of culture, cultural institutions, and the process of cultural change. (Spring)

§ANTH 221 Old World Archaeology ••• (3)
surveys archaeology of Eurasia and Africa emphasizing the emergence of early man up to and including the Iron Age. Discusses basic archaeological concepts such as excavation procedures and modern dating methods. (Fall/86,88)

§ANTH 222 New World Archaeology ••• (3)
surveys North, Middle, and South American archaeology emphasizing the origin of inhabitants, distribution, and development of prehistoric cultures. Deals with such topics as: Paleo-Indian, Archaic and early agricultural traditions, the rise of Inca, Mayan, and Aztec civilizations, and Southwestern archaeology. (Spring/87,89)

ANTH 230 Myth, Magic and Religion ••• (3)
studies by comparison myth, magic, and religion from the Upper Paleolithic through the earliest civilizations using anthropological, archaeological, and psychological sources. (Fall/87,89)

ANTH 232 Primitive Science and Religion ••• (3)
studies and compares primitive man's attempt to understand and control the world through ritual, magic, witchcraft, and divination. Examines roles of shamans, ghosts, ancestor worship, astrology, alchemy, and the anthropological theories which explain them (Spring/88)

ANTH 261, 262 Archaeological Excavation ••• (3,6)
trains students in archaeological field methods including excavations of prehistoric sites, record-keeping, care of artifacts, mapping, and data analysis. Prerequisite: consent of instructor. (Summers/On Demand)

ANTH 301 The North American Indian ••• (3)
surveys cultural systems of the North American Indian including major areas, languages, and behavior patterns through case studies of selected groups. Prerequisites: ANTH 101, 102.

ANTH 361, 362 Archaeological Excavation II ••• (3,6)
trains the student in archaeological excavation of prehistoric sites including administration, excavation strategy, recordation, photography, sampling, laboratory work, and report preparation. Prerequisites: upper division standing and/or consent of instructor. (Summers/On Demand)

Art

School of Humanities and Fine Arts

The Mesa College Art Department maintains and displays a collection of student art work and reserves the right to retain one piece of work from each student in every studio class.

§ARTE 101 Two Dimensional Design ••• (3)
introduces the principles of form and function in two dimensional design with emphasis on color theory and use. A fee is charged for some of the materials used; other materials obtained are by the student. One and one-half hours of lecture and three hours of studio per week. (Fall)

§ARTE 102 Three Dimensional Design ••• (3)
introduces the principles of form and function in sculpture and other three dimensional design areas. A fee is charged for some of the materials used; other materials obtained by the student. One and one-half hours of lecture and four hours of studio per week. (Spring)

ARTE 110 Early Childhood Art ▪▪▪ (3)
teaches theory and practice of art education for young children through lecture, lab, and practice teaching culminating in resources for teaching. Two hours of lecture and two hours of lab per week. (Fall)

§ARTE 115 Art Appreciation ▪▪▪ (3)
explores some of the hows, whys, and whos of painting, sculpture, and functional design in selected periods and places. (Fall)

Art Sampler Courses
offer brief (sometimes on modular scheduling) introductions to one art medium.

§ARTE 120	Jewelry (On Demand)	(1)
ARTE 130	Fibers (On Demand)	(1)
§ARTE 140	Ceramics (On Demand)	(1)
§ARTE 150	Sketching	(1)
ARTE 154	Ink Drawing Prerequisite: ARTE 151 or consent of instructor. (Fall)	(1)
§ARTE 170	Printmaking (On Demand)	(1)
§ARTE 180	Sculpture (On Demand)	(1)
§ARTE 190	Water Media (Fall)	(1)
ARTE 192	Pastels Prerequisite: ARTE 151 or consent of instructor. (Fall)	(1)
ARTE 193	Airbrush Prerequisite: ARTE 151 or consent of instructor. (Fall/Spring)	(1)

§ARTE 151 Basic Drawing ▪▪▪ (3)
introduces freehand drawing of figural and environmental subjects through perceptual exercises and common drawing media. Six hours of studio. (Fall/Spring)

§ARTE 211 Art History:Ancient-1300 ▪▪▪ (3)
is a chronological study of the art and architecture of the pre-historic, ancient, and medieval worlds. (Fall)

§ARTE 212 Art History:Europe 1300-1900 ▪▪▪ (3)
is a chronological study of European painting, sculpture, and architecture from the Italian Renaissance to the beginning of the Modernist Period. (Spring)

Art Processes and Media
introduces traditional materials of the visual arts. These are studio experiences with lectures on theory and history of the media. A fee is charged for some materials, other materials are obtained by the student. One hour of lecture and five 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, 242	Ceramics (Fall/Spring concurrently)	(3,3)
ARTE 271	Printmaking - Relief and Intaglio Prerequisite: ARTE 151 or consent of instructor. (Fall)	(3)
ARTE 272	Printmaking and Lithography Prerequisite: ARTE 151 or consent of instructor. (Spring)	(3)
ARTE 281	Sculpture - Modeling and Mold Making Prerequisite: ARTE 102 or consent of instructor. (Fall)	(3)
ARTE 282	Sculpture - Foundry Prerequisite: ARTE 102 or consent of instructor. (Fall)	(3)
ARTE 283	Sculpture - Carving and Construction Prerequisite: ARTE 102 or consent of instructor. (Spring)	(3)
ARTE 291, 292	Painting Prerequisite: ARTE 101, 151, or consent of instructor. (Spring)	(3,3)

ARTE 251 Figure Drawing ••• (3)
emphasizes 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. One hour of lecture and five hours of studio per week. Prerequisite: ARTE 151 or equivalent. (Spring)

ARTE 257 Cartooning ••• (1)
teaches the fundamentals of exaggeration, caricature, gesture, sequence, technique, and presentation. Two hours of studio per week. (Spring)

ARTE 300 Exhibitions and Management ••• (2)
explores 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 lab per week. (Fall)

ARTE 315 Twentieth Century Art History ••• (3)
studies the sequence of movements and schools of art in the present century. The conditions and influences affecting modern art are analyzed and the works of major artists surveyed through slides and reading. Prerequisite: ARTE 211,212 or consent of instructor. (Spring)

Advanced Studios
concern specific media or projects to be studied in a structured class, or a general studio including a variety of media and individually contracted work. Prerequisites: ARTE 101, 151, 211, 212, and at least three hours of the same Processes and Media (200 level). One hour of lecture and five hours of studio per week.

ARTE 321	Metalsmithing (On Demand)	(3)
ARTE 341	Pottery Production (Fall)	(3)
ARTE 342	Ceramic Sculpture (Spring)	(3)
ARTE 351, 352	Drawing (On Demand)	(3,3)
ARTE 371, 372	Printmaking (On Demand)	(3,3)
ARTE 381, 382	Sculpture (On Demand)	(3,3)
ARTE 391, 392	Painting (Fall/Spring)	(3,3)

ARTE 395 Independent Study ••• (2)
requires consent of instructor. (Fall)

ARTE 400 Exhibitions and Portfolio (1)
covers the theory and preparation of competitive exhibitions and presentation of the senior portfolio and exhibition. Two hours of lab per week. Prerequisite: ARTE 300. (Spring)

ARTE 410 Elementary Art Education Methods (3)
covers theory and methods of art education K-6: teaching art to children, lesson planning and materials, and the unique role of art in education. Two hours of lecture and two hours of lab per week. (Spring)

ARTE 412 Secondary Art Education Methods (3)
studies theory, methods, and materials for teaching art in secondary schools. Two hours of lecture and two hours of lab per week. (On Demand)

Advanced Studios
discuss specialized studio problems contracted by senior level students preparing for graduate schools. The work culminates 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 (300 level).

ARTE 421	Metalsmithing (On Demand)	(3)
ARTE 441	Glaze Calculation (Spring)	(3)
ARTE 442	Kiln Construction (On Demand)	(3)
ARTE 451, 452	Drawing (On Demand)	(3,3)
ARTE 471, 472	Printmaking (On Demand)	(3,3)
ARTE 481, 482	Sculpture (On Demand)	(3,3)
ARTE 491, 492	Painting (On Demand)	(3,3)

ARTE 494 Seminar ••• (2)
deals with topics related to art criticism, history, and aesthetics. Prerequisite: senior standing. (Fall)

ARTE 495 Independent Study ••• (2)
requires consent of instructor. (Fall/Spring)

Auto Body and Fender

School of Industry and Technology

AUBF 100 Applied Mathematics ••• (2)
briefly reviews arithmetic, shop mathematics, and algebra needed to handle the mathematical aspects of auto body. (Fall/Spring)

AUBF 110 Auto Body Repair and Refinishing I ••• (8)
introduces the theory and practice of auto body repair and refinishing including metal conditioners, primers, sealers, surfacers, reducers, thinners, different types of paints, and the techniques used to apply them. Also covers metal work, filler work, adjustment, and replacement of panels. (Fall/Spring)

AUBF 120 Auto Body Repair and Refinishing II ••• (8)
continues AUBF 110. Prerequisite: AUBF 110 or consent of instructor. (Fall/Spring)

AUBF 130 Auto Reconditioning ••• (3)
provides instruction in new car preparation, glass removal and installation, minor panel repair and refinishing, spot painting, cleaning, dyeing and repair of upholstery, airbrush painting, exterior finish buffing and polishing, and general automotive detail procedures. (Spring)

AUBF 140 Oxyacetylene Welding ••• (2)
covers theory and practice of oxyacetylene welding/brazing of mild steel, where and when brazing should be used instead of welding. Welding and brazing in flat and vertical positions are also stressed. Emphasizes root penetration and fusion of welding materials. (Fall)

AUBF 141 Auto Body Suspension and Aligning ••• (2)
studies automotive suspension systems including the theory of function and identification of parts and components. Emphasis will be placed on diagnosis and analysis of actual suspension and alignment problems. Repair and replacement of appropriate parts and aligning both front and rear end systems is included as well as application to body shop responsibilities. Prerequisites: auto body major and consent of instructor. (Spring)

AUBF 150 Arc Welding ••• (2)
is a beginning course in welding mild steel in down-hand position with electric arc welding equipment. Proper care, use of equipment, safety precautions and practices are heavily stressed. (Spring)

AUBF 200 Panel and Spot Painting ••• (6)
covers paint composition, refinishing products and their correct usage, color matching, and procedures to be used in making a lacquer or acrylic spot repair. (Fall)

AUBF 210 Frame Repair ••• (4)
covers inspection, measurement, and repair methods used to repair unitized and conventional frames. (Fall)

AUBF 220 Shop Management ••• (3)
studies shop operation, expenditures, floor-plan design, and equipment for the modern day shop including expectations and management of employees. (Fall)

AUBF 230 Auto Body Repair and Refinishing III ••• (6)
continues shop learning practices and severe collision repair procedures. Placesemphasis on metal work and spot painting with a concentration of shop and learning experiences in areas in which students wish to specialize. Prerequisite: AUBF 120 or consent of instructor. (Fall/Spring)

AUBF 240 Auto Body Repair and Refinishing IV ••• (8)
continues AUBF 230. Prerequisite: AUBF 230 or consent of instructor. (Fall/Spring)

AUBF 250 Estimating ▪▪▪ (3)
studies parts catalogs, flat rate, remove-and-replace procedures, insurance appraisals, and writing collision repair bids. (Spring)

AUBF 295 Independent Study ▪▪▪ (1,2)
is a specialized study related to a student's field of training beyond the scope of the required curriculum. Students must enter into an agreement for specialized training prior to registration. Prerequisite: sophomore standing or equivalent. (Fall/Spring)

AUBF 296 Topics ▪▪▪ (1,2)
allows students to gain additional knowledge through workshops that cover specialized topics not considered in detail elsewhere. Topics and credit will vary. (On Demand)

Biology

School of Natural Sciences and Mathematics

BIOL 010 Survey of Biology ▪▪▪ (2)
introduces the origin of life and its relation to chemistry and physics, the structural concepts of life beginning with the cell and progressing through the tissue, organ system, organism, and population levels to the student with limited background in the sciences. The role of energy as it affects cell division, growth, development, and diversity is included. Classification allows one to explore the living and non-living interactions which direct life. (Spring)

§BIOL 101, 102 General Biology (2,2)
§BIOL 101L, 102L General Biology Lab ▪▪▪ (1,1)
covers ecology, pollution, drugs, sex education, behavior, disease problems, body structure and function, phylum relationships, organic gardening, plant growth and development in lecture and lab work. Biology majors will not receive graduation or general education credit for this course. Two lectures and one two-hour lab per week. (Fall/Spring)

§BIOL 105 Attributes of Living Systems (3)
§BIOL 105L Attributes of Living Systems Lab ▪▪▪ (1)
studies organization, stability, and change in living systems. Three lectures and one two-hour lab per week. (Fall/Spring)

§BIOL 106 Principles of Animal Biology (3
§BIOL 106L Principles of Animal Biology Lab ▪▪▪ (2)
concerns the broad morphological, physiological, and ecological features of the principal phyla of animals and the relationships between them. Prerequisite: BIOL 105 or consent of instructor. Three lectures and two two-hour labs per week. (Spring)

§BIOL 107 Principles of Plant Biology (3)
§BIOL 107L Principles of Plant Biology Lab ▪▪▪ (2)
surveys plant cells and the plant kingdom. Includes fundamental concepts of roots, stems, leaves, and reproductive structures as well as the morphology, reproduction, and phylogeny of all plant phyla. Prerequisite: BIOL 105 or consent of instructor. Three lectures and two two-hour labs per week. (Fall)

BIOL 110 Natural Resource Occupations ▪▪▪ (1)
is an orientation program that acquaints a student with the varied natural resource professions and job characteristics. (Spring)

BIOL 111 Conservation of the Environment ▪▪▪ (2)
surveys natural resources including forests, range, minerals, water, and wildlife as well as national, state, and local policies and programs for the use of such resources. (Spring)

BIOL 113 Outdoor Survival ▪▪▪ (3)
involves vigorous physical activity that covers survival in different situations. Requires memorization and recognition of poisonous and nonpoisonous plants. Two three-hour lectures per week and four overnight weekend field trips. (Fall)

§BIOL 141 Human Anatomy and Physiology (3)
§BIOL 141L Human Anatomy and Physiology Lab ••• (2)
introduces human physiology to the student with little or no training in the biological and physical sciences at the college level. For the general student as well as students of nursing, physical education, and paramedical fields. Three lectures and two two-hour labs per week. (Fall)

BIOL 143 Human Anatomy and Physiology for Dental Assistants and Medical Office Assistants ••• (3)
provides a basic knowledge of anatomy and physiology emphasizing the structures and functions important in treating dental and medical patients. (Fall)

BIOL 201 Developmental Biology (4)
BIOL 201L Developmental Biology Lab ••• (1)
studies the embryonic growth and development of plants and animals. Errors in normal development, cancer, aging, and related topics are presented. Four lectures and one two-hour lab per week. (Spring)

BIOL 202 Cellular Biology (3)
BIOL 202L Cellular Biology Lab ••• (1)
presents the form, function, and bioenergetics of the cell. Prerequisite: BIOL 105,106, or consent of instructor. Three lectures and one two hour lab per week. (Spring)

BIOL 211 Ecosystem Biology (4)
BIOL 211L Ecosystem Biology Lab ••• (1)
provides an elementary understanding of ecology utilizing the population biology concepts of population genetics, energetics, dynamics, distribution, and sociology. Overnight and/or weekend field trips may be required. Four lectures and one two-hour lab per week. (Fall)

BIOL 221 Plant Identification (1)
BIOL 221L Plant Identification Lab ••• (2)
identifies flowering plants, chiefly of this region emphasizing family recognition and the use of keys in identification. Designed to be taken concurrentlywith BIOL 320. Prerequisite: BIOL 107. One lecture and two two hour labs per week. (Fall)

BIOL 231 Invertebrate Zoology (3)
BIOL 231L Invertebrate Zoology Lab ••• (1)
studies invertebrate phyla structure, physiology, classification, and life history. Insects and parasitic worms are introduced but not emphasized. Work on independent project is required. Three lectures and two two-hour labs per week. (Spring)

BIOL 241 Pathological Physiology ••• (4)
studies the functions 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 Lab ••• (2)
introduces the general biology of micro-organisms. Three lectures and two two-hour labs per week. (Spring)

BIOL 295 Independent Study ••• (1,2)
allows a student to pursue individual study in some area of biology. Prerequisites: consent of instructor and biology background in the area of study. (Fall/Spring/Summer)

BIOL 311 Multiple Resource Management (3)
BIOL 311L Multiple Resource Management Lab ••• (1)
studies natural resources, their management, especially various mineral and biological resources, land uses, and personal resources. Prerequisites: BIOL 105,106,107, and 211. Three lectures and one three-hour lab per week. (Alternate/Spring)

BIOL 315 Epidemiology ••• (3)
studies the characteristic patterns of communicable disease occurrence as related to individuals, geographic location, and time. Introduces the factors affecting disease occurrence, the nature of vital statistics, study design and sampling procedures. (Alternate/Spring)

BIOL 320 Plant Systematics ▪▪▪ (3)
studies the principles of systematic botany encompassing the principles of classification, nomenclature, and an evaluation of current classifications of the angiosperms. Designed to be taken concurrently with BIOL 221. (Alternate/ Fall)

BIOL 321 Taxonomy of Grasses (1)
BIOL 321L Taxonomy of Grasses Lab ▪▪▪ (2)
studies the grass family, its relationships and identification. Emphasis will be placed on the floristic composition, distribution of grass communities, and field identification in the forest and range related environments. One lecture and two two-hour labs per week. (Alternate/Fall)

BIOL 341 General Physiology (3)
BIOL 341L General Physiology Lab ▪▪▪ (1)
studies the function of the circulatory, nervous, respiratory, digestive, urinary, reproductive, and endocrine systems of the human body. Prerequisite: BIOL 106 or consent of instructor. Three lectures and one two-hour lab per week. (Alternate/Fall)

BIOL 342 Histology (2)
BIOL 342L Histology Lab ▪▪▪ (2)
is a microscopic study of tissues and organs. Prerequisites: BIOL 105 and 106 or BIOL 107 and consent of instructor. Two lectures and two two-hour labs per week. (Alternate/Fall)

BIOL 343 Immunology (2)
BIOL 343L Immunology Lab ▪▪▪ (1)
studies immunologic phenomena and techniques. Two lectures and one two-hour lab per week. (Alternate/Spring)

BIOL 393 Teaching Science in the Secondary School ▪▪▪ (3)
includes methods of teaching, examination of existing curricular models and construction of curricula. To be taken not more than two semesters before student teaching. Prerequisite: teaching major or teaching minor in science. (Spring)

BIOL 395 Independent Study ▪▪▪ (1,2)
see BIOL 295 course profile. (Fall/Spring/Summer)

BIOL 403 Evolution ▪▪▪ (3)
studies organismal and molecular evolution emphasizing its importance as the unifying theory in biology as well as the evolution of natural selection on the genetic structure of populations. Prerequisites: BIOL 106,107, AGRI 301, and senior standing. (Spring/On Demand)

BIOL 411 Mammalogy (2)
BIOL 411L Mammalogy ▪▪▪ (1)
studies the classification, life histories, and ecology of mammals together with practice in the preparation of skins for study. Overnight and/or weekend field trips may be required. Two lectures and one two-hour lab or three-hour field trip per week. (Alternate/Fall)

BIOL 412 Ornithology (2)
BIOL 412L Ornithology Lab ▪▪▪ (1)
is the classification and life history of birds, including identification in the field. Overnight and/ or weekend field trips may be required. Two lectures and one two-hour lab or three-hour field trip per week. (Alternate/ Fall)

BIOL 413 Fauna of Western Colorado (2)
BIOL 413L Fauna of Western Colorado Lab ▪▪▪ (1)
investigates the ecological, behavioral, and environmental physiology of all classes of western Colorado animals through field experience. Prerequisite: one year of biology or consent of instructor. Two lectures and twenty hours of field work per week. (Summer/On Demand)

BIOL 414 Aquatic Biology (2)
BIOL 414L Aquatic Biology Lab ▪▪▪ (1)
studies the classification, life history, and ecology of aquatic animals. Overnight and/or weekend field trips may be required. Two lectures and one two-hour lab per week. (Alternate/Fall)

BIOL 415 Tropical Ecosystems ••• (2)
evaluates coral reef, rain forest, and arid desert ecosystems on Caribbean islands. Ten two-hour lectures, ten two-hour labs, 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. (Spring Break/On Demand)

BIOL 416 Ethology (3)
BIOL 416L Ethology Lab ••• (1)
investigates the mechanisms and evolution of behavior utilizing captive animals and field trips. Overnight field trips may be required. Prerequisites: BIOL 105,106,107, and consent of instructor. (Alternate/Spring)

BIOL 421 Plant Physiology (3)
BIOL 421L Plant Physiology Lab ••• (2)
studies plant growth and development at the molecular and cellular level to understand plant growth at the organismic level. Three lectures and two two-hour labs per week. (Alternate/Spring)

BIOL 422 Field Botany (2)
BIOL 422L Field Botany Lab ••• (1)
deals with the structure and analysis of plant communities in a field-oriented setting. Encompasses plant identification (not classification), vegetation sampling, data analysis (i.e., dominant species determination), and plant collection techniques. Two lectures and one two and one-half hour field session per week. (Summer/On Demand)

BIOL 423 Plant Anatomy (3)
BIOL 423L Plant Anatomy Lab ••• (2)
studies the form, variability, and structure of the tissues comprising the higher plant body. Prerequisites: BIOL 105,107,107L. Three lectures and two two-hour labs per week. (Alternate/Spring)

BIOL 425 Molecular Genetics ••• (3)
studies the nature and expression of genetic information in prokaryotic and eukaryotic organisms. Prerequisite: AGRI 301. (Alternate/Spring)

BIOL 430 Penned Animal Hygiene (2)
BIOL 430L Penned Animal Hygiene Lab ••• (1)
studies management and care of laboratory and wild animals kept in captivity. Field trips are required. Two lectures and one two-hour lab per week. (Alternate/Fall)

BIOL 431 Animal Parasitology (3)
BIOL 431L Animal Parasitology Lab ••• (1)
studies the most common and important parasites of domestic animals and man. Includes ecology, epidemiology, diagnosis, and control. Three lectures and one two-hour lab per week. (Alternate/Fall)

BIOL 441 Endocrinology (3)
BIOL 441L Endocrinology Lab ••• (1)
covers the anatomy and physiology of the endocrine system of vertebrates with the lab emphasizing its normal and abnormal functions. Prerequisite: BIOL 106 or consent of instructor. Three lectures and one two-hour lab per week. (Alternate/Fall)

BIOL 442 Pharmacology ••• (3)
teaches the principles underlying absorption, distribution, metabolism, and excretion of drugs. Special emphasis is given to the interaction between chemical substances of drugs and living organisms at all levels. Prerequisite: BIOL 141 or consent of instructor. (Spring)

BIOL 494 Seminar ••• (1)
discusses 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)**
gives credit for work experience obtained on a job where assignments are primarily biological projects. The number of credits awarded is determined by the academic school. Prerequisites: biology major and senior standing with either a 2.8 GPA in major courses or consent of instructor. (Fall/Spring/Summer)

Business

School of Business

BUGB 101 Introduction to Business ▪▪▪ **(3)**
explores American business system operations in the economy and surveys business functions and interrelations between the businessman and his environment. (Fall/Spring)

BUGB 141 Business Mathematics ▪▪▪ **(3)**
begins with a 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 computations, home mortgage loans, and business depreciation computations. (Fall/Spring)

BUGB 211 Business Communications ▪▪▪ **(3)**
teaches 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)**
studies the common types of protection offered by insurance, including fire, theft, comprehensive, life, automobile, accident, and health. Emphasis will be on the application of insurance to individuals and small business firms. (Spring)

BUGB 231 Survey of Business Law ▪▪▪ **(3)**
presents the application of the law as it applies to employees and individuals not dealing with legal matters of organizations. Topics will 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 351 and 352. No credit allowed if credit already established in BUGB 351. (Spring)

BUGB 241 Income Tax ▪▪▪ **(3)**
covers 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 accounting majors. (Spring)

BUGB 249 Personal Finance ▪▪▪ **(3)**
teaches personal finance management, including income, personal budgeting, taxes, securing loans, consumer credit, insurance, buying a home, and introduction to investment. (Spring)

BUGB 351 Business Law I ▪▪▪ **(3)**
covers contract formation, requirements, interpretation, discharge, enforcement, agency law, and other contracting parties. Includes analysis of the concepts 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)**
explores the corporate form of ownership as artificial persons doing business and introduces the 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 and junior or senior standing or consent of instructor. (Spring)

BUGB 396 Topics ▪▪▪ **(1,2,3)**
vary from year to year, selected from areas of general interest in the business area. Prerequisite: varies with course material and consent of instructor. (On Demand)

Career Counseling and Guidance

School of Social and Behavioral Sciences

CCGU 290 Occupational Studies ••• (24)
is a general program requirement that may be completed in the following ways: (1) work experience may be submitted for evaluation for a maximum credit award of 24 semester hours; (2) the student may use a coursework in business, vocational/technical, or other career oriented courses approved by the program director; or, (3) a combination of options (1) and (2). (On Demand)

CCGU 320 Career Development ••• (3)
includes theories of, and factors influencing, career development as well 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 necessaryfor career development effectiveness. (Fall/86,88)

CCGU 324 Career Information and Decision Making ••• (3)
analyzes types and sources of career information and its various uses in career counseling with special emphasis on decision making theories and processes. (Fall/87,89)

CCGU 420 Counseling Processes and Techniques ••• (3)
explores and examines 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. (Spring)

CCGU 422 Personnel and Guidance Interviewing ••• (3)
discusses and practices 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. (Spring/87,89)

CCGU 424 Group Guidance Processes and Techniques ••• (3)
emphasizes group procedures and processes for helping others to develop selfunderstanding as well as other personal and social skills while discussing recently developed career guidance and counseling materials and programs. (Spring/88)

CCGU 497 Practicum ••• (4)
gives the beginning counseling student basic inter-personal training in the practice of counseling. Taken during the senior year, it places the student under professional supervision to gain counseling practice and refine counseling skills. A typed paper/journal must be submitted for approval and course credit. (Fall/Spring/Summer)

CCGU 499 Internship ••• (4)
provides further counseling experience in external field locations according to the needs and career goals of the student. A typed paper/journal must be submitted for approval and course credit. Prerequisite: consent of instructor. (Fall/Spring/Summer)

Chemistry

School of Natural Sciences and Mathematics

§CHEM 100 Chemistry and Society ••• (3)
covers the major principles of chemistry in lecture and demonstration. Approaches the subject non-mathematically and with attention to chemical technology and its effect on society. Intended for students with majors other than the sciences. (On Demand)

§CHEM 121 General Chemistry (4)
§CHEM 121L General Chemistry Lab ••• (1)
consists of lectures in fundamental principles of chemistry and their application. Includes atomic structure, bonding, periodic law, gas laws, mass relationships, solution theory, oxidation-reduction, electrochemistry, and ionic equilibrium. Entails lab work designed to aquaint the student with procedures and techniques of basic chemistry involving measurement and observation of physical properties and chemical changes. Designed for students in liberal arts, nursing, homemaking, and agriculture. Prerequisite: high school algebra or satisfactory entrance examination scores. Four lectures and one three-hour lab per week. (Fall/Spring)

§CHEM 122 Introduction to Organic Chemistry (4)
§CHEM 122L Introduction to Organic Chemistry Lab ••• (1)
consists of lectures in fundamental principles of organic chemistry including nomenclature, chemical, and physical properties of selected classes of compounds. Carbonium ion and acid-base theories are introduced. Lab work acquaints the student with several fundamental organic lab procedures, properties of selected classes of compounds, and some of the methods of preparative organic chemistry. Intended to be a continuation of CHEM 121. Prerequisite: CHEM 121 or 131 or one year of high school chemistry and consent of instructor. Four lectures and one three-hour lab per week. (Spring)

§CHEM 131, 132 General Inorganic Chemistry (4,4)
§CHEM 131L,132L General Inorganic Chemistry Lab ••• (1,1)
consists of lectures in fundamental principles of general inorganic chemistry including atomic structure, bonding, periodic law, kinetic theory, gas laws, stoichiometry, solution theory, oxidation-reduction, and electrochemistry. Ionic equilibrium in solution is emphasized. Lab work experiments in descriptive chemistry, gas laws, equilibrium, electrochemistry, and inorganic qualitative analysis. Intended for students of chemistry, engineering, premedicine, and other sciences. Corequisite: MATH 113. Prerequisites: high school chemistry and satisfactory ACT scores or CHEM 121. Four lectures and one three-hour lab per week. (Fall/Spring)

CHEM 151 Engineering Chemistry (4)
CHEM 151L Engineering Chemistry Lab ••• (1)
covers selected fundamentals of chemistry including stoichiometry, periodic law, chemical bonding, gas laws, thermodynamics, equilibrium, oxidation and reduction, and electrochemistry. Lab work experiments in descriptive chemistry, gas laws, equilibrium, electrochemistry, and inorganic qualitative analysis. Not recommended for non-engineering students or chemical engineering students. Corequisite: MATH 113. Prerequisites: high school chemistry and satisfactory ACT scores or CHEM 121. Four lectures and one three-hour lab per week. (Fall)

CHEM 201 Life Science Organic Chemistry (4)
CHEM 201L Life Science Organic Chemistry ••• (1)
covers the chemical and physical properties of the major classes of organic compounds. Nomenclature, structure, stereoisomerism, and reactions are stressed. Particular emphasis is placed on biological applications. Lab work provides experience with fundamental techniques as well as with reactions and properties of organic compounds. Selected synthetic and analytical methods are introduced. Particular emphasis is placed on life science applications. Prerequisite: CHEM 132 or consent of instructor. Four lectures and one three-hour lab per week. (On Demand)

CHEM 202 Biochemistry (4)
CHEM 202L Biochemistry Lab ••• (1)
consists of lectures on metabolism in its broadest sense and the parts played in it by carbohydrates, lipids, proteins, and enzymes. Lab work provides experience with fundamental biochemical techniques as well as with enzymatic reactions and some reactions of carbohydrates, lipids, and proteins. Prerequisites: CHEM 132 and 201 or CHEM 312. Four lectures and one three-hour lab per week. (On Demand)

§CHEM 221 Instrumental Methods of Analysis (1)
§CHEM 221L Instrumental Methods of Analysis Lab ••• (2)
consists of lectures in fundamental principles of instrumental analysis. Lab work provides experiences in instrumental analytical methods. Because of the instruments available, emphasis is on inorganic analyses by spectroscopic methods. Prerequisite: CHEM 132 or consent of instructor. One lecture and two three-hour labs per week. (On Demand)

CHEM 295 Independent Study ••• (1,2)
allows a student with a previously developed interest in and knowledge of a specialized subject to continue work. It is expected that most work will be original, however, studies of a non-original nature but not in the established curriculum will also satisfy the requirements of this course. Prerequisite: consent of instructor. Work schedule by arrangement. (Fall/Spring)

CHEM 311, 312 Organic Chemistry (3,3)
CHEM 311L,312L Organic Chemistry Lab ••• (2,2)
consists of lectures on the chemical and physical properties of the major classes of organic compounds. Mechanistic, stereochemical, acid-base, and related theories are used throughout to relate types of reactions and unify the study. Lab work provides experience with fundamental techniques as well as with relations and syntheses of many classes of compounds. Classical qualitative analysis is introduced and some experience with methods used to establish theoretical principles is obtained. Prerequisite: CHEM 132 or consent of instructor. Three lectures and two three-hour labs per week. (Fall/Spring)

Computer Information Systems

School of Business

CISB 101 Business Data Processing ••• (3)
introduces computers and business data processing systems. Fundamentals of computer programming are developed by writing programs in BASIC. Provides an opportunity to investigate this rapidly growing area. (Fall/Spring)

CISB 102 Computer Literacy ••• (1)
introduces basic concepts of computers and focuses on understanding terminology, hardware, software, and implication of computers in today's world. (Fall/Spring/Summer)

CISB 103 Business Computer Concepts ••• (1)
introduces the various aspects of business use of computers including discussion of computer security, privacy of information, future implications, purchasing computers and software, and business application. Prerequisite: CISB 102 or equivalent. (Fall/Spring/Summer)

CISB 104 Basic Programming ••• (1)
introduces BASIC programming. Students will learn the basic concepts of programming through use of BASIC language. Several BASIC programs will be written. Prerequisite: CISB 102 or equivalent. (Fall/Spring/Summer)

CISB 105 Introduction to Business Software ••• (1)
introduces use of current business software. Students will learn to use electronic spread sheets, word processing, and data base software at a beginning level. Prerequisite: CISB 102 or equivalent. (Fall/Spring/Summer)

CISB 131 COBOL Programming I ••• (3)
consists of writing programs in COBOL using modern methods of top-down, structured design. Emphasis placed on traditional business applications such as pay-roll, accounts receivable, and inventory control. Students learn to debug and document programs. Prerequisite: CISB 101 or appropriate modules or consent of instructor. (Spring/Summer)

CISB 231 Assembler Language ••• (3)
see CSCI 230 for course profile.

CISB 234 RPG Programming ••• (3)
covers writing business programs in RPG II, with emphasis on learning the internal logic cycle of RPG. Development of programming logic through use of decision tables. Prerequisite: CISB 101 or appropriate modules or consent of instructor. (Spring)

CISB 295 Independent Study ••• (1,2)
requires students to apply for this course through their adviser at least three weeks prior to the end of the semester preceding the semester in which they wish to take Independent Study. Only students who have completed nine semhrs of work in the field chosen for Independent Study and have a cumulative GPA of 2.5 or higher will be allowed to enroll for credit in this course. Consent of instructor required in all cases. (Fall/Spring)

CISB 298 Related Work Experience ••• (1,2)
see ACCT 298 course profile.

CISB 305 Advanced Business Software ••• (3)
develops advanced understanding and use of prewritten business software. Students become proficient, through a combination of lecture, demonstration, and projects in the use of electronic spread sheets, word processing, and data base management software. Prerequisite CISB 105. (Spring)

CISB 332 COBOL Programming II ••• (3)
continues CISB 131 including disk, sequential, indexed sequential random processing, ~~and use of operating system resources for systems development~~. Prerequisite: CISB 131. (Fall)

CISB 391 Systems Analysis and Design ••• (3)
introduces basic systems analysis tools and the procedures for conducting a systems analysis. Includes systems requirements, initial analysis, general feasibility study, structured analysis, detailed analysis, logical design, and the general systems proposal. Students will gain practical experience through projects and/or case studies. Prerequisite: ACCT 202 and at least two programming courses or consent of instructor. (~~Spring~~) Fall.

CISB 441 Computers in Management ••• (3)
discusses the use of computers by management to run businesses more effectively. Particular attention is paid to the advantages of using computers, the problems associated with computerized processing, and the controls which are necessary to insure that output is correct. An indepth look at the primary applications of A/R, A/P, P/R, G/L, and Inventory Control as well as the latest concepts such as Data Base allow the student to see the practical application of data processing. The course is appropriate for management and accounting majors as well as data processing majors. Prerequisite: CISB 101 or appropriate modules. (Fall)

CISB 471 Management Information Systems ••• (3)
follows CISB 391 and will integrate management information needs, decisionmaking 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 and CISB 391 or consent of instructor. (~~Fall~~) Spg

Computer Science

School of Natural Sciences and Mathematics

§CSCI 100 Computers in Our Society ••• (3)
studies the impact of computers on society and individuals, how they do what they do, and how they are programmed. Intended for students in disciplines outside the natural sciences and mathematics. (Fall/Spring)

CSCI 101	Computer Literacy	(Module 1)	(1)
CSCI 102	BASIC Programming	(Module 2)	(1)
CSCI 103	BASIC Plus	(Module 3)	(1)

§CSCI 111 Computer Science I ••• (3)
introduces the fundamental topics of computer science, including an overview of computer architecture, algorithms, control structure, trees and stacks, and compilation of arithmetic statements. PASCAL language is employed as the programming vehicle. Corequisite: MATH 119 or consent of instructor. (Fall/Spring)

§CSCI 112 Computer Science II ••• (3)
continues CSCI 111, including all constructs of the PASCAL language, data structures, and algorithm design. Finite state machines and their application to the design of lexical analysis are emphasized. Prerequisite: CSCI 111. (Fall/Spring)

§CSCI 131 FORTRAN Programming (3)
§CSCI 131L FORTRAN Programming Lab ••• (1)
introduces the FORTRAN language emphasizing structured programming. Subprograms, sequential files, direct access files, and FORTRAN data structures are stressed in programs written. Lab work consists of compiling, running, and debugging assigned FORTRAN programs. No previous programming experience required. Prerequisite: MATH 113 or consent of instructor. Three lectures and two one-hour lab per week. (Fall/Spring)

§CSCI 133 PASCAL Programming (3)
CSCI 133L PASCAL Programming Lab ••• (1)
introduces PASCAL and the concepts of structured programming. Includes various programming topics and techniques such as character manipulation, arrays, modular programming, searching and sorting techniques, files and records, and data structures. Prerequisite: MATH 113. Three lectures and two one-hour labs per week. (Fall/Spring)

CSCI 135 COBOL Programming ▪▪▪ (3)
see CISB 131 course profile. Computer science students normally enroll in CISB 131 but are offered this course upon demand when CISB 131 is not offered. (Fall/Spring)

§CSCI 230 Assembly Language Programming ▪▪▪ (3)
covers computer structure and machine language, addressing techniques, digital representation of data, symbolic coding and assembly systems, and selected programming techniques. Prerequisite: at least one high level computer language or consent of instructor. (Fall/Spring)

§CSCI 240 Computer Architecture ▪▪▪ (3)
covers computer architectures, memory structures and addressing, arithmetic schemes, data channels, order codes, microprogramming, and multiprocessors. Prerequisites: CSCI 112 and 230 recommended. (Fall/Spring)

§CSCI 250 Data Structures ▪▪▪ (3)
studies information representations and relationships between forms of representations and processing techniques. Covers 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 330 Programming Languages ▪▪▪ (3)
presents algorithmic languages, declarations, storage allocation, subroutines, coroutines, 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. Analysizes strengths and weakness of list processors: SNOBOL, IPLV, LISP, etc. Prerequisites: CSCI 230, 240, 250. (Fall/Spring)

CSCI 335 The C Programming Language ▪▪▪ (2)
studies of its capabilities, and limitations by actual C program writing. Prerequisite: CSCI 330. (Alternate/Spring)

CSCI 341 Analog and Digital Computer Electronics ▪▪▪ (3)
teaches the basic elements and technologies used to fabricate analog and digital computers, the theory and application of hybrid computers, and lab experience in constructing simple computer subsystems. Prerequisite: CSCI 240. (Fall/Spring)

CSCI 350 Software Engineering-ADA (3)
CSCI 350L Software Engineering Lab-ADA ▪▪▪ (1)
introduces the ADA programming language. Advanced concepts of the language: subprograms, packages, exceptions, tasks, generics and software engineering are stressed. Prerequisite: CSCI 330. Three lectures and one two-hour lab per week. (Spring)

CSCI 373 Computer Software Systems ▪▪▪ (3)
covers assembly systems, macros, I/O programming, executive systems, protection techniques, generation and maintenance, priority and scheduling techniques for batch processing. Prerequisite: CSCI 240,250. (Fall/Spring)

CSCI 380 Operations Research ▪▪▪ (3)
studies methods of linear and dynamic programming, inventory and replacement models, queing theory, game theory, PERT, CPM, and simulation. Prerequisites: MATH 152, STAT 200, CSCI 131. (Spring/Odd Years Only)

CSCI 445 Computer Graphics ▪▪▪ (3)
uses 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)
reviews major problem-oriented languages, bootstrapping techniques and metacompilers, languages for compiler writing, storage allocation and mapping, dynamic allocations, scanners, code emitters, one pass and multi-pass systems, and code optimization. Prerequisites: CSCI 330, 373. (Fall/Spring)

CSCI 460 Data Base Design (3)
introduces the design and implementation of data base systems. The network, hierarchical, and relational approaches to design will be discussed as well as the problems of security and integrity. Prerequisite: CSCI 250. (Fall/Spring)

CSCI 470 Operating Systems Design (3)
studies aspects of computer operating system design and implementation including memory management, processor management, device management, information management, and performance evaluation methods. Prerequisite: CSCI 373. (Fall/Spring)

CSCI 494 Seminar (1, 2)
conducted by faculty, students, and visiting professors. A total of fifteen hours needed for one semhr credit. (Fall/Spring)

CSCI 495 Independent Study (1,2)
provides a means to pursue an area of interest not in the normal curriculum. Prerequisite: assistance and direction of a department faculty member and consent of instructor. (Fall/Spring)

Criminal Justice

School of Social and Behavioral Sciences

CSJU 111 Introduction to the Administration of Justice (3)
studies the 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)

CSJU 112 Police and Society (3)
analyzes the institution of law enforcement in a generic sense encompassing a wide variety of formal social control mechanisms with particular attention to the relationship between major police problems and the cultural context in which they exist. (Spring)

CSJU 122 Juvenile Delinquency and Procedures (3)
surveys the various federal and state statutes and court decisions involved in juvenile justice procedures, and discusses the causes and effects of juvenile crime. (Spring)

CSJU 204 Probation and Parole (3)
traces the history of the personnel and problems related to delivering probation and parole services including a discussion of the current thinking in organizational goals and structure, the roles of treaters, the use of volunteers, and ex-offenders. (Spring)

CSJU 222 Police Patrol Operations (3)
presents the responsibilities, techniques, and methods of police patrol in the protection of life and property including an examination of reporting systems, communication systems, and law enforcement equipment as well as highway trafficmanagement, accident investigation, crowd control, and disaster operations. (Fall)

CSJU 251 Law Enforcement Procedures (3)
examines various court cases relative to the procedural rights of the criminally accused and the implications thereof for the criminal justice agent. A thorough cross-agency analysis will be undertaken so the student can appreciate the many and varied viewpoints concerning procedural rights. (Spring)

CSJU 275 Management Principles in Criminal Justice (3)
discusses the responsibility of the first-level supervisor in management, employee morale, discipline, selection, placement, training, performance ratings, and the techniques of leadership. (Spring)

CSJU 295 Independent Study (1,2)
allows in-service students to complete approved criminal justice seminars sponsored by approved institutions of higher learning. Permission to enroll must be obtained from the coordinator of Law Enforcement Program. The coordinator will determine the number of semhrs credit(a maximum of two) to be awarded. (Fall/Spring)

CSJU 304 Treatment of Offenders ••• (3)
studies 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: CSJU 111 or consent of instructor. (Fall)

CSJU 401 Criminal Law ••• (3)
studies American criminal law in case studies. Includes an analysis of crimes against persons and property, criminal responsibility, and the law of substantive procedure. Prerequisite: junior standing and/or 12 hours of CSJU classes. (Spring)

Dental Auxiliary

School of Nursing and Allied Health

DENT 110 Orientation to Dentistry ••• (3)
introduces the dental health profession including the dental health team, history of dentistry, professional organizations, ethics and jurisprudence, and clinical dentistry.

DENT 112 Dental Science I ••• (3)
studies head and neck anatomy, dental histopathology and embryology, dental anatomy and tooth morphology.

DENT 113 Radiology I ••• (2)
introduces dental radiography with an emphasis on radiation safety and focuses on the principles and the need for proper safety precautions.

DENT 118 Preventative Dentistry ••• (3)
introduces the basic principles of proper oral hygiene, the roles of plaque and calculus as etiological factors in common oral diseases, and basic components of a plaque control program. Students will be required to design a control program for community and office use.

DENT 120 Dental Science II ••• (2)
presents the anatomy of individual teeth in maxillary and mandibular arch, and introduces oral diseases, clinical characteristics, etiological factors, processes and effects of disease, as well as treatment.

DENT 130 Chairside I (2)
DENT 130L Chairside I Lab ••• (2)
introduces basic chairside procedures, dental equipment, laboratory procedures, and preventative denistry. Students will gain a knowledge of instruments, tray set-ups and procedures, and basic public relations for dealing with dental patients during reception, operative procedures, and education.

DENT 140 Dental Materials I (2)
DENT 140L Dental Materials I Lab ••• (2)
is a comprehensive study of all materials used in the practice of dentistry. Includes cements, amalgams, impression materials, gypsum compounds, waxes, gold and its alloys, basic metal alloys, plastics for prosthetic applications, porcelain, direct anterior esthetic materials, and sealants.

DENT 155 Radiology II (1)
DENT 155L Radiology II Lab ••• (1)
emphasizes exposure angulation and evaluation of films. Presents techniques for patient management that will facilitate increased proficiency in exposing radiographs.

DENT 160 Dental Office Procedures (2)
DENT 160L Dental Office Procedures Lab ••• (1)
is designed to give the student sufficient knowledge to maintain appointment control and recall systems, place and receive telephone calls, record financial transactions, maintain a bookkeeping system (pegboard, computer), complete insurance forms and maintain a supply inventory.

DENT 190 Clinical Dentistry (2)
DENT 190L Clinical Dentistry Lab (2)
DENT 190E Clinical Dentistry Clinic ••• (9)
presents classroom and laboratory instruction in dental specialities. Includes armamentarium and chairside procedures, manipulation of materials, and application of radiographic procedures specific to the various specialties. Clinical experiences in community dental offices is included.

DENT 201 Advanced Odontology ••• (1)
is a detailed study of tooth morphology and anatomy that includes occlusal patterns and their relationship to restorative dentistry.

Economics

School of Social and Behavioral Sciences

§ECON 201 Principles of Macroeconomics (3)
§ECON 202 Principles of Microeconomics ••• (3)
presents a survey of basic concepts of economics. Courses must be taken in sequence and are not open to freshmen. (Fall/Spring)

ECON 301 Labor-Management Relations ••• (3)
studies the 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)
studies the monetary, credit and banking systems in the United States. Counts as management course for BBA candidates. Prerequisites: ECON 201,202, or equivalent. (Fall)

ECON 312 Economic History of the United States ••• (3)
traces the economic development of the United States and the nation's economic institutions 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)
traces the 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)
studies what determines the level and rate of growth of GNP, the inflation rate, and the employment rate. Also studies the policies that have been (or may be) used to influence these variables, and empirical evidences on the relationships among variables. Prerequisite: ECON 201,202, or equivalent, or consent of instructor. (Fall)

ECON 343 Intermediate Microeconomic Theory ••• (3)
studies the problems of resource scarcity in a market economy. Places emphasis 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 ••• (1,2)
provides a means of investigating an area of interest not in the normal curriculum. Prerequisites: six hours of economics and consent of instructor. (Fall/Spring)

ECON 401 Economic Organization and Public Policy ••• (3)
studies the 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 Prerequisite: ECON 201, 202 or equivalent. (Spring)

ECON 410 Public Sector Economics ••• (3)
studies the 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)
introduces international trade theory and policy such as: balance of payments analysis, international investment flows, and the position of the dollar in foreign exchange transaction. Prerequisites: ECON 201,202, or equivalent. (On Demand)

ECON 496 Topics ••• (3)
studies in selected fields of economics. Topics vary from year to year. Prerequisite: ECON 201, 202 or equivalent. (Spring)

Education, Early Childhood

School of Social and Behavioral Sciences

EDEC 100 Parent Education and Preschool ••• (1)
teaches parenting skills in a preschool situation. Enrollment of both parent and child is required. (Fall/Spring)

EDEC 110 Infant and Toddler Curriculum ••• (2)
presents curriculum for the age group 0-2½ years. Places emphasis on maintaining healthful, safe environmental activities to stimulate social, language, emotional, intellectual, and physical development. (Fall)

EDEC 111 Curriculum in Early Childhood Education ••• (3)
teaches 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. (Spring)

EDEC 121 Introduction to Early Childhood ••• (2)
acquaints new students with the field of early childhood, to gain knowledge of the facilities and programs offered for young children, and to observe young children at work and play. Licensing and health regulations for children's centers are considered. (Fall)

EDEC 196 Topics ••• (1)
allows flexible scheduling of various topics in Early Childhood Education. (On Demand)

EDEC 252 Student Teaching ••• (5)
requires students to spend a minimum of three hours per day working in licensed centers under a qualified teachers, supervised by a college instructor, with conferences and evaluations of student's progress. (Fall/ Spring)

EDEC 260 Child-Care Center Management ••• (3)
studies record-keeping, budgeting, personal relations, and administrative techniques required in the operation of a child care center. (Spring)

EDEC 297 Practicum ••• (1,2)
offers practical supervised experience in 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

School of Social and Behavioral Sciences

EDUC 221 Introduction to Education ••• (3)
surveys the field of education by considering the history of American education, philosophies of education, problems in education, and the school as a social institution. Required for education majors. (Fall)

EDUC 222 Introduction to the Classroom ••• (3)
is a basic course for the future educator. The student is placed in a local school to observe and take part in the educational process. Prerequisite: EDUC 221. (Fall)

Electric Lineman

School of Industry and Technology

ELCL 111 Mathematical Basic Electricity ••• (5)
emphasizes mathematical formulas used in voltage, amperage, resistance, and power determination. Also studies metering problems, power factor correction, and line design problems. (Fall)

ELCL 120 Fundamentals of Electricity ••• (5)
studies the 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)
covers pole setting techniques, framing methods and specifications, climbing, sagging and splicing of conductors, energizing and deenergizing of lines, and installation of protective grounds. (Fall)

ELCL 132 Electrical Distribution Theory II ••• (6)
covers installation and operation of protective equipment, transformer hookups, voltage regulation, hotstick maintenance, troubleshooting, and gloving from the pole. (Spring)

ELCL 136 Related Fundamentals I ••• (4)
examines the national electric safety code, truck maintenance, equipment operation, material records, and electrical test meters while introducing transformers. (Fall)

ELCL 137 Related Fundamentals II ••• (6)
covers first aid, meter safety, connector installation, street lighting, rubber cover up, and public relations. (Spring)

ELCL 140 Underground Procedure ••• (5)
covers safety practices, terminology, fault finding, cable locating, switching procedure, installation of terminal devices, splicing, and transformer application. (Spring)

ELCL 145 Hotline Procedures ••• (3)
includes two weeks of training by outside specialists in hotline maintenance and underground installation. (Spring)

ELCL 195 Independent Study ••• (1,2)
is a specialized study related to the student's field of training beyond the scope of the required curriculum. Students must enter into an agreement for specialized training prior to registration. Prerequisite: second semester standing or consent of instructor. (Fall/Spring)

ELCL 196 Topics ••• (1,2)
allows students to gain additional knowledge or skill through workshops designed to cover specialized topics not considered in detail elsewhere. Topics and credit will vary. Prerequisite: consent of instructor. (On Demand)

Electronics Technology

School of Industry and Technology

ELCT 117 DC Passive Circuits (3)
ELCT 117L DC Passive Circuits Lab ••• (1)
covers DC circuits containing resistors, capacitors, inductors, applications of Ohm's and Kirchhoff's laws, and use of standard test equipment. Corequisite: ENGT 101 or MATH 113 or consent of instructor. (Fall)

ELCT 118 AC Passive Circuits (3)
ELCT 118L AC Passive Circuits Lab ••• (1)
analyzes AC circuits containing resistors, capacitors, inductors, and use of standard test equipment. (Fall)

ELCT 153 Solid State I (3)
ELCT 153L Solid State Lab •••• (1)
analyzes solid state diodes and bipolar transistor amplifier circuits. Prerequisite: ELCT 118 or consent of instructor. (Spring)

ELCT 154 Solid State II (3)
ELCT 154L Solid State II Lab •••• (1)
analyzes field effect transistor amplifier circuits, amplifier frequency response, thyristors, unijunction transistors, optoelectronic devices and circuits. Prerequisite: ELCT 153 or consent of instructor. (Spring)

ELCT 254 Industrial Circuits (3)
ELCT 254L Industrial Circuits Lab •••• (1)
covers solid state circuits in industrial control circuits. Prerequisite: ELCT 154 or consent of instructor. (Spring)

ELCT 256 Communication Circuits I (3)
ELCT 256L Communication Circuits I Lab •••• (1)
covers the applied aspects of electronic communication technology in circuits, systems, and transmission. Prerequisite: ELCT 154 or consent of instructor. (Fall)

ELCT 257 Communication Circuits II (3)
ELCT 257L Communication Circuits II Lab •••• (1)
continues ELCT 256. Prerequisite: ELCT 256 or consent of instructor. (Spring)

ELCT 265 Digital Circuits I (3)
ELCT 265L Digital Circuits I Lab •••• (1)
covers binary logic, combinational design, minimization, and introduces sequential circuits and digital computer principles. Prerequisite: ELCT 154 or consent of instructor. (Fall)

ELCT 266 Microprocessors I (3)
ELCT 266L Microprocessors I Lab •••• (1)
uses the 6800 microprocessor to teach machine language programming, computer arithmetic, organization of microprocessors, interfacing, and input/output operations. Prerequisite: ELCT 265 or consent of instructor. (Spring)

ELCT 270 Linear Integrated Circuit Applications (3)
ELCT 270L Linear Integrated Circuit Applications Lab •••• (1)
covers differential and operational amplifier circuitry, feedback configurations, opamps errors, compensations, and applications. Prerequisite: ELCT 154 or consent of instructor. (Spring)

ELCT 275 Digital Circuits II (3)
ELCT 275L Digital Circuits II Lab •••• (1)
continues ELCT 265. Prerequisite: ELCT 265. (Fall)

ELCT 276 Microprocessors II (3)
ELCT 276L Microprocessors II Lab •••• (1)
covers operation of the Apple computer, additional interfacing, ROM programing, and introduces 16 bit microprocessors. Prerequisite: ELCT 266 or consent of instructor. (Spring)

ELCT 295 Independent Study •••• (1,2)
is a specialized study related to the electronics field beyond the scope of the required curriculum. Students must enter into an agreement for specialized training prior to registration for the course. Prerequisite: sophomore standing. (Fall/Spring)

ELCT 296 Topics •••• (1,2)
allows students to gain additional knowledge or skill through workshops designed to cover specialized topics not considered in detail elsewhere. Topics and credit will vary. (Summer)

Engineering

School of Natural Sciences and Mathematics

ENGR 105 Basic Engineering Drawing (3)
ENGR 105L Basic Engineering Drawing Lab •••• (1)
teaches fundamentals of drawing including instrumental drawing, lettering, geometric constructions, sketching and shape description, multiview projection, sectional views, auxiliary views, revolutions, dimensioning, tolerancing, axonometric and oblique projection. Three lectures and two one hour labs per week. (Fall/Spring)

ENGR 111 Engineering Graphics and Design ••• (3)
introduces basic problem solving techniques used in engineering and the sciences. Topics covered include graphics, modeling, experimental methods, data analysis, value judgements, design processes, and decision making in realistic engineering situations. Prerequisite: ENGR 105 and ENGT 105 or MATH 130 or equivalents. (Fall/Spring)

ENGR 159 Energy and Society ••• (3)
surveys energy and modern energy production technology for nonengineering students. Topics include oil, natural gas, coal, hydropower, solar, wind, geothermal, biomass, nuclear, thermonuclear, MHD and ocean energy sources together with their impact on society. Prerequisite: MATH 113 or equivalent. (Fall/Spring)

ENGR 230 Topographical Surveying (2)
ENGR 230L Topographical Surveying Lab ••• (1)
teaches fundamentals of mapmaking including the use of plane table and alidade, basic control, contour mapping, and map reading. Taught primarily for non-engineering students in related fields, (forestry, geology, archaeology). Prerequisite: MATH 130 or consent of instructor. Two lectures and three one-hour labs per week. (Fall/Spring, On Demand)

ENGR 231 Surveying I (2)
ENGR 231L Surveying I Lab ••• (1)
introduces 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. Prerequisite: MATH 130 or consent of instructor. Two lectures and three one-hour labs per week. (Fall/Spring)

ENGR 232 Surveying II (2)
ENGR 232L Surveying II Lab ••• (1)
teaches location and design, measurement and computation of earthwork quantities, and slope staking. Includes celestial observations to determine latitude, longitude, true azimuth, photogrammetry, triangulation, state plane coordinate systems, and computer applications. Prerequisite: ENGR 231. Two lectures and three one-hour labs per week. (Fall/Spring)

ENGR 240 Statics ••• (3)
includes 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/Spring)

ENGR 241 Dynamics ••• (3)
covers angular and linear displacement, velocity and acceleration of particles, rigid bodies in motion, simple vibrations, applications of the principles of force-mass-acceleration, work-kinetic energy, impulse momentum to solution of problems of force systems acting on moving particles and rigid bodies. Prerequisite: ENGR 240 and MATH 253. (Fall/Spring)

ENGR 251, 252 Circuit Analysis I, II (3,3)
ENGR 251L,252L Circuit Analysis I, II Lab ••• (1,1)
introduces the fundamental principles of electrical engineering, such as electronics, electromechanics, and instrumentation. Applies basic analysis techniques to linear, lumped parameter, and time invariant circuits. Prerequisite: MATH 152 and PHYS 121 with concurrent enrollment in MATH 253 and PHYS 122. Three lectures and two one-hour labs per week. (Fall/Spring)

ENGR 253 Electromechanical Devices ••• (2)
covers operating principles and analysis of electromechanical devices including transformers, motors, and generators. Prerequisite: ENGR 251. (Fall/Spring)

ENGR 255 Introduction to Thermal Sciences ••• (3)
introduces energy systems and processes, conservation of energy, environmental applications, pollution, heat transfer, and laws of thermodynamics. Prerequisite: MATH 253 and PHYS 122. (Fall/Spring)

ENGR 295 Independent Study ••• (1,2)
provides a means to pursue, with the assistance and direction of a department faculty member, an area of interest not in the normal curriculum. (Fall/Spring)

Engineering Technology

School of Natural Sciences and Mathematics

ENGT 101 Technical Mathematics I ••• (4)
reviews algebra including fundamental concepts and operations, functions, graphs, systems of linear equations, determinants, factoring, fractions, quadratic equations, exponents, and radicals. Includes 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/Spring)

ENGT 102 Technical Mathematics II ••• (4)
covers graphs of trigonometric functions, complex numbers and the j-operator, inequalities and variation, advanced topics in algebra, and trigonometry with an introduction to analytic geometry. Also includes 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, and introduces statistics and empirical curve fitting. Prerequisite: ENGT 101. (Fall/Spring)

ENGT 120 Engineering Economics ••• (3)
teaches methods of determining, evaluating, and controlling economic factors in engineering projects and designs. (Fall/Spring)

ENGT 125 Soil Mechanics (2)
ENGT 125L Soil Mechanics Lab ••• (1)
covers compaction, consistency, classification, moisture, frost action, permeability, strength, lateral pressures, bearing capacity, piling foundations, soil exploration, spread-footings, subgrades, and pavements as well as earth dams. Prerequisite: MATH 020 or high school algebra. Two lectures and two one-hour labs per week. (Fall/Spring)

ENGT 158 Architectural (Buildings) Drafting I (3)
ENGT 158L Architectural (Buildings) Drafting I Lab ••• (1)
studies the architectural fundamentals of perspective drawing, shadows, and architectural rendering. Uses symbols, templates, special equipment, working drawings, and specifications. Corequisite: ENGR 111. Three lectures and two one-hour labs per week. (Fall/Spring)

ENGT 162 Architectural (Mechanical and Electrical) Drafting II (3)
ENGT 162L Architectural (Mechanical and Electrical) Drafting II Lab ••• (1)
covers the mechanical and electrical aspects of architecture including plumbing, heating, ventilating, air conditioning, solar effects, lighting, and wiring. Prerequisites: ENGT 158 and ENGR 105, or high school drafting. Three lectures and two one-hour labs per week. (Fall/Spring)

ENGT 220 Specifications and Cost Estimate ••• (3)
teaches preparation of specifications and contract documents, quantity estimating of excavation work, construction materials and labor. Prerequisite: ENGR 105 and ENGT 102. (Fall/Spring)

ENGT 223 Reinforced Concrete Design (3)
ENGT 223L Reinforced Concrete Design Lab ••• (1)
introduces cement, aggregates, selection and design of concrete mixtures, and sampling and testing procedures including design of reinforced concrete members and a review and testing of concrete mixes. Corequisite: ENGT 242. Three lectures and and two one-hour labs per week. (Fall/Spring)

ENGT 230 Piping Design ••• (3)
covers methods employed in design and lay out of systems for storm drainage, sewage, irrigation, and water supply. Prerequisite: ENGT 101. (Alternate/Spring)

ENGT 240 Timber and Steel Design ••• (3)
studies the design of structures composed of steel and timber members. Prerequisites: ENGT 102 and 241. Corequisite: ENGT 242. (Fall/Spring)

ENGT 241 Statics and Strength of Materials I ••• (3)
teaches 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. (Fall/Spring)

ENGT 242 Strength of Materials II ••• (3)
discusses centroids, moments of inertia, beam and column deflection and design as well as the design of rotating shafts and couplings. Prerequisite: ENGT 241. (Fall/Spring)

ENGT 245 Fluid Mechanics and Hydraulics (2)
ENGT 245L Fluid Mechanics and Hydraulics Lab ••• (1)
covers properties of fluids, viscosity, steady, laminar and turbulent flow; Reynolds number; hydrostatic pressure on submerged plane surfaces; Bernoulli's energy theorem; pitot tube, venturi, orifice nozzles and weirs; critical velocity in pipes; head loss in pipe fittings, valves, friction coefficients; hydraulic turbo machinery; and flow in pipe nets and open channels. Prerequisite: ENGT 102. Two lectures and two one hour labs per week. (Fall/Spring)

ENGT 251 Electronics Drafting and Design I (2)
ENGT 251L Electronics Drafting and Design I Lab ••• (1)
covers the basic principles of drafting as applied to electricity and electronics. Included are techniques and lettering, projections, device symbols, component outlines, printed circuit boards, integrated circuits, block and schematic diagrams. Prerequisite: ENGR 111 or consent of instructor. Two lectures and two one-hour labs per week. (Fall/Even Years Only)

ENGT 252 Structural Drafting (2)
ENGT 252L Structural Drafting Lab ••• (1)
applies the principles of design in arriving at solutions to structural problems and presents these solutions in the form of detailed drawings using proper drafting techniques. Prerequisite: ENGR 111 or consent of instructor. Corequisite: ENGT 242. Two lectures and two one-hour labs per week. (Fall/Odd Years Only)

ENGT 253 Topographical and Civil Drafting & Design (2)
ENGT 253L Topographical and Civil Drafting & Design Lab ••• (1)
studies the history, fundamentals, and methods of mapmaking. Prerequisite: ENGR 111 and ENGR 230,231, or consent of instructor. Two lectures and two one-hour labs per week. (Fall/Spring)

ENGT 254 Piping Drafting (2)
ENGT 254L Piping Drafting Lab ••• (1)
develops skills in designing and drawing piping and plumbing systems ranging from an industrial to a residential scope. Prerequisite: ENGR 111 or consent of instructor. Two lectures and two one-hour labs per week. (Fall/Spring)

ENGT 255 Electronics Drafting and Design II (2)
ENGT 255L Electronics drafting and Design II Lab ••• (1)
presents drafting and artwork techniques used in the design of printed circuit boards including the design and detail consideration for the remaining parts of the electromechanical systems as well as the basics of printed circuit board logic. Prerequisites: ENGT 251,251L. Two lectures and two one-hour labs per week. (Spring/Odd Years Only)

ENGT 256 Machine and Electrical Drafting (2)
ENGT 256L Machine and Electrical Drafting Lab ••• (1)
applies design principles to machine members. Teaches drawing of designed members to standards of industry utilizing standard joining techniques and available stock items in designs. Prerequisite: ENGR 111. Corequisite: ENGT 242. Two lectures and two one hour labs per week. (Spring/Even Years Only)

ENGT 257 Electrical Power Systems ••• (3)
covers the basic principles concerning the production, distribution, control, conservation, and measurement of electrical power. Prerequisite: ENGT 102. (Spring/Odd Years Only)

ENGT 295 Independent Study ••• (1,2)
allows a student to pursue an area of interest not in the normal curriculum under the assistance and direction of a faculty member. (Fall/Spring)

English

School of Humanities and Fine Arts

Skills and Communication

ENGW 101, 102, 103 English Skills (Modular Concept) •••
is designed for students who have specific deficiencies in one or more of the following: (On Demand)

ENGW 101:	Basic Grammar	(Module 1)	(1)
ENGW 102:	The Sentence	(Module 2)	(1)
ENGW 103:	Punctuation	(Module 3)	(1)

ENGW 106, 107 Vocational Communications ••• (3,3)
is designed for students enrolled in Industry and Technology programs. Emphasizes business communications and meets requirements for the AAS degree. (Fall/Spring)

ENGW 110 English Grammar ••• (3)
reviews English grammar and usage. (Fall/Spring)

§ENGW 111 English Composition ••• (3)
is designed to aid in learning effective ways to communicate ideas through writing clear, concise, and well-planned papers. Prerequisite: ENGW 110 for students with ACT scores of 13 or below in English. (Fall/Spring)

§ENGW 112 English Composition ••• (3)
presents the theory and strategy of research and critical writing. Prerequisite: ENGW 111. (Fall/Spring)

ENGW 115 Technical Writing ••• (3)
is an intensive composition course designed to give students experience with writing they may encounter in technical professions. Requires the traditional research paper, a technical report, graph with text, questionnaire, description or definition, application letter and resume, and technical speech. Prerequisite: ENGW 111. (Fall/Spring)

ENGW 121 English: Spelling/Vocabulary ••• (3)
teaches spelling improvement based on 600 most commonly misspelled words. Emphasizes basic rules, pronunciation, and vocabulary with an emphasis on Greek and Latin roots, prefixes, and suffixes.

ENGW 126, 127 Honors English ••• (3,3)
is specifically for students whose high school records and ACT scores are in the 85th percentile or higher. Concentrates on sentence structure, patterns of organization, panel discussions, impact of scientific thought on the humanities and fine arts. Requirements during the two semesters include critical reviews, a short thesis, a long research paper, and an essay involving a critical analysis of a novel. (Fall)

Creative Writing

ENGW 251 Creative Writing: Formulas in Fiction ••• (3)
is the art of narrative fiction focusing on the techniques of creating major and minor Character, Routine Action, Flashback, and Retrospect paradigms in addition to studying plot plan, setting, viewpoint, and dialogue. (Fall)

ENGW 252 Creative Writing: Style in Fiction ••• (3)
is the art of narrative fiction focusing on the techniques of creating Scene Method of Narrative, Direct Character Introduction, Panorama, Detailed Description, and Sensory Detail paradigms in addition to studying stylistic control through psycholinguistics and reviewing plot plan, setting, viewpoint, and dialogue. (Spring)

ENGW 394 Seminar/ Advanced Writing ••• (3)
teaches professional writing of fiction, non-fiction, and analysis through the roles of writer as-artist, scholar, freelance, editor, book reviewer, and critic. Studies both artist:work/audience and audience/writer/work.

Literature

§ENLI 131, 132 World Literature ••• (3,3)
surveys major works of Western literature: ENLI 131 (Classical, Medieval and Renaissance periods including Homer and Dante), ENLI 132 (post Renaissance through modern periods including Goethe and Cervantes). (Fall/Spring)

§ENLI 134 Mythology (Classical) ••• (3)
studies the basic myths of the Greeks and Romans, the cultures that produced them, and modern concepts of the classical tradition. (Fall)

§ENLI 135 Mythology (Medieval) ••• (3)
surveys Ancient, Oriental, Northern, and Medieval myths, the cultures that produced them, and concepts of them in today's society. (Spring)

§ENLI 141 Introduction to Literature-Fiction ••• (3)
is a structural approach to short stories and novels by American, English, and European authors of the 19th and 20th centuries. (Fall/Spring)

§ENLI 142 Introduction to Literature-Poetry ••• (3)
studies the techniques of literature by the poets from ancient to modern times, including denotation and connotation, imagery, figurative language, tone, pattern, and meter. Helps students understand the criteria necessary for distinguishing good poetry from bad. (Fall/Spring)

§ENLI 143 Introduction to Literature-Drama ••• (3)
involves reading of dramatic literature from the Greeks to the modern dramatists. (Spring)

§ENLI 145 Introduction to Oriental Literature ••• (3)
presents the prose, poetry, and plays of early India, China, and Japan. (Spring)

ENLI 240 Children's Literature ••• (3)
introduces the history of children's literature through authors and illustrators of picture books, stories, and pre school and early primary. Field project. (Fall)

§ENLI 254 English Literature ••• (3)
surveys English literature from its beginnings, including major works and writers through the early 18th century. (Fall/Spring)

§ENLI 255 English Literature ••• (3)
surveys English literature, including major writers and works from mid 18th century to present day. (Fall/Spring)

§ENLI 261 United States Literature ••• (3)
surveys American Literary Tradition 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)

§ENLI 262 United States Literature ••• (3)
studies principal authors of modern American literature such as Dickinson, Clemens, Harte, Crane, Frost, Sandburg, Anderson, Lewis, Eliot, Faulkner, Hemingway, and Stephens. (Spring)

ENLI 316 American Novel ••• (3)
presents distinctive American novels from beginning to present. (Fall)

ENLI 318 Frontier American Literature ••• (3)
studies historical themes in American literature, often a result of the settling of new frontiers which contributed to unique settings and characters. (Spring)

ENLI 324 Short Story ••• (3)
introduces the genre of the short story, and provides the history and examples of short stories which reveal the development of plot, setting, character, symbol, point of view, theme, humor, satire, and fantasy. (Fall)

ENLI 326 World Drama I ••• (3)
surveys Greek through Elizabethan drama. ENLI 326 and 327 may count for either Humanities or Fine Arts requirement for the Bachelor of Arts degree in Liberal Arts. (Fall)

ENLI 327 World Drama II ••• (3)
continues ENLI 326. (Spring)

ENLI 335 The Bible as Literature ••• (3)
studies the Old Testament as a literary masterpiece. (Fall)

ENLI 340 Classical Literature in Translation: The Greek Tradition ••• (3)
involves readings in English of outstanding Greek authors. Explores major classical genres emphasizing the development of epic, comedy, tragedy, and lyric poetry against the background of Greek history, philosophy, and religion. (Fall)

ENLI 341 Classical Literature in Translation: The Latin Tradition ••• (3)
presents works by Virgil, Ovid Lucretius, Petronius, Terence and Plautus, Horace and Catullus in English translation, considered in the light of the humane and religious tradition of Europe. (Spring)

ENLI 350 Chaucer ••• (3)
studies the major works of the 14th century poet. (Spring)

ENLI 355 Shakespeare ••• (3)
studies early and mature plays, including genres of comedy, history, tragedy, and romance. Emphasizes close textual reading in conjunction with cultural and intellectual contexts. (Fall)

ENLI 360 Milton ••• (3)
surveys the thought and poetry of John Milton. (Fall)

ENLI 365 Adolescent Literature ••• (3)
surveys past and present adolescent literature including analysis of fiction, non-fiction, drama, and poetry, with a focus on contemporary themes, issues, and trends. (Spring)

ENLI 370 18th Century English Literature ••• (3)
is designed to give the student a solid base for understanding the conceptual framework of the Enlightenment in England's representative essayists, poets, novelists, and playwrights, specifically Goldsmith, Wycherly, Dryden, Congreve, Steele, Sheridan, Gay, Pope, Swift, Defoe, and Johnson. (Spring)

ENLI 380, 381 19th Century British Literature ••• (3,3)
studies 19th century British literature based upon representative works of major poets, novelists, and prose writers: ENLI 380 (Romantic Period writers and Early Victorians to 1850), ENLI 381 (Late Victorian writers through the 1890s). Prerequisite: six hours of literature. (Fall/Spring)

ENLI 382 The Romantics ••• (3)
explores humanity's deepest personal feelings, as expressed by writers attempting to discover a higher reality than that offered by materialism or rationalism. American and British authors represented are Irving, Cooper, Bryant, Poe, Longfellow, Whittier, Blake, Coleridge, Wordsworth, Byron, Shelly, and Keats. (On Demand)

ENLI 395 Independent Study ••• (1,2,3)
allows a student to work with a faculty member in English or literature. Prerequisite: eight hours of English or literature and consent of instructor. (On Demand)

ENLI 410 The British Novel ••• (3)
surveys themes and styles of representative novelists of British literature, including the works of Defoe, Fielding, Conrad, Dickens, Lawrence, Bronte, Austen, and Huxley. (Spring)

ENLI 411 American Drama ••• (3)
studies American plays from the first American playwright to the plays of today. (Spring)

ENLI 413 Contemporary Drama ••• (3)
studies the realistic and absurd playwrights of the world within the past 25 years. (Fall)

ENLI 415 American Folklore ••• (3)
introduces American folklore with an emphasis on collecting Colorado and especially Western Colorado lore. (Spring)

ENLI 416 Contemporary American Poetry ••• (3)
surveys contemporary American poets since 1940. (On Demand)

ENLI 424 Literature and Science ••• (3)
studies literature's relationship with science affecting the fine arts, social thought, and value. (Spring)

ENLI 435 17th Century English Literature ••• (3)
surveys poetry and prose of the 17th century, including the works of Donne, Herbert, Vaughan, and Crashaw and the works of the cavalier poets (Herrick, Carew, Suckling, and Lovelace). (Fall)

ENLI 445 American Poetry from 1870 to 1940 ••• (3)
surveys traditionalist and experimental schools in American Poetry from 1870 to 1940. Poets studied will include Whitman, Robinson, Sandburg, Masters, Stevens, Frost, Williams, Cummings, Crane, Moore, Jeffers, Eliot, and MacLeish. (Fall)

Special Studies

ENSS 295 Independent Study ••• (1,2,3)
allows the student to work with a faculty member in English or literature. Prerequisite: six hours of English and consent of instructor. (On Demand)

ENSS 367 Modern English Grammar ••• (3)
studies traditional, structural, and transformational methods of analyzing English grammar. Includes dialect study, usage and rhetoric, and the relationship between English grammar and teaching reading and writing in the English classroom. (Spring)

ENSS 421 History of Literary Criticism ••• (3)
studies the 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. (Fall)

ENSS 422 Forces in Contemporary Criticism ••• (3)
studies 20th century critics, critical schools, and theories. (On Demand)

ENSS 440 History of the English Language ••• (3)
presents the historical development of the English language in order to understand the way its internal formation (inflectional, grammatical, and syntactical) was shaped by the external political, social, and intellectual forces. Studies Indo-European roots and the Germanic, Norman French, and Latin influences. (Spring)

ENSS 450 Linguistics ••• (3)
covers the basic principles and provides practice in language analysis and description in the areas of phonology, morphology, and syntax. Covers language universals, semantics, sociolinguistics, applied linguistics, historical linguistics, and field linguistics. (Spring)

ENSS 455 Methods of Teaching English ••• (3)
introduces the theory and practice of teaching English in the junior and senior high schools presenting current techniques, materials, media for the teaching of composition, literature, and the English language. Prerequisite: senior standing in the teacher certification program. (Spring)

ENSS 496 Topics ••• (3)
explores special topics in literature. Prerequisite: upper-division standing. (On Demand)

Finance

School of Business

FINA 338 Fundamentals of Investments ••• (3)
introduces basic information with regard to the investment environment, the valuation of equity securities, portfolio theory and the analysis of investments other than equity securities. Prerequisites: junior standing or consent of instructor. (Fall)

FINA 339 Managerial Finance ▪▪▪ (4)
covers acquisition, allocation, and management of funds within the business enterprise. Financial goals, funds flow, capital budgeting, and financing strategies. Prerequisites: ACCT 202, MATH 121, STAT 214. (Fall)

FINA 396 Topics ▪▪▪ (1,2,3)
explores topics that vary from year to year selected from areas of general interest in the finance area. Prerequisite: varies with course material and consent of instructor. (On Demand)

FINA 439 Problems in Managerial Finance ▪▪▪ (3)
presents 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)
presents financial theory pertaining to capital structure, dividend policy, valuation, cost of capital, and capital budgeting. Prerequisite: FINA 339. (Spring)

Fine Arts

School of Humanities and Fine Arts

§FINE 101 Man Creates ▪▪▪ (3)
is an interdisciplinary survey of human creative efforts as they relate to each other. Art, drama, and music are compared, with similarities stressed. (Fall/Spring)

FINE 301, 302 Civilization and the Arts ▪▪▪ (3,3)
brings together the historical viewpoints of social scientists, the historian, humanist, writer, performer, and artist in relation to economics, politics, and religion. (Fall/Spring)

FINE 402 Arts Management ▪▪▪ (3)
(On Demand)

FINE 494 Seminar in Critical Analysis of the Arts ▪▪▪ (3)
explores the theory and practice of arts criticism. (Fall)

FINE 499 Internship ▪▪▪ (8,15)
consists of 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 semhrs credit; full-time equals 15 semhrs credit. Prerequisite: junior standing in visual or performing arts. May also require selected courses in business, social science, etc. as may be appropriate to the internship sought. (Summer/Fall/Spring)

Foreign Languages

School of Humanities and Fine Arts

French

§FLAF 111, 112 First-Year French ▪▪▪ (3,3)
introduces the French language and culture. (On Demand)

§FLAF 251, 252 Second-Year French ▪▪▪ (3,3)
presents grammar review, vocabulary distinction, and readings in the French language. Prerequisites: two years of high school French; FLAF 111, 112 or consent of instructor. (On Demand)

German

§FLAG 111, 112 First-Year German ▪▪▪ (3,3)
introduces the German language. (Fall/Spring)

§FLAG 251, 252 Second-Year German ▪▪▪ (3,3)
presents grammar review, vocabulary distinction, and readings in the German language. Prerequisites: two years of high school German; FLAG 111, 112 or consent of instructor. (On Demand)

§FLAG 295 Independent Study ▪▪▪ (1,2)
is offered with consent of instructor. (On Demand)

Spanish

§FLAS 111, 112 First-Year Spanish ▪▪▪ (3,3)
is a beginning program to develop basic competency in understanding, speaking, reading, and writing for the student who simply wants to travel as well as for the student who wants to fulfill a college foreign language requirement. (Fall/Spring)

FLAS 114, 115 Conversational Spanish ▪▪▪ (3,3)
is a beginning level class for evening 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, 118 Career Spanish ▪▪▪ (3,3)
is for students with or without prior knowledge of Spanish who wish to develop a speaking and understanding knowledge of 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, 252 Second-Year Spanish ▪▪▪ (3,3)
is a comprehensive intermediate level transfer type program which provides reinforcement and expansion of the four basic language skills developed in the first-year course as well as exposure to a wider variety of cultural materials and situations. Prerequisite: two years of high school Spanish; FLAS 111, 112, or consent of instructor. (Fall/Spring)

Other Languages

FLAV 295, 395 Independent Study ▪▪▪ (1,2,3)
is currently offered through Outreach: Ancient Greek, Latin, Portuguese, Russian, and advanced French, German, and Spanish. See Outreach catalog. (With Availability of Instructor/On Demand)

Geography

School of Social and Behavioral Sciences

§GEOG 101, 102 Introduction to Geography ▪▪▪ (3,3)
surveys the essentials of college geography including vocabulary, basic principles, and techniques. (Fall/Spring)

Geology

School of Natural Sciences and Mathematics

§GEOL 100 Survey of Earth Science ▪▪▪ (3)
consists of lectures on important topics in geology as well as the solar system, weather, and the oceans. Emphasis is on understanding the physical makeup of the earth. Intended for students with majors other than the sciences. (Spring)

§GEOL 101, 102 Introduction to Geology (4,4)
§GEOL 101L, 102L Introduction to Geology Lab ▪▪▪ (1,1)
deals with the earth's origin, structure, composition, atmosphere, and hydrosphere. Includes physical changes, evolution of life, astronomy, meterology, and lab work with rocks, minerals, fossils, and topographic maps. Recommended for non-science students. Four lectures and one two-hour lab per week. (Fall/Spring)

§GEOL 103 Weather and Climate ••• (3)
consists of lectures and demonstrations on cause and effect of typical weather and climate phenomena of the world and particularly of the western United States. Included are such topics as the earth's general air circulation, seasons, heating, cooling, air masses, and the formation and classification of clouds. (Fall)

§GEOL 105 Geology of Colorado ••• (3)
studies common rocks, minerals, and the geologic time scale with specific study of scenery, geology, and natural resources of Colorado. One-day field trip required. (Fall/Spring)

§GEOL 111 Principles of Physical Geology (4)
§GEOL 111L Principles of Physical Geology Lab ••• (1)
deals with materials of the earth, landform processes, and the interaction between surface and interior. Includes lab studies of topographic maps, earthquakes, mountains, sea floor, and plate tectonics. Four lectures and one two-hour lab per week. (Fall)

§GEOL 112 Principles of Historical Geology (4)
§GEOL 112L Principles of Historical Geology Lab ••• (1)
continues GEOL 111 and deals with the origin of the earth, the geologic time scale, the evolution of life forms as revealed in the fossil record, physical changes in the earth, and predictions that can be based on such studies. Lab work employs topographic and geologic maps, reconstruction exercises, and fossils to interpret regional and general geologic history. Prerequisite: GEOL 111. Four lectures and one two-hour lab per week. (Spring)

§GEOL 201 Stratigraphy (2)
§GEOL 201L Stratigraphy Lab ••• (1)
presents the fundamentals of sedimentary rock classification, correlation, sedimentary environments, and regional stratigraphic column. Includes lab and field studies of sedimentary rock descriptions and field procedures with local sedimentary outcrops. Two one-day field trips required. Two lectures and one two-hour lab per week. Prerequisite: GEOL 112 or consent of instructor. (Fall)

§GEOL 203 Introduction to Environmental Geology ••• (3)
introduces the relationship of man to his geological environment. Studies pollution, waste disposal, mineral and fuel depletion, and governmental policy emphasizing geologic hazards. Prerequisite: consent of instructor. (Spring)

GEOL 295 Independent Study ••• (1,2)
allows students with a previously developed interest in and knowledge of a specialized subject to continue his or her own work in combinations of conferences, reading, lab work, and field work. (Fall/Spring)

GEOL 301 Earth Tectonics (3)
GEOL 301L Earth Tectonic Lab ••• (1)
consists of lectures on the nature and origin of rock structures including local and large-scale deformation. Lab work solves structural problems by graphical, geometrical, and stereographic methods and includes work with maps and cross sections. Three lectures and one two-hour lab per week. Prerequisites: GEOL 111 and Math 130. (Fall)

GEOL 310 Geologic Mapping and Illustration ••• (3)
presents lectures on plane table surveying and other methods of geologic mapping. Included are geologic maps, cross-sections, contours, profiles, rock symbols, and lettering aids. Some off-campus areas are mapped. Prerequisite: consent of instructor. (Fall)

GEOL 325 Introduction to Engineering Geology ••• (3)
applies geologic principles to construction problems. Case histories of major projects are discussed. Field trips and term project required. Prerequisite: consent of instructor. (Spring)

GEOL 331 Mineral Studies (3)
GEOL 331L Mineral Studies Lab ••• (1)
presents lectures on the morphology and classification of crystals, the chemistry of minerals and their genesis, and modern laboratory techniques. Lab work includes identification of crystals by simple determination tests, some modern identification equipment and identification of minerals in hand specimens. Three lectures and one two-hour lab per week. Prerequisite: CHEM 131 or consent of instructor. (Fall)

GEOL 333 Geology of the Grand Canyon ••• (1)
consists of lectures and field study of the historical geology of the Grand Canyon, interpretation of the formations present and of the uplift and erosion of the canyon. A backpacking trip into the canyon is required. Prerequisite: GEOL 112. (Spring Break/On Demand)

GEOL 340 Petrology (3)
GEOL 340L Petrology Lab ••• (1)
covers the origin, composition, and classification of igneous, metamorphic, and sedimentary rocks with lab work on their composition and identification in hand specimen and occasionally thin section. Prequisite: GEOL 331. Three lectures and one two-hour lab per week. (Spring)

GEOL 351 Applied Geochemistry ••• (2)
covers the principles of geochemistry and their relationship to weathering and soils. Included are discussions of geochemical surveys and prospecting techniques. Prerequisites: GEOL 112 and two semesters of chemistry, or consent of instructor. (On Demand)

GEOL 360 Mineral and Energy Resources ••• (5)
covers metallic and non-metallic mineral deposits as well as fuels including locations, minerals involved, ore genesis, alteration, associations, zonation and extraction methods of mining. Students are expected to participate in an overnight field trip. Prerequisite: CHEM 131 or consent of instructor. (Spring)

GEOL 380 Field Studies ••• (6)
studies methods of mapping and gathering field data, including section measuring, use of aerial photographs, and preparation of geologic maps and reports. Regional geologic features are studied from field camps. Prerequisites: GEOL 111, 112, 201, 301, 331 and 340. Four eight-hour field sessions and one eight-hour lab per week. (Summer/First 6wk Session)

GEOL 390 Computer Applications in Geology ••• (3)
examines quantitative methods of geologic data analysis with the data manipulated on the computer. The approach is methodical with limited theoretical emphasis. Statistical concepts are applied with the necessary tools developed by application. Prerequisites: GEOL 111,112,201, MATH 201,130. (Fall/Spring)

GEOL 395 Independent Study ••• (1,2)
see GEOL 295 course profile. (Fall/Spring)

GEOL 402 Applications of Geomorphology (4)
GEOL 402L Applications of Geomorphology Lab ••• (1)
covers landforms and land-forming processes with applications to problem solving. Includes the prediction of hazards and other problems from study of past active processes. Emphasizes local soils, slopes, rivers, and erosional surfaces. Includes statistical and computer techniques of data analysis. Participation in at least two field trips is required. Lab and field studies explore such factors as streams, frost, slope movement, ground water, wind and glaciers which have affected the local environment. Emphasizes techniques of measurement and interpretation. Prerequisite: consent of instructor. Four lectures and one two-hour lab or one four-hour field trip per week. (Fall)

GEOL 404 Geophysical Prospecting (4)
GEOL 404L Geophysical Prospecting Lab ••• (1)
discusses the principles and applications of refraction and reflection: seismic, gravity, magnetic, and electric methods in hydrocarbon and mineral exploration plus preliminary construction site investigations. Lab includes field work with geophysical instruments and lab work interpreting data from various sources. Prerequisites: GEOL 111,112, PHYS 212 (Calculus is recommended but not required) or consent of instructor. Four lectures and one two-hour lab per week. (Fall)

GEOL 405 Solid Earth Geophysics ••• (3)
applies classical physics to study of the earth. Includes the origin of the earth, its gravitational, geomagnetic, and geothermal characteristics, seismicity, the dynamics of the earth's crust, plate tectonics and continental drift. Field trips are required. Prerequisite: GEOL 404 or consent of instructor. (On Demand)

GEOL 411 Paleontology (2)
GEOL 411L Paleontology Lab ••• (1)
covers the taxonomy, morphology, and geologic age of most groups of invertebrate fossils including the recognition of depositional environments of rock formations based on the fossils present. Lab work includes lab and field studies of fossils for identification and geologic age. Prerequisite: GEOL 201 or consent of instructor. One-day field trip required. Two lectures and one two-hour lab per week. (Spring)

GEOL 415 Introduction to Ground Water ••• (2)
includes relationships of ground water to other water sources, hydrologic cycle, water balance, hydrologic characteristics of rocks, hydraulics and equations defining flow and aquifer characteristics, ground water quality, techniques of exploration, and water law. Prerequisites: CHEM 121, 122 or CHEM 131,132, MATH 130, and GEOL 331. (On Demand)

GEOL 475 Petrography ••• (2)
introduces the petrographic microscope and its use in the description and classification of rocks. Prerequisites: GEOL 331, 340, and PHYS 212. (On Demand)

GEOL 476 Optical Mineralogy and Petrography (2)
GEOL 476L Optical Mineralogy and Petrography Lab •••
introduces the theories and principles of optical mineralogy, and the use of the petrographic microscope in the description and classification of rocks. Lab work analyzes samples in thin section using the petrographic microscope and the techniques of optical mineralogy. Prerequisites: GEOL 331, 340 and PHYS 212. Two lectures and two two-hour labs per week. (Spring)

GEOL 495 Independent Study ••• (1,2)
see GEOL 295 course profile. (Fall/Spring)

GEOL 496 Topics ••• (3)
discusses recent ideas, concepts, and data relating to petroleum, mineral deposits, plate tectonics, and other topics of current interest. (Spring)

Graphic Communications

School of Industry and Technology

GRCO 120 Basic Layout and Design I ••• (2)
studies fundamental principles and techniques of pattern and design concepts, typography, and preparation of art work in both black-and-white and color media. (Fall)

GRCO 121 Basic Layout and Design II ••• (2)
continues GRCO 120. Prerequisite: GRCO 120. (Spring)

GRCO 130 Basic Photography ••• (2)
develops skills in the production of black and white photography, including camera and printmaking techniques. One two-hour lab per week. (Fall/Spring)

GRCO 131 Photo Finishing ••• (1)
develops skills in the techniques of brush and airbrush photo retouching, image intensification, reduction on negatives and photo prints, mounting, and matting. Prerequisite: GRCO 130. (Spring)

GRCO 140 Basic Typesetting (1)
GRCO 140L Basic Typesetting Lab ••• (3)
studies basic typesetting functions with emphasis on operation of photo typesetting systems and production of camera-ready type. (Fall)

GRCO 141 Advanced Typesetting (1)
GRCO 141L Advanced Typesetting Lab ••• (3)
studies advanced typesetting functions with emphasis on operation of photo typesetting systems and production of camera-ready type. (Spring)

GRCO 220 Advanced Layout and Design I ••• (3)
gives the student necessary knowledge, skills, and techniques to demonstrate an advanced understanding and working knowledge of advertising art and corporate commercial art through the design and production of layout projects using the various techniques and media applicable to advertising and corporate art production. Prerequisites: ARTE 151, GRCO 120. (Fall)

GRCO 221 Advanced Layout and Design II ••• (3)
continues GRCO 220. The student will produce both realistic layouts and cameraready artwork using the various techniques and media applicable to corporate commercial art, advertising commercial art, and illustration. Emphasizes the production of projects equal to the standards of the commercial art industry, and on the many different aspects and areas involved in commercial design. Prerequisite: GRCO 220. (Spring)

GRCO 230 Process Photography I (1)
GRCO 230L Process Photography I Lab ••• (3)
studies basic techniques of process camera work and darkroom procedures, including calibration, line work, photo mechanical transfer, flat preparation, and platemaking. Four hours of lab per week. (Fall)

GRCO 231 Process Photography II (1)
GRCO 231L Process Photography II Lab ••• (3)
teaches 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. Prerequisite: GRCO 230. Four hours of lab per week. (Spring)

GRCO 240 Image Preparation I (1)
GRCO 240L Image Preparation I Lab ••• (3)
studies the basics of camera-ready copy preparation for reproduction using composing machines and paste-up techniques. Four hours of lab per week. Prerequisite: GRCO 140. (Fall)

GRCO 241 Image Preparation II (1)
GRCO 241L Image Preparation II Lab ••• (3)
studies advanced techniques of preparing camera-ready copy, including multipleforms, two or more opaque color printing requirements, four-color transparency printing requirements, and newspaper copy preparation. Four hours of lab per week. Prerequisite: GRCO 240. (Spring)

GRCO 250 Offset Press I (1)
GRCO 250L Offset Press I Lab ••• (3)
teaches basic offset press operation, maintenance of presses, and principles of offset including inks, fountain solutions, and plates. Four hours of lab per week. (Fall)

GRCO 251 Offset Press II (1)
GRCO 251L Offset Press II Lab ••• (3)
covers advanced offset press operation, multiple-color printing, basics of paper press relationships, and a web offset press operation. Four hours of lab per week. Prerequisite: GRCO 250. (Spring)

GRCO 260 Printing Cost Estimating ••• (2)
studies costs and cost-estimating techniques specifically related to the printing industry. Prerequisite: Graphic Communications majors only. (Spring)

GRCO 270 Portfolio Construction ••• (1)
teaches the student through participation in class lectures, discussions, and lab exercises, to design, develop, and assemble a portfolio, which will be used as part of the student's employment materials. The student will apply knowledge and skills in preparing the portfolio format, devising and upgrading existing samples to be included, and the development of new samples for inclusion in the portfolio. Prerequisite: sophomore Commercial Art student only. (Spring)

GRCO 295 Independent Study ••• (1,2)
is a specialized study related to a student's field of training beyond the scope of the required curriculum. Students must enter into an agreement prior to registration. Prerequisite: sophomore standing or equivalent. (Fall/Spring)

GRCO 296 Topics ••• (1,2)
allows students to gain additional knowledge or skill through workshops which are designed to cover specialized areas that are not considered in detail elsewhere. Credit will vary with material. (On Demand)

History

School of Social & Behavioral Sciences

§HIST 101, 102 Western Civilizations ••• (3,3)
studies the political, social, economic, and cultural history of Western mankind from ancient times to modern times. (Fall/Spring)

§HIST 120 History of Colorado ••• (3)
surveys Colorado from pre-historic to modern times. (Fall/Spring)

§HIST 131, 132 United States History ••• (3,3)
surveys the United States from Colonial period to modern times. (Fall/Spring)

§HIST 136 Introduction to the Afro-American Experience ••• (3)
introduces the Afro-American experience from beginnings in Africa to the present. (Fall/87,89)

§HIST 137 Introduction to the Chicano Experience ••• (2)
is an initial study of the Chicano including consideration of Spanish and Indian backgrounds and the social, cultural, economic, and political roles of Chicanos in the United States since 1848. (On Demand)

§HIST 205 Introduction to the Civilization of China and Japan ••• (3)
surveys the history of China and Japan from earliest times to the present. (Fall/87,89)

HIST 206 The Civilizations of Western and Southern Asia ••• (3)
introduces Islamic, Indian, and Southeast Asian civilizations. (Spring/88)

HIST 300 History of England ••• (3)
surveys England from ancient times to the opening of the Modern period. Prerequisites: HIST 101,102, or equivalents, or consent of the instructor. (Fall/86,88)

HIST 310 Latin American Civilization ••• (3)
studies the historical development of Latin America from pre-Columbian times to the present. Prerequisite: HIST 102 or consent of the instructor. (Fall/87,89)

HIST 320 History of the Southwest ••• (3)
surveys the southwest from pre-Columbian times to 1912 with special attention to the interrelationships among Indian, Spanish, Mexican, and Anglo-American influences. Prerequisites: HIST 131,132, or HIST 125,126, or equivalents, or consent of instructor. (Spring/87,89)

HIST 330 History of Modern Europe ••• (3)
surveys modern Europe from the Congress of Vienna (1814) to the present. Prerequisites: HIST 101, 102 or consent of instructor. (Spring/87,89)

HIST 332 History of Modern Warfare ••• (3)
studies war, its causes, consequences, and impact on history from the 18th century to the present. (Fall/86,88)

HIST 340 History of the Islamic World ••• (3)
studies 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, or consent of instructor. (Spring/88)

HIST 342 The Age of Jefferson and Jackson ••• (3)
studies social and intellectual developments in America from 1800-1850 with special emphasis on the influences of President Thomas Jefferson and Andrew Jackson. Prerequisites: HIST 131,132, or consent of instructor. (Fall/88)

HIST 344 The Age of Industry in America ••• (3)
introduces 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/87,89)

HIST 346 History of Modern America ••• (3)
introduces 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/88)

HIST 395 Independent Study ••• (1,2)
allows further study on an individual basis. Prerequisites: six hours of history and consent of instructor. (Fall/Spring)

HIST 400 The Soviet Union and Eastern Europe ••• (3)
studies imperial Russia, the Soviet Union, and Eastern Europe from 1900 to the present. Prerequisite: HIST 102 or consent of instructor. (Spring/88)

HIST 401 East Asia: The Formative Period ••• (3)
studies China, Japan, Korea, and Vietnam before the coming of the West. Prerequisites: HIST 205 or consent of instructor. (Fall/86,88)

HIST 403 East Asia and the Modern World ••• (3)
studies China, Japan, Korea, and Vietnam since 1840. Prerequisites: HIST 205 or consent of instructor. (Spring/87,89)

HIST 404 Introduction to Historical Research ••• (1)
introduces history specific research with emphasis on utilization of primary documents and practice in conducting research and reporting results. (Fall)

HIST 410 Environmental History of the U.S. ••• (3)
traces the evaluation 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 equivalents, or consent of instructor. (Spring/88)

HIST 420 Civil War and Reconstruction ••• (3)
studies the causes and outcomes of the American Civil War and reconstruction periods. Prerequisites: HIST 131,132, or consent of instructor. (Spring/87,89)

HIST 430 The Ancient Mediterranean World ••• (3)
studies the Mediterranean world from pre-classical times to the fall of the Roman Empire. Prerequisites: HIST 101,102, or consent of instructor. (Fall/87,89)

Home Economics

School of Natural Sciences and Mathematics

HMEC 141 Meal Management in Early Childhood (2)
HMEC 141L Meal Management in Early Childhood Lab ••• (2)
covers the principles of food preparation and meal service for pre-school children and lab work on their application. Two lectures and two two-hour labs per week. (Spring)

HMEC 151 Foreign Food Cookery (1)
HMEC 151L Foreign Food Cookery Lab ••• (1)
covers the preparation and service of foods as they are commonly prepared and served in countries outside the United States. One lecture and one two-hour lab per week. (Fall)

HMEC 211 Nutrition ••• (3)
covers nutrients and their relation to physical and mental health. (Fall/Spring)

HMEC 212 Infant and Child Nutrition ••• (2)
teaches principles of nutrition for maternal, infant, and child health. Prerequisite: HMEC 211. (Spring)

HMEC 238 Child Development ••• (3)
covers the physical, emotional, intellectual, and social growth and development of young children, the effect of prenatal maternal behavior on fetus development, behavior and guidance of the child from birth through adolescence. (Fall/Spring)

Human Services

School of Social and Behavioral Sciences

HSER 301 Introduction to Human Services ••• (3)
explores 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)
is an 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/88)

HSER 320 Drugs in Society ••• (3)
surveys the pharmacological and especially the social-psychological effects of many of the drugs commonly self administered today. Emphasizes consequences of abuse and strategies for limiting abuse. Prerequisites: PSYC 121,122, or consent of instructor. (On Demand)

HSER 499 Internship ••• (4)
allows a student to pursue special interests or gain knowledge of topics not otherwise provided for in the curriculum. Credit for senior year human services internships will be granted through registration in this course. Requires 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. (Fall/Spring/Summer)

Humanities

School of Humanities and Fine Arts

HUMA 201 Field Studies in Humanities ••• (1)
entails 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 295 Independent Study ••• (1,2)
is on an individual basis. Prerequisite: consent of instructor. (On Demand)

HUMA 301 Field Studies in Humanities ••• (3)
see HUMA 201 course profile. Prerequisite: junior or above standing. (On Demand)

HUMA 395 Independent Study ••• (1,3)
is on an individual basis. Prerequisite: consent of instructor. (On Demand)

HUMA 499 Internship ••• (8)
is on an individual basis. See faculty adviser for details. (On Demand)

Industrial Safety

School of Industry and Technology

INSA 220 Industrial Safety Practices ••• (3)
is an overview of industrial safety regulations and practice including fire, electrical, mechanical, dust and vapor hazards and appropriate accepted safety practice related to each. Includes a segment on life support and trauma management relating to emergency care. Occupational and Mine Safety and Health, as well as other regulations will be discussed. (Spring)

Interdisciplinary Study

School of Social and Behavioral Sciences

INTR 400 San Juan Symposium ••• (6)
is 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 College degree programs. Prerequisites: upper-division standing and consent of instructors. Not open to freshmen and sophomores. (Summer)

Management

School of Business

MANG 121 Human Relations in Business ••• (3)
explores the 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)
studies 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)
is 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. (Spring)

MANG 298 Related Work Experience ••• (1,2)
see ACCT 298 course profile.

MANG 301 Organizational Behavior ••• (3)
studies human behavior, its causes and effects in organizational settings. Develops an understanding of and describes human behavior in such settings. Prerequisite: MANG 201 or consent of instructor. (Fall)

MANG 302 Problems in Small Business Operations ••• (3)
analyzes managerial problems of the small business. Case studies, outside speakers, and individual reports of local small business enterprises supplement class discussions. Students must have an understanding of elementary accounting, finance, and business law, or have experience in small business operation. Prerequisites: MANG 201, MARK 231 and three hours of ACCT courses beyond 202. (Spring)

MANG 331 Quantitative Decision-Making ••• (3)
includes application of inferential statistics to realistic business situations and use of quantitative tools to enhance business decision-making ability. Covers such areas as descriptive statistics for data summarization, probability theory, distributions, estimation, and index numbers. Emphasizes hypothesis testing, analyzes variance, regression/correlation, and time series, and introduces operations research and linear programming. Prerequisites: MATH 121, STAT 214. (Spring)

MANG 351 Preparing for Job Placement ••• (3)
studies principles and techniques involved in a successful job search. Emphasizes conducting a career research, identification of goals, preparing a successful job campaign, and elements of a successful job interview. The student prepares 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 Personnel Management ••• (3)
studies effective use and adaptation to the human resources of an organization through the management of people related activities. Emphasizes 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 ••• (1,2)
is an opportunity for a student with a previously developed interest in and knowledge of a specialized subject to conduct a comprehensive research program. Requires the use of in-depth academic research and reporting methodology. Student must prepare a comprehensive proposal outlining the study and its justification and complete an application at least three weeks prior to the end of the semester preceding the semester in which they wish to take the Independent Study. Prerequisites: completed 12 semhrs of work in the field chosen for the study, a GPA of 2.75 or higher, and consent of instructor. (Fall/Spring/Summer)

MANG 396 Topics ▪▪▪ (1,2,3)
allows study of subjects of general interest in management through materials that vary from year to year. Prerequisite: varies with the course material and consent of instructor. (On Demand)

MANG 401 Advanced Problems in Small Business Operations I ▪▪▪ (6)
is sponsored by the Mesa College School of Business and the Small Business Administration. A Small Business Institute program enables upper-division business students to furnish management assistance to members of the small business community. The program provides students with practical training that supplements academic theory by permitting them to handle problems in a real business environment. Students must apply to the School of Business at least three 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)
continues 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)
studies the various kinds of consumer and commercial credit in relationship to the management of credit by business firms. Legal aspects of credit extension as well as current legislation are investigated. Provides information and understanding of credit operations of business for both students of business and practicing businessmen. Prerequisites: ACCT 202 and MANG 201 or consent of instructor. (Spring)

MANG 471 Production Management ▪▪▪ (3)
studies the use of resources in producing goods and services, as well as the concepts of planning, scheduling and controlling productive activities and physical resources. Prerequisites: MANG 301 and FINA 339. (Spring/Odd Years Only)

MANG 491 Business Policies and Management ▪▪▪ (3)
discusses the duties and responsibilities of top management in establishing policies, objectives, and future plans for business organizations. Studies complex cases and actual experience in real situations involving policy decisions. Required of all BBA majors during the last semester of the senior year. Prerequisites: All required management and accounting courses and senior standing. (Spring)

MANG 498 Related Work Experience ▪▪▪ (1,2)
see ACCT 298 course profile.

MANG 499 Internship ▪▪▪ (15)
provides an opportunity for the student to learn more about management functions and activities through exposure to an actual business or agency environment. Students observe and participate in management activities which enable them to relate classroom theory to on the job experiences. Students must apply for this course at least five 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: Management major and consent of instructor. (Fall/Spring/Summer)

Marketing

School of Business

MARK 135 Salesmanship ▪▪▪ (3)
views 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. (Fall)

MARK 231 Principles of Marketing ▪▪▪ (3)
explores the use and development of marketing strategy and the effects of buyer motivation. The 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)
introduces modern advertising principles, including a study of advertising practices, terminology, the communication process, advertising agencies, media, and methods. Discusses advertising from the business viewpoint but also emphasizes its importance to the consumer and the economy. (Spring)

MARK 325 Retailing ••• (3)
looks at the retailing environment including retail opportunities, sales stimulation, operating policies and practices, control and service. Case studies and outside speakers supplement class lectures. Prerequisites: MARK 231. (Fall)

MARK 395 Independent Study ••• (1,2)
see MANG 395 course profile. (Fall/Spring)

MARK 396 Topics ••• (1,2,3)
allows study of subjects of general interest in marketing through materials that vary from year to year. Prerequisite: varies with the course material and consent of instructor. (On Demand)

MARK 432 Advanced Marketing ••• (3)
studies in-depth complex marketing problems confronting modern business and the development of marketing strategy to allow the firm to progress toward its corporate objectives. Prerequisite: MARK 231. (Fall)

MARK 433 Marketing Research ••• (3)
studies 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 331,432. (Spring)

Mass Communications

School of Humanities and Fine Arts

MASS 101 Mass Media in America ••• (3)
surveys mass communications, the role media plays in the everyday lives of citizens, and the economic impact on society. (Fall)

MASS 121 Introduction to Broadcasting ••• (3)
introduces the broadcasting media of radio, television, and cable including basic theory, history, economic aspects, and impact on society. (Spring)

MASS 131 Introduction to Journalism ••• (3)
surveys the history of journalism, advertising, social effects of journalism, and legal/ethical considerations of news gathering. (Fall)

MASS 221 Radio Production and Announcing ••• (3)
covers the theory and operation of all technical equipment in a radio control room and studio. (Fall)

MASS 231 News Writing and Reporting ••• (3)
stresses the fundamentals of newsgathering and writing, interviewing, reporting and writing of newsworthy events and personalities. Stories are submitted for publication. Prerequisite: MASS 121 or 131 or consent of instructor. (Fall)

MASS 321 Broadcast Writing ••• (3)
develops techniques and practice in writing broadcast scripts, including news, advertising and documentary. Develops voice and reading for broadcasting. Prerequisite: MASS 231 or consent of instructor. (Spring)

MASS 335 Public Relations Concepts ••• (3)
presents the historical and theoretical approach to contemporary public relations with emphasis on the persuasion process and ethics, and surveys propaganda and advertising techniques in the mass media. Prerequisites: MASS 231, MARK 232 or consent of instructor. (Fall/Alternate Years)

MASS 341 Copy Editing and Make-up ••• (3)
covers news evaluation, copy reading, headline writing, page make-up, and similar duties of a publication copy editor. Prerequisite: MASS 231 or consent of instructor. (Spring)

MASS 351 Public Affairs and Feature Reporting ••• (3)
covers 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)

MASS 361 Television Production ••• (3)
covers television studio and control room operation with emphasis on video console equipment, cameras, microphones, stagecraft, and lighting. Prerequisite: MASS 221 or consent of instructor. (Spring)

MASS 397 Practicum ••• Can take 2 x's (1)
provides experience with campus media, including publications and/or radio station under faculty supervision. Prerequisites: MASS 121, or 131, or consent of instructor. (On Demand)

MASS 421 Journalism Law and Ethics ••• (3)
discusses the ethical principles as well as 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)
studies campaigns and case histories to better understand the scope of PR, research methodology, audience targeting, and the elements of a successful PR campaign. Offers a practical application of PR theory. Prerequisite: MASS 335 or consent of instructor. (Spring/Alternate Years)

MASS 494 Seminar ••• (3)
discusses major issues of the media in modern culture. Prerequisite: Upper division standing. (Spring)

MASS 497 Practicum ••• Can take 2 x's (1)
see MASS 397 course profile.

MASS 499 Internship ••• (8,12,15)
provides for part time or full-time work in mass communications. May include newspapers, radio, television, advertising or public relations positions, or other situations that meet instructor's approval. Prerequisite: MASS 231, 421, plus either MASS 341 and 351, or 361. (On Demand)

Mathematics

School of Natural Sciences and Mathematics

MATH 015 Basic Mathematics ••• (3)
helps reinforce the knowledge and, if needed, to relearn the basic arithmetic processes. Includes a review of addition, subtraction, multiplication and division, followed by a careful treatment of decimals and fractions. Also may be taken in modules. (Fall/Spring)

MATH 016	(Module 1)	(1)
MATH 017	(Module 2)	(1)
MATH 018	(Module 3)	(1)

MATH 020 Basic Algebra ••• (3)
introduces algebra to the student with no algebra background or not sufficiently prepared to undertake college algebra. A study is made of basic algebraic processes including operations with signed numbers and literal expressions, linear equations, fractions, factoring, simultaneous equations, graphs, and quadratic equations. (Fall/Spring)

§MATH 101 Programming ••• (1)
covers theory and operation of calculators as applied to problems in mathematics, business, psychology, electronics, vocational-technical studies, physical sciences, and biological sciences. (On Demand)

§MATH 105, 106 Elements of Mathematics I, II ▪▪▪ (3,3)
is for prospective teachers in the elementary schools. Presents some of the basic principles underlying mathematical processes and mathematical reasoning. Includes areas of classical mathematics necessary for a working knowledge of the subject. Topics include logic and mathematical reasoning, number systems, some fundamental properties of geometric forms, the concept of a function, linear and quadratic functions, and some characteristics of modern mathematics. Prerequisite: consent of instructor. (Fall/Spring)

MATH 108 Agricultural Mathematics ▪▪▪ (3)
presents mathematical problems and examples in agricultural production, management, marketing, and mechanization. Includes problems in agriculture as they relate to environmental quality. (On Demand)

§MATH 110 Finite Mathematics ▪▪▪ (2)
presents essential concepts of algebra to students in social science, sociology, guidance, etc. Topics include graphing, equations, sets, binomial theorem, permutations and combinations, and difference equations. (Fall/ Spring)

§MATH 113 College Algebra ▪▪▪ (4)
studies the systems of integers, rational numbers, real numbers, complex numbers, sets and set theory, linear and quadratic relations, exponential and logarithmic functions. Also included are functions and graphs, systems of equations, matrices, complex numbers, higher-degree equations, inequalities, progressions, and the binomial theorem. Prerequisite: MATH 020 or one year of high school algebra. Five lectures per week. (Fall/Spring)

§MATH 119 Precalculus Mathematics ▪▪▪ (5)
consists of freshman mathematics for the mathematics or science student. Topics include polynomial, exponential, circular functions, inverse circular functions and conditional equations, matrices and determinants, systems of equations, complex numbers and vectors, sequences, series, mathematical induction, binomial theorem, rational and trigonometric functions, and some probability. Prerequisite: MATH 113 or three years of high school mathematics and a good mathematics entrance exam score. Trigonometry recommended. (Fall/Spring)

§MATH 121 Mathematical Foundations of Business ▪▪▪ (3)
provides business students with basic quantitative tools and methods for solving business problems. Includes an intuitive study of functions and their graphs, linear programming, and differential and integral calculus tech-niques important to development of analytical competence in administrative decisionmaking. Prerequisite: MATH 113 or two years of high school algebra. (Fall/Spring)

§MATH 127 Mathematics of Finance ▪▪▪ (3)
covers derivations of mathematical formulae and methods for the solution of finance problems. Includes simple interest and discount, compound interest and discount, annuities, perpetuities, and the purchase of bonds as investments. Finding payment size and outstanding principle, constructing amortization schedules, and dealing with financing problems are of special interest. Prerequisite: MATH 113 or consent of instructor. (Fall/Spring)

§MATH 130 Trigonometry ▪▪▪ (3)
emphasizes the circular and trigonometric functions and methods of solving right and oblique triangles as well as inverse trigonometric functions, conditional equations, and trigonometric identities. Complex numbers are covered through DeMoivre's theorem. Prerequisite: MATH 113 or equivalent. Also may be taken in modules. (Fall/Spring)

§MATH 131	Logarithms	(Module 1)	(1)
§MATH 132	Right and Oblique Triangles	(Module 2)	(1)
§MATH 133	Conditional Equations and Trigonometric Identities	(Module 3)	(1)

§MATH 134, 135 Advanced Trigonometry ▪▪▪ (1,1)
continues MATH 130 also in modules. Includes inverse functions and vectors. (On Demand)

§MATH 146 Calculus for Biological Sciences ▪▪▪ (5)
includes elementary set theory, functions and relations, derivatives, trigonometry, series and sequences, integration, exponential and logarithmic function, multiple integration and partial derivatives. 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)
combines analytic geometry and calculus with fundamental principles of beginning analytic geometry, including different forms of the equations of straight line, circles and parabolas. Elementary phases of limits, continuity, derivations and various applications of these topics are considered. Differential and integral calculus is combined with analytic geometry, together with applications. Prerequisite: MATH 119 or consent of instructor. (Fall/Spring)

§MATH 152 Calculus II ▪▪▪ (5)
emphasizes transcendental functions and polar coordinates, conic sections, hyperbolic functions, and vectors in a plane. The formulas and methods of integration and application of integration are included. Prerequisite: MATH 151. (Fall/Spring)

§MATH 161 Programmable Calculator ▪▪▪ (1)
presents the theory and operation of the programmable calculator. Prerequisite: MATH 130 or consent of instructor. (On Demand)

§MATH 253 Calculus III ▪▪▪ (4)
is the last course in the sequence of courses in analytic geometry and calculus covering vectors in three-dimensions, partial derivatives of functions of several variables, multiple integration, and infinite series. Prerequisite: MATH 152. (Fall/Spring)

§MATH 260 Differential Equations ▪▪▪ (3)
introduces the formal study of differential equations with applications. Covers equations of order one, elementary applications, nonhomogeneous equations, variation of parameters, inverse differential operators, Laplace transforms, and nonlinear equations. Prerequisite: MATH 253 or consent of instructor. (Fall/Spring)

§MATH 265 Linear Algebra ▪▪▪ (3)
presents a foundation to apply the notions and techniques of the algebra and geometry of vector spaces, linear transformations and matrices, linear equations, quadrant forms and symmetric matrices, and elementary eigenvalue theory. Prepares students for advanced work by developing the powers of abstract reasoning. Prerequisite: MATH 253 or consent of instructor. (Fall/ Spring)

MATH 270 Discrete Mathematics I ▪▪▪ (3)
presents the properties of finite sets, mathematical induction definitions, combinatorics, tree diagrams, recurrence relations and algorithms. Recommended for computer science and certain other majors. Prerequisites: MATH 121, or 151, or equivalent. (Fall)

MATH 310 Number Theory ▪▪▪ (3)
studies 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)
presents methods and techniques of teaching mathematics at the secondary education level. Prerequisite: MATH 265 or consent of instructor. (On Demand)

MATH 360 Methods of Applied Mathematics ▪▪▪ (3)
offers a selection of advanced mathematical techniques of particular use to scientists and engineers. Includes 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)
covers elementary numerical analysis using the hand-held programmable calculator, Taylor's theorem, truncating errors, iteration processes, least square methods, numerical solution of algebraic and transcendental equations, systems of equations, ordinary and partial differential equations, and integral equations, interpolation, finite differences, eigenvalue problems, relaxation techniques, approximations and error analysis. Prerequisites: CSCI 131 and MATH 152. (Fall)

MATH 370 Mathematical Logic and Theory ▪▪▪ (3)
studies mathematical logic, algebra of sets, equivalence and order relations, functions, cardinal and ordinal numbers, and the paradoxes of naive set theory. Prerequisite: MATH 265. (Spring)

MATH 380 History of Mathematics (2)
surveys the history of mathematics from antiquity to the present with emphasis upon the development of mathematics concepts and the people involved. Prerequisite: MATH 253. (Spring)

MATH 385, 386 Modern Geometry I, II (2,2)
prepares the prospective high school geometry teacher in the way the subject matter will be covered in a modern course. The structure of geometry will be emphasized through the axiomatic approach. The basic ideas of points, lines and planes will be given along with primitive concepts and axioms needed to structure the geometry rigorously. Covers separation on curves and surfaces, congruence, measure, and parallelism. Prerequisite: MATH 253. (Fall)

MATH 390 Abstract Algebra (3)
presents a preliminary examination of algebraic systems: groups, rings, fields, vector spaces, linear transformations, matrices, etc. Prerequisite: MATH 265. (Spring)

MATH 450 Complex Variables (3)
studies complex differentiation and integration, analyticity, Cauchy's integral theorem and formula, Taylor and Laurent series, and calculus of residues. Prerequisite: MATH 253. (Fall)

MATH 452 Advanced Calculus (3)
studies calculus of one variable, the real number system, continuity differentiation, integration, and Reimann Stieltjes integration. Prerequisite: MATH 253. (Spring)

MATH 495 Independent Study (1,2)
allows a student to pursue an area of interest not in the normal curriculum underthe assistance and direction of a faculty member of the department. Prerequisite: consent of instructor. (On Demand)

Mechanics

School of Industry and Technology

Automotive

MECA 122 Drivelines and Differentials (2)
provides a comprehensive study of drivelines and differentials, theory of operation, service and repair procedures. Parts nomenclature and identification, testing and diagnosis of noises and malfunctions, gear and bearing failure, and adjustment of components receive special attention. (Spring)

MECA 123 Automotive Engine Diagnosis, Tune-up and Performance (7)
studies carburetion, fuel injection, and ignition systems using recent model components, with emphasis on diagnosis. Students learn to diagnose problems, test and repair or replace carburetors, fuel pumps, injector pumps, and injectors, as well as beginning the study of certain electronic control devices as they relate to the function of carburetion, fuel injection, and ignition systems. Basic testing of emission control devices is also included. (Spring)

MECA 142 Suspension and Alignment (7)
studies automotive suspension systems, theory of operation, component parts, identification and repair procedures. Testing procedures, diagnosis of suspension, alignment and wheel balance problems receive special emphasis. Repair or replacement of worn or defective suspension, steering, parts and related parts is included. Covers the theory and practice of the five basic angles of steering geometry, diagnosing tire wear, steering problems and alignment of the front end. The Bear Teleliner is used for instructional purposes. (Spring)

MECA 214 Engine Rebuilding and Repairs (7)
develops the basic skills needed in the specialized field of engine reconditioning, rebuilding or repair. Includes testing, diagnosing, analyzing, identifying mechanical problems within the engine, engine removal and installation, disassembly, components service and repairs. Covers reconditioning cylinder heads, grinding valves, bearing replacement, piston, and cylinder block service. Prerequisite: MECH 113 (Fall)

MECA 227 Automatic Transmissions ▪▪▪ (4)
covers the principles of operation of planetary-gear sets, fluid couplings, torque converters, servo bands, clutch packs, and control circuits. (Fall)

MECA 239 Emission Control ▪▪▪ (4)
studies emission-control systems dealing with types, design, principles of operation, and problems encountered with these systems plus the necessary adjustments and repairs. (Spring)

MECA 243 Standard Trans-Axles ▪▪▪ (3)
studies the principles of power transmission, standard and automatic to the use, maintenance, troubleshooting and repair of transaxle systems in frontwheel drive and rear engine foreign and domestic vehicles. Prerequisites: sophomore standing, MECH 121 and MECA 227, or appropriate work experience and consent of instructor. (Spring)

MECA 250 Troubleshooting and Diagnosis Procedures ▪▪▪ (3)
simulates a working shop in which students gain additional experience and skill troubleshooting and diagnosing automotive problems on vehicles. Students will develop a logical approach to troubleshooting and prepare a concise written diagnosis on each vehicle assigned. Prerequisites: sophomore standing and consent of instructor. (Spring)

MECA 254 Automotive Electronics ▪▪▪ (4)
studies advanced automotive electronics as they relate to solid state systems, command computers, and electronic advances in technology. Prerequisites: sophomore standing and MECH 124 or appropriate work experience and consent of instructor. (Spring)

MECA 295 Independent Study ▪▪▪ (1,2)
presents specialized studies related to student's field of training beyond the scope of the required curriculum. Students must enter into an agreement for specialized training prior to registration. Prerequisite: sophomore standing or equivalent. (Fall/Spring)

MECA 296 Topics ▪▪▪ (1,2)
allows students to gain additional knowledge or skill through workshops designed to cover specialized topics not considered in detail elsewhere. Topics and credit will vary. (On Demand)

Heavy Equipment - Diesel

MECD 115 Heavy Equipment Maintenance ▪▪▪ (3)
studies practical applications of diesel fuels, lubricants, coolants, filters, bearings, seals, cooling and lubricating systems, chain and belt drives, tires, and introduces pumps and air systems. Emphasizes preventive maintenance and maintenance records. (Spring)

MECD 120 Diesel Engine Reconditioning I ▪▪▪ (4)
studies the 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, and components. (Spring)

MECD 131 Heavy Duty Brake Systems ▪▪▪ (4)
studies the fundamentals and repair of different type brake systems used on heavy equipment. The student will also demonstrate correct disassembly, inspection, reassembly, adjustment, and troubleshooting procedures on these systems. (Fall)

MECD 132 Heavy Equipment Drivetrain I ▪▪▪ (5)
studies powertrain component operating principles, construction, basic repair and maintenance of powertrain components according to standard operating procedure. (Fall)

MECD 150 Hydraulic Systems I ▪▪▪ (4)
introduces the principles of hydraulics and pneumatics, including application, types of systems, and function of components. Includes servicing, inspection, adjustments, and troubleshooting of hydraulic and pneumatic systems. (Spring)

MECD 211 Equipment Painting and Glass Repair ▪▪▪ (1)
covers the fundamentals of preparing heavy equipment for field painting, use of painting equipment, replacing glass in vehicle cabs, and making basic fiberglass repairs. (Fall)

MECD 222 Fuel Systems ••• (2)
studies the design, construction, repair, and maintenance of fuel injection systems, components, pollution control devices, and governors. (Fall)

MECD 223 Diesel Engine Analysis and Trouble-shooting ••• (3)
studies the application of analysis and trouble-shooting techniques, and adjustment of diesel engines for optimum operating performance. (Spring)

MECD 225 Diesel Engine Reconditioning II ••• (4)
continues MECD 120 dealing specifically with the four-cycle diesel engine. The student will understand and be able to disassemble, inspect, repair, and reassemble a four-cycle diesel engine according to operating specifications. (Fall)

MECD 232 Heavy Equipment Drivetrains II ••• (5)
continues MECD 132. Students repair final drives, steering clutches, undercarriages, powershift transmissions, and drivelines. Analysis of condition and testing are included. (Fall)

MECD 251 Hydraulic Systems II ••• (3)
studies the application of hydraulic fluids, conductors, reservoirs, pumps, pressure control, volume control, check valves, actuators, hydraulic motors, and flow control. Includes troubleshooting, system design, preventive maintenance practice, and application. (Spring)

MECD 275 Heavy Equipment Troubleshooting and Repair ••• (3)
studies general maintenance, troubleshooting and repair under simulated industrial shop conditions. Develops skills in the use of service manuals, sorting work orders, ordering parts, and dealing with customers. Prerequisite: sophomore standing and consent of instructor. (On Demand)

MECD 295 Independent Study ••• (1,2)
presents specialized studies related to student's field of training beyond the scope of the required curriculum. Students must enter into an agreement for specialized training which includes specific objectives and learning activities with an appropriate instructor prior to registration for the course. (Fall/Spring)

MECD 296 Topics ••• (1,2)
allows students to gain additional knowledge or skill through workshops designed to cover specialized topics not considered in detail elsewhere. Topics and credit will vary. Prerequisite: consent of instructor. (On Demand)

General

MECH 105 Introduction to Shop Practices & Vehicle Systems ••• (3)
includes shop procedures, shop and personal safety, tool identification and use, use of proper terminology, test equipment identification fasteners and basic rigging as such apply to automotive/heavy equipment systems and working shops. (Fall)

MECH 111 Applied Math for Auto Mechanics ••• (2)
provides a brief review of the arithmetic, shop math, and algebra needed to handle the mathematical aspects of mechanics. (Fall/Spring)

MECH 113 Internal Combustion Engines ••• (5)
studies of the 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. Introduces valve and seat reconditioning, valve guide repair or replacement and proper assembly procedures. (Fall)

MECH 121 Clutches and Standard Transmissions ••• (2)
develops a working knowledge of the clutch assembly and standard transmission, including theory of operation, removal and installation, and disassembly procedures. Special emphasis is given to the diagnosis and correction of malfunctions. (Fall)

MECH 124 Electrical Systems ••• (4)
presents the fundamentals of D.C. electrical systems with theory and practice including safety, charging systems, starting systems, circuits, and the components of each. Emphasizes care and use of meters and testing equipment required to diagnose, maintain, and repair vehicle electrical systems. (Fall)

MECH 125 Light Duty Brake Systems ••• (3)
studies the servicing and repair of hydraulic brake systems. Includes basic principles of hydraulics, servicing the linings, drums, cylinders, lines and power booster units, adjusting, and bleeding the system. (Fall)

MECH 133 Air Conditioning ••• (3)
introduces the principles of refrigeration, methods of operation and control, proper handling of refrigeration, use of testing equipment, leak tests, efficiency tests, service procedures (including evacuation, purging, and charging the system), component and compressor replacement and repair, and general maintenance. Emphasizes testing and diagnosis of malfunctions. Prerequisite: consent of instructor. (Spring)

Military Science

School of Social and Behavioral Sciences

MILS 101 Personal Leadership ••• (1)
introduces fundamentals of effective leadership with an emphasis on the individual as leader. Includes leadership traits, stress management, time management, and careers in leadership. Requires no obligation to the U.S. Army. (Fall)

MILS 102 Organizational Leadership ••• (1)
surveys fundamentals of effective leadership with an emphasis on a leader's interaction with his subordinates. Includes principles of leadership. Requires no obligation to the U.S. Army. (Spring)

prior to fall 1986 may be taken 4 times, after fall must take 110 III, 3104 311

MILS 110 Leadership Lab ••• (2)
applies the techniques learned in the classroom with an emphasis on physical conditioning, small unit movement, and development of leadership presence. Prerequisite: must be a contracted ROTC student. (Fall/Spring)

MILS 201 Leadership Development ••• (2)
simulates leadership and management exercises designed to strengthen a student's leadership abilities. Includes problem analysis, decision making, delegation, control, and interpersonal skills. Requires no obligation to the U.S. Army. (Fall)

MILS 202 Leadership Assessment ••• Cannot repeat (2)
evaluates the student's leadership potential through performance-based testing which measures leadership potential relative to military service as an officer or in an applicable position in business or the professions. Includes leader behavior and style, communication, interpersonal, administrative, personal/motivational, and decision making skills. Requires no obligation to the U.S. Army. (Spring)

MILS 203 Basic Camp ••• (3)
condenses MILS 101, 102, 201, and 202 to qualify for enrollment in the ROTC Advanced Course. An off campus practical exposure to leadership in a military environment which consists of six paid weeks of basic leadership training at Fort Knox, Kentucky. Students are under no obligation to the U.S. Army and can compete for an Army ROTC scholarship upon completion of the course. (Summer/On Demand)

MILS 301 Map Reading ••• (3)
familiarizes students with day and night map reading and the capabilities, characteristic functioning, and maintenance of basic weapons and equipment. Prerequisite: must be a contracted upper division ROTC student. (Fall)

MILS 302 Applied Leadership ••• (3)
applies leadership and management principles to the conduct of small unit operations in the field. Weapons orientation and basic tactical training are included. (Spring)

MILS 303 Advanced Camp ▪▪▪ (3)
is an off-campus exposure to leadership in the military environment which consists of six weeks of advanced leadership training at Fort Lewis, WA. Requirement for commissioning as a Second Lieutenant in the U.S. Army. (Summer/On Demand)

MILS 401 Military Assumption of Command ▪▪▪ (3)
introduces the basic principles of leadership required to assume the position of a newly commissioned Second Lieutenant in the U.S. Army. Includes principles and concepts of the military justice system, war, morality, the military profession, and an introduction to behavior and performance counseling. (Fall)

MILS 402 Military Ethics ▪▪▪ (3)
examines and explores the interrelationships of the military justice system as well as personal and professional ethics as they apply to the army officer. Prerequisite: completion of all basic course requirements. (Fall)

Music

School of Humanities and Fine Arts

Academic

§MUSA 110 Standard Notation ▪▪▪ (2)
studies the basic components of written music. Covers 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)
studies the structure of traditional music. Covers scales, meters, key signatures, intervals, triads, seventh chords, chord inversions, and beginning part writing. (Fall)

§MUSA 115 Theory II-Diatonic Concepts ▪▪▪ (3)
continues MUSA 114 and extends to all types of diatonic chords and their usages, including advanced rules of tonal harmonization. Prerequisite: MUSA 114. (Spring)

MUSA 116 Ear Training and Sightsinging I ▪▪▪ (2)
develops skills in reading rhythms, sightsinging, and listening. Emphasizes beginning melodic, harmonic, and rhythmic dictation. Designed to be taken concurrently with MUSA 114. (Fall)

MUSA 117 Ear Training and Sightsinging II ▪▪▪ (2)
continues MUSA 116 and further develops skills in sightsinging and rhythmic recognition including advanced listening abilities in dictation of melodic and harmonic intervals, chord progressions, and two, three, and four-part chorales. Designed to be taken concurrently with MUSA 115. Prerequisite: MUSA 116. (Spring)

§MUSA 130 Class Piano I ▪▪▪ (2)
offers multiple sections each term for major and non major students. Covers 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 (music major only): MUSA 110. (Fall/ Spring)

MUSA 131 Class Piano II ▪▪▪ (2)
continues MUSA 131 and provides the student with further expertise at the keyboard. Presents an extended knowledge of musicology. Prerequisite: MUSA 130. (Spring)

MUSA 137 Class Voice I ▪▪▪ (2)
includes fundamentals of singing, interpretation and solo repertoire for beginning voice students. (Fall)

MUSA 138 Class Voice II ▪▪▪ (2)
continues MUSA 137 introducing concepts of phonetics, language (diction for singers), and solo repertoire. Prerequisite: MUSA 137. (Spring)

MUSA 160 The Music Business ▪▪▪ (1)
is 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. (On Demand)

MUSA 214 Theory III-Chromatic Concepts ▪▪▪ (3)
explores the full use of chromaticism through secondary dominants, ninth chords, diminished seventh chords, neapolitan and augmented sixth chords and modulation. Continues the chromatic concept into the techniques of the 20th Century through the use of advanced chromaticism, serialism, and atonality. Discusses the techniques of the 20th Century linear, harmonic, rhythmic, and timbral practices. Prerequisite: MUSA 115. (Fall)

MUSA 216 Keyboard Harmony ▪▪▪ (2)
applies keyboard and theory skills to perform harmonization of a given line, transposition at sight, and open score realization at the keyboard. Prerequisite: MUSA 214 and 230. (On Demand)

§MUSA 220 Music Appreciation ▪▪▪ (3)
presents masterpieces of music, composers, and performers useful for the music student who has a weak background in the Masters, and also for any student to satisfy a Fine Arts elective requirement. (Fall)

MUSA 231 Guitar Techniques and Materials ▪▪▪ (2)
studies methods and materials for teaching and performing on the guitar. Student must provide own instrument. Prerequisite: MUSA 110. (Fall/Spring)

MUSA 233B Recorder (Woodwind) Techniques and Materials ▪▪▪ (2)
studies methods and materials for teaching the recorder in the public schools. Provides practical instruction in the performance of the soprano, alto, tenor, and bass recorder from all eras of the recorder literature. Students may be requested to provide own instruments. (Alternate/Spring)

MUSA 241 Music and Methods in Early Childhood Education ▪▪▪ (2)
is designed for students who will be working with preschoolers and kindergarten aged students. Through the creative process students develop simple tunes and gain knowledge and appreciation of music. (Spring)

MUSA 260 Songwriter I ▪▪▪ (1)
discusses 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. Prerequisite: MUSA 110. (Alternate/Fall)

MUSA 261 Songwriter II ▪▪▪ (1)
emphasizes marketing techniques including lead sheets, demo recordings, sources and resources, magazines and technical publications, publishers, producers and artists. Discusses the problems and techniques of "writing to order" as in commercials or TV-film themes. Prerequisite: MUSA 260. (Alternate/Spring)

MUSA 262 Commercial Arranging ▪▪▪ (1)
studies 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. Prerequisite: MUSA 261. (On Demand)

MUSA 266 History of Popular Music ▪▪▪ (3)
focuses on 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. (Spring)

§MUSA 270, 271 Music Theatre ▪▪▪ (2,2)
involves theatre, music and dance covering methods and experience in all phases of musical theatre including selection and song analysis, interpretation, staging, and choreography. Prerequisites: one year of voice training, one year of dance training, and THEA 251. (Fall/Spring)

MUSA 295 Independent Study ... (3)
allows the student to conduct independent research or a project to be decided upon by instructor and student. (Fall/Spring)

MUSA 316 Comprehensive Musicianship ... (3)
consists of study and writing of 18th Century counterpoint, analysis of contrapuntal forms including two and three part inventions and fugue. Prerequisite: MUSA 214. (Fall)

MUSA 317 Comprehensive Musicianship ... (3)
discusses choral and instrumental arranging and a study of instrumentation, scoring, and analysis of harmonic styles of various composers. Students are required to compose and arrange original works. Prerequisite: MUSA 314. (Spring)

MUSA 326 Music History and Literature I ... (3)
includes an in-depth study of the 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 lab 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)
includes an in-depth study of the 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 lab format and one scholarly research paper of the student's choice. Open to any student with sufficient background. Prerequisite: consent of instructor. (Spring)

MUSA 337 A,B,C Diction for Singers ... (1,1,1)
consists of a guide for singers in the pronunciation of Italian (A), German (B), and French (C) as applied to the performance of vocal literature, (3 modules.) (Alternate, Fall/Spring)

MUSA 341 Music and Methods for the Elementary Classroom Teacher ... (2)
is designed for elementary classroom teachers to develop musical concepts in singing, listening, note reading, rhythm, and creative projects for use in their curriculum. (Fall)

MUSA 350 Conducting I ... (2)
studies the techniques of instrumental conducting. Recommended concurrent enrollment in MUSA 314 and 324. Prerequisite: MUSA 215 and 220. (Alternate/ Fall)

MUSA 351 Conducting II ... (2)
studies the techniques of vocal (choral) conducting. Recommended concurrent enrollment in MUSA 315 and 325. Prerequisite: MUSA 215 and 220. (Alternate/ Spring)

MUSA 370, 371 Music Theatre ... (2,2)
continues MUSA 270, 271 and includes advanced scene study, ensemble work and choreography. Prerequisite: MUSA 270,271, and audition. (Fall/Spring)

MUSA 395 Independent Study ... (3)
allows the student to conduct independent research or a project decided upon by instructor and student. (Fall/Spring)

MUSA 443 Choral Techniques and Materials ... (2)
involves stylistic interpretation of choral ensemble music from the Renaissance to present day. Analysis will be made of selections of literature from each historical period for the purpose of developing performance techniques correct to the various styles. Prerequisite: MUSA 343 or 344. (Alternate/Spring)

MUSA 470, 471 Music Theatre ... (2,2)
continues MUSA 370, 371 and includes advanced levels of scene study, auditioning, choreography, directing, writing, arranging, and problems in production. Prerequisite: MUSA 370,371 and audition. (Fall/Spring)

MUSA 495 Independent Study ... (3)
allows the student to conduct independent research or a project decided upon by instructor and student. (Fall/Spring)

Lessons

MUSL Applied Music Lessons ••• (1 each)
are offered in the following: (Fall/Spring)

Keyboard	MUSL 130, 230, 330, 430
Guitar	MUSL 131, 231, 331, 431
Strings	MUSL 132, 232, 332, 432
Woodwind	MUSL 133, 233, 333, 433
Brass	MUSL 134, 234, 334, 434
Percussion	MUSL 135, 235, 335, 435
Electronic Instruments	MUSL 136, 236, 336, 436
Voice	MUSL 137, 237, 337, 437

Lessons are offered at two levels of study, designated by the letters A and B after the course number in the class schedule.

"A" level of Applied Music study is considered "major" instrument and requires performances and attendance at the performance class meetings throughout the term.

"B" level of Applied Music study is considered "minor" instrument and is designed for the non-major, or study of a "second" instrument. There is no performance or attendance (at performance class meetings) requirement for this level of study.

Applied music lessons may be taken a total of two times for credit at the same class standing level.

Performing

MUSP 160 Improvisation I-Beginning ••• (1)
studies the basic materials and techniques for improvisation, including chord and scale construction, correlation of chords and harmonic patterns with specific scale forms, phrasing and rhythmic concepts, elementary forms and standard terminology. Prerequisite: MUSA 110. (Fall)

MUSP 260 Improvisation II-Advanced ••• (1)
covers advanced harmonic and linear concepts, with an emphasis on technique, style, and idiomatic usage. Special concerns are increased chromaticism, modality, quartal harmonies, and conventional patterns. Prerequisite: MUSP 160. (Spring)

MUSP 420 Recital ••• (1)
prepares for senior level recital in student's performance medium. Recital must be given during term in which the student is registered in this course. (Fall/Spring)

All of the following Performance Ensembles may be taken a total of two times for credit at the same class standing level. The maximum total of credit to be received for each Performing Ensemble at all class levels is eight semester hours.

MUSP 110, 210, 310, 410 Accompaniment ••• (1)
develops proficiency in accompanying vocal solo and choral performance, solo instrumental performance and instrumental ensembles in the performance of chamber music. (Fall/Spring)

MUSP 140, 240, 340, 440 Symphonic Band ••• (1)
consists of an ensemble made up of music students as well as students from other disciplines who perform a wide variety of literature selected from standard and current repertoire. The group presents formal concerts on and off campus and performs for the Commencement ceremony. (Fall/Spring)

MUSP 141, 241, 341, 441 Symphony Orchestra ••• (1)
allows students demonstrating proficiency on orchestra instruments, through audition with the conductor, to become members of the Grand Junction Symphony and receive credit. (Fall/Spring)

MUSP 142, 242, 342, 442 Stadium Band ••• (1)
is open to all students who demonstrate sufficient skills to perform contemporary band literature at home football games. The group promotes team and audience spirit by accompaniment for the Pom Pon and Cheerleader squads in special musical cheers. Attendance at all home games is mandatory. (Fall)

MUSP 143, 243, 343, 443 Pep Band ••• (1)
consists of a small group of instrumentalists who perform current pep band literature at home basketball games. Open to any wind or percussion player who demonstrates sufficient skills to perform the literature. (Spring)

MUSP 144, 244, 344, 444 Jazz Ensemble ••• (1)
entails membership by audition. This group utilizes stage band instrumentation and performs many local and national concert engagements. Audition preference given to members of Stadium and Pep Bands and/or Symphonic Band. (Spring)

MUSP 145, 245, 345, 445 (Section A) Woodwind Ensemble ••• (1)
(Section B) Brass Ensemble ••• (1)
consists of 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 150, 250, 350, 450 Concert Choir •••
is open to all men and women who wish to sing the best in all styles of choral literature. The group presents concerts on and off campus and performs for the Commencement ceremony. (Fall/Spring)

MUSP 151, 251, 351, 451 Symphony Chorus ••• (1)
consists of students who wish to perform masterworks with the Grand Junction Symphony and receive credit. Offered in accordance with the Symphony Season as planned by the director of the Grand Junction Symphony Orchestra and Chorus. (Fall/Spring)

MUSP 153, 253, 353, 453 Vocal Jazz Show Choir ••• (1)
entails membership by audition. This is a highly select group of vocalists, dancers and instrumentalists who perform specialized arrangements for pure entertainment. Skills are developed in movement, jazz, rock vocal style, and stage presence. Performances are frequent. Audition preference given to members of College Chorus. (Fall/Spring)

MUSP 155, 255, 355, 455 (Section A) Music Theatre Ensemble ••• (1)
(Section B) Chamber Singers ••• (1)
consists of groups organized upon the talents and interests of the members. Specified ensembles may by offered from time to time in the format of Music Theatre Ensemble, Madrigal Singers, Barbershop Quartets, etc. A minimum of one public performance per each term of enrollment is required. (Fall/Spring)

MUSP 162, 262, 362, 462 Combo ••• (1)
allows interested students to team up with a rhythm section in learning tunes and "head" charts. Various combinations of instrumentalists and vocalists find this class the best medium for improving skills and making practical application of improvisation. (Fall/Spring)

MUSP 164, 264, 364, 464 Commercial Big Band ••• (1)
requires membership by audition. A laboratory band which focuses on the swing styles of jazz, jazz rock, and fusion. The student receives instruction in phrasing, interpretation, improvisation, tone production, and reading. (Fall)

Nursing

School of Nursing and Allied Health

NURS 113 Nursing Concepts I (7)
NURS 113L Nursing Concepts I Lab ••• (2)
introduces the concept of man as a system and focuses on the holistic approach to nursing and blends theory and practice with the theory portion including the scientific principles for basic nursing procedures and skills. Considers the organization of health care facilities and composition and ethical aspects of the health care delivery system. The nursing process provides the method for practice of basic skills to individuals undergoing medical and surgical interventions to correct dysfunctions. With a conceptual framework the necessary nursing skills are provided to perform nursing activities within the format of the nursing process.

NURS 123 Nursing Concepts II (5)
NURS 123L Nursing Concepts II Lab ••• (4)
continues NURS 113, including evaluating the structure, function, and process of common mental and physical dysfunctions experienced by patients of all ages, including those experiencing childbirth. Focuses on identifying the input, output, and throughput when using the nursing process in providing care to patients.

NURS 210 Nursing Concepts III (5)
NURS 210L Nursing Concepts III Lab ••• (5)
utilizes general systems in the evaluation of dysfunctions of all ages. Provides increased depth of knowledge of the human adaptive capabilities throughout the life span with additional emphasis placed on the psychological components of man and utilization of the nursing process.

NURS 230 Nursing Concepts IV (5)
NURS 230L Nursing Concepts IV Lab ••• (5)
increases the depth of knowledge of general systems approaches to patients throughout the life span. Studies the dysfunction of various sub-systems with emphasis on the use of the nursing process. A preceptorship experience is provided at the end of the semester.

NURS 273 Issues in Nursing ••• (2)
is an exit course exploring the effect of recent trends and issues in nursing while examining historical components of nursing. Students are encouraged to become aware of potential problems experienced during the transition from student to practicing nurse. Alternative course NURS 320 for BSN students only.

NURS 310 Introduction to Critical Care Nursing ••• (2)
analyzes pathological alterations in the physiology of selected conditions in relation to the symptoms manifested.

NURS 320 Matrix ••• (3)
is an entrance course with in-depth discussion of transition, change and other topics related to current and future trends in professional nursing. Alternative course NURS 273.

NURS 330 Research Techniques ••• (3)
introduces research and its relevance to the development of nursing theory and improvement of patient care. Incorporates selected methods of research appropriate to nursing practice and studies. Prerequisite: a course in statistics or concurrent enrollment in CSCI 101.

NURS 340 Health Assessment - Physical (3)
NURS 340L Health Assessment - Physical Lab ••• (1)
provides instruction and guided experience in obtaining a health history and in performing a physical examination. Prerequisite: BIOL 241 or consent of the instructor.

NURS 350 Community Health Nursing Concepts I ••• (2)
provides an orientation to the field of community public health, including a study of background, development and trends with emphasis on nursing in community health settings. Prerequisite: NURS 320 or concurrent enrollment.

NURS 420 Community Health Nursing Concepts II (2)
NURS 420L Community Health Nursing Concepts II Lab ••• (5)
provides opportunities for the observation and application of concepts learned in NURS 350. Work in a community health setting is an integral part of the course. Prerequisites: NURS 340,340L,350.

NURS 423 Gerontological Nursing (1)
NURS 423L Gerontological Nursing Lab ••• (2)
augments the skills of the nurse working with aged clients and their families. Places emphasis on the utilization of the nursing process to promote, maintain and restore health in the elderly. The relationship between the observed behavior of clients and the theoretical and hypothetical constructs of gerontology is explored. Clinical experience in a variety of health care and community settings provides opportunities for application of theoretical knowledge.

NURS 430 Health Assessment-Psychosocial (3)
NURS 430L Health Assessment-Psychosocial Lab ••• (1)
focuses on current psychosocial issues which effect individual, family, and community systems. Behavior is viewed within the context in which it occurs, with emphasis on interactions between man and his/her environment. Nursing process, leadership and current research are utilized in assessing dysfunction and in facilitating health promoting or restorative behaviors in client systems. Prerequisites: NURS 340, 340L or consent of instructor.

NURS 441 Nursing Management I (2)
NURS 441L Nursing Management I Lab ••• (1)
provides a practical guide to the understanding and implementation of management concepts, functions, techniques and skills as they apply in health care agencies, utilizing a humanistic management process. Prerequisite: NURS 320 or consent of instructor.

NURS 442 Nursing Management II (2)
NURS 442L Nursing Management II Lab ••• (1)
continues NURS 441. Prerequisite: NURS 441,441L.

NURS 443 Power and Political Dynamics in Nursing ••• (2)
explores the political influences and social forces in history which impact nurses and nursing. The evolving role of nursing is examined in relation to impacting decisions and policies that affect health care in the U.S. and content focuses on organizational realities and approaches to overcome barriers to job mobility. The utilization of power and politics are analyzed as methods to further the potential of nursing. Topics include the present condition of women's relationship to health system, attitudes toward masculinity and femininity, role conflict of the working woman, finances and economy, networking and keys of career success.

NURS 450 Advanced Nursing in Episodic Settings (2)
NURS 450L Advanced Nursing in Episodic Settings Lab ••• (2)
focuses on the curative and restorative aspects of nursing care of clients of all ages in severe psychophysiological stress. The nursing process is operationalized in the presentation of, and intervention in life threatening situations and complex regimes of care. Clinical nursing competencies are developed through the provision of direct care for clients in the acute care setting.

NURS 460 Health Delivery System ••• (2)
is an exit level course providing an overview of the multiple roles of health care delivery systems, including both traditional and alternative methods, with emphasis on the rural setting. Includes discussion of the impact of the federal government, insurance programs, and consumerism on health care delivery. Prerequisite: All 300 level nursing courses.

NURS 494 Seminar ••• (1,2)
discusses current topics, issues and problems in nursing and health care with topics announced each semester. Prerequisites: senior standing, 2.75 GPA, and consent of instructor.

NURS 495 Independent Study ••• (1,2)
allows a student to pursue an area of interet in nursing. Must have completed a minimum of eight semester hours in upper division nursing courses and have a cumulative GPA of 2.75 or higher before enrolling.

Office Administration

School of Business

OFAD 101 Bookkeeping for Small Business ••• (3)
is required for persons keeping accounting records in a legal, medical, or other professional office or for those who will work in the accounting department of a small retail firm. Covers fundamental accounting principles including opening through closing a set of books. This course is not advised for four-year accounting majors. No credit allowed if credit already established in ACCT 201. (Fall/Spring)

OFAD 111 Beginning Shorthand ••• (3)
presents the theory of Gregg shorthand with a limited amount of dictation given at rates of 40 to 60 words per minute. (Fall)

OFAD 112 Intermediate Shorthand ▪▪▪ (3)
reviews shorthand, application of office standards for mailable transcripts, dictation at rate of 70 to 90 words a minute and transcription at the rate of 20 to 35 words a minute. Prerequisite: one semester of shorthand theory or the equivalent and OFAD 152 or concurrent enrollment in OFAD 152, or consent of instructor. (Fall/Spring)

OFAD 147 Medical Terminology ▪▪▪ (3)
presents 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 150 Keyboarding ▪▪▪ (1)
is structured for those interested in positions as data entry clerks, computer operators, managers with work stations, or all occupational areas now requiring basic touch keyboarding skills with no prior typing experience. Includes alpha, 10-key and computer function key instruction, introductory lecture and programmed materials. Time is arranged. Students who have received credit in OFAD 151 may not take this course for credit. (Fall/Spring)

OFAD 151 Beginning Typing ▪▪▪ (3)
introduces the keyboard, parts of the machine and development of minimum skill with instruction and practice on simple business letters, tabulation and manuscripts. Priority given to students in office occupations and others may register on a space-available basis. Placement dependent on ability. Prerequisite: consent of instructor. (Fall/Spring)

OFAD 152 Intermediate Typing ▪▪▪ (3)
emphasizes typing mailable letters, manuscripts, business forms, and develops speed required in the average office. Prerequisite: OFAD 151 or one year of high school typing or equivalent. (Fall/Spring)

OFAD 154 Laboratory Techniques ▪▪▪ (2)
presents basic lab procedures such as blood counts, urinalysis, EKG, etc. Provides actual lab experiences. Prerequisite: BIOL 141 or consent of instructor. (Spring)

OFAD 159 Medical Office Procedures ▪▪▪ (3)
studies 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, 152, or consent of instructor. (Spring)

OFAD 201 Office Management ▪▪▪ (3)
covers office organization including work in the office, office layout, equipment, supplies and forms, personnel problems, costs, and control of office work. Discusses 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) alternate years

OFAD 202 Records Management ▪▪▪ (3)
studies institutional and legal requirements for developing, storing and maintaining business and personnel information systems. Management of computerized and non-computerized systems is emphasized as well as storage and retrieval using alphabetic, geographic, numeric and subject methods for manual, micro-records, computerized systems, and control of records management programs. (Spring) alternate years

OFAD 221 Transcription Machines ▪▪▪ (3)
teaches fundamental skills, speed, and accuracy of transcription on the typewriter. Prerequisites: one year of high school typing, OFAD 152, or concurrent enrollment in OFAD 152. (Fall)

OFAD 231 Medical Transcription ▪▪▪ (3)
develops competency with transcribing machines through use of medical correspondence and professional records. Prerequisites: OFAD 152, or concurrent enrollment in OFAD 152 or consent of instructor, and OFAD 147 or equivalent. (Spring)

OFAD 244 Legal Procedures ▪▪▪ (3)
prepares the student for secretarial work in a law office through study of American court systems, branches of civil and criminal law, and secretarial procedures relating to ethical behavior and office management techniques. Includes practice in preparing legal forms and documents with emphasis on speed, accuracy, and mailability, along with procedures to help develop confidence and poise necessary in a professional office. Prerequisite: typing proficiency. (Fall)

OFAD 251 Advanced Typing ••• (3)
develops skills for rapid, mailable production of all typing jobs encountered in the business office. Prerequisite: OFAD 152. (Spring)

OFAD 263 Beginning Word Processing ••• (3)
introduces word processing concepts and functions. Training in the basic functions of word processing on dedicated word processors and computers is provided including constructing, formatting, editing, storing and printing of documents. Provides an understanding of the utilization of word processing equipment in business and stresses the terminology unique to word processing. Consists of both lecture and lab instruction. Prerequisite: OFAD 152 or consent of instructor. (Fall/Spring)

OFAD 264 Advanced Word Processing ••• (3)
continues OFAD 263. Training in the advanced functions of word processing on dedicated word processors and computers including such functions as list/merge, repagination and select/sort among others. Provides an understanding of the more advanced concepts of word processing in relation to the electronic office and information processing. Also provides an understanding of the factors to consider when implementing a word processing system. Consists of both lecture and lab instruction. Prerequisite: OFAD 263 or consent of instructor. (Fall/Spring)

OFAD 271 Office Simulation ••• (3)
presents the interrelationship of typing, shorthand, transcription, office machines, and filing skills in the office environment. Concepts of personal development, interpersonal relations and business ethics are also emphasized. Prerequisite: OFAD 152. (Spring)

OFAD 295 Independent Study ••• (1,2)
presents an opportunity for specialized study. Students must apply through their adviser at least three weeks prior to the end of the semester preceding the semester in which they wish to take the independent study. Prerequisites: completion of nine semhrs of the field chosen for independent study, and consent of instructor. (On Demand)

OFAD 296 Topics ••• (1,2,3)
allows students to explore areas of general interest in the office administration area. Course material varies from year to year. Prerequisites: vary with material and consent of instructor. (On Demand)

OFAD 298 Related Work Experience ••• (1,2)
see ACCT 298 course profile. (Fall/Spring)

OFAD 299 Internship ••• (8,15)
provides on-the job secretarial training for a minimum of 20 hours per week for eight semhrs credit and 40 hours per week for 15 semhrs credit 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)

Philosophy

School of Humanities and Fine Arts

§PHIL 251 History of Philosophy I ••• (3)
discusses philosophical problems including relation of individual to the state, death and the afterlife, the physical universe, and existence of God, as seen through Greek and Medieval thinkers such as Socrates, Plato, Aristotle, and St. Thomas Aquinas. (Fall)

§PHIL 252 History of Philosophy II ••• (3)
continues PHIL 251, with topics as seen through thinkers of the modern period, such as Machiavelli, Luther, Galileo, Descartes, Nietzsche, and the existentialists. (Spring)

§PHIL 275 Introduction to Logic ••• (3)
studies different forms of reasoning, valid vs. fallacious inferences, strong vs. weak arguments, various techniques for deciding when the conclusions met in any area of life and study are supported by logical reasoning and the proper sorts of evidence. Designed to increase the ability to reason clearly and correctly as well as follow and critically evaluate the reasoning of others. (Fall)

PHIL 352 Ethics ▪▪▪ (3)
helps the student achieve a personal, ethical viewpoint through the study of such problems as war and violence, right to dissent, abortion, capital punishment, treatment of minorities, famine relief, genetic engineering and the environmental crisis. Surveys major ethical philosophers such as Plato, Aristotle, Locke, Kant, Spinoza, Thoreau, Jefferson, Nietzsche, Mill and Fletcher, with emphasis on application of their concepts to current issues. (Spring)

PHIL 353 History of Ideas: Ancient and Medieval Periods ▪▪▪ (3)
studies 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. (Fall)

PHIL 354 History of Ideas: Modern Period ▪▪▪ (3)
studies 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. Prerequisite: SOCI 351. (Spring)

Physical Education

School of Social and Behavioral Sciences

Activity

§PHYE Physical Education Activity Courses ▪▪▪ (1 each)

PHYE 101	Beginning Swimming	PHYE 154	Beginning Baseball
PHYE 102	Intermediate Swimming	PHYE 155	Intermediate Baseball
PHYE 103	Diving	PHYE 156	Soccer
PHYE 104	Water Polo	PHYE 158	Speedball
PHYE 108	Canoeing	PHYE 160	Field Hockey
PHYE 110	River Rafting	PHYE 162	Volleyball
PHYE 112	Backpacking	PHYE 164	Beginning Basketball
PHYE 113	Beginning Bowling	PHYE 165	Intermediate Basketball
PHYE 114	Intermediate Bowling	PHYE 166	Flag Football
PHYE 115	Beginning Golf	PHYE 168	Hatha Yoga & Relaxation I
PHYE 116	Intermediate Golf	PHYE 169	Hatha Yoga & Relaxation II
PHYE 117	Badminton	PHYE 170	Beginning Modern Dance
PHYE 119	Archery	PHYE 171	Intermediate Modern Dance
PHYE 121	Beginning Tennis	PHYE 172	Square Dance
PHYE 122	Intermediate Tennis	PHYE 173	Folk Dance
PHYE 123	Racquetball	PHYE 174	Social Dance
PHYE 125	Handball	PHYE 175	Modern Jazz Dance
PHYE 127	Physical Conditioning	PHYE 176	Beginning Ballet
PHYE 129	Weight Training	PHYE 177	Intermediate Ballet
PHYE 130	Fitness and Figure Control	PHYE 178	Tap Dance
PHYE 132	Aerobics	PHYE 179	Dance Performance Group
PHYE 133	Skiing	PHYE 180	Varsity Football
PHYE 135	Cross Country Skiing	PHYE 181	Varsity Basketball
PHYE 137	Horseback Riding	PHYE 182	Varsity Baseball
PHYE 139	Roller Skating	PHYE 183	Varsity Wrestling
PHYE 141	Bicycling	PHYE 184	Varsity Tennis
PHYE 143	Orienteering	PHYE 185	Varsity Volleyball
PHYE 145	Wrestling	PHYE 186	Varsity Softball
PHYE 147	Track and Field	PHYE 187	Varsity Track and Field
PHYE 149	Gymnastics	PHYE 188	Varsity Golf
PHYE 152	Softball		

Physical education courses numbered above 199 do not count as activity courses.

Academic

PHYA 200 Introduction to Physical Education ▪▪▪ (1)
provides an orientation to the breadth, scope and nature of the professional program in physical education. Required of all physical education majors. (Fall)

The following series of courses is designed to acquaint prospective physical educators and recreators with the skills, instructional procedures, techniques and progressions of selected sports normally taught in the public schools and in recreational facilities. Field experiences are required.

PHYA 211	**Fundamentals of Swimming (On Demand)**	**(1)**
PHYA 212	**Methods of Movement (Fall)**	**(1)**
PHYA 213	**Methods of Physical Fitness (Spring)**	**(2)**
PHYA 214	**Methods of Tumbling (Fall)**	**(1)**
PHYA 215	**Methods of Softball (Spring/89)**	**(2)**
PHYA 216	**Methods of Flag Football (Fall)**	**(2)**
PHYA 217	**Methods of Handball and Racquetball (Spring/87,89)**	**(2)**
PHYA 218	**Methods of Personal Defense (Spring/88)**	**(2)**
PHYA 219	**Methods of Ballroom Dancing (Fall/86,88)**	**(2)**
PHYA 220	**Methods of Folk and Square Dance (Spring/88)**	**(2)**
PHYA 221	**Methods of Apparatus Gymnastics (Fall/87,89)**	**(2)**
PHYA 222	**Methods of Basketball (Fall/87,89)**	**(2)**
PHYA 223	**Methods of Volleyball (Fall/86,88)**	**(2)**
PHYA 224	**Methods of Golf (Spring/88)**	**(2)**
PHYA 225	**Methods of Tennis (Fall/86,88)**	**(2)**
PHYA 226	**Methods of Badminton and Archery (Spring/88)**	**(2)**
PHYA 227	**Methods of Track and Field (Spring/87,89)**	**(2)**
PHYA 228	**Methods of Soccer (Fall/86,88)**	**(2)**
PHYA 231	**Methods of Bowling (Fall/87,89)**	**(2)**
PHYA 232	**Methods of Wrestling (Spring/88)**	**(2)**
PHYA 233	**Methods of Weight Training (Spring/87,89)**	**(2)**

PHYA 234 Care and Prevention of Athletic Injuries — **(2)**
is designed to acquaint the student with the procedures and techniques involved in preventing and treating common injuries associated with competitive athletics. (Fall)

The following series of courses is designed to acquaint students with the rules and procedures of officiating selected competitive sports.

PHYA 240	**Sports Officiating - Football (Fall/87,89)**	**(1)**
PHYA 241	**Sports Officiating - Basketball (Fall/87,89)**	**(1)**
PHYA 242	**Sports Officiating - Volleyball (Fall/86,88)**	**(1)**
PHYA 243	**Sports Officiating - Wrestling (Fall/86,88)**	**(1)**
PHYA 244	**Sports Officiating - Gymnastics (On Demand)**	**(1)**
PHYA 245	**Sports Officiating - Baseball and Softball (Spring/87,89)**	**(1)**
PHYA 246	**Sports Officiating - Track and Field Events (Spring/88)**	**(1)**

PHYA 250 Advanced Lifesaving ••• **(2)**
is an American Red Cross course leading to certification of qualified students. (Fall)

PHYA 251 Water Safety Instructors Course — **(2)**
is an American Red Cross course leading to certification of qualified students. Prerequisite: ARC Advanced Life Saving Certificate. (Spring)

PHYA 253 Beginning Improvisation and Composition in Dance ••• **(3)**
presents theory and practice in basic principles of dance composition. (Fall/88)

PHYA 256 Creative Play Activities in Movement — **(3)**
is designed for students who will be working with young people. Emphasis is placed on creative movement exploration through the Laban series of body, effort, space and relationship. (Spring/88)

PHYA 257 Repertory Dance ••• **(1)**
allows students to participate directly in the production of a dance choreographed by faculty or guest artist. Prerequisite: consent of instructor. (Spring)

PHYA 260 School and Personal Health (3)
discusses and evaluates 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)

PHYA 265 Standard First Aid and Cardio-Pulmonary Resuscitation (2)
provides students with the knowledge and skills required to meet the needs of most emergency first aid and CPR situations. (Fall/Spring)

PHYA 276, 277 Theory and Practice in Ballet (1,1)
consists of intermediate to advanced work in theory and practice of Ballet for dance emphasis students. Prerequisites: PHYE 176,177 or THEA 121,122. (Fall/Spring)

PHYA 280, 281 Theory and Practice of Modern Dance (1,1)
consists of intermediate to advanced work in theory and practice of modern dance for dance emphasis students. Prerequisites: PHYE 180,181 or THEA 123,124. (Fall/Spring)

PHYA 297 Practicum (1)
involves students as assistants to teachers of physical education activities or to public recreation practitioners in the recreation setting. (Fall/ Spring)

PHYA 297B Choreography Practicum I (1)
requires students to choreograph and produce an original dance work. Prerequisites: PHYA 253 or THEA 222 or consent of instructor. (Fall/Spring)

PHYA 301 Tests and Measurements in Physical Education (2)
studies modern testing and evaluation programs applied to physical education including biological, neuromuscular, personal, social, and interpretive development. Prerequisite: PHYA 200. (Spring)

PHYA 307 Philosophy and Psychology of Coaching (2)
presents fundamental philosophic and psychological principles related to coaching competitive athletic teams. Prerequisite: PHYA 200. (Spring)

PHYA 309 Anatomical Kinesiology (2)
develops understanding of the mechanics of sport related human movement through a study of selected physical, anatomical and physiological factors affecting human performance. Prerequisites: BIOL 141,141L, PHYA 200. (Fall)

The following is a series of courses designed to aquaint students with fundamental techniques, movements, strategies, patterns, and ethics of selected competitive athletics.

PHYA 310 Sports Theory - Football (Spring/87,89) (2)
PHYA 311 Sports Theory - Basketball (Fall/86,88) (2)
PHYA 312 Sports Theory - Wrestling (Spring/87,89) (2)
PHYA 313 Sports Theory - Baseball and Softball (Spring/88) (2)
PHYA 314 Sports Theory - Track and Field Events (Spring/88) (2)
PHYA 315 Sports Theory - Volleyball (Fall/87,89) (2)

PHYA 320 Elementary School Physical Education (3)
is designed for the prospective elementary school teacher to help with 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)

PHYA 321 Repertory Dance (1)
allows students to participate directly in the production of a dance choreographed by faculty or guest artist. Prerequisite: consent of instructor. (Spring)

PHYA 324 Dance Production (2)
provides analysis and practice in elements of publicity, lighting, costuming and makeup for dance. Places emphasis on the non-traditional forms of dance production. (Fall/86,88)

PHYA 326 Methods of Teaching Ballet and Modern Dance (3)
covers the theory and application of methods of teaching Ballet and Modern Dance. Prerequisites: PHYA 276 or 277 and PHYA 280 or 281. (Spring/88)

PHYA 370 Biomechanics (2)
PHYA 370L Biomechanics Lab ••• (1)
involves the 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,PHYA 212,309. (Spring)

PHYA 371 Advanced First Aid ••• (3)
provides the training, skills, and knowledge needed in sickness and injury emergencies. Prerequisite: current Standard First Aid Card. (Spring)

PHYA 375 Organization and Administration of Intramurals ••• (2)
acquaints prospective physical educators and recreators with sports, tournaments, units of competition, scoring systems and coordination of intramural sports with physical education and athletic programs. Prerequisite: PHYA 200. (Fall/87,89)

PHYA 397 Choreography Practicum II ••• (1)
requires students to choreograph and produce an original dance work. Prerequisites: PHYA 253,297B or THEA 222 or consent of instructor. (Fall)

PHYA 403 Physiology of Exercise (2)
PHYA 403L Physiology of Exercise Lab ••• (1)
deals with the effects of various types of exercise upon human body structure and function. Prerequisite: PHYA 213 and BIOL 141,141L. (Fall)

PHYA 407 Organization, Administration and Curriculum Development in Physical Education ••• (3)
acquaints students with organizational structures and administrative techniques in physical education, athletic, and intramural sports programs. Prerequisite: PHYA 200. (Fall)

PHYA 408 Methods of Teaching Physical Education in Secondary Schools (3)
presents alternative instructional strategies on a practical application level to prospective secondary physical education teachers preparatory to entry into the student teaching experience. Field experiences are required to supplement lectures and discussions. Prerequisites: upper division standing and completion of at least half of all physical education coursework required for certification. (Fall)

PHYA 421 Repertory Dance ••• (1)
allows students to participate in the production of a dance choreographed by faculty or guest artist. Prerequisite: consent of instructor. (Spring)

PHYA 472 Adaptive Physical Education and Recreation for the Physically Disabled ••• (3)
studies physical activity, its modification and adaptation for the physically and mentally disabled participant. Prerequisites: PHYA 200, RECR 210, or consent of instructor. (Spring)

PHYA 497 Choreography Practicum III ••• (1)
requires students to choreograph and produce an original dance work. Prerequisites: PHYA 253, or THEA 222, or consent of instructor. (Fall/Spring)

Physics

School of Natural Sciences and Mathematics

§PHYS 100 Concepts of Physics ••• (3)
is a non-mathematical survey of fundamental concepts in physics. Particular attention is given to the cultural development of these ideas from early Greek thought, through the medieval and Renaissance periods, and into the seventeenth and eighteenth centuries. The study of classical mechanics and electromagnetism is followed by a discussion of the simple ideas underlying relativity and modern quantum theory. (Fall)

§PHYS 101 Elementary Astronomy ••• (3)
introduces modern stellar and extra-galactic astronomy. Planetary exploration, stellar evolution and cosmology will be discussed. Evening observing will be scheduled when possible. (Spring)

§PHYS 111, 112 General Physics (4,4)
§PHYS 111L, 112L General Physics Lab ▪▪▪ (1,1)
presents lectures in mechanics, electricity, magnetism, thermodynamics, sound, optics, and modern physics. Problem solving is emphasized. Lab work confirms general principles by observation and evaluation of quantitative data. Detailed lab reports are required. Prerequisite: A mastery of algebra and trigonometry. Four lectures and one three-hour lab per week. (Fall/Spring)

§PHYS 121 Classical Physics I ▪▪▪ (4)
is the first of a series of foundation courses in physics for scientists and engineers. Newtonian mechanics is used to model the behavior of matter, and the 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, geology, astronomy and atomic physics. Galilean relativity is discussed and special relativity is 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)

§PHYS 122 Classical Physics II (4)
§PHYS 122L Experimental Mechanics Lab ▪▪▪ (1)
continues 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 studied. Special relativity is discussed further. Concludes with an introduction to thermodynamics and statistical mechanics. Lab experiments in the classical branches of physics with formal lab reports required. Corequisite: MATH 152. Prerequisite: PHYS 121. Four lectures and one three-hour lab per weeek. (Spring)

PHYS 223 Classical Physics III (3)
PHYS 223L Experimental Electromagnetism Lab ▪▪▪ (1)
is a foundation course in electromagnetic theory. The field concept is introduced by examining static electric and magnetic fields, both in free space and in matter. Electrodynamics is then developed, culminating in Maxwell's equations, and the entire subject is recast in the language of special relativity. The radiation field is the major application of the completed theory. Lab experiments in the classical branches of physics with formal lab reports required. Corequisite: MATH 253. Prerequisite: PHYS 122. Three lectures and one three-hour lab per week. (Fall)

§PHYS 224 Modern Physics ▪▪▪ (3)
introduces special relativity, quantum physics, nuclear physics, and solid state physics. Prerequisite: PHYS 122. (Alternate/Spring On Demand)

PHYS 295 Independent Study ▪▪▪ (1,2)
allows a student with a previously developed interest in and knowledge of a specialized subject to continue his or her work. It is expected that most such work will be original. However, studies of a non-original nature but not in the established curriculum will also satisfy the requirements. Prerequisite: consent of instructor. Work scheduled by arrangement. (Fall/Spring)

PHYS 321 Introduction to Quantum Theory I ▪▪▪ (3)
is a foundation course in quantum physics. The failure of classical physics is first discussed. Thermal radiation, photons, the Rutherford-Bohr atom and the de Broglie wave hypothesis are surveyed. 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 stateformalisms are both developed. The entire subject is set in the frame-work of Hilbert space. Prerequisites: PHYS 223 and MATH 260. (Fall)

PHYS 322 Introduction to Quantum Theory II ▪▪▪ (3)
continues PHYS 321. Quantum theory is extended to three dimensions. Angular momentum conservation is discussed and particle spin introduced. Concludes with the quantum theory of many-particle systems and a discussion of Fermi-Dirac and Bose-Einstein statistics. Perturbation theory is developed and applied to the study of atoms and their interaction with radiation. Prerequisite: PHYS 321. (Spring)

PHYS 331, 332 Junior Laboratory I, II ••• (2,2)
provides instruction in experimental methods, performance of laboratory experiments, preparation of lab reports according to professional standards, and training in the use of microprocessors in data acquisition and processing. The experiments to be performed are selected from electromagnetism, atomic, nuclear, solidstate, and high-energy physics. Prerequisites: PHYS 223 and 223L. Corequisite: CSCI 341. Two two-hour labs per week. (Fall/Spring)

PHYS 352 History and Philosophy of Physics ••• (3)
varies in content from year to-year, addressing problems in the interpretation and development of physics concepts. Emphasizes key ideas in the history of physics, using case studies of crucial experiments. Prerequisite: one year of physics or consent of instructor. (Spring)

PHYS 362 Statistical and Thermal Physics ••• (3)
surveys the physics of bulk matter beginning with fundamental physical laws, statistical methods are employed to predict the large-scale behavior of solids, liquids and gases. This approach is based upon the microscopic laws of quantum mechanics. The resulting principles of macroscopic thermodynamics are exhibited in a variety of applications, including the specific heat of solids, black-body radiation and chemical reactions. Corequisite: MATH 260. Prerequisite: PHYS 122. (Spring)

PHYS 395 Independent Study ••• (1,2)
allows a student to pursue interests in specialized physics topics. Nonoriginal subjects not found in the established curriculum are also appropriate. Prerequisite: consent of instructor. (Fall/Spring)

PHYS 396 Topics ••• (3)
presents material which varies from year-to-year, selected from such areas as plasma physics, general relativity, astrophysics, symmetry groups, and differentiable manifolds in physics. Prerequisite: PHYS 223. (Spring/On Demand)

PHYS 421 Advanced Dynamics ••• (3)
surveys analytical methods in classical physics. The Lagrangian formulation of mechanics is used to examine various applications of rigid body motion, celestial mechanics, and collision theory. Symmetry principles and accompanying conservation laws are introduced. Concludes with an introduction to Hamilton's equations and field theory. Prerequisites: PHYS 223 and MATH 260. (Fall)

PHYS 431 Atomic Physics ••• (3)
introduces the quantum theory of atomic structure, radiations, and processes. Prerequisite: PHYS 322. (Fall/On Demand)

PHYS 432 Nuclear and High-Energy Physics ••• (3)
introduces the structure and interactions of nuclear and sub-nuclear particles, including a survey of the intrinsic properties of nuclei, descriptions of various models for nuclei, studies of radioactivity and nuclear reaction processes, an introduction to the technologies of high-energy accelerators and detectors, a survey of the properties and structures of elementary particles and their interactions, and an examination of current developments in fundamental interactions. Prerequisite: PHYS 431. (Spring/ On Demand)

PHYS 441 Solid State Physics ••• (3)
introduces the properties 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. (Fall/On Demand)

PHYS 482 Senior Research ••• (1)
consists of an individual research project chosen, conducted, and reported under supervision of a faculty adviser. The project may be selected from experimental or theoretical physics. It must culminate in 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,On Demand)

PHYS 494 Seminar ••• (1)
allows faculty and students of physics to participate in both informal discussions and formal oral presentations of selected topics of scientific interest, including significant current advances and crucial historical developments. May be repeated for maximum of four semhrs credit. Prerequisite: upper division standing and consent of instructor. (Fall/Spring)

Political Science

School of Social and Behavioral Sciences

§POLS 101, 102 American Government ••• (3,3)
emphasizes the framework and functions of the national government with some attention to civil rights and foreign policy. (Fall/Spring)

§POLS 256 State and Local Government ••• (3)
discusses the development, organization and operation of state and local governments in the United States. Prerequisites: POLS 101, 102. (Fall)

§POLS 261, 262 Comparative Governments ••• (3,3)
introduces comparative politics emphasizing the political systems of Great Britain, France, Germany, Soviet Union, Chinese People's Republic and the developing nations. Prerequisites: POLS 101, 102 or consent of instructor. (Fall/87, Spring/88)

POLS 302 International Relations ••• (3)
discusses the methods and institutions of international relations emphasizing their role in shaping the modern world community. Prerequisite: HIST 102 or consent of instructor. (Fall/87,89)

POLS 310 Constitutional Interpretations ••• (3)
presents 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/87,89)

POLS 312 Public Administration ••• (3)
introduces public administration emphasizing on historical development, organizational structure and theory, management, personnel administration, fiscal administration, and administrative responsibility. Prerequisites: POLS 101,102. (Fall)

POLS 313 American Political Parties and Pressure Groups ••• (3)
traces the development of political parties and pressure groups in the United States and their contemporary impact. Prerequisites: POLS 101,102 or consent of instructor. (Spring/88)

POLS 350 American Political Thought ••• (3)
presents political ideas, theories, and concepts that have shaped American political institutions. Prerequisites: POLS 101, 102 or equivalents or consent of instructor. (Spring/88)

POLS 395 Independent Study ••• (1,2)
Prerequisites: six hours of political science, a GPA of 2.75 or higher, and consent of instructor. (Fall/Spring)

POLS 399A Internship: Washington, D.C. ••• (12)
is conducted in Washington, D.C., in cooperation with the Washington Center for Learning Alternatives. Students do formal academic study in conjunction with intern assignments in congressional offices, executive agencies and the Justice Department. Prerequisites: six hours of political science and consent of the program coordinator. (Fall/Spring)

POLS 399B Internship: State Legislature ••• (9)
is conducted in Denver in cooperation with Metropolitan State College. Students are assigned as interns with State Legislators and will work on the floor of the State House of Representatives and the State Senate. Students are encouraged to enroll in one or two courses at Metropolitan State College concurrent with the internship. Prerequisites: upper division standing, six hours of political science, and consent of instructor. (Spring)

Psychology

School of Social and Behavioral Sciences

§PSYC 121, 122 General Psychology ••• (3,3)
surveys the fundamental principles of psychology. (Fall/Spring)

§PSYC 200 Psychology of Human Adjustment ••• (3)
studies the 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)
applies the principles and findings of general psychology 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)
presents historical and theoretical considerations toward 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)
introduces developmental principles, ages and stages of the life span, and adjustment techniques. Not intended for social science majors. (Fall/Spring)

PSYC 254 Educational Psychology ••• (3)
presents the psychological principles underlying the social, emotional, and intellectual development of the child as these relate to educational theory and practice. Prerequisites: PSYC 121,122. (Fall/87)

PSYC 310 Child Psychology ••• (3)
discusses the principles of human development and psychology from conception to puberty. Prerequisites: PSYC 121,122. (Spring)

PSYC 312 Experimental Psychology ••• (3)
applies experimental techniques to various areas of psychology. Includes experimentation in psychophysics, perception, learning, and motivation. Prerequisites: PSYC 121, 122. (Spring)

PSYC 314 Psychology of Learning ••• (3)
presents classic and modern psychological explanations of the phenomenon of learning at the human and lower animal levels. Prerequisites: PSYC 121, 122. (Fall)

PSYC 320 Social Psychology ••• (3)
studies social influences upon behavior with consideration given to topics such as: social perception, attitude formation and change, communication, and leadership. (Fall)

PSYC 322 Motivation ••• (3)
studies the ways and extent to which individuals and groups differ from one another and of the factors responsible for those differences. Prerequisites: PSYC 121,122,314. (Spring)

PSYC 340 Abnormal Psychology ••• (3)
systematically presents the 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)
surveys the 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 ••• (1,2)
Prerequisites: nine hours of psychology, a cumulative GPA of at least 2.75, and consent of instructor. (Fall/Spring)

PSYC 396 Topics ••• (1,2,3)
allows students to explore special topics in psychology. Prerequisite: 12 semhrs of PSYC courses. (On Demand)

PSYC 400 Psychological Testing ▪▪▪ (3)
introduces the 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)
applies psychological principles 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 121,122, STAT 200. (Spring)

PSYC 414 Systems and Theories of Psychology ▪▪▪ (3)
presents the systems and theories of modern psychology and the development of scientific psychology since 1879. Prerequisites: PSYC 121, 122 or at least 12 semhrs of upper division psychology course work or consent of instructor. (Spring)

PSYC 420 Personality ▪▪▪ (3)
studies 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 Experimental Approaches to Sensation and Perception ▪▪▪ (3)
introduces the visual and auditory information processing systems. Includes frequent classroom demonstrations and occasional experiments. Prerequisites: PSYC 121, 122, STAT 200. (On Demand)

Radiologic Technology

School of Nursing and Allied Health

RADT 110 Radiologic Introduction ▪▪▪ (3)
provides a complete overview of radiologic technology emphasizing guidelines of the program, history, the medical team, health-care delivery, medical ethics, professional conduct, organization, and development. Introduces the student to medical terminology, communications, body mechanics, and moving patients, medical asepsis, vital signs, medical emergencies, and care of the critically ill and special patient.

RADT 121 Radiologic Technology I (2)
RADT 121L Radiologic Technology I Lab ▪▪▪ (1)
studies radiography of appendicular skeletal system, abdomen, and thoracic viscera. Provides instruction in every phase of radiologic technology in an integrated coverage of each of the above areas.

RADT 122 Radiologic Principles I (2)
RADT 122L Radiologic Principles I Lab ▪▪▪ (1)
presents a theoretical and practical approach to the fundamentals of radiography including production of x-rays and radiographs, equipment, accessory devices, exposure mathematics, radiation hazards and protection. Technical and prime exposure factors are discussed and applied in the energized lab. Students make actual radiation exposures on a phantom patient in order to observe and learn the effect of various factor changes (Ma, time, KvP, distance, filtration, collimation, grid screens, x-ray film).

RADT 123 Clinical Experience I ▪▪▪ (4)
emphasizes areas covered in RADT 121. Includes one hour of film critique provided by the clinical instructor.

RADT 125 Radiologic Science I ▪▪▪ (2)
provides a knowledge of basic physics, fundamentals of x-ray generating equipment, x-ray production and interaction, beam characteristics, and units of measurement.

RADT 131 Radiologic Technology II (2)
RADT 131L Radiologic Technology II Lab ▪▪▪ (1)
continues RADT 121 with instruction in every phase of radiography of the axial skeleton, digestive system, urinary system, and dental radiography.

RADT 132 Radiologic Principles II (2)
RADT 132L Radiologic Principles II Lab ••• (1)
continues RADT 122 including x-ray film processing chemistry, manual and automatic processing, sensitometry, film artifacts and their causes. Students are instructed in processor maintenance and develop an awareness for quality assurance in radiology. Quality assurance factors are discussed and applied in the energized lab.

RADT 133 Clinical Experience II ••• (4)
continues RADT 123 in all phases of radiology, especially the areas covered in RADT 122. Includes one hour a week of film critique provided by the clinical instructor or radiologist.

RADT 135 Radiologic Science II ••• (2)
discusses principles of radiation interaction in cells and the effect and factors affecting cell response to radiation. Studies acute and chronic effects of radiation, maximum permissible dose, regulatory involvement, and radiation protection responsibilities by the radiographer to patients, personnel, and the public.

RADT 243 Clinical Experience III ••• (10)
continues RADT 133 in all phases of radiology, especially those covered in RADT 121 and 131. Includes one hour per week of film critique provided by the clinical instructor or radiologist.

RADT 251 Radiologic Technology III ••• (3)
studies specialized and highly technical procedures carried out in the department of radiology. Includes a study of the special equipment, opaque media, and radiographic anatomy involved in the procedures. A detailed study of pediatric radiography in regards to patient care as well as procedures is discussed.

RADT 253 Clinical Experience IV ••• (10)
continues RADT 243 in all phases of radiology. Includes one hour per week of film critique provided by the clinical instructor or radiologist.

RADT 261 Radiologic Technology IV ••• (3)
studies pediatric radiography, departmental administration, and radiologic records. The last few weeks of this course are devoted to a review and preparation for the national registry examination.

RADT 263 Clinical Experience V ••• (10)
continues RADT 253 in all phases of radiology with special emphasis on radiation therapy and nuclear medicine. Includes one hour per week of film critique provided by the clinical instructor or radiologist.

Recreation

School of Social and Behavioral Sciences

RECR 210 Introduction to Recreation and Leisure Services ••• (3)
is orientated to park and recreation service including the scope of service, history, and professional development as it relates to public, semi-public, private agency, military, and therapeutic recreation services. Required of all recreation majors. (Fall)

RECR 270 Recreation and Special Populations ••• (3)
studies recreation as a resource and tool for recreational personnel working with specific populations such as the mentally retarded, youth and adult offenders, mentally ill, alcoholics and drug addicts, physically disabled, visually impaired, economically deprived, racial minorities, and the aged. Prerequisite: RECR 210. (Spring)

RECR 380 Planning and Design of Park and Recreation Facilities ••• (3)
surveys park, recreation areas, and facilities (indoor and outdoor) with emphasis on planning, design, park land acquisition, and development programs. Prerequisite: RECR 210. (Fall)

RECR 382 Camp Counseling ••• (3)
teaches techniques of camp and outdoor recreation programming as it relates to public, resident, and day camps. Emphasizes counseling techniques of administration, program, and design. Field trip required. Prerequisite: RECR 210. (Fall/87,89)

RECR 384 Leisure in Contemporary Society ••• (3)
involves interpretation of recreation as a basic part of the living process, the importance of recreation in individual communities and the nation, and the growing importance of leisure time problems. Prerequisite: RECR 210. (Spring)

RECR 390 Therapeutic Recreation ••• (3)
studies therapeutic recreation in the United States today including therapeutic recreation services, rationale for therapeutic recreation programming as it relates to public, resident and day camps. Emphasizes counseling techniques of administration, program, and design. Field trip required. Prerequisite: RECR 210. (Fall)

RECR 410 Recreation and Mental Retardation ••• (3)
introduces recreation's specific facility in meeting the needs of the mentally retarded. Includes basic physical and motor fitness, perceptual motor development, movement experience, psychological and social behavior, and lab experience. Prerequisites: RECR 210,270, PHYA 290. (Fall/86,88)

RECR 420 Therapeutic Recreation Service ••• (3)
introduces technical and theoretical information required to administer and program recreation therapy services in both the institutional and the community setting. Prerequisite: RECR 210. (On Demand)

RECR 450 Recreation for the Aged ••• (3)
prepares the student in therapeutic recreation to work with the aged through knowledge of philosophy of recreation in gerontology, group leadership, developing the volunteer program, day centers and clubs, institutions, special programming, and special events. Prerequisites: RECR 210, 270, 390. (Fall/87,89)

RECR 470 Management and Operation of Golf Facilities ••• (3)
covers fundamentals of operative golf facilities with special emphasis on turf maintenance, concession facilities, equipment purchasing, sample bids, lease proposals, legal liabilities, programming of lessons and tournaments, course design, pro shop and driving range operation. Prerequisite: RECR 210. (Fall)

RECR 480 Organization and Administration of Recreation and Leisure Services ••• (3)
presents modern theory and methodology of the administrative process including personnel management, revenue resources, budget and fiscal management, public relations, planning, evaluation, research, structure, organization, department manuals, and staff guidelines. Prerequisite: RECR 210. (Spring)

RECR 482 Management and Operation of Aquatic Facilities ••• (3)
discusses procedures for effective management of swimming pools, wading pools, water front, ponds, lakes, and reservoirs for recreational use. Concentrates on lifeguard and instructional staff duties, maintenance materials and operation, pool chemistry, and winter sport use. Prerequisite: RECR 210. (Spring)

RECR 484 Programs in Recreation and Leisure Services ••• (3)
covers methods of planning a balanced community recreation program emphasizing leisure counseling, survey and interest finding instruments, brochure construction, activity structures, advertising, and program promotion. Prerequisite: RECR 210. (Fall)

RECR 486 Recreation and Leisure Service Leadership and Supervision ••• (4)
studies theory and application of leadership techniques, management styles, motivation programs, and problem solving. Considers recruitment, assignment, evaluation, and in-service training programs. The student is expected to complete an on the job leadership or supervision project. Prerequisite: RECR 210. (Spring)

RECR 495 Independent Study ••• (1,2)
provides means to pursue an area of interest not in the normal curriculum. Prerequisite: consent of instructor. (Fall/Spring)

RECR 499 Internship ▪▪▪ (12)
consists of full time placement in a recreation and/or park agency to provide a smooth transition from the classroom to the work setting through first hand experience. The student is expected to complete a minimum of 600 clock hours in one or two agencies (300 hours each). Application must be made during the first four weeks of the semester prior to the semester in which the internship is planned. Prerequisites: RECR 210,480,482,486, and a 2.5 GPA. (Fall/Spring/Summer)

Social Science

School of Social and Behavioral Sciences

SOCI 199 Internship ▪▪▪ (1,2)
allows social science students to explore areas of interest through work experience in schools, public offices, human services agencies, etc. (Fall/Spring)

§SOCI 210 Religion in the American Experience ▪▪▪ (3)
is an interdisciplinary course emphasizing the role of religion and religious movements in the historical development of American civilization and culture. (Spring/87,89)

SOCI 310 Methods of Social Research ▪▪▪ (3)
studies 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)
examines and compares the social studies and explores both new and traditional social studies curricula, philosophies, and teaching methods. Prerequisites: upper division status, EDU 321 (Metro), and 21 semhrs of social sciences. (On Demand)

SOCI 351 History of Ideas: Ancient and Medieval Periods ▪▪▪ (3)
studies 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. (Fall)

SOCI 352 History of Ideas: Modern Period ▪▪▪ (3)
studies 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. Prerequisite: SOCI 351. (Spring)

SOCI 396 Topics ▪▪▪ (1,2,3)
allows flexible scheduling of topics not considered elsewhere, which may vary with instructors and disciplines considered. Prerequisite: upper division standing. (On Demand)

Sociology

School of Social and Behavioral Sciences

§SOCO 144 Marriage and the Family ▪▪▪ (3)
introduces the 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)
surveys sociological concepts designed to acquaint students with terminology, basic principles, and important theories. Not open to freshmen. (Fall)

§SOCO 264 Social Problems ▪▪▪ (3)
discusses some of the major contemporary social problems including crime, race relations, war, educational systems, unequal distribution of wealth, and political apathy. Prerequisite: SOCO 260 or consent of instructor. (Spring)

SOCO 300 Political Sociology ▪▪▪ (3)
is an interdisciplinary study of the interactions and interrelationships between social and political forces. Prerequisite: SOCO 260, or POLS 101,102, or consent of instructor. (Fall/87,89)

SOCO 310 Sociology of Religion ▪▪▪ (3)
studies 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/86,88)

SOCO 312 Collective Behavior and Popular Culture ▪▪▪ (3)
inquires into the dynamics of forming new social structures with emphasis on contrasting popular cultures and their structures with collective behavior models of the study areas. (Fall/86,88)

SOCO 314 Population Impact Problems and Urbanization ▪▪▪ (3)
surveys population problems and theories of population growth, industrialization, and urbanization. (Fall/87,89)

SOCO 316 Social Stratification ▪▪▪ (3)
examines the 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/88)

SOCO 330 Crime and Delinquency ▪▪▪ (3)
studies 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. (Spring)

SOCO 350 Sociology of Death and Dying ▪▪▪ (3)
is a critical review of concepts and findings of social scientists and a semi-scientific review of literature dealing with death. (Fall/87,89)

SOCO 360 Social Influences of Small Groups ▪▪▪ (3)
inquires into 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. (Spring/88)

SOCO 395 Independent Study ▪▪▪ (1,2)
Prerequisites: six hours of sociology, a cumulative GPA 2.75 or above, and consent of instructor. (Fall/Spring)

SOCO 400 History of Sociology ▪▪▪ (3)
studies the development of sociology as a discipline from early times to the present. Prerequisite: SOCO 260 or consent of instructor. (Fall/86,88)

SOCO 410 Contemporary Social Theory ▪▪▪ (3)
surveys 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/87,89)

Speech

School of Humanities and Fine Arts

§SPCH 101 Interpersonal Communications ▪▪▪ (3)
is concerned with language, listening, response, defense of statement, and/or nonverbal communication between two or more people. (Fall/Spring)

§SPCH 102 Speechmaking ▪▪▪ (3)
helps the student in the preparation, organization, and delivery of a speech. (Fall/Spring)

SPCH 111 Introduction to Speech Pathology ▪▪▪ (3)
explores the field of speech pathology and audiology. Recommended for elementary education and early childhood education majors. (Spring)

SPCH 112 Voice and Diction ▪▪▪ (3)
investigates the use of the speaking voice emphasizing voice placement, speech sounds, and the phonetic alphabet. Recommended for theater majors. (Fall)

§SPCH 202 Business and Professional Speaking ▪▪▪ (3)
is designed for the business or professional person who will be expected to speak in public as either a member or guest of an organization. (On Demand)

SPCH 231, 232 Debate ▪▪▪ (3,3)
covers research and development of various types of debate formats using national and international topics of current interest. The student may enter into competition. (On Demand)

§SPCH 241 Oral Interpretation ▪▪▪ (3)
emphasizes the reading aloud of prose, poetry, and essays with the intention of conveying the author's ideas to a listening audience. (On Demand)

SPCH 242 Readers' Theatre ▪▪▪ (3)
consists of the staging of a long work or several shorter works by the use of oral interpretation and a minimum of properties. Prerequisite: SPCH 241 or consent of instructor. (On Demand)

SPCH 303 Nonverbal Communication ▪▪▪ (3)
surveys research in the field of nonverbal communication. Includes the opportunity to observe, record and interpret the nonverbal dimensions of communication behavior and the opportunity to enhance awareness and skill in the nonverbal area of communication behavior in mass media, law, theatre, group dynamics, etc. (Spring)

SPCH 403 Teaching of Speech & Drama ▪▪▪ (3)
covers teaching of 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. (Summer)

Statistics

School of Natural Sciences and Mathematics

§STAT 200 Probability and Statistics ▪▪▪ (3)
introduces statistics and statistical methods. Includes analysis of data, elementary probability, binomial distribution, random sampling, normal distribution, student's t-distribution, regression and correlation, chisquare distribution, F-distribution, and nonparametric methods. Prerequisite: MATH 110 or two years of high school algebra. (Fall/Spring)

§STAT 214 Business Statistics ▪▪▪ (3)
introduces methods employed for the collection, description, and analysis of data for business decision making purposes. Measures of central tendency and dispersion, probability, normal and t-distributions, estimation of parameters, and one-sample tests of hypothesis are included. Prerequisite: MATH 113 or two years of high school algebra. (Fall/Spring)

STAT 311 Statistical Methods ▪▪▪ (3)
studies simple and multiple analysis of covariance and introduces nonparametric statistical techniques and design of experiments. Prerequisite: STAT 200, or 214, or consent of instructor. (Fall/Spring)

STAT 312 Correlation and Regression ▪▪▪ (3)
includes graphical and numerical analysis for simple and multiple correlation and regression problems, both linear and curvilinear, time series and multi-variate analysis, and least squares. Prerequisites: STAT 200 or 214, or consent of instructor. (Fall/Spring)

STAT 313 Sampling Techniques ▪▪▪ (3)
surveys designs, simple random, stratified and systematic samples, systems of sampling, methods of estimation, and costs. Prerequisite: STAT 200, or 214, or consent of instructor. (Fall/Spring)

STAT 325 Statistical Application in Social Studies and Psychology ▪▪▪ (2)
investigates applied problems in social science, linear models, design of experiments, and sampling. For natural or social science students. Prerequisite: STAT 200. (Fall/Spring)

STAT 494 Seminar ▪▪▪ (1)
is conducted by faculty, students, and visiting professors. A total of fifteen hours is needed for one semhr credit. (Fall/Spring)

Theatre and Dance

School of Humanities and Fine Arts

THEA 114 Summer Theatre ••• (3)
introduces a 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. Four plays are presented in a six-week period.

§THEA 115 Problems in Modern Theatre ••• (2)
is a cultural enrichment course involving a tour to a theatrical center such as New York, London, and other cities for the observance of professional productions of dramas, musicals, dance concerts, operas, or other forms of stage entertainment. Papers and discussions are used for evaluation. (On Demand)

THEA 117, 118 Play Production ••• (1,1)
is a practical course in stagecraft concerned with the production of plays. The student works in all phases of production. Hours are arranged for the lab sessions. (Fall/Spring)

THEA 119, 120 Technical Performance ••• (1,1)
involves direct participation in the technical aspects of various productions. Grade will be dependent 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 121, 122 Beginning and Intermediate Ballet ••• (1,1)
is concerned with basic body control and technique. (Fall/Spring)

THEA 123, 124 Beginning and Intermediate Modern Dance ••• (1,1)
combines practical experience with movement techniques. Involves problem solving in shape, force, space, time, and relationship. (Fall/Spring)

THEA 125 Beginning Tap Dance ••• (1)
is a basic course in a popular rhythmic American dance form that combines movement and sound. (Spring)

THEA 127 Beginning Modern Jazz ••• (1)
presents the concept of jazz as a dance form. (Spring)

THEA 128, 129 Workshop in Theatre ••• (1,1)
consists of specialized workshops in various aspects of theatre made possible by visiting artists and/or lecturers. (On Demand)

§THEA 141 Theatre Appreciation ••• (3)
helps the student appreciate all phases of theatre art by examining basic presentation techniques of theatre, motion picture, television, and radio. (Spring)

THEA 142 Make-Up ••• (2)
studies 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)
presents the basic outline of costume design, construction, and history of costume. (Fall/Spring)

THEA 147, 148 Drama Performance ••• (1,1)
requires a student to appear in a major production on campus. The grade will be dependent upon the preparatory work on the play's character and upon the final performance. (Fall/Spring)

THEA 211 Creative Play Activities-Dance ••• (3)
is for students who will be working with children. Emphasizes creative movement exploration through the Laban theories of body, effort, space, and relationship. (Fall)

THEA 213 Creative Play Activities-Drama ••• (3)
discusses the use of 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 course profile.

THEA 217, 218 Play Production ▪▪▪ (1,1)
see THEA 117,118 course profile. (Fall/Spring)

THEA 219, 220 Technical Performance ▪▪▪ (1,1)
see THEA 119,120 course profile. (Fall/Spring)

THEA 221 Repertory Dance ▪▪▪ (1)
provides opportunities for participation in dance productions. Prerequisite: demonstration of movement proficiency, and consent of instructor. (Fall/Spring)

THEA 222 Improvisation and Composition Dance ▪▪▪ (1)
presents theory and practice in the basic principles of dance composition. (Spring)

THEA 228, 229 Workshop in Theatre ▪▪▪ (1,1)
see THEA 128,129 course profile. (On Demand)

§THEA 235 Development of World Cinema ▪▪▪ (2)
presents the development of the cinema as an art, propaganda, and an educational medium through a variety of foreign films. (Fall/On Demand)

§THEA 236 Development of American Cinema ▪▪▪ (2)
presents the development of American cinema as an art, educational, and propaganda medium through a variety of American films. (Spring/On Demand)

THEA 242 Properties ▪▪▪ (3)
develops skills in property research, acquisition, construction, and application. (Fall)

THEA 243 Theatre Practice: Scene Construction, Painting, and Design ▪▪▪ (3)
presents the 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)
is 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 course profile. (Fall/Spring)

THEA 251 Acting I: Beginning Acting ▪▪▪ (3)
studies the basic fundamentals of acting through the use of improvisation and study of scenes. Students perform in solo, duo and/or group scenes. Lab work includes participation in student-directed plays. Prerequisite: SPCH 112 or consent of instructor. (Fall)

THEA 252 Acting II: Stage Movement ▪▪▪ (3)
studies the basic techniques of gesture, mime and pantomime. Developing an awareness of the use of the body as a means of expression is emphasized. (Spring)

THEA 314 Summer Theatre ▪▪▪ (3)
see THEA 114 course profile.

THEA 315 Problems in Modern Theatre ▪▪▪ (2)
see THEA 115 course profile. (On Demand)

THEA 317, 318 Play Production ▪▪▪ (1,1)
see THEA 117,118 course profile. (Fall/Spring)

THEA 319, 320 Technical Performance ▪▪▪ (1,1)
see THEA 119,120 course profile. (Fall/Spring.)

THEA 321 Repertory Dance ▪▪▪ (1)
see THEA 221 course profile. (Fall/Spring)

THEA 324 Dance Productions ▪▪▪ (1)
develops skills in analysis and practice in the elements of publicity, lighting, costuming, and make-up for dance. Non-traditional forms in dance production are emphasized. (Fall/Spring)

THEA 328, 329 Workshop in Theatre ••• (1,1)
see THEA 128,129 course profile. (On Demand)

THEA 331 History of Theatre ••• (3)
studies the history of the theatre as an institution and its relationship to the other arts and to the social and economic environment. (Spring)

THEA 343 Scene Design ••• (3)
gives the student experiences in designing scenery for various types of productions. Emphasizes drafting, perspective, and rendering techniques. Prerequisite: THEA 243 or consent of instructor. (Spring)

THEA 344 Advanced Stage Lighting ••• (3)
consists of advanced training in the design and execution of lighting for the stage. Prerequisite: THEA 244 or consent of instructor. (Fall)

THEA 347, 348 Drama Performance ••• (1,1)
see THEA 147,148 course profile. (Fall/Spring)

THEA 351 Acting III: Stage Dialects ••• (3)
helps the actor in the use of dialects in performances. Prerequisite: SPCH 112 or knowledge of the International Phonetic Alphabet and consent of instructor. (Spring)

THEA 352 Acting IV: Styles in Acting ••• (3)
introduces the actor to the various styles of acting used for the Classical, Elizabethan, Romantic, 19th century Melodrama, and realistic periods. (Fall)

THEA 401 Theatre Management ••• (3)
discusses 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 413 Creative Play Activities-Drama ••• (3)
is an in-depth study of creative dramatics including advanced work in improvisation and the use of drama as a teaching tool. Designed for those concerned with drama as an art in children's basic education including recreation directors, elementary teachers, and those seeking recertification. Prerequisite: THEA 213 or consent of instructor. (Fall/Spring)

THEA 414 Summer Theatre ••• (3)
see THEA 114 course profile.

THEA 417, 418 Play Production ••• (1,1)
see THEA 117,118 course profile. (Fall/Spring)

THEA 419, 420 Technical Performance ••• (1,1)
see THEA 119,120 course profile. (Fall/Spring)

THEA 48, 429 Workshop in Theatre ••• (1,1)
see THEA 128,129 course profile. (On Demand)

THEA 445, 446 Senior Projects in Technical Theatre ••• (3,3)
consists of work experience in various aspects of theatre such as scene design and construction, lighting design, sound, and/or costume design. (On Demand)

THEA 447, 448 Drama Performance ••• (1,1)
see THEA 147,148 course profile. (Fall/Spring)

THEA 451 Beginning Directing ••• (3)
introduces 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)
requires a student to direct and produce a one-act play for public viewing. Prerequisite: THEA 451 or consent of instructor. (Spring)

THEA 455 Acting V: Advanced Acting ••• (3)
is for the serious acting student interested in polishing and refining the acting art through various techniques in the approach to a role. Prerequisite: THEA 251 or consent of instructor. (Spring)

THEA 456 Acting VI: Acting for the Camera ••• (3)
aids the actor in making the transition from stage acting techniques to camera acting techniques. Student will have the opportunity to work on camera with simplified sets and properties. Prerequisite: THEA 251 or consent of instructor. (Fall)

THEA 457 Acting VII: Auditions ••• (3)
covers the writing of a resume, how to look for an acting job, and the preparation of materials to be used in auditions. Students will be required to be prepared for auditioning on a regional level. Prerequisite: THEA 251, 455, and/or consent of instructor. (On Demand)

THEA 461 Experimental Directing ••• (3)
requires a student to produce and direct a play using experimental methods of staging. Prerequisite: THEA 451,452 or consent of instructor. (On Demand)

THEA 495 Independent Study ••• (3,3)
allows a student to choose an in-depth study of some phase of theatre under the guidance of a faculty member of the theatre department. (Fall/Spring)

Travel & Recreation Management

School of Business

TRAV 101 Travel Industry I ••• (3)
introduces tourism and its relationship to the business world. Provides 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 majors. (Fall)

TRAV 102 Travel Industry II ••• (3)
includes 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)
interprets marketing problems, strategies, and techniques of industries engaged in serving the traveler. Evaluates 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 majors. Recommend MARK 231 for baccalaureate students. Prerequisite: TRAV 101 or consent of instructor. (Spring)

TRAV 201 Management in the Travel Industry I ••• (3)
provides 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. (Fall)

TRAV 202 Management in the Travel Industry II ••• (3)
continues TRAV 201. Prerequisite: TRAV 201 or consent of instructor. (Spring)

TRAV 211 Travel Destinations ••• (3)
is 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 majors. (Spring)

TRAV 295 Independent Study ••• (1,2)
is an opportunity for a student with a previously developed interest in and knowledge of a specialized subject to conduct a comprehensive research program. Requires the use of in-depth academic research and reporting methodology. A comprehensive proposal outlining the study and its justification must be prepared and an application completed at least three weeks prior to the end of the semester preceding the semester in which they wish to take the Independent Study. Prerequisites: completion of nine semhrs of work in the field chosen for the study, a cumulative GPA of 2.5 or higher, and consent of instructor. (Fall/Spring/Summer)

TRAV 298 Related Work Experience ••• (1,2)
see ACCT 298 course profile. (Fall/Spring)

TRAV 299 Internship ••• (15)
combines classroom studies with salaried work in an experience which relates to the student's career goal. Only for, and required of, Travel, Recreation, and Hospitality majors. Credit not available through competency or challenge. Prerequisite: TRAV 102, GPA of 2.0 or higher, or consent of instructor. (On Demand)

Welding

School of Industry and Technology

WELD 110 Welding Laboratory I ••• (8)
studies the safe use of equipment in shop practice and covers shielded metal arc welding on mild steel in all positions. (Fall/Spring/Summer)

WELD 112 Welding Theory ••• (4)
consists of 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. (Fall)

WELD 115 Applied Mathematics ••• (2)
presents basic mathematics, fractions, decimals, percentages, and basic algebra as applied in industry. Prerequisite: MATH 015 or equivalent. (Fall)

WELD 117 Oxy-fuel Welding I ••• (2)
studies shop practice and skill development in the safe use of oxy-fuel cutting/welding 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. (Fall)

WELD 118 Oxy-fuel Welding II ••• (2)
continues WELD 117 with increased emphasis on shop practice in safe use of oxy-fuel cutting/welding equipment. Oxy-fuel welding and brazing, both ferrous and non-ferrous, on both pipe and plate in all practical thicknesses are covered. Prerequisites: WELD 117 or equivalent and consent of instructor. (Fall)

WELD 120 Welding Laboratory II ••• (8)
continues WELD 110 and refines the skill of welding mild steel in all positions. Prerequisite: WELD 110 or consent of instructor. (Fall/Spring/Summer)

WELD 121 Blueprint Reading I ••• (2)
introduces the basic principles of blueprint interpretation and visualization of objects as applied to industry as well as the use and interpretation of welding symbols. (Spring)

WELD 122 Blueprint Reading II ••• (2)
continues WELD 121 emphasizing working with shop drawings. Prerequisites: WELD 121, 131, or consent of instructor. (Fall)

WELD 131 Fabrication Layout I ••• (2)
presents basic layout techniques from shop drawings to fabrication of sheet metal, plate, structural shapes, and pipe. (Spring)

WELD 132 Fabrication Layout II ••• (2)
continues WELD 131. Prerequisite: WELD 121, ENGR 105, or consent of instructor. (Spring)

WELD 141 Shop Management and Structural Theory ••• (4)
studies shop operations, expenditures, floor-plan design, and equipment of the modern-day shop as well as various codes applied to industry. (Fall)

WELD 145 Metallurgy ••• (3)
studies smelting, refining, and alloying with discussion of heat treating methods and the effects of welding on metals. (Spring)

WELD 230 Welding Laboratory III ••• (8)
continues WELD 120 emphasizing low-hydrogen electrode welding techniques. Prerequisite: WELD 120 or consent of instructor. (Fall/Spring/Summer)

WELD 240 Welding Laboratory IV ▪▪▪ **(8)**
continues WELD 230 emphasizing Mig, Tig, and pipe welding. Prerequisite: WELD 230 or consent of instructor. (Fall/Spring/Summer)

WELD 261 Testing & Inspection ▪▪▪ **(3)**
is an advanced course covering testing and inspection of welds to determine soundness. Covers visual, destructive, and nondestructive testing as well as a study of codes and welder certification. (Spring)

WELD 295 Independent Study ▪▪▪ **(1,2)**
is a specialized study related to the student's field of training beyond the scope of the required curriculum. Students must enter into an agreement for specialized training prior to registration. Prerequisite: sophomore standing or equivalent. (Fall/Spring/Summer)

WELD 296 Topics ▪▪▪ **(1,2)**
allows students to gain additional knowledge or skill through workshops designed to cover specialized topics not considered in detail elsewhere. Topics and credit will vary. Prerequisite: consent of instructor. (On Demand)

WELD 299 Internship ▪▪▪ **(7,14)**
consists of on-the-job training by local companies in fabrication, construction, or maintenance 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 semhrs credit or 600 clock hours for 14 semhrs credit. Four hours per day for 15 weeks will equate to seven semhrs credit, eight hours per day for 15 weeks will equate to 14 semhrs credit. Work experience is scheduled each semester and may be taken as an elective after completion of the second semester of welding lab. Prerequisites: WELD 110, 112, 115, 120, 121, 131, 141, 145, 230 or consent of instructor. (Fall/Spring/Summer)

GOVERNING BOARD AND ADMINISTRATION

TRUSTEES OF THE CONSORTIUM OF STATE COLLEGES

NORMAN M. DEAN, CHAIR ..... Greeley
IRENE S. SWEETKIND, VICE CHAIR ..... Gunnison
MARY A. BUSS ..... Grand Junction
VICKIE I. FORD ..... Center
GLADYS FOSTER ..... Englewood
DAVID M. HERRERA ..... Fort Collins
JAMES B. OSBOURN ..... Denver
HAL G. TAMBLYN, Faculty Trustee ..... Denver
VICKY SIKES, Student Trustee ..... Grand Junction

CONSORTIUM OF STATE COLLEGES IN COLORADO

JOHN U. TOMLINSON, Interim President of the Consortium of State Colleges in Colorado ..... Denver
Adams State College ..... Alamosa
Mesa College ..... Grand Junction
Metropolitan State College ..... Denver
Western State College ..... Gunnison

MESA COLLEGE STAFF

General Services

JOHN U. TOMLINSON (1975), President; B.A., M.S., Fort Hays Kansas State University; Ph.D., University of Kansas.

CHRISTIAN J. BUYS (1983), Vice-President for Academic Affairs; B.A., Hope College; Ph.D., University of Colorado.

JO F. DORRIS (1977), Vice President for Administrative and Student Affairs; B.A., Oklahoma College for Women; M.S., Oklahoma State University; Ed.D., Arizona State University.

JOHN A. RICCILLO, C.P.A. (1978), Vice-President for Business and Finance; B.S., Fordham University.

CARL R. WAHLBERG, JR. (1972), Executive Assistant to the President; B.A., M.A., Ed.D., University of Denver.

JAMES BARKER, (1970) Acting Director of Computer Services; A.S., Mesa College.

WILLIAM C. CONKLIN (1972), Director of Physical Plant.

CHARLES E. GREEN (1980), Assistant Vice President for Business and Finance; B.S., University of Missouri; M.A., University of Northern Colorado.

CHARLES R. HENDRICKSON (1967), Director of Learning Resource Center; B.A., M.A., Ed.D., University of Northern Colorado.

JOHN W. (JAY) JEFFERSON (1967), Director of Athletics; B.A., M.A., Adams State College.
JOHN C. (JACK) KESTER (1966), Director of Purchasing; A.S., Mesa College.
R. PAUL MAFFEY (1980), Director of Publicity and Publications; B.A., Colorado State University.
ALLEN C. ORR (1984), Assistant Controller; B.M.E., General Motors Institute; M.B.A., University of Michigan.
JAMES P. RYBAK, P.E. (1972), Assistant 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.
PAUL SWEARENGIN (1984), Assistant Controller; B.S., University of Northern Colorado.
DOUGLAS G. TUCKER (1975), Director of Personnel and Payroll; B.A., Western State College.
GAIL L. YOUNGQUIST (1967), Coordinator Supplemental Services; B.A., University of Northern Colorado; M.A., Colorado State University.

Student Services

NANCY ADAMS (1984), Registrar; B.A., Eastern Oregon State College; M.Ed., Oregon State University.
ROBERT E. ANTHONY (1984), Coordinator of Intramural Sports and Recreational Services; B.S., M.S., Southern Illinois University.
CATHERINE M. ARMSTRONG (1981), Assistant Director College Center/ Coordinator of Student Activities; M.S., Counseling, Central Conn. State College.
RICHARD E. BACA (1972), Director/Student Life Center; B.S., University of Colorado; M.A., Ed.D., University of Northern Colorado.
TILMAN M. BISHOP (1962), Director of Student Services; B.A., M.A., University of Northern Colorado.
KATHY BOESCHENSTEIN (1983), Counselor; M.A., Hunter College.
FRANK KELLER (1973), Director of College Center; B.A., Adams State College; M.A., University of Northern Colorado.
SUSAN M. MOORE (1982), Bookstore Manager; B.A., Chestnut Hill College.
JOSEPH E. O'CONNOR (1982), Admissions Counselor; B.S., University of Nebraska-Omaha.
SHERRI L. PE'A (1983), Acting Director of Admissions; B.A., University of Hawaii.
LEE F. SEEBO (1979), Director of Housing; B.A., Averett College; M.S., Radford College.
LIONEL W. (BUD) SMOCK (1967), Director of Financial Aid and Student Employment/Women's Basketball Coach; B.A., M.A., Western State College.
HELEN M. SPEHAR, R.N. (1974), Director of Student Health Center; B.S., University of Colorado.
ROBERT P. STOKES (1970), Coordinator Career/Placement Services; B.A., Western State College; M.A., Colorado State University.

Library Staff

BARBARA A. BORST (1981), Circulation Librarian; M.L.S. Library Science, Indiana University; B.A., Sterling College.
M. ELIZABETH (BETTY) GOFF (1965), Assistant Professor of Library Science, Reference Librarian; B.A., University of Colorado; M.A., University of Denver.
KENTON W. MAIN (1981), Media Librarian; B.S., Ball State University; M.S., Indiana University.
KATHLEEN R. TOWER (1972), Assistant Professor of Library Science, Catalog Librarian; B.M.E., M.A., University of Denver.

MARTIN A. WENGER (1968), Periodical Librarian; B.A., University of Utah; M.L.S. University of Oklahoma.

+ Deans of Academic Schools

School of Business, ~~James C. Carstens~~ Dr. Dale Dickson (Acting)
School of Humanities and Fine Arts, R. Bruce Crowell
School of Industry and Technology, Arlynn D. Anderson (Dave)
School of Natural Sciences and Mathematics, William E. Putnam
School of Nursing and Allied Health, ~~Theresa Neofotist~~ ~~Acting~~ Mary Turley
School of Social and Behavioral Sciences, Donald A. MacKendrick

*** + Department Chairs**

Accounting and Business Computer Information Systems, ~~James C. Buckley~~ Dave Rogers
Agriculture and Home Economics, Maylon D. Peters
Art, Donald E. Meyers
Behavioral Science, Harry A. Tiemann
Biological Sciences, Edward C. Hurlbut
Business Administration, Dale L. Dickson
Chemistry and Physics, Gordon Gilbert
Computer Science, Mathematics, and Engineering, Edwin C. Hawkins
Geology, Jack E. Roadifer
Industry and Technology, William T. Branton (I.E.T.C.);
Paul Wells (Area Vocational School)
Languages and Literature, Robert L. Johnson
Music, Maebeth Guyton
Office Administration, Muriel L. Myers
Physical Education and Recreation, Wayne W. Nelson
Social Science, Dan Arosteguy
Speech and Theatre, William S. Robinson

+ See individual listings under Instructional Personnel.

* Educ. Cert. – Metropolitan State, Donna Peterson
Jeff Brigham

Early Childhood Ed., Virginia Beemer

INSTRUCTIONAL PERSONNEL

ARLYNN D. ANDERSON (1979), Professor of Applied Technology; Dean, School of Industry and Technology; B.S., M.Ed., Colorado State University; Ed.S., Michigan State University.

NICHOLAS J. ANDERSON (1976), Assistant Professor of Business Management; B.B.A., Eastern New Mexico University; M.B.A., University of Denver.

L. WILLIAM ANTOINE (1983), Professor of Reading Mesa/Metro Consortium; B.S., Southeast Missouri State College; M.S., University of Kansas; Ed.Sp., University of Florida; Ed.D., Northern Illinois University.

DANIEL J. ARÓSTEGUY (1976), Professor of Economics; Director of Selected Studies; Chair, Department of Social Studies; B.S., M.S., University of Nevada-Reno; Ph.D., Colorado State University.

MONTE ATKINSON (1985), Assistant Professor of Music; A.S., Snow College, Utah; B.F.A., Utah State University; M.M., A.B.D., University of Illinois.

CHARLES W. BAILEY (1965), Professor of Mathematics; B.A., M.A., University of Northern Colorado.

RICHARD BALLARD (1985), Assistant 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.

VIRGINIA L. BEEMER (1968), Associate Professor of Education; 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.

EDWARD A. BOEHLER, C.P.A. (1981), Associate 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.

HAROLD R. BOLLAN (1970), Professor of Applied Technology (Auto Body and Fender); B.S., Southern Utah State College; M.A., Brigham Young University.

WILLIAM T. BRANTON (1970), Assistant Professor of Applied Technology (Welding); Chair, Industry and Technology (I.E.T.C.); Certified Instructor, State Board for Community Colleges and Occupational Education.

CLIFFORD C. BRITTON (1964), Professor of Mathematics; B.A., Adams State College; M.A., San Diego State College.

C. JAMES BUCKLEY, C.P.A. (1972), Professor of Accounting; ~~Chair, Department of Accounting and Business Computer Information Systems~~; B.A., Western State College; M.S., Colorado State University.

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.

JAMES C. CARSTENS (1962), Professor of Business Administration; Dean, School of Business; B.A., M.A., Western State College; Ph.D., Colorado State University.

JOHN D. CHARLESWORTH (1970), Emeritus Associate Professor of Applied Technology (Auto Mechanics); B.Ed., M.Ed., Colorado State University.

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), Associate Professor of Biology; B.S., University of Denver; M.N.S., Arizona State University; D.A., University of Northern Colorado.

ROBERT M. CORTESE (1980), Instructor of Physical Education/Head Football Coach; B.A., University of Colorado; M.A., University of Northern Colorado.

DAVID M. COX (1981), Assistant Professor of Theatre; B.A., Mesa College; M.F.A., University of Utah.

R. BRUCE CROWELL (1979), Professor of English; Dean, School of Humanities and Fine Arts; B.A., College of William and Mary; M.A., University of Arizona; B.D., San Francisco Theological Seminary; Ph.D., University of Arizona.

JAMES C. DAVIS (1957), Emeritus Professor of Mathematics; B.A., M.A., University of Northern Colorado.

DIANE DEA, R.N. (1977), Associate Professor of Nursing; B.S.N., University of Maryland; M.S.N., University of Colorado.

DALE L. DICKSON (1969), ~~Associate~~ Professor of Business Management; B.S.B.A., University of Denver; M.Ed., Colorado State University; Ed.D., University of Northern Colorado.

MATTS G. DJOS (1976), Associate 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.

MARIE JOYCE EICHER, R.N. (1973), Professor of Nursing; B.S., Union College; M.S., University of Colorado.

CHARLES R. FETTERS (1976), Assistant Professor of Applied Technology (Electronics); B.S., New Mexico State University.

KAREN E. FORD (1984), Assistant Professor of Psychology; B.A., Mississippi College; M.A., Northeast Louisiana; Ph.D., University of Mississippi.

MARCIA FORREST (1980), Assistant Professor of Nursing; M.S.N., University of Miami.

DELL R. FOUTZ (1972), Professor of Geology; B.S., M.S., Brigham Young University; Ph.D., Washington State University.

JOSE ELI FRESQUEZ (1971), Professor of Applied Technology (Auto Mechanics); B.A., M.Ed., Colorado State University.

RICHARD R. FROHOCK (1963), Associate Professor of English; B.A., William Jewell College; M.A., University of Oregon.

HELEN GABRIEL (1977), Assistant Professor of Applied Technology (Dental Assisting); B.V.E., California State University-Sacramento.

JOSE L. GALLEGOS (1976), Associate Professor of English; B.A., Western State College; M.A., Ph.D., University of Colorado.

GORDON GILBERT (1980), Professor of Physics; Chair, Department of Chemistry and Physics; B.S., M.S., Ph.D., Massachusetts Institute of Technology.

EDWARD GOODWIN (1984), Associate Professor of Appplied Technology (Electronics); B.Ed., M.Ed., Colorado State University.

THOMAS D. GRAVES (1966), Professor of Education; Director of Career Counseling and Guidance Program; B.A., M.A., Adams State College; Ed.D., University of Northern Colorado.

RAYMOND GREB (1983), Assistant Professor Applied Technology (Heavy Equipment/Diesel); B.A., M.A., University of Northern Colorado.
MAEBETH GUYTON (1971), Assistant Professor of Music; Chair, Department of Music; B.F.A., University of New Mexico.
DONNA K. HAFNER (1967), Associate Professor of Mathematics; B.A., University of Northern Colorado; M.A.T., Colorado State University.
CHARLES HARDY (1979), Assistant Professor of Art; B.A., Colorado State University; M.F.A., University of Arizona.
ANDREA C. HARVEY, R.T. (1978), Assistant Professor/Director Radiologic Technology Program; B.A., St. Joseph's College.
EDWIN C. HAWKINS (1963), Professor of Mathematics; Chair, Department of Computer Science, Mathematics, and Engineering; B.A., M.A., University of Northern Colorado.
MYRA D. HEINRICH (1983), Assistant Professor of Psychology; B.S., M.A., Ph.D., University of North Dakota-Grand Forks.
JOHN G. HENSON (1963), Professor of Mathematics; B.S., Texas Tech University; M.A.T., Colorado State University.
FORREST S. HOLGATE (1979), Assistant Professor Applied Technology (Electric Lineman); B.A., Texas Tech University.
CHEO HUMPHRIES (1962), Assistant Professor of Physical Education; B.S., Indiana University.
EDWARD C. HURLBUT (1976), Professor of Biology; Chair, Department of Biological Sciences; B.A., Western State College; M.S., Purdue University; Ph.D., University of Missouri-Columbia.
E. BRUCE ISAACSON (1975), Assistant Professor of Business; Certified Instructor, State Board of Community Colleges and Occupational Education.
ELDON C. JOHNSON (1976), Associate Professor of Office Administration; B.A., M.A., University of Northern Colorado; Ed.D., New Mexico State University.
JAMES B. JOHNSON (1967), Professor of Geology; B.A., University of Colorado; M.S., University of Utah; Ph.D., University of Colorado.
ROBERT L. JOHNSON (1962), Professor of English; Chair, Department of Languages and Literature; B.A., M.A., Western State College; Ph.D., University of Northern Colorado.
JAMES O.B. KEENER (1981), Assistant Professor of Mass Communications; B.S., University of Southern Colorado; M.A., Bowling Green State University.
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.
WILLIAM KRALICHEK (1984), Lecturer in Physical Education/Head Wrestling Coach; B.A., University of Colorado; M.A., Western State College.
JAMES L. KRAMER, P.E. (1976), Associate Professor of Engineering Technology; B.S., University of Colorado.
PAUL LACHANCE (1978), Assistant Professor/Director of Criminal Justice Program; B.A.A., M.P.A., Florida Atlantic University.
MILTON F. LENC (1960), Professor of Chemistry; B.A., Ohio Wesleyan University; M.S., Clarkson College of Technology; Ed.D., University of Northern Colorado.
CALVIN J. LUKE (1966), Associate Professor of Mathematics; B.S., Brigham Young University; M.A.T., Colorado State University.
DANIEL W. MacKENDRICK (1964), Professor of English/Assistant Director of Athletics; B.A., M.A., Western State College.

DONALD A. MacKENDRICK (1956), Professor of History; Dean, School of Social and Behavioral Sciences; B.S., Colorado State University; M.A., University of Colorado.

CAPTAIN THOMAS L. MADIGAN (1983), Assistant Professor Military Science, B.A., University of South Dakota.

BARBARA WOLFE MAGENHEIM (1983), Assistant Professor of Nursing; M.S., Nursing, University of Colorado.

JOHN T. MARSHALL (1982), Associate Professor of Physics; B.S., University of New Mexico; M.S., Ph.D., Washington University.

LIEUTENANT COLONEL WILLIAM MARTIN (1985), Associate Professor of Military Science; B.B.A., Park College, Kansas City.

GARY L. McCALLISTER (1973), Associate Professor of Biology; B.S., M.S., Brigham Young University; D.A., University of Northern Colorado.

WAYNE MEEKER (1966), Professor of Sociology; B.A., M.A., Western State College; Ph.D., University of Colorado.

DONALD E. MEYERS (1962), Associate Professor of Art; Chair, Department of Art; B.F.A., University of Denver; M.A., University of Northern Colorado.

RICHARD MORAN (1984), Instructor of Agriculture; B.S., M.S., Southern Illinois University.

LOUIS G. MORTON (1966), Professor of Political Science; B.S., University of Missouri-Columbia; M.A., Ed.S., Western State College.

FREDERICK H. MULL (1985), Assistant Professor of Finance; B.A., M.B.A., Texas A&I University.

ELIZABETH MUSTEE, R.N. (1975), Associate Professor of Nursing; B.S., St. Mary's College; M.S., Boston University.

MURIEL L. MYERS (1970), Associate Professor of Office Administration; Chair, Department of Office Administration; B.A., Western State College; M.Ed., Colorado State University; Ph.D., University of Colorado.

WAYNE W. NELSON (1955), Professor of Physical Education/Men's Tennis Coach; Chair, Department of Physical Education and Recreation; B.S., M.S., Utah State University.

THERESA NEOFOTIST (1981), Professor of Nursing; Dean, School of Nursing and Allied Health; B.S.N., Marycrest College; M.A., University of Iowa; Ed.D., Drake University.

ISAAC J. NICHOLSON (1960), Emeritus Professor of Sociology; B.A., University of Colorado; M.A., Western State College.

PEYTON J. PAXSON (1985), Assistant Professor of Law and Business Administration; B.S., M.A., J.D., University of Texas.

JACK M. PERRIN (1966), Assistant Professor of Physical Education; B.A., M.A., Northeast Missouri State University.

KAREN M. PERRIN (1977), Instructor of Physical Education; B.S., Eastern New Mexico University; M.S., Kansas State University.

MAYLON D. PETERS (1977), Assistant Professor of Agriculture; Chair, Department of Agriculture and Home Economics; B.S., University of Nebraska; M.S., Iowa State University.

W. DAVID PILKENTON (1963), Associate Professor of Foreign Languages; B.A., Marshall University; M.A., University of Michigan.

WILLIAM E. PUTNAM (1961), Professor of Chemistry; Dean, School of Natural Sciences and Mathematics; B.S., Birmingham Southern College; M.S., Emory University; Ph.D., Rice University.

PAUL L. REDDIN (1970), Professor of History; B.A., Adams State College; M.A., Ph.D., University of Missouri-Columbia.

DAVID M. REES (1983), Associate Professor of Economics; B.S., Utah State University; M.S., Ph.D., University of Oregon.

JACK E. ROADIFER (1966), Professor of Geology; Chair, Department of Geology; B.S., M.S., South Dakota School of Mines and Technology; Ph.D., University of Arizona.

MARGARET S. ROBB (1976), Assistant Professor of Speech and Drama; B.A., M.A., University of Michigan.

MAI N. ROBINSON (1961), Assistant Professor of English; B.S., Minot State College.

WILLIAM S. ROBINSON (1960), Professor of Drama; Chair, Department of Speech and Theatre; B.A., Morris Harvey College; M.A., New York University.

DAVID E. ROGERS, C.P.A. (1975), Professor of Accounting; B.A., University of New Mexico; M.B.A., Golden Gate University.

JAMES P. RYBAK, P.E. (1972), Professor of Engineering/Assistant Vice President for Academic Affairs; B.S.E.E., Case Western Reserve University; M.S., University of New Mexico; Ph.D., Colorado State University.

MARY S. RYDER (1981), Assistant Professor of Education; Coordinator for Mesa/Metro Teacher Education Consortium; B.A., Mills College; M.A., Ed.D., University of Denver.

ANN J. SANDERS (1971), Assistant Professor of Physical Education; B.A., Eastern Washington State College; M.A., University of Colorado.

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.

CONNER W. SHEPHERD (1978), Assistant Professor of Recreation; B.A., Eastern Washington State University; M.A., Washington State University; Ph.D., University of Utah.

ROBERT P. SOWADA (1966), Assistant Professor of Foreign Languages; B.A., M.A., University of Wyoming.

MARLYN K. SPELMAN (1976), Associate Professor of English; B.A., Ph.D., University of Colorado.

GENE H. STARBUCK (1974), Assistant Professor of Sociology; B.A., M.A., Ph.D., University of Colorado.

THEODORE E. SWANSON (1974), Assistant Professor of Recreation; B.S., M.A., University of Northern Colorado.

CLARICE S. TAYLOR (1977), Assistant Professor of Home Economics; B.S., Iowa State University; M.S., Colorado State University.

BARRY C. THARAUD (1976), Associate Professor of English; B.A., M.A., Ph.D., University of California-Santa Barbara.

HARRY A. TIEMANN, JR. (1962), Professor of Psychology; Chair, Department of Behavioral Sciences; B.A., M.A., University of Colorado; Ph.D., Colorado State University.

C. E. TOOKER (1966), Associate Professor of Physical Education; B.A., University of Northern Colorado; M.A., Adams State College.

PAUL G. WELLS (1978), Assistant Professor of Applied Technology (Auto Body and Fender); Chair, Industry and Technology (Area Vocational School); B.A., University of Redlands.

JERRY D. WETHINGTON (1979), Associate Professor of Computer Science; B.S., University of New Mexico; M.S., Stanford University.

KENNETH L. WHITE (1967), Assistant Professor of Chemistry; B.A., M.A., Western State College.

BYRON E. WIEHE (1974), Assistant Professor of Physical Education/Head Baseball Coach; B.A., M.A., Adams State College.

CLIFTON M. WIGNALL (1976), Professor of Anthropology and Archaeology/Curator of Archaeological Collections; B.A., M.A., University of California-Berkeley; Diploma in Anthropology, Oxford University, England; Ph.D., Albert Schweitzer College, Switzerland.

EILEEN M. WILLIAMS, R.N. (1968), Professor of Nursing; B.S., University of Denver; M.S., University of Colorado.

KERRY L. YOUNGBLOOD (1978), Assistant Professor of Applied Technology (Welding); B.S., Oklahoma State University.

ROBERT D. YOUNGQUIST (1966), Associate Professor of Business Management; B.S.B.A., University of Denver; M.Ed., Colorado State University.

JOHN S. ZEIGEL (1975), Professor of English; B.A., Pomona College; M.A., Ph.D., Claremont Graduate School.

VISITING PROFESSORS

CARL ABBOT (1984), Wayne N. Aspinall Professor of History; B.A., Swathmore College; M.A., Ph.D., University of Chicago.
KENNETH E. BOULDING (1983), Wayne N. Aspinall Professor of Economics; B.A., M.A., Oxford (England).
VIVIAN BROWN (1982), Walter Walker Professor in Theatre.
RICHARD BULL (1983), Walter Walker Professor in Theatre.
JIM (BLOSZIES) HARDIE (1984), Walter Walker Professor in Theatre.
DENIS HINE (1985), Cosmicos Professor of Religious Studies.
FRANK LOVERDE (1982), Walter Walker Professor in Theatre.
ROBERT A. MERTIMER (1985), Wayne N. Aspinall Professor of Political Science; B.A., Wesleyan University; M.A., Ph.D., Columbia University.
HARVEY POTTHOFF (1984), Cosmicos Professor of Religious Studies; Th.M., Th.D., Iliff School of Theology.
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 Wrangler Award winner.
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.

EMERITI

1955
Mattie F. Dorsey, B.A., M.A., Ph.D., Registrar
1960
Mary Rait, B.A., M.A., Vice-President
1963
Laura Smith, B.A., M.A., Foreign Language
1968
Mary M. Coleman, B.S., M.P.S., Mathematics
1970
William A. Medesy, B.S., M.F., M.A., Ed.D., President
1971
Virginia Fulghum, B.A., M.A., English
1972
Kenneth E. LeMoine, B.A., M.Ed., Dean of Special Services
Melvin A. McNew, B.A., M.A., Chairman, Division of Physical Sciences
Louise G. Moser (R.N.), B.A., M.N., Chairman, Division of Health Programs
1973
Maxine Gabelman, B.A., M.A., English
Eugene L. Hansen, B.A., M.A., Director of College Center
Ethel Mae Moor, B.A., M.A., Head, Department of English
George Murray, B.S., M.A., Mathematics, Engineering
Alvie Redden, B.S., M.F.A., Chairman, Division of Fine Arts
1974
Theodore E. Albers, B.A., M.A., Ed.D., President
J. Leon Dailey, B.A., M.A., Social Science
Pearl M. (Bee) Randolph (R.N.), Director of Student Health Services
Elaine E. Ripley, B.A., M.A., Biology
Bertha L. Shaw, B.A., M.A., Humanities
1975
Edward O. Strnad, B.A., Purchasing Officer
1976
Helen M. Hansen, B.A., M.A., Professor of Office Administration
1977
Maurine M. Leighton, B.S., M.H.E., Professor of Home Economics
Jay W. Tolman, B.S., M.S., Professor of Geology, Vice President for Student Affairs

1978
Carl R. Cook, Director of Data Processing Services
Donald H. Yonker, B.S., M.A., D.D.S., Professor of Biology
Joan W. Young, B.A., M.A., Associate Professor of Biology
1979
Alfred J. Goffredi, B.A., M.A., Professor of Business; Dean, School of Industry and Technology
Madge E. Hufter, B.A., M.A., Associate Professor of Speech
Lloyd B. Jones, B.A., M.A., Professor of Psychology
Pauline O. Messenger, B.A., M.S., Professor of Library Science; Reference Librarian
Dan M. Showalter, B.A., M.A., Professor of English; Dean, School of Humanities and Fine Arts
1980
Walter F. Bergman, B.S., M.Ed., Associate Professor of Physical Education
Walter J. Birkedahl, B.Mus.Ed., M.Mus.Ed., Associate Professor of Music
Wallace Dobbins, B.Ed., M.A., Director of Information Services
Woodrow W. Ramsey, B.S.C.E., P.E., L.A., R.L.S., Associate Professor of Engineering
1981
Darrell C. Blackburn, B.Mus.Ed., M.Mus.Ed., Professor of Music; Head, Department of Music
Richard A. Dimpfl, B.A., M.B.A., J.D., Associate Professor of Business Management
Doris R. Lay, B.A., M.A., Professor of English
Keith W. Miller, B.A., M.A., Director of Continuing Education
Marcella M. Sullivan, B.S., M.Ed., Associate Professor of Home Economics
Carroll C. Timpte, A.S., Instructor in Applied Technology (Electronics)
H. Herbert Weldon, B.A., M.A., Professor of Mathematics, Vice President for Academic Affairs
1982
Patricia A. Fink, B.A., M.A., Professor of Psychology
James T. Harper, B.A., M.A.J.D., Professor of Economics
Christopher M. Holloway, B.A., M.A., Associate Professor of History
Morton Perry, B.S., M.A., M.Phil., Associate Professor of Political Science
1983
John D. Charlesworth, B.Ed., M.Ed., Associate Professor of Applied Technology (Auto Mechanics)
Thomas Mourey, B.A., Assistant Professor of Computer Science
I. J. Nicholson, B.A., M.A., Professor of Sociology
Wilma E. Schumann, R.N., B.Ed., Assistant Professor of Nursing
1984
Lorraine N. Boschi, B.A., M.A., Associate Professor of English
James C. Davis, B.A., M.A., Professor of Mathematics
C. A. (Jack) Scott, B.A., M.A., Director of Admissions/Women's Basketball Coach
Robert R. Rice, B.S., M.S., Ph.D., Professor of Agriculture and Biology

COMPLETE DISCIPLINE INDEX

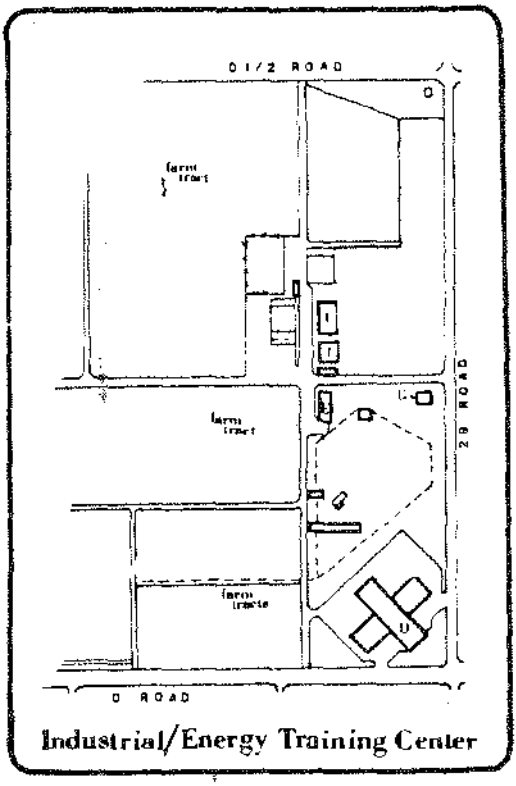
Subjects (disciplines) offered by Mesa College are listed below alphabetically followed by the current course prefix, the page number of the individual course profile, and the school holding academic responsibility for the subject. The old course prefix (in effect through May 1986) is given for reference.

Office Assisting, Medical	OFAD	BUHL	175	B
Philosophy	PHIL	PHIL	176	H&FA
Physical Education				
Academic	PHYA	PER	177	S&BS
Activity	PHYE	PER	177	S&BS
Physics	PHYS	PHYS	180	NS&M
Political Science	POLS	POLS	183	S&BS
Psychology	PSYC	PSY	184	S&BS
Radiologic Technology	RADT	RADT	185	N
Recreation and Leisure	RECR	PER	186	S&BS
Social Science	SOCI	SOCS	188	S&BS
Sociology	SOCO	SOC	188	S&BS
Speech	SPCH	SPCH	189	H&FA
Statistics	STAT	STAT	190	NS&M
Theatre and Dance	THEA	THEA	191	H&FA
Travel, Recreation				
and Hospitality Management	TRAV	BUTR	194	H&FA
Welding	WELD	WELD	195	I&T

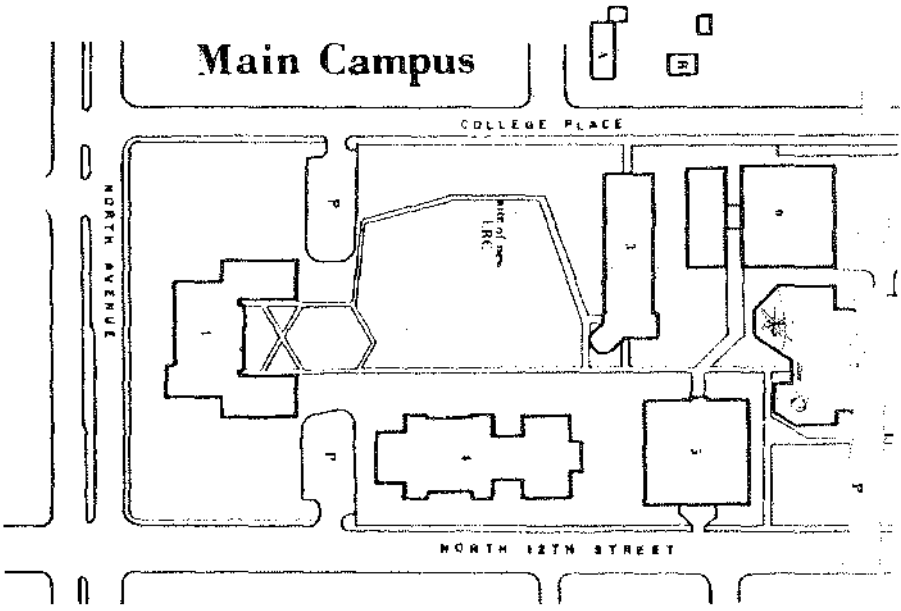
B - Business
H&FA - Humanities and Fine Arts
I&T - Industry and Technology
NS&M - Natural Sciences and Mathematics
N Nursing
S&BS - Social and Behavioral Sciences

ALPHABETICAL SUBJECT INDEX

*Also see Schools and Departments


D 1/2 ROAD
29 ROAD
D ROAD
Industrial/Energy Training Center

HOUSTON


Main Campus
COLLEGE PLACE
NORTH AVENUE
NORTH 12TH STREET

Mesa college
GRAND JUNCTION, COLORADO 81502

MAP LEGEND

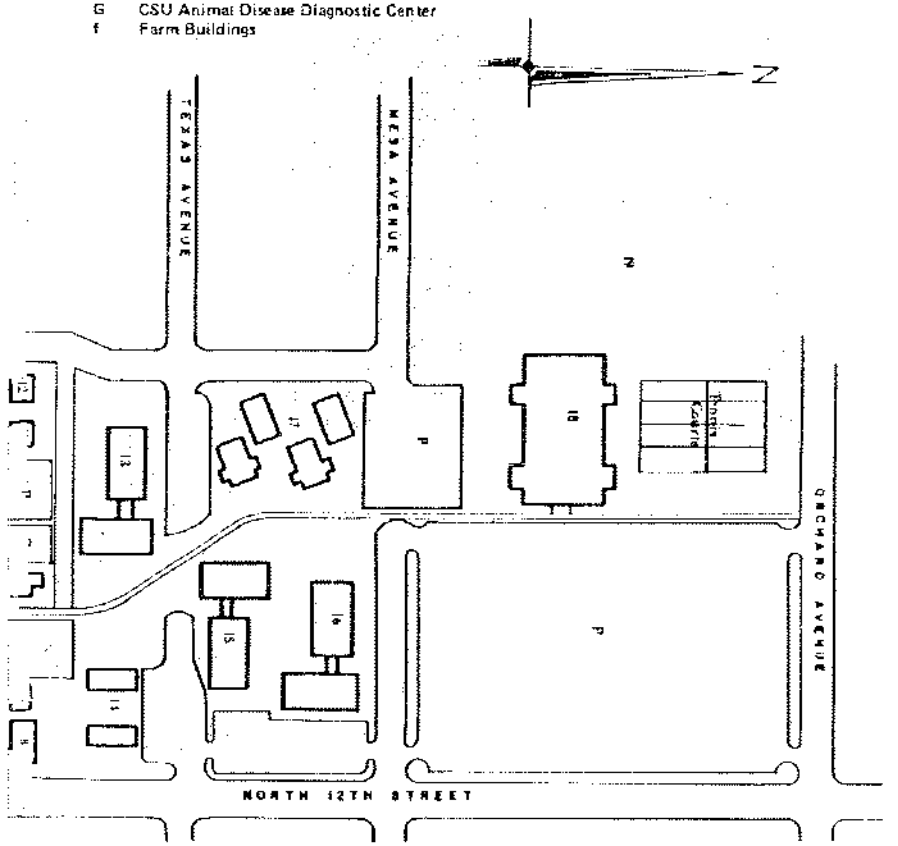
MAIN CAMPUS:

1. Houston Hall *(Business, Social Sciences)*
2. Site of Learning Resource Center *(Under construction)*
3. Wubben Hall *(Sciences)*
4. Walter Walker Fine Arts *(Art, Speech, Theater, Music)*
5. Heiny Library *(Administrative Offices)*
6. Medesy Vocational-Technical Center
7. W. W. Campbell College Center *(Liff Auditorium)*
8. Elm Hall *(Social Sciences Faculty Offices)*
9. Student Health Center
10. Student Life Center *(Counseling, Career Choices)*
11. Audio-Tutorial Lab *(Health Programs)*
12. Early Childhood Education Center
13. Mary Hait *(Residence Hall)*
14. Purchasing and Service Center
15. Tolman Hall *(Residence Hall)*
16. Pinon Hall *(Residence Hall)*
17. Walnut Ridge Apartments
18. Saunders Fieldhouse *(Physical Education)*
19. Athletic Practice Field

A,B Faculty Offices *(Humanities and Fine Arts)*
C Faculty Offices *(Nursing)*

INDUSTRIAL/ENERGY TRAINING CENTER:

D Heavy Equipment/Welding Facility
E Electric Lineman Training Center
G CSU Animal Disease Diagnostic Center
f Farm Buildings



1986-87 ACADEMIC CALENDAR

SUMMER SEMESTER 1986

May 19 ..... Registration for 12-week and 1st 6-week session
May 20 ..... Classes begin
May 26 (Mon.) ..... Memorial Day holiday
June 27-28 ..... Midterm exams for 12-week session;
June 30 ..... Final exams for 6-week session
Registration for last 6-week session;
June 30 ..... Classes begin
July 4 (Fri.) ..... Independence Day holiday
Aug. 4 (Mon.) ..... Colorado Day holiday
Aug. 7-8 ..... Final exams for 12-week session and 2nd 6-week session
Aug. 8 ..... Summer Session ends

FALL SEMESTER 1986

Aug. 29 ..... Orientation
Sept. 1 ..... Labor Day holiday
Sept. 2 ..... Registration
Sept. 3 ..... Classes begin
Oct. 27, 28, 29 ..... Mid-semester exams
Nov. 26, 27, 28 ..... Thanksgiving holiday
Dec. 16 ..... Classes end
Dec. 17, 18, 19, 20 ..... Final exams
Dec. 20 ..... Fall Semester ends

SPRING SEMESTER 1987

Jan. 12 ..... Registration
Jan. 13 ..... Classes begin
Mar. 2, 3, 4 ..... Mid-semester exams
Mar. 7-15 ..... Spring holiday
May 4 ..... Classes end
May 5, 6, 7, 8 ..... Final exams
May 8 ..... Spring Semester ends
May 9 ..... Commencement

1987-88 ACADEMIC CALENDAR

SUMMER SEMESTER 1987

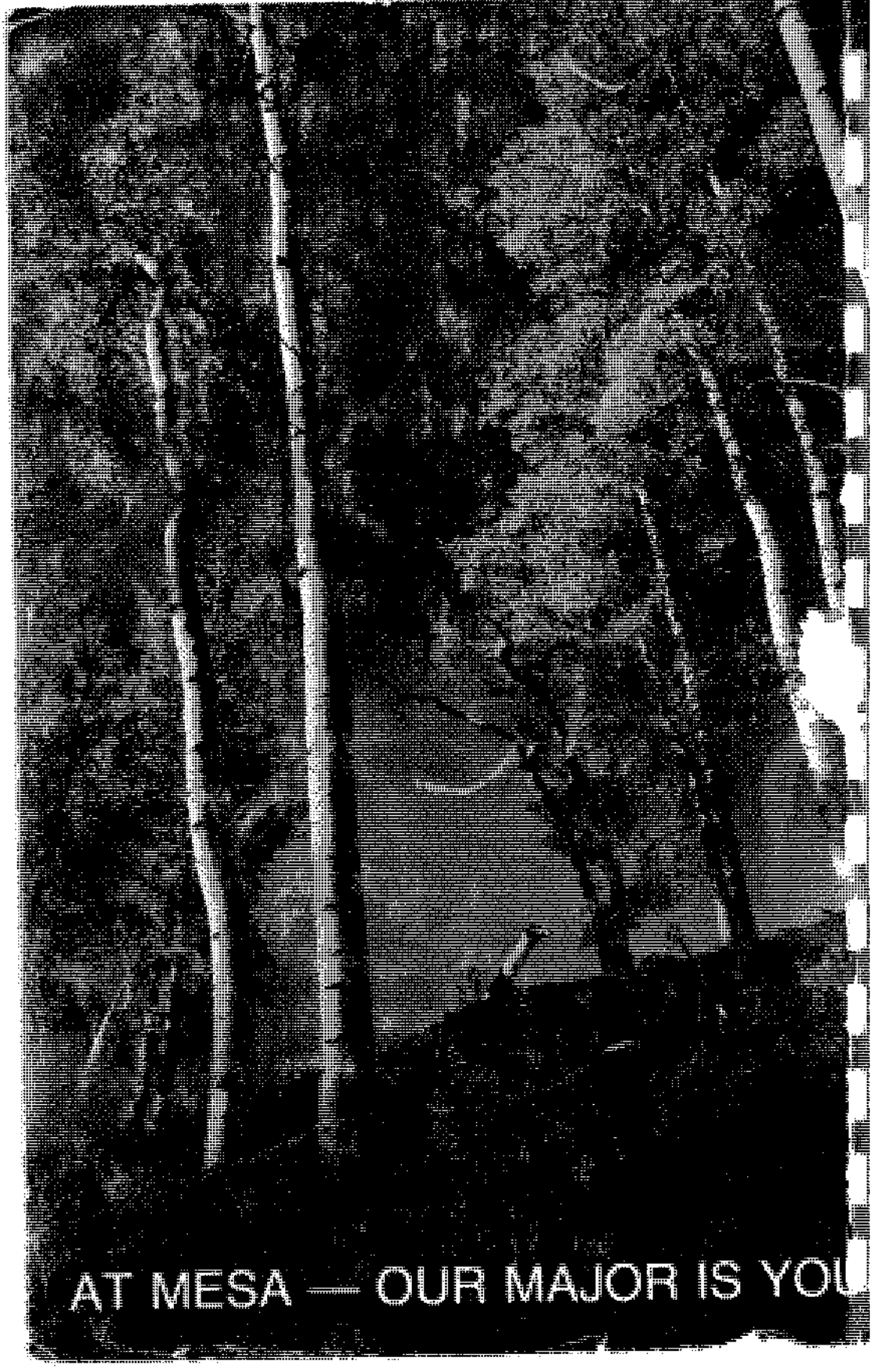
May 18 ..... Registration for 12-week and 1st 6-week session
May 19 ..... Classes begin
May 25 (Mon.) ..... Memorial Day Holiday
June 26-27 ..... Midterm exams for 12-week session; Final exams for 6-week session
June 29 ..... Registration for last 6-week session;
June 29 ..... Classes begin
July 3 (Fri.) ..... Independence Day holiday
Aug. 3 (Mon.) ..... Colorado Day holiday
Aug. 6-7 ..... Final exams for 12-week session and 2nd 6-week session
Aug. 7 ..... Summer Session ends

FALL SEMESTER 1987

Sept. 1 ..... Orientation
Sept. 2 ..... Registration
Sept. 3 ..... Classes begin
Sept. 7 ..... Labor Day holiday
Oct. 26, 27, 28 ..... Mid-semester exams
Nov. 25, 26, 27 ..... Thanksgiving holiday
Dec. 16 ..... Classes end
Dec. 17, 18, 21, 22 ..... Final exams
Dec. 22 ..... Fall Semester ends

SPRING SEMESTER 1988

Jan. 11 ..... Registration
Jan. 12 ..... Classes begin
Feb. 29, Mar. 1, 2 ..... Mid-semester exams
Mar. 5-13 ..... Spring holiday
May 2 ..... Classes end
May 3, 4, 5, 6 ..... Final exams
May 6 ..... Spring Semester ends
May 7 ..... Commencement


AT MESA — OUR MAJOR IS YOU