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HOW TO APPLY FOR ADMISSION

Students Attending College for the First Time

1. Secure an Application for Admission form from your high school principal or from the Admissions Office at Mesa College.

2. Complete Part I of the Application for Admission; have your high school office complete Part II and forward the form 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 our hands by August 15 for Fall Quarter and two weeks in advance of registration for Winter and Spring Quarters. (See bottom of page 21.)

3. Upon receipt of your application and the $10 application fee (see page 21) the College will inform you of your admission status. (Admission status will be tentative until the record of the final semester of the senior year has been received.)

4. A Physique and Residence Affidavit must be on file in the Admissions Office before final acceptance is granted. These forms are sent to the student from the college after the application has been received.

5. A.C.T. scores must be in the Admissions and Records Office before final acceptance is granted. See your high school counselor for dates.

6. Students who must live away from home must make arrangements for and secure approval of their housing from the office of the Dean of Students.

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, Part I (A $10 application fee must accompany the application form). See page 17.
   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. Test scores. (Transfer students 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.
   e. Physical examination and residence affidavit.

REGISTRATION AND COUNSELING TESTS

The college admission tests of the American College Testing (A.C.T.) Program are required of all new students prior to registration at Mesa College. It is recommended that prospective students take these tests during their senior year. The tests are available at designated centers throughout the state and region on five different dates.

A $8.00 fee must be submitted with a registration form to the Registration Department, American College Testing Program, P.O. Box 414, Iowa City, Iowa 52240, four weeks prior to the test date on which the student elects to take the test. A special residual test administration date will be arranged as a part of Fall and Winter Quarter registration periods for those who, for good reason, have not been able to take the test during one of the regularly scheduled national test dates. (A $10 test fee is charged on the residual testing date.) Detailed information regarding testing centers, dates, and registration supplies will be available through high school principals and counselors or from the Director of Admissions at Mesa College. College Board Scholastics Aptitude Test Scores (S.A.T.) are not required by Mesa College and will not excuse the student from the A.C.T. requirement. (See pages 23, 24 for further information.)

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<td>Chair, Division of Physical Sciences</td>
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<td>WAYNE MEEKER</td>
<td>B.A., M.A., Western State College</td>
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<tr>
<td>DONALD A. MEYERS</td>
<td>T.F.A. University of Denver; M.A., Colorado State College</td>
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<tr>
<td>ETHEL, M.A. MOOR</td>
<td>Head, Department of English</td>
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<tr>
<td>E.C., Nebraska Wesleyan University; M.A., University of Nebraska</td>
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<td>MELLA MORENO, M.J.</td>
<td>Health Programs</td>
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<tr>
<td>LOUIE G. MORGAN</td>
<td>B.S., Missouri University; Western State College</td>
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<td>LOUISE G. MORGAN, B.N.</td>
<td>Chair, Division of Health Programs</td>
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<td>LLOYD MOUNTAIN</td>
<td>Language</td>
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<td>GEORGE C. MURRAY</td>
<td>B.S., New Mexico School of Mines; M.A., Western State College</td>
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<td>WAYNE NELSON</td>
<td>Chair, Division of Physical Education</td>
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<td>I. J. NICHOLSON</td>
<td>B.S., Utah State University</td>
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<td>IRVIN H. NUTTING</td>
<td>B.A., University of Colorado; M.A., Western State College</td>
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<tr>
<td>ROBERT A. PECK</td>
<td>Dr. at Colorado College; University of Texas</td>
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<tr>
<td>JACK M. PERRY</td>
<td>B.A., M.A., National Missouri State Teachers College</td>
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<tr>
<td>DEAN N. PHELPS</td>
<td>B.S., Architectural Engineering, University of Colorado; B.S., Business.</td>
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<td>WILLIAM DAVID PINKERTON</td>
<td>M.A., University of Michigan</td>
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<tr>
<td>WILLIAM E. PUTNAM</td>
<td>B.S., Eastern State University</td>
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<tr>
<td>WOODROW W. RAYSEY</td>
<td>B.S., Indiana Institute of Technology</td>
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<tr>
<td>ALVIN H. REDDEN</td>
<td>Chair, Division of Fine Arts</td>
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<tr>
<td>ROBERT R. RICE</td>
<td>Chairman, Division of Biological Sciences and Home Economics</td>
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<tr>
<td>GLENNY RICH</td>
<td>B.S., Colorado State University; M.S., University of California</td>
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<td>CLAIREN K. RILEY</td>
<td>B.A., Western Michigan University</td>
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<tr>
<td>JACK E. ROBBINS</td>
<td>B.S., South Dakota School of Mines; Ph.D., University of Arizona</td>
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<tr>
<td>DAN ROBERTS</td>
<td>M.A., Colorado State College; M.A., Western State College</td>
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<td>MAI ROBINSON</td>
<td>B.S., Missouri State Teachers College</td>
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<td>WILLIAM J. ROBINSON</td>
<td>B.A., Morris Harvey College; M.A., New York University</td>
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<td>MARY JO ROSS</td>
<td>B.B.A., M.B.A., University of Colorado</td>
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<tr>
<td>EARL ROYAL</td>
<td>B.S., School of Agriculture; M.Eng., Sam Houston State University</td>
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<tr>
<td>DENNIS A. SANDERS</td>
<td>B.A. (History); B.A. (Art), Eastern Washington College; M.F.A., University of Oregon</td>
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<tr>
<td>PAUL G. SCHNEIDER</td>
<td>B.A., M.A., Colorado State College</td>
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<tr>
<td>WILLIAM K. SCHUMANN, B.N.</td>
<td>Director, Practical Nursing</td>
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<td>freeholder residuary and Hospital, E.Ed., Colorado State University</td>
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<tr>
<td>VERNON D. SCOTT</td>
<td>B.S., Brigham Young University; M.A.T., Indiana University</td>
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<td>DEPT. A. SHEAR</td>
<td>B.A., State University of Iowa; M.A., Western State College</td>
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College Calendar 1971-72

SUMMER SESSION, 1971

June 14, 1971 Registration for First Four-Week Term and Eight-Week Term
June 15 Registration for First Four-Week Term Begins
July 9 First Four-Week Term Ends
July 12 Registration for Second Four-Week Term Begins
July 13 Second Term Classes Begin
August 6 Summer Session Ends

FALL QUARTER, 1971

August 15 New Student Credentials Due
September 13, 14, 15 Faculty Workshop
September 15, 8:00 a.m. Residual ACT Testing
September 16, 17, 18 Orientation and Registration Counseling for New and Transfer Students
September 20, 8:00 a.m. - 12:30 noon Sophomore Advising
September 20, 21 Registration
September 22, 8:00 a.m. Classes Begin
September 29 Last Day to Change Schedule
October 25, 26, 27 Midterm Examinations
November 24, 12:00 noon Thanksgiving Vacation Begins
November 29 Classes Resume
December 5 Final Examinations Begin
December 10 Fall Quarter Ends

WINTER QUARTER, 1972

January 3, 8:00 a.m. - 6:00 p.m. Residual ACT Testing
January 4 Registration
January 12 Last Day to Change Schedule
January 31, February 1, 2 Midterm Examinations
March 14 Final Examinations Begin
March 17 Winter Quarter Ends

SPRING QUARTER, 1972

March 25, 8:00 a.m. Residual ACT Testing
March 27, 8:00 a.m. - 5:00 p.m. Registration
March 28 Classes Begin
April 5 Last Day to Change Schedule
April 24, 25, 26 Midterm Examinations
May 29 Memorial Day
June 5 Final Examinations Begin
June 8 Commencement
Foreword...

There is today throughout the land an increasing awareness of the importance of the community college. Under the pressure of rapidly increasing enrollment demands on all types of colleges and universities, the nation's educators are looking to the expansion of the two-year community college as a means of assuring educational opportunities for all college-age youth and also for adults. These opportunities include comprehensive college programs embracing traditional liberal arts, general education, and a rapidly growing number of vocational-technical curriculums designed to provide job training in pace with today's world of work.

Mesa College is a democratic community institution founded upon the principle that the community should provide education for all its members. It is organized to serve all who are eligible to attend and who can profit from its offerings, regardless of age or experience. It provides a cultural center for the community and recognizes its moral and social responsibility toward the students and adult population while it makes provisions for meeting educational and vocational demands made upon it.

FACILITIES, FACULTY, CLIENTELE

From a modest beginning in 1925 in a remodeled former elementary school building, Mesa College's physical facilities have been developed steadily to accommodate a rapidly increasing enrollment. The growth in both enrollment and physical plant has been especially pronounced during the past ten years. The first permanent structure on the present campus, a large classroom building occupied in 1940, continues to serve an important function as an education facility. Through the years, many other buildings have been added to the campus. The most recent additions are the beautiful new Walter Walker Fine Arts Center and the Mesa College Area Vocational School. Other campus structures include Mary Rait Hall, Horace Whetten Hall, the College Center, four Residence Halls, the Child Care Center, and the new Physical Education Center. (See General Information section for additional details.)

The well-qualified faculty, broad curriculum, and excellent plant facilities make Mesa College an intellectual, artistic, musical, and educational center for the western third of Colorado. It is the ambition of the college to participate in and to stimulate all types of advanced and continuation education and to assist in furthering cultural standards in this region.

Thousands of students have entered the college since its inception in 1925. Many have gone on successfully to complete their advanced degrees in colleges and universities of the United States. Many have taken their formal education with graduation from Mesa College and have taken their places in the commercial, industrial, family, and community life—all much better equipped for having shared college opportunities.

Mesa College is open to high school graduates and all others of sufficient maturity, experience and seriousness of purpose to enable them to benefit from its offerings.

LIBRARIANS

| MARVIN A. WYNEK | Head Librarian |
| MARY ANN BERINGER | Assistant Librarian |
| ELIZABETH GOFF | Assistant Librarian |
| PAULINE MESSINGER | Assistant Librarian |

RESIDENCE HALL DIRECTORS

| MARJORIE CARNINE | Juniper Hall |
| NORMA DAVIS | Elm Hall |
| STEVE EDDMONDS | Pines Hall |
| FRANK MARR | Juniper Hall |
| HAROLD RAYL A | Aspen Hall |

INSTRUCTIONAL PERSONNEL

| ROBERT ACKERMAN | Graphic Arts |
| HERMAN C. ALLMANS | Science, Mathematics |
| CHARLES W. BAILEY | Mathematics |
| VIRGINIA OAKMAN | Child Care, Parent Education and Preschool |
| JAMES C. RAYMOND | Auto Mechanics and Technology |
| WALTER C. ROBERTSON | Business Administration, Central Administration |
| RICHARD J. REBERY | Physical Education |
| FRANCIS SHERMAN | English |
| LESTER H. SHIERDALL | Music |
| DARRELL W. SMITH | Music |
| ORVILLE L. BOE | Chemistry |
| HAROLD ROLLAND | Auto Body and Fender |
| JOANNA BOSCH | English, Philosophy |
| WILLIAM BRANTON | Welding |
| CLIFFORD C. BRYANT | Mathematics |
| ANTHONY BRUNELLI | Physical Education |
| TENNIE ANN CAMP | Business |
| PERRY R. CARMICHAEL | Speech and Drama |
| JAMES CARSTEN | Business |
| JOHN V. CASEY | Business, Travel and Recreation Management |
| JOHN D. CHARLESWORTH | Auto Mechanics |
| J. LEON DAILY | Social Science |
PERSONNEL

MESA JUNIOR COLLEGE DISTRICT COMMITTEE

HERBERT L. BACON, President (1972) ................................. Grand Junction
MRS. HELEN DUFFORD, Secretary (1972) ............................... Grand Junction
ROE F. BAUMANN, Treasurer (1972) ................................. Fruita
WARREN L. TURNER, Vice-President (1957) .............................. Grand Junction
R. K. GIBSON (1972) ....................................................... College
FRANK W. ROSENKRANZ, College Attorney ................................ Grand Junction

(Dates indicate expiration of six-year term)

OFFICERS OF ADMINISTRATION—MESA COLLEGE

THEODORE E. ALDER, President
B.A., M.A., University of Denver; Ed.D., University of Colorado

LLOWELL HENNY, Vice-President
B.A., M.A., University of Colorado; M.A., Colorado State College; Ed.D., University of Colorado

HERBERT WOLKIN  .......................................................... Dean of Instruction
B.A., M.A., Western State College

KENNETH LOMNITZ  .......................................................... Dean of Special Services
B.A., M.Ed., University of Colorado

JAY TOLMAN  ........................................................................ Dean of Students
B.S., M.S., Ohio State University

TILMAN BISHOP  .............................................................. Associate Dean of Students
B.A., M.A., Colorado State College

BETSY SPECK  ........................................................................ Associate Dean of Students
B.A., M.A., Adams State College

CLARENCE A. SCOTT  .......................................................... Director, Administration and Records
B.A., Colorado State College; M.A., University of Denver

KEITH MILLER  ................................................................. Director, Continuing Education
B.A., M.A., Colorado State College

ALFRED J. COOPER  ............................................................. Director, Area Vocational School
B.A., M.A., Western State College

RICHARD APPLEG, C.P.A. .................................................. Business Office
B.S., Fort Hays State College

DIRECTORS OF COLLEGE SERVICES

NATHAN E. BRENNING  ......................................................... Assistant Director, Continuing Education
B.S., M.Ed., University of Colorado

GARY CALHOUN  .............................................................. Assistant Business Officer
B.S., M.A., University of Denver

CARL COOK  ........................................................................ Data Processing Supervisor
International Business Machines Corporation

CARL CLOSK  ......................................................................... Data Processing Supervisor
Superintendent of Buildings and Grounds

WILLIAM DORBINS  .......................................................... Director of Public Information and College Publications
B.A., M.A., Western State College

D. R. FEIGEL  ................................................................. Assistant Director, College Center
B.S., Arizona State University

EUGENE RASKIN  ............................................................ Director of College Center
B.S., M.A., Western State College

CHARLES KENDRICK  ........................................................ Director of Audio-Visual Services
B.A., M.A., Colorado State College

JOHN J. JEFFERSON  ........................................................ Director of Housing and Assistant Director of Admissions and Records
B.A., M.A., Adams State College

JOHN C. KESTER  .............................................................. Assistant Purchasing Officer
A.S., Mesa College

R. F. RANKHORST, R.N.  .................................................. Director of Health Service
M.S., R.N., School of Nursing

MARION E. SHAW  .......................................................... Job Development and Placement Specialist
B.S., Colorado State University

RUDY RIMMEL  ................................................................. Counselor, Financial Aid and Placement Officer
B.A., M.A., Western State College

ROBERT STONE  ............................................................... Area Vocational Guidance Specialist
B.A., State College

EDWARD STEINAD  .......................................................... Purchasing Officer
B.A., University of Denver

ROBERT D. YOUNGQUIST  .................................................. Assistant Director, Area Vocational School
B.S., State University of Iowa; M.A., Western State College

MESA COLLEGE

PURPOSE

1. FOR ALL STUDENTS. To supply education for citizenship and enriched personal living for all students regardless of classification, by providing:

- General courses and group activities through which they are enabled to gain for themselves personal, social, civic and vocational competencies;
- A well-rounded education that develops within them a sound emotional and social balance and personal resources for continued intellectual growth;
- Assistance toward better understanding and appreciation of the values of art, music, literature and other cultural activities;
- Help in increasing their knowledge of economic principles, political institutions and historical trends and developments.

2. FOR OCCUPATIONAL TRAINING FOR EMPLOYMENT. To provide an appropriate variety of vocational and technical training for specific occupations and to offer opportunity to students desiring basic or extension training in a number of skilled trades.

3. FOR THOSE WHO PLAN FOUR-YEAR DEGREES. To provide two-year courses of study leading to entrance into the third-year class for those who are to continue their formal education in a senior college or university, in liberal arts or the professions.

4. FOR ADULTS. To provide opportunities for adults to participate in academic, cultural, recreational and vocational activities according to their needs, interests or desire to learn.

5. FOR THE COMMUNITY. To stimulate and lead the intellectual and cultural life of the community; to furnish programs for information and entertainment; to provide a center for participation in recreational activities; and to foster activities leading to civic, social, health, moral and educational improvement of the community.

CURRICULUM

The curriculum of Mesa College is designed to meet the needs of the students of the area which the college serves. It contains courses in arts and sciences that are the same as those offered during the first two years at the senior colleges and universities of the state, and also offers many specialized courses to meet local needs and demands. It is flexible so that continuous revision is possible. A curriculum committee of the faculty reviews suggestions for revision and makes recommendations for changes that it considers desirable. Courses are added or dropped according to the changing needs of the clientele of the college and to the social and industrial development of the community.
**GENERAL INFORMATION**

**ACREDITATION**

Mesa College is fully accredited by the North Central Association of Colleges and Secondary Schools. Such accreditation places academic credit earned at Mesa College on a par with those earned at other accredited colleges and universities throughout the United States and assures their acceptance by these institutions. Students are reminded, however, that acceptance of transfer credits is determined by the academic college of the former college that the student is "in good standing."

**BUILDINGS AND EQUIPMENT**

Mesa College is developing its campus according to a master plan designed in 1968, revised in 1966, and currently being updated to provide for the College's needs through the 1970's. Facilities include Houston Hall, Horace Walburn Science Hall, Library-Administration Building, Mary Rait Hall, College Center, Child Development Center, Physical Education Center, College Service Center, Walter Walker Fine Arts Center, Area Vocational School, and Aspen, Elm, Juniper, and Pine Residence Halls.

Houston Hall, the first permanent building on the present campus, provides classrooms for Business, Data Processing, Home Economics, and Social Services. In the future this building will undergo major remodeling to improve and increase its academic facilities.

The new Library Building, completed in Fall 1967, is a three-level building incorporating the latest concepts in library design, with a wide variety of study facilities. With open stacks available for up to 40,000 volumes, the college's book collection of 40,000 volumes is being increased at an accelerated rate. About 370 periodicals are currently received by the library. As the center of the academic program, the library provides facilities for a variety of learning experiences, including reading, viewing, listening, research, and group discussions. The first level of the building, intended ultimately for library expansion, is the college Administrative Office center, including the President's Office, Admissions and Records Office, Student Personnel Services, Business Office, and Public Information Office.

Mary Rait Hall, extensively remodeled during Summer 1967, includes classrooms, a Radio-Visual and Duplicating department, and other facilities on the first floor. The upper two floors provide office space for sixty faculty members and facilities for related secretarial and receptionist staffs.

The College Center Building, occupied in January 1962, contains a modern, fully equipped cafeteria, book store, study and recreational lounges for students and faculty, office and conference facilities for student government and activity leaders, a snack bar, game rooms, and listening rooms for recorded music.

The Child Development Center, located at Elm Avenue and College Place, provides facilities for Mesa College's vocational-technical program designed to train directors and personnel for child-care cen-
Continuing Education, Community Services

"It's Never too Late to Learn"

One of the community college's finest traditions is providing special opportunities for adults of the community to participate in academic, vocational, cultural, and recreational activities according to their needs, interests, or desire to learn.

Mesa College offers many courses for adults of the area. The Office of Continuing Education serves thousands of 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 either for credit or no-credit and for varying lengths of time. Many regular day 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.

Through the College's cultural programs, regular students have opportunity to participate with adults of the community in various musical groups, including the Mesa College Civic Symphony Orchestra, the Mesa College Community Choir, and the Mesa College Community Band.

The College cooperates with various four-year colleges and universities of the state in providing facilities for on-campus extension classes and other services. Most of the courses made available through this arrangement are at the upper-division or graduate level. This service provides study beyond the junior college level, within certain limits, for those who do not find it expedient to go elsewhere after graduating from Mesa College.

tors and also for the Division of Continuing Education's Parent Education and Preschool program. Classrooms, play areas, observation facilities, and office spaces are located in this building.

Shop laboratories for various Continuing Education courses are available in the Mesa College Area Vocational School facilities and on a rental basis, as needed, from the local school district and from private owners.

Three 200-student residence halls, occupied to 1966 and 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 to provide maximum comfort and flexibility. The design of these residence halls emphasizes an environment conducive to study.

The Physical Education Center, completed in Fall 1968, provides facilities for a variety of physical education and recreation activities. Major facilities include all-purpose gymnasium areas for both men's and women's physical education and for varsity basketball and wrestling; swimming and diving pools; locker and shower rooms; classrooms; and office space for the Division of Physical Education.

The College Service Center 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.

The Walter Walker Fine Arts Center, occupied in September 1969, is the new cultural center of the campus. The beautiful structure includes facilities for art, music, and drama. The building features a multi-purpose Little Theatre, with seating capacity of approximately 100 when opened to include the alcoves, which at other times serve as smaller lecture rooms.

The first phases of the Mesa College Area Vocational School were completed in 1969. The two-section building houses modern shops and classrooms for auto mechanics, auto body and bumper, welding, electronics, and audio-visual and graphic-communications departments. The school serves both youth and adults of the region as a training center for various technological and vocational occupations.

LOCATION

Mesa College's main academic campus is bordered by North Avenue, Elm Avenue, Twelfth Street, and College Place, about one and one-quarter miles north and east of Grand Junction's nationally famous Downtown Shopping Park. Other campus developments extend northward to Orchard Avenue and thence westward to Connell Avenue. The residential section in the vicinity of Mesa College is attractive and modern. Several stores and other conveniences are located within walking distance of the campus, and many others, including a large new shopping center, are located along North Avenue.

Grand Junction's location in a scenic part of the Rocky Mountain West provides unlimited opportunity for the outdoorsman. Many Mesa College activities involve the physical advantages of the region. Among these activities is the College's physical education program in skiing, which is conducted at the new Powderhorn-on-Grand Mesa Ski Area. Qualified instructors, a variety of lifts, and miles of excellent trails combine to make the ski area a valuable adjunct to the College's Winter Quarter program. Students also take advantage of the city's parks,
golf courses, and swimming pools and the numerous outdoor attractions to be found in the nearby mountains.

LINCOLN PARK
Directly to the south and east of Mesa College across North Avenue is the beautifully landscaped Lincoln Park, the recreation center of Grand Junction. The park includes a green-turfed football field and a quarter-mile cinder track. Other physical facilities include a baseball diamond and stands, eight concrete tennis courts, a nine-hole golf course with grass fairways and greens, all available to college students. Lincoln Park is the site of the annual National Junior College Athletic Association Baseball Tournament.

ENROLLMENT
Mesa College's regular day school enrollment for Fall Quarter 1970 was 2,197, consisting of 1,512 freshmen and 685 sophomores. Eighteen students were unclassified. There were 869 men and 643 women in the Freshman Class, and 437 men and 200 women in the Sophomore Class. The geographical distribution of these students was as follows: 1,073 were from the Mesa College District; 1,002 were Colorado residents other than from the Mesa College District; 122 were from out of state, including six students from foreign countries. In addition, 1,029 students enrolled in one or more classes in the Continuing Education Program (night school) during Fall Quarter 1970. The courses offered include both degree-credit courses as well as non-credit courses designed primarily for adults. In its role as a community college, Mesa College thus served a total of 3,226 persons during Fall Quarter 1970.

CAMPUS PARKING
All students and members of the College staff wishing to park on campus must register motor vehicles with the College Business Office. Parking permit stickers restricting the parking of motor vehicles to specified areas on campus will be issued at the time of registration or at the time a student acquires an automobile or changes automobiles.

College-Community Relations
Through mutual cooperation with the community, Mesa College has become a real cultural center, an integral factor in the educational and social development of Western Colorado. Faculty members are available for lectures and discussions on a wide range of subjects related to education, agriculture, homemaking, and current social problems. Student groups appear often before public or private audiences for information or entertainment. The public is invited to attend many types of programs at the College—musical, dramatic, forensic, religious, and those devoted to public affairs and international relations—presented by faculty, students, community members, and out-of-town speakers.

At various times throughout the year, students and faculty members participate in radio and television panels and other types of programs to keep the community informed of activities at Mesa College.

Book reviews, play readings, lectures, conferences, demonstrations and musical programs are presented at the College from time to time by members of the community, for the students and the public. The churches of Grand Junction all cooperate with the College in meeting the needs for religious education among the students. Opportunities include participation in student classes in Sunday Schools, young people's organizations, and in choirs.

VTWL 32. ELECTRIC ARC THEORY 8. 3 hours.
A study of the different types of welding machines, electrodes, structural joints and positions used in arc welding; the principles that control the arc welding procedures and manipulative techniques; the weldability of metals with various types of electrodes, using current polarity and current. Safety factors and practices relating to welding machines, welding procedures, repairing containers of various types, and personal safety are included.

VTWL 34. ARC WELDING III 8. 7 hours.
Continuation of Arc Welding II with emphasis on pipe welding and special application such as hard-facing, welding of non-ferrous metals, and fabrication. Helical welding is introduced. Shop: 18 hours.

VTWL 41. SHOP MANAGEMENT 8. Summer 3 hours.
Study of shop operation, expenditures, floor-plan design and equipment for the modern day shop. Expectations and management of employees.

VTWL 42. STRUCTURAL WELDING THEORY 8. Summer 2 hours.
Codes issued by the American Petroleum Institute, American Metal and Welding Societies, and insurance companies are studied. These codes apply to the welds on all types of structural joints and to the types of welding electrodes used in making them. Laboratory experience includes applications of jigs and fixtures in time-saving operations for fabricating structural units for buildings, machines, bridges, and containers.

VTWL 44. ARC WELDING IV 8. Summer 7 hours.
Continuation of Arc Welding II, including structural welding, "TIG" welding of stainless and high carbon steels, "MIG" employing the principle of a consumable wire fee. Shop: 18 hours.

VTWL 45. METALLURGY 8. Summer 5 hours.
A description of how metals are smelted and refined. Combinations of metals which form certain alloys of steel, copper, lead, etc., are studied. Discussions and demonstrations are given on various methods of heat-treating to bring about certain desired results in metals. Class: 3 hours. Shop: 2 hours.
Welding

VTWL 12. OXYACETYLENE THEORY
F. 3 hours.
Instruction in the proper care and use of welding equipment; safety; identification of metals and alloys; selection of the proper rods and fluxes; methods of lay-out, cutting, fit-up, taking, preheating and annealing. A study is made of the principles and the manipulative skills of oxyacetylene welding in correlation with metal thickness, tip sizes, and gas pressures. Shop: 5 hours.

VTWL 13. OXYACETYLENE WELDING I
F. 3 hours.
Shop practice in safe care and use of oxyacetylene cutting and welding equipment. Weld beads, edge joints, corner joints, lap joints and double-bevel joints on plate steel in all positions. Cutting straight lines, bevels and piercing holes in steel plate. Shop: 10 hours.

VTWL 14. ARC WELDING I
F. 3 hours.
A beginning course in electric arc welding. Welding of mild steel in flat and horizontal positions. Care and use of tools and equipment and safety precautions and practices. Shop: 5 hours.

VTWL 15. APPLIED MATHEMATICS
F. 3 hours.
Basic arithmetic, fractions, decimals, percentages, and basic algebra. Instruction in measuring instruments.

VTWL 21. BLUEPRINT READING
W. 3 hours.
Basic principles of blueprint interpretation and visualization of objects as applied to industrial practices. Class: 3 hours. Shop: 2 hours.

VTWL 22. OXYACETYLENE WELDING II
W. 4 hours.
A continuation of Oxyacetylene Welding I with additional practices in machine cutting and welding tee joints and butt joints on steel plate in all positions. Test procedures are used on all position welds to develop skill in making sound welds. Pipe welding, fusion welding of cast iron, brazing, hard surfacing, and aluminum welding. Shop: 10 hours.

VTWL 24. ARC WELDING II
W. 4 hours.
Continuation of Arc Welding I, refining the welding of mild steel in horizontal, vertical positions, and overhead positions. Shop: 10 hours.

VTWL 25. APPLIED MATHEMATICS II
W. 3 hours.
Practical applications of algebra and geometry as used in industry. Advanced mensuration. Introduction to trigonometry.

VTWL 31. FABRICATION LAYOUT
S. 3 hours.
Basic layout techniques from shop drawings to fabrication of sheet metal, plate, pipe, and structural shapes. Class: 2 hours. Shop: 5 hours.
In addition, the College provides short-term and intermediate-term loan funds from which students may borrow to help meet financial obligations more 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 quarter, whichever comes first. No interest is charged, but a small service charge is made. 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 limited to $300 with simple interest charged at five per cent plus a $1 service charge.

The MESA COLLEGE SCHOLARSHIP DEVELOPMENT FUND, INC., conducts a drive annually to raise funds for scholarships and student loans. The scholarships provided by this group amount to $50 per quarter and are awarded periodically during the academic year. This organization also serves as a receiving and clearing agency for many of the College's established scholarships and student loan funds as well as for scholarships received from organizations and clubs from other communities.

For the most part, funds available for the short-term and intermediate-term loans have been made available as a result of the efforts of this group and the generous contributions of individuals and organizations of the Grand Junction area.

SCHOLARSHIPS
Mesa College annually awards a large number of scholarships. These scholarships are awarded primarily on the basis of scholastic achievement, but include the recommendation of the high school counselor or principal, and some consideration to the financial resources of the student's family.

Normally, scholarships cover the cost of tuition or some fees. Application deadline is March 15. No scholarship application will be considered complete and processed unless the applicant has been accepted for admission, and has American College Test (ACT) scores on file with the Admissions Office. The American College Test must be taken no later than the February testing date if test scores are to be received by the College prior to the March 15 deadline.

The principal types of scholarships offered by the College are the following:
(1) THE MESA COLLEGE SCHOLARSHIP — This is a two-year scholarship. Approximately twenty-five of these scholarships are awarded to students with the highest scholastic records among the scholarship applicants to Mesa College. Normally, scholarships cover the cost of tuition or some fees. Application deadline is March 15. No scholarship application will be considered complete and processed unless the applicant has been accepted for admission, and has American College Test (ACT) scores on file with the Admissions Office. The American College Test must be taken no later than the February testing date if test scores are to be received by the College prior to the March 15 deadline.

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(1) THE MESA COLLEGE SCHOLARSHIP — This is a two-year scholarship. Approximately twenty-five of these scholarships are awarded to students with the highest scholastic records among the scholarship applicants to Mesa College.

(2) THE MESA COLLEGE ACHIEVEMENT AWARD. This is a one-year (freshman) scholarship. It is the policy of the College to make at least one of these scholarships available to the graduates of each of the high schools of Western Colorado provided the student achieves a cumulative grade-point average of 3.0 (B) or higher by the end of the freshman year. He may apply for a sophomore scholarship which, if awarded, is valued at $50 per quarter.

(3) ACADEMIC DIVISION SCHOLARSHIPS. Each academic division of the College awards one or more scholarships. These are awarded to the outstanding scholarship in each division at the end of their freshman year. He may apply for a sophomore scholarship which, if awarded, is valued at $50 per quarter.

(4) SUPPLEMENTAL SCHOLARSHIPS. Each quarter a number of scholarships amounting to $50.00 per quarter are awarded to students who have achieved the minimum 3.0 grade point average who have

VTSO 51. APPLIED SOCIOLOGY W. 3 hours.
The purpose of this course is to familiarize the student with some of the principles that human relationships are based upon, and also the results of social situations. The emphasis is placed on social relationships in a changing society. Topics to be covered are mass communications, collective behavior, popular culture, and social problems.

VTSO 52. APPLIED ECONOMICS F. 3 hours.
This course explores the basic American economic system with an analysis of capitalistic, governmental monetary policies and money, and banking as they affect legal governmental units.

VTSO 53. SCHOOL AND MUNICIPAL LAW F. 3 hours.
Creation, annexation, dissolution, control of local governmental units; powers, duties, and liabilities of governmental units; legislation affecting the schools.

VTSO 54. GOVERNMENT PROBLEMS I W. 3 hours.
A course designed to study and explore problems as they relate to actual situations in governmental units such as counties, municipalities, and school districts.

VTSO 55. GOVERNMENT PROBLEMS II S. 3 hours.
A continuation of Governmental Problems I.

VTSO 56. STATE AND FEDERAL LAW S. 3 hours.
The courts, structure and jurisdiction, legislation and procedure, social legislation.

VTSO 57. LEGAL TERMINOLOGY S. 3 hours.
A course designed for students who plan to work as legal secretaries. The purpose of the course is to acquaint students with legal terminology as used in legal forms. Emphasis is placed on the spelling, meaning, and use of legal terms and phrases.

VTSO 58. LEGAL PROCEDURES I W. 3 hours.
A course to acquaint the student with everyday practices in the law office. Concentration on legal papers, forms, documents, and instruments.

VTSO 59. LEGAL PROCEDURES II S. 3 hours.
A continuation of Legal Procedures I using actual material obtained from law offices including transcription.

Travel and Recreation

VTR 11. SURVEY OF TOURISM S. 3 hours.
A course designed to acquaint students with opportunities in travel and recreation facilities. Representatives of tourist industries will address the students; the climate of what is coming; trends; etc.

VTR 51, 52. TOURIST MANAGEMENT I, II FW. 3 hours.
This course will explore problems with specific applications to the various phases of the travel and recreation industry.
VTG 50. MAP DRAFTING FOR GEOLOGY
W. 3 hours.
A one-quarter course intended for students in the geologic program. Stress is placed on fundamentals of drafting such as lettering and use of elementary drafting equipment. Also included are the interpretation and actual construction of topographic and geologic maps as well as other illustrations of value in preparation of technical reports. Class meets 2 hours lecture and 2 hours laboratory per week.

VTG 50. SUBSURFACE TECHNIQUES
F 2 hours.
An introduction to various methods of interpreting data obtained from mechanical hole-digging devices, well cuttings and cores. Methods of obtaining data will be examined, and data will be plotted on maps by students in a manner that makes it usable for exploration techniques. Students will be required to construct various types of maps that are commonly used in petroleum and mining industry such as isochore, isolith, sand-shale ratio, structures, etc. Exercises in logging of cores and well cuttings will be performed to give students practical experience.

Social Science

VTG 51. APPLIED PSYCHOLOGY
S. 3 hours.
A study of some current psychological finds on perception, motivation, prejudice, and other related topics of importance in understanding and dealing with people in work and leisure-time activities. The course is primarily designed for those in the Associate of Applied Science programs.

VTG 12. HISTORY OF THE WEST
F. 3 hours.
A history of the Rocky Mountain region including the Great Plains and the Southwest. Included is a history of the Indian tribes in this location and the subsequent invasion by the trapper, the miner, the cattleman and the farmer. The unique cultural and political contributions of the West to the American way of life are the basic theme or objective of the course.

VTG 13. PSYCHOLOGY OF LEARNING
W. 3 hours.
This course is designed to cover the basic principles of learning theory for the technician. Content will include multi-media approaches to education and principles of programmed instruction.

VTG 14. HUMAN RELATIONS
S. 3 hours.
This class deals with supervision of non-professional personnel, personnel relationships, faculty relationships, salesmanship, and general working relationships with others and the problems inherent to individual and group relations.

VTG 15. PERSONAL DEVELOPMENT
W. 3 hours.
Stresses the importance of the individual in business behavior with emphasis on developing a better understanding of self and others. The course examines proper appearance, courtesy, conduct, and human relationships in business with the objectives of providing a foundation for a working philosophy of life in keeping with Mesa College's goals for the development of the individual as well as particular skills. This course is sectioned with separate classes for men and women.

not previously received a scholarship. Applications are submitted immediately following mid-term examinations, and scholarships are tentatively awarded prior to the completion of the quarter pending maintenance of the 3.0 average through final examinations. The scholarship then becomes effective for the subsequent quarter.

In addition to the institutional scholarships described above, many scholarships and awards have been established for students of the College by private individuals and organizations of the Grand Junction area. The amounts of these awards vary but all are designed to apply toward tuition and fees.

GRANTS-IN-AID
GRANTS-IN-AID are awarded to students who have special talents in athletics, music, or art, and to scholastically capable students who have exceptional financial need. In addition, a number of grants-in-aid are made available for disadvantaged students and students entering vocational-technical curriculums.

EDUCATIONAL OPPORTUNITY GRANTS (EOG) are available to exceptionally needy students who wish to attend Mesa College. These grants were made available under Title IV of the Higher Education Act of 1965. Under this program, students from low-income families who have exceptional financial need may receive an outright grant of from $200 to $1,000. The amount of grant is geared to the parental contribution but may not exceed one-third of the student's total financial need, exclusive of any assistance under the College Work-Study Program.

ATHLETIC GRANTS-IN-AID equivalent to tuition and some fees are awarded each year to approximately 80 freshmen and sophomores who have excelled in various sports, either as high school seniors or freshmen at Mesa College. These awards are made by the Department of Intercollegiate Athletics of the College.

FEDERAL STUDENT AID PROGRAMS
Mesa College participates in many of the Federal Student Aid Programs. These include: (1) The National Defense Student Loan Program, (2) The Nursing Student Loan Program, (3) The Educational Opportunity Grants Program, (4) The Nursing Educational Opportunity Grants Program, and (5) the College Work-Study Program.

Financial need to pay for educational expenses is an important requirement to qualify for assistance from any of these programs. Students must have financial need in order to secure a college education are encouraged to contact the financial aid office of the College for necessary information and application forms.

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 either the Parents' Confidential Statement (PCS) of the College Scholarship Service or the Family Financial Statement (FFS) of the American College Testing Program. These forms should be available at either the high school principal's or counselor's office.

There is no deadline for submitting applications for any of the Federal Student Aid Programs, however, these students who have all application requirements complete and on file with the Admissions Office and Financial Aid Office by March 15 will receive priority. This includes, in addition to submitting either the PCS or FFS, as described above, a completed application for admission including American College Test (ACT) scores, and a completed application for financial aid on the special form provided by the Financial Aid Office of the College.
EMPLOYMENT
Part-Time Employment. The Office of Student Personnel Services operates a job placement service to assist students who work part-time to help pay for their college expenses. Applications for such employment should be obtained from, and filed with, the Office of the Director of Student Financial Aids immediately following registration. Students will then be notified as steady part-time jobs become available.
Part-time employment, while attending college, is also available in each of the academic divisions and special services or agencies of the college. Application for such employment is made directly to the heads of the academic divisions or to the directors of special services. Mesa College also participates in the Federal College Work-Study Program. Under this program, the college plans to employ approximately 100 students at an average part-time salary of about $400 for the three quarters of the academic year. The purpose of the College Work-Study Program is to provide financial assistance for academically qualified students who must have financial help toward meeting necessary college expenses.
To insure securing assistance under this program, prospective students should file applications with the Office of Financial Aids not later than June 15.
Terminal Placement Service. Each year many students qualify to seek employment upon graduation or completion of a specific course of study, particularly in the vocational-technical areas. Placement service is available to students through the College Placement Office. Credential files are prepared for all students desiring placement assistance. The placement officer maintains contacts with appropriate business and industrial firms and arranges interviews both on and off campus between prospective employees and employers.

STUDENT HEALTH SERVICES
Mesa College provides health services for all students. These include the part-time services of a medical doctor and the full-time services of a registered nurse. The type of services provided include first aid, treatment and prescription of drugs for common illness, dispensing of simple medicines, recommending proprietary drugs, consultation concerning health problems including referrals to physicians and dentists, conducting health surveys, calling on students reported ill who reside in campus housing, and visiting students confined in local hospitals. In addition, the college provides an excellent Blue Cross and Blue Shield student accident and sickness insurance plan. This plan is mandatory for all students, but carries a special waiver provision for those students who already are covered under family or other insurance plans. The plan protects the student twenty-four hours per day at school, at home, or while traveling during the school year, including interim vacation periods.
Students entering Mesa College for the first time are required to present a certificate of good health signed by a family physician or a physician approved by the College. Expense of this examination is borne by the student. Health examination blanks are available at the College Admissions Office.

HOUSING
General Policy — Mesa College believes that its students will have their best opportunity for a well-rounded educational experience while living in a supervised residence hall designed for student living. Mesa College also believes that if residence hall facilities are not available for all students, or in the instances where exceptions have been made

VTPS 12. BASIC ACOUSTICS AND OPTICS
FS. 3 hours.
A beginning in the theory and operation of sound and acoustic principles, their behavior, function, and properties. Also covered will be the field of optics, principles, and theory of operation, as applied to optical and technical means.

VTPS 13. REGIONAL NATURAL SCIENCE
S. 3 hours.
A course designed to acquaint students with the physiographic and ecologic relationships of the natural environment, with emphasis placed on the climate, geology, vegetation, wildlife, and the scenic and recreational attractions of the region. Related activities are included.

VTPS 51. GEOLOGIC TERMINOLOGY
F. 2 hours.
A survey of the terminology used in the many fields of geology and which the technicians is likely to encounter. It will include terms and abbreviations used in studies of well samples, map making, petroleum drilling reports, rock and mineral descriptions.

VTPS 52. ROCKS AND MINERALS
W. 3 hours.
A review of the more common rock-forming minerals and the more common types of igneous, metamorphic, and sedimentary rocks. Pre-forming minerals will be studied as time permits. Lectures will be supplemented by laboratory studies emphasizing sight identification.

VTPS 54. ENGINEERING GEOLOGY
W. 3 hours.
A study of the application of geology and geologic methods to engineering. Geology as related to landslides; highway construction; dam-site evaluation; canal construction; construction material such as sand, gravel, stone, etc.; permafrost and other features. Also includes soil testing and other engineering applications.

VTPS 55. ECONOMIC GEOLOGY
S. 4 hours.
Studies of the nature, occurrence and distribution of economic deposits of coal, petroleum, oil shale, metals, and other non-metals. Emphasis will be placed on these fields with greatest promise of employment. Will include an overview of the field of geology emphasizing exploration, development, equipment, taxation, prices, etc.

VTPS 56. GEOPHYSICAL TECHNIQUES
S. 3 hours.
A study of the geophysical techniques currently used in geology. Includes a survey of types of geophysical instruments, their operating principles, and nature of results obtained. When possible, instruments such as mass spectrometers, X-ray spectrometers, computers, well-logging equipment, geiger counters, scintillation counters, seismographs, and other types will be observed in operation.

VTPS 57. SCIENTIFIC TERMINOLOGY
W. 3 hours.
This course is designed to acquaint the student with the terminology in the various fields of physical sciences. It includes a knowledge of terms, units, and technical vocabulary necessary for aids in scientific fields such as chemistry, physics, engineering, geology, and related areas.

VTPS 58. BASIC ELECTRONICS
W. 3 hours.
This course is designed to give the students a basic background of electronics to understand the fundamental principles of electronics, and to help develop an understanding of electronic circuitry.
VTPO 62. CRIMINAL INVESTIGATION AND INTERROGATION  W. 2 hours.
Fundamentals of investigation; duties and responsibilities of the detective; standard and approved procedures of crime scene search, collection and preservation of evidence; recording of data of major and minor crimes; Modus operandi; systems; scientific aids and other sources of information; inquiries, interviews, and interrogation methods and techniques; preparation for court action and case follow-up.

VTPO 64. TRAFFIC CONTROL AND INVESTIGATION  W. 3 hours.
The regulation, control and enforcement of Colorado traffic law and municipal ordinances. Fundamentals of traffic accident investigation; traffic counts and driver's schools, safety campaigns and public information.

VTPO 71. FIRST AID  S. 3 hours.
A course in which the student learns the proper emergency first aid techniques to deal with personal or community disaster. The American National Red Cross course content is used and an ARC Standard or Advanced certificate is issued to qualified students. Lecture and laboratory.

VTPO 72. CRIMINAL PROCEDURE AND EVIDENCE  S. 3 hours.
Principles, duties, and mechanics of criminal procedure as applied to important areas of arrest, force, and search and seizure. Study and evaluation of evidence and proof; kinds, degrees, admissibility, competence, and weight; specifically deals with rules of evidence and procedure of particular import at the operational level in law enforcement.

VTPO 73. DEFENSIVE TACTICS  S. 2 hours.

VTPO 74. CONSTITUTIONAL LAW  S. 3 hours.
An introduction to the application of U.S. Supreme Court ruling which affect law enforcement. Assigned case book briefings of major constitutional decisions; analysis of federal statutes, interstate rulings and cases involving constitutional amendments affecting law enforcement jurisdiction and civil liberties.

VTPO 75. POLICE AUXILIARY SERVICES  S. 2 hours.
Principles of organization and administration as applied to auxiliary services. Records and communications, custody, central services, and police logistics. Special attention to police applications of electronic data processing and the collection of performance data.

Physical Science

VTPS 11. BASIC ELECTRICITY FOR A-V  W. 3 hours.
This course is designed to teach the fundamental principles of electricity and to develop an understanding of electrical circuitry and its application.

(As explained below) off-campus housing facilities should be specifically approved and supervised by the College before students commence occupancy therein. Therefore, Mesa College has adopted the following rules with reference to housing of its students:

1. To the extent that vacancies are available, all students shall live in college residence halls unless permission is granted by the Director of Housing for them to live off campus.

2. Students who cannot be accommodated in the residence halls at the time of registration and who are not excepted by the Dean of Students on one of the bases given below, are required to move into a residence hall upon notification by the College that space therein is available.

3. Students who live with their parents or guardians, or with their parents in Grand Junction or its vicinity, shall register their housing in the office of the Director of Housing prior to the commencement of each academic year and in the event of a change in address during the year.

4. Students otherwise eligible to live on campus but whose health conditions demand special services and living conditions or whose part-time employment prohibits their securing meals regularly in a college food service facility, or whose relatives make available their homes at a considerable saving to the student on room and board must secure permission from the Director of Housing to live off campus.

5. All students living off campus, except those specified in paragraphs (3) and (4) above, will be directed by the Director of Housing to, and shall live in, privately owned housing approved by the College.

General Requirement. A housing deposit of $50 is required of both men and women who live in College residence halls. Room reservations in College residence halls will be assigned in the order in which signed contracts and room deposits are received. Upon occupancy of the room for the first quarter enrolled, $25 of the $50 room deposit will be credited toward payment of room rent for the quarter. The remaining $25 will be held in escrow until such time as the student terminates his housing in the residence hall. If all provisions of the housing contract have been complied with, and no damage charges have been assessed, the $25 deposit will be refunded to the student at the beginning of the college year, or at the end of the last quarter in attendance. The housing and boarding contract is a contract for the full academic year payable on a quarterly basis. Normally, no student will be permitted to break the contract unless the student is getting married, has special health problems, or is terminating his enrollment at the College.

The College reserves the right to alter board and room charges upon thirty (30) days notice prior to the scheduled date of registration for any quarter.

Off-Campus Housing. Students who cannot be accommodated in College residence halls will be granted permission to live off campus provided their housing is approved by the Director of Housing. Normally, permission will be granted for a student to live with a relative or to work in a private home for his board and room.

Students of legal age (21 years) will be permitted to live in College-approved off-campus housing unless vacancies exist in the College's residence halls.

Any student planning to live off the campus must first receive permission to do so from the Director of Housing.
If the student is single and under 21 years of age, permission will not be granted except for reasons justifiable to College officials. Any student who is discovered in violation of housing regulations by living off-campus without permission, or who is found living off campus in housing which has not been approved by the College, may be subject to suspension from the College.

Changes in the location (address) of a student's housing must be reported to, and approved by, the Director of Housing. Students requesting information about housing, either on or off the campus, should contact the Office of Student Personnel Services.

Refund on Housing and Boarding Contract. A room reservation in College housing will not be confirmed until the $50 room deposit has been received. Once a contract is signed and the $50 room deposit made, failure to notify the Housing Director of cancellation after August 15 will result in forfeiture of the entire $50 deposit. If the reservation is cancelled prior to August 15, full refund of the $50 deposit will be made.

No refund on the housing and boarding contract will be made to a student who voluntarily withdraws from the College during a quarter. In emergency cases, necessitating withdrawal from the College, refund of board will be made, prorated according to the number of weeks remaining in the quarter. No refund for room rent will be made in such cases. However, Refund of the $25 deposit held in escrow will be made as described above.

Expenses at Mesa College

BOARD AND ROOM (See note on page 10.)

Board and Room for the 1971-72 academic year, for both men and women, in College-owned and operated residence halls is $971.20 including tax on meals payable each quarter at registration time as follows:

- Fall Quarter $347.60
- Winter Quarter $311.60
- Spring Quarter $311.20

Total for the year $971.20.

The above charges include three meals per day at the College Cafeteria with special meals permitted at any meal except that only two meals are served on Sundays.

For those students who are permitted to live in rooms off the campus, the cost of rooming depends upon the type of accommodations provided, and ranges from $30 to $60 per month. Since board and room in private homes is very difficult to obtain, and since the cost of meals off the campus is quite expensive, the College Cafeteria offers a special quarterly meal plan which costs the student $197.60 for Fall Quarter, $178.80 for Winter Quarter, and $178.80 for Spring Quarter. Total for the year is $551.20 including tax. This includes three meals per day with special meals permitted at any meal except that only two meals are served on Sundays, as described above for students who live in College residence halls.

Refunds on Board at College Cafeteria

Students who elect the special Cafeteria quarterly meal plan of $197.60 for the Fall Quarter, $178.80 for Winter Quarter, and $178.80 for Spring Quarter are subject to the same refund conditions as are described for students who live in the College residence halls. Students who are requested to withdraw from the College by College authorities, or who have to withdraw because of emergency conditions, normally will be given refunds for board prorated on the basis of the number of weeks in the quarter.

the health of people. Student learning about the local Department of Public Health and its functions. Field trips are included.

VTPN 47. VOCATIONAL RELATIONSHIPS

Smr. 1 hour.

Designed to teach legal and ethical responsibilities of a practical nurse. How to apply for a job, how to retain it, and how to resign.

VTPO 41. ADMINISTRATION OF JUSTICE I

S. 3 hours.

Origin, history and development of the common law of England and the U.S. from Roman, Anglo-Saxon and Norman sources; fundamentals of constitutional and criminal law concepts; elements of local, state and federal jurisdiction and procedure as they apply to law enforcement.

VTPO 51. INTRODUCTION TO LAW ENFORCEMENT

F. 3 hours.

History and philosophy of law enforcement and the development of modern American police system; jurisdiction of local, state and federal law enforcement agencies; fundamentals of criminal behavior and the social order; and an introduction to social pathology and current police problems.

VTPO 52. POLICE PATROL AND PROCEDURES

F. 3 hours.


VTPO 53. JUVENILE DELINQUENCY AND JUVENILE PROCEDURE

F. 3 hours.

A study of the origin and development of juvenile agencies; organization, functions and jurisdiction of juvenile courts; juvenile statistics, detention, court procedure and case disposition. The nature and causes of juvenile delinquency and crime; juvenile sub-cultures in contemporary society; custody and treatment of the juvenile offender.

VTPO 54. NARCOTICS AND DRUGS

F. 3 hours.

Description, chemical properties and results of the use of narcotics and other dangerous drugs. The discovery and investigation of narcotics and other dangerous drugs. The discovery and investigation of narcotics peddlers and users; behavior and treatment of the addict; prevention techniques; cooperation with federal agencies.

VTPO 61. CRIMINAL LAW

W. 5 hours.

An analysis of origin and structure of common law crimes and procedures; statutory crimes— felonies and misdemeanors. Definitions and distinctions between criminal and civil law; criminal court procedures; assigned criminal law case book readings; Federal and State reports; Colorado criminal code sections; the law enforcement officer as a witness; principles and techniques of direct and cross examination.

VTPO 62. EVIDENCE

W. 3 hours.

A study of the nature, types and degrees of criminal evidence; rules governing admissibility, competency and relevancy; presentation of physical and other material evidence; direct and circumstantial evidence; hearsay rules and exceptions.
VTNP 17. PERSONAL HEALTH AND RELATIONSHIPS  F. 2 hours.
A study of and a guide to good personal health. Includes personal hygiene, mental health, hereditary and environmental factors, and a brief look at drug abuse. The student is oriented to school life and to ethics and interpersonal relationships.

VTNP 21. NURSING ARTS AND SKILLS II  W. 2 hours.
This course teaches the more advanced techniques and skills used in care of patients, with emphasis placed on asepsia.

VTNP 22. OBSTETRIC NURSING II  W. 2 hours
A study of the care of the expectant mother during birth and the post-partum period. Also includes the study of the infant during the natal and post-natal periods. Laboratory experience is included.

VTNP 23. CONDITIONS OF ILLNESS I  W. 4 hours.
The care of the elderly, rehabilitation nursing, with special study of exercises and diversional therapy; care of patients with specific disorders of the musculoskeletal system requiring the use of casts, traction, and surgery in their correction; and a study of the nursing care of the patient being prepared for surgery and immediately following surgery. Emotional and psychiatric disorders the nurse may encounter in the general hospital are included.

VTNP 24. DRUGS AND DOSAGE  W. 1 hour
Designed to teach the student guidelines for giving medications; also gives some historical background. Arithmetic is included.

VTNP 25, 35, 45. CLINICAL NURSING I, II, III  W, S, Smr. 13 hours.
Under supervision the student gains experience in various clinical facilities as related to curriculum content.

VTNP 26. PEDIATRICS  S. 2 hours
The student studies growth and development of the normal child and diseases and treatments peculiar to children. A brief overview of mental retardation is included.

VTNP 27. CONDITIONS OF ILLNESS II  S. 4 hours.
A course designed to teach the student about the diseases conditions of the body. Treatment and nursing care of patients with these conditions, primarily medical and surgical, are studied.

VTNP 28. PHARMACOLOGY  S. 2 hours
A study of specific medications, their uses, effects, and untoward actions in relation to the human body.

VTNP 29. FIRST AID  S. 1 hour
This is the standard American Red Cross course consisting of ten hours of instruction.

VTNP 33. CONDITIONS OF ILLNESS III  Smr. 2 hours.
A study of communicable diseases and the laws governing patients with communicable disease. An overview of disaster and emergency nursing and civil defense plans as related to the community and/or hospitals. A brief study of the duties of the practical nurse in home nursing is included.

VTNP 45. COMMUNITY HEALTH  Smr. 1 hour
This course is designed to provide information about the role of community, state and federal government in safeguarding and improving

BOOKS AND SUPPLIES
Text books, notebooks and school supplies are sold at the College Bookstore. Cost of needed books and supplies will vary according to the courses taken by the student but ought not to exceed $150 for the year. Some saving may be realized by buying used books which may be available in limited quantities. Nursing students will have additional costs of uniforms and transportation to and from hospital training centers.

TUITION AND FEES
The tuition and College fee applicable to the 1970-71 year were under study at the time of this printing and final figures on probable increases for 1971-72 were not available. The charges for 1970-71 are indicated below, and students are advised to plan on the probable of 10 to 15 per cent increases to help meet increasing costs to the College. Colorado state authorities have indicated that at least 15 per cent increases in tuition are anticipated at all state institutions of higher learning.

Tuition and Fee Schedule (1970-71):

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<tr>
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<th>Mesa College District</th>
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Refunds on Tuition and Fees
If a student withdraws within ten days from the first day of classes, two-thirds of the tuition, and two-thirds of the College Fee may be refunded. No refunds will be made after the tenth day from the date of registration.

APPLICATION AND EVALUATION FEE
Application and Evaluation Fee (Non-refundable) $10
(Valid only for quarter for which student is first admitted.)

PRIVATE AND SPECIAL INSTRUCTIONAL FEES
Where private and special instructional services are required additional charges will be incurred by the student. These fees are payable in advance to the instructors and vary with the type of instruction, individual instructors, and other circumstances.

Private instruction in applied music is available through the College and from instructors approved by the College. Cost of this instruction is $35 per quarter for one lesson per week. Other special instructional services available at extra cost include bowling, golf, skiing, etc.

EVENING SCHOOL FEES
Evening class fees vary as to subject, time, and materials required, usually in accordance with the rates listed below for part-time students. Day school students who pay full day school tuition and fees will not be charged extra for evening classes, except where a special material fee is required by the class.

MISCELLANEOUS FEES
Late registration, $10 first day, $5 each additional day, maximum $30.00
Change in schedule nursing courses 2.00
Graduation (gown, diploma) 7.50
Letter petition for graduation 1.00
Late credential fee 3.00
Aquatics Fee (swimsuit and towel) 2.00
PART-TIME STUDENT FEES

Students taking a part-time course are charged a class fee of $8 per quarter hour for Mesa Junior College District residents, $12 per quarter hour for Colorado residents who do not live in the district, and $50 per quarter hour for non-residents of Colorado. A part-time course consists of fewer than 12 quarter hours.

PAYMENT OF FEES

All tuition and fees are due and payable at the time of registration—the first day of each quarter—and registration is not complete until the student's obligation is met in full. Any student who enrolls and attends classes is liable for payment of fees even though he may drop out of school. No student having unpaid financial obligations of any nature due the College shall be allowed to graduate or to receive any transcript of credits.

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

DETERMINATION OF RESIDENCE STATUS FOR TUITION PURPOSES

Residence status for tuition purposes at Mesa College is based upon the requirements as prescribed and approved in H.R 249 by the Colorado Legislature in 1961 and amended in 1965 for Colorado Public Institutions of Higher Learning. Basic requirements are summarized below.

In-State Residence

1. If an adult, upon moving to Colorado, is employed on a full-time basis, and files for the payment of Colorado state income taxes or files estimates of such taxes, and renounces his residence in another state, and is not himself in the state primarily as a student, his minor children and wife may at once be classified at the in-state rate, so long as he continues his Colorado domicile.

2. An emancipated minor shall qualify for a change in status only if his parent or legal guardian has filed for the payment of Colorado state income taxes and has completed the requirements for establishing domicile as defined in Item 1 above. An emancipated minor or adult student who has registered as A FULL-TIME STUDENT for more than EIGHT hours per term shall not qualify for a change in his classification for tuition purposes unless he shall have completed twelve consecutive months of residence while not attending an institution of higher learning in the state or while serving in the armed forces.

3. Residence in the state primarily for the purpose of attending an institution of higher learning does not apply toward the time required for the establishment of legal residence.

In-District Residence

1. Establishment of a bona-fide residence within the Mesa College District on the part of the parent or legal guardian at any time prior to the designated registration date will be the basis on which In-District Residence Status will be granted for minor children.

2. In-District Residence Status for the emancipated minor or adult student requires residence within the state for twelve months (as in #1 above) including 90 days residence within the Mesa College District immediately preceding registration.

VILT 51. CLASSIFICATION AND CATALOGING  F. 4 hours.

Elementary principles of classification based on major categories of the Dewey decimal system. Acquaintance with the Library of Congress system. Student learns format and content of catalog card, principles of filing, use of subject headings and cutter numbers, ordering and use of Library of Congress cards. A practical approach to classification with particular emphasis on school and small libraries.

VILT 52. CONTEMPORARY BOOKS AND PUBLISHING  S. 3 hours.

A study of contemporary authors and publishers.

VILT 53. LIBRARY SERVICES AND ADMINISTRATION  W. 3 hours.

A review of types of libraries, their establishment, governing bodies, clientele, resources and financial support. Elementary library organization and administration. Preparing a library budget.

VILT 54, 55. LIBRARY PRACTICE  WS. 2, 3 hours.

The technician spends five hours per week for two quarters actually working in a library. Experience is provided under supervision of all types of library operations for which the technician is being trained.

VILT 56. LIBRARY AUTOMATION  W. 2 hours.

A study of applications of modern data processing procedures and equipment to the operations of a library.

VILT 57. LIBRARY PROBLEMS  S. 2 hours.

The work of the national and state library associations and inter-library cooperation. The types of positions in various libraries. The problem of securing and holding a position.

Mathematics and Engineering

VIME 52. GEOMIC MAPPING  S. 5 hours.

A survey of mapping and measuring techniques implemented by actual mapping of mines, mapping of transit, and plane table, use of aerial photographs, and measuring of stratigraphic sections.

Practical Nursing

VPAN 11. NURSING ARTS AND SKILLS  I  F. 8 hours.

This course is designed to teach the basic patient side nursing skills, to orient students to nursing institutions and to give them actual experience with patients. Time is spent in both classroom and hospital laboratory areas.

VPAN 12. OBSTETRIC NURSING  I  F. 1 hour.

The student is introduced to the history of obstetric nursing, reviews the philosophy and anatomy of the reproductive system and studies the care of the expectant mother through the prenatal period.

VPAN 16 STRUCTURE AND FUNCTION  F. 3 hours.

A study of the structure and function of the human body, along with related medical terminology. An introduction to bacteriology with emphasis on common forms of pathogenic bacteria.
VTHE 58. MEDICAL OFFICE ASSISTING  S. 3 hours.
The student learns to deal with patients and their families, to observe, keep records, help with physical examinations, and to assist the physician in many ways.

Humanities

VTTH 21. CHILDREN'S LITERATURE  WS. 3 hours.
A course designed to give those who are interested in literature for the child an opportunity to survey the best in books. Material is judged for various grade levels as well as for preschool and special education. Skills in presenting literature to children are developed.
The course is also intended for students majoring in Library Science.

Job Entry

VTJE 1. SHORTHAND
VTJE 2. BOOKKEEPING
VTJE 3. BUSINESS MATHEMATICS
VTJE 4. BASIC BUSINESS ENGLISH
VTJE 5. TYPING
VTJE 6. WORK STUDY
VTJE 7. LABORATORIES
VTJE 8. SPEECH
VTJE 9. PERSONAL DEVELOPMENT
VTJE 10. OFFICE MACHINES

Library Technician

VTLP 11. INTRODUCTION TO LIBRARY TECHNOLOGY  F. 2 hours.
This course is designed to give an overview of library service. A brief introduction to library history and philosophy is followed by a study of library organization, resources, public services, interlibrary operations, personnel, career opportunities, and current trends.

VTLP 12. TECHNICAL PROCESSES  F. 3 hours.
The student is introduced to the basic book, periodical, and pamphlet selection aids and how to use them. Practice is given in preparing orders, checking invoices, keeping records, collating, accessioning, giving book talks, telling stories, and preparing bulletin boards. An introduction to care of films, use of projectors, tape recorders, and record players is also included.

VTLP 13. MATERIAL PROCESSING AND CIRCULATION  W. 3 hours.
This course introduces the student to various circulation systems and circulation records keeping. Includes interlibrary loan procedures and special handling of unusual materials. Attention is given to the mechanical preparation of books for library use and the care and repair of books.

VTLP 14. REFERENCE MATERIALS  S. 3 hours.
This course is designed to enable the technician to make effective use of the library's resources. Students are required to construct bibliographies on various subjects and to become familiar with the use of the card catalog, handbooks, yearbooks, vertical files, etc. Practice is given in answering reference questions.

General Interpretations
1. In all cases residence of the student under 21 years of age, including married male students, will be that of the parent or legal guardian (except that the residence status of a married woman will be based upon that of her husband). Exceptions to this rule will be granted only when the parent or guardian has relinquished all responsibility for, or claim on, the student via due legal proceedings and a court order.
2. Residence of the student 21 years of age or over will be based upon the student's own status in accordance with the above regulations; or upon the status of the husband (not the wife) in the case of married students where such husband may qualify for residence status in accordance with the above regulations.
3. Once In-State or In-District residence is established it shall not be lost until the close of the current regular academic year by virtue of removal from the state or district by parent, legal guardian or spouse.

A required residence affidavit signed by the parent or legal guardian of each minor student or by the student if over 21, is required before final acceptance is granted.

STUDENT ACTIVITIES
Mesa College offers an extensive and varied program of extra-class activities in which all freshmen as well as sophomores are eligible and encouraged to participate.
The Student Body Association is governed by elected representatives organized into a legislative body known as the Student Cabinet. The Student Cabinet, operating within the framework of a formal constitution, provides a broad program of social, educational, and cultural activities for all students of the college.
In addition, the College provides a comprehensive program of activities including intercollegiate athletics, intramurals, drama, forensics, and numerous art and music groups in which interested students are encouraged to participate.
The Lectures and Concerts Committee, supplemented by the Student Cabinet, bring several nationally-known artists and lecturers to the campus each year to provide entertainment and educational and cultural enrichment to the faculty and student body.
The College does not have a system of social fraternities and sororities, but provides a large number of service and special interest clubs and organizations which offer all students the opportunity to participate as an integral member of a special group in which they have common interests.
Three junior college honorary groups have chapters on the Mesa College campus. They include Phi Theta Kappa, the national junior college honorary for students with high academic standing; Phi Rho Pi, a non-social national honorary forensic society for students who participate in college-sponsored speech competition; and Delta Phi Omega, an honorary dramatic fraternity for students who have contributed to the production of college plays and musicals.
The College Center Building provides offices for student government and student publications, and serves as a cultural, recreational, and social activity center available to all students. In addition, the Center includes the College Cafeteria, Snack Bar, and Bookstore.
Organization for Instruction

Mesa College offers programs of three general types:

1) Those offered by the nine Academic Divisions,
2) Those of a Vocational or Technical nature, and
3) Those offered through the Division of Continuing Education to serve the adult needs of the community.

The nine academic divisions of the College and the subject areas included in each are indicated below:

The Division of Biological Sciences and Home Economics: agriculture, biology, botany, forestry, home economics, zoology.

The Division of Business: accounting, general business courses, secretarial sciences.

The Division of Fine Arts: art, drama, music.

The Division of Health Programs: courses for the associate degree program in nursing, and supervision of a medical office assistant program and a program for practical nursing.

The Division of Humanities: education, English, literature, philosophy, reading, speech, and foreign languages.

The Division of Mathematics and Engineering: mathematics and engineering.

The Physical Education Division: physical education theory and activity courses for both men and women.

The Division of Physical Sciences: chemistry, geology, astronomy, archaeology, and physics.

The Division of Social Sciences: anthropology, economics, geography, history, political science, psychology, and sociology.

Vocational-Technical programs of the College are found in a separate section of the catalog and include offerings in the following fields:

Associate Degree Professional Nursing; Audio-Visual and Graphic Communications Technician; Auto Body and Fender; Automotive Mechanics and Technology; Child Care Center Director; Data Processing; Electronics; Engineering Technician; Geologic Technician; Job Entry in Business; Library Technician; Medical Office Assistant; Police and Fire Service: Practical Nursing; Secretary, Legal or Scientific; Travel and Recreation Management; Welding.

The program for the two years at Mesa College will depend upon what the student plans to do at the end of two years. For those who plan to continue college work in a four-year college or university the courses in liberal arts, which are equivalent to such first- and second-year courses at higher institutions of the state, are required. Certain definite lower-division requirements are met by the courses leading to the Associate in Art or the Associate in Science degree. Other courses will depend upon the field in which the student's major interest lies, but will consist of such as fit into the student's planned program to be followed in the junior and senior years.
struction

For those who do not plan to continue beyond the junior college, several non-specialized programs are offered. These provide for a broad training and liberal choice of electives. For those who desire to prepare for a specific vocation, guidance is given in selecting the appropriate course for such preparation.

In recent years Mesa College has given increased attention to providing programs of Vocational and Technical Education for students who do not plan, at least immediately, to complete a four-year degree. These specialized programs of a terminal, technical, or semi-professional nature are designed to help students develop the specific skills required for employment in the various technical occupations for which the training is offered.

A program of Continuing Education is designed to provide opportunities for adults to receive both academic and vocational preparation in various fields. Related training in several apprentice trades is given through the program.

MESA COLLEGE RESERVES THE RIGHT TO WITHDRAW FROM ITS OFFERINGS ANY COURSE WHICH THE ENROLLMENT DOES NOT JUSTIFY GIVING, FOR ANY PARTICULAR QUARTER. ADDITIONAL COURSES WILL BE ADDED ANY QUARTER IF THERE IS SUFFICIENT DEMAND.

ADMISSIONS INFORMATION

and

GRADUATION REQUIREMENTS

ADMISSION TO MESA COLLEGE

Admission to Mesa College is granted upon the filing of an application for admission and the presentation of satisfactory credentials. All applications must be filed upon the official forms available at the College, or, for Colorado residents, at the office of the high school principal. A $10 evaluation fee must accompany the admission application.

Colorado high school graduates who have completed satisfactorily a minimum of fifteen acceptable units of high school work are eligible for admission to the freshman class. The application for admission, which includes a transcript of the high school record properly filled out and signed by the high school principal, should be on file in the Admissions Office not later than August 15 for the Fall Quarter. As the number of approved applicants approaches the planned capacity for the Fall Quarter this deadline may be advanced to on or near August 1. Applications for admission for the Winter and Spring Quarters should be on file in the Admissions Office not later than two weeks prior to the beginning of the quarter.

OUT-OF-STATE RESIDENTS

Applicants who are not residents of Colorado and who are entering college for the first time must rank in the upper two-thirds of their high school graduating class to be eligible for admission to Mesa College.
TRANSFER APPLICANTS
An applicant for admission who has already attended another institution of college rank may not disregard his collegiate record and apply for admission as a first-time freshman.

Transfer students (Colorado residents) who may be on probation or suspension from the institution previously attended cannot be admitted until they have been approved by the Admissions Committee. In such cases the applicant must address a written petition to this committee describing the circumstances leading up to the probation or suspension status and any significant changes in these circumstances that would indicate that a successful record might be established at Mesa College. Out-of-state transfer applicants must be in good standing at the collegiate institution most recently attended to be eligible for admission to Mesa College.

ADVANCED PLACEMENT
The college will recognize unusual secondary school work by means of advanced placement for those who have taken especially enriched or accelerated courses before entering college. Applicants ordinarily qualify for such placement by satisfactory achievement on placement examinations prepared or approved by respective departmental staff members. Further information may be obtained by writing the Admissions and Records Office.

ADMISSION TO ADVANCED STANDING
Students honorably dismissed from other colleges or institutions may be admitted to advanced standing in Mesa College. Students applying for advanced standing will furnish to the Admissions Office a transcript of all college work sent from each institution attended. Transfer students will be required to take the ACT test prior to registration unless the test has been taken previously and an official record of the scores is on file with the Director of Admissions. Such test scores are not a regular part of the official transcript and are released by the student's former school only at the student's specific request. A high school transcript is required of all transfer students.

HEALTH CERTIFICATE AND RESIDENCE AFFIDAVIT
Students entering Mesa College for the first time are required to send a certificate of good health signed by a family physician or a physician approved by the college. This certificate is available at the college office.

Each student is required to file a notarized residence affidavit at the time he first registers at Mesa College for the academic year. This affidavit is to be signed by the parent or legal guardian of each minor student, or by the student, if over 21. These affidavit forms will be provided each student as a part of pre-registration information and material.

These two items are required before acceptance is granted.

ADMISSION OF VETERANS
Mesa College is open to any veteran who qualifies for college education and its Veteran Service program has been organized to give the most efficient assistance possible in planning his program of study.

The College is approved by the Veterans Administration for the education and training of veterans under Public Law 95-834 and others.
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Public Law 694 and others.

Admission Requirements / 23

A veteran who does not meet the normal entrance requirements for
admission, but who proves, through tests, that he is ready to do
college work, will be admitted.

A veteran may take regular courses leading to an associate degree
granted by Mesa College and preparing him for entrance to the
higher division of four-year colleges and universities, or he may
follow a terminal program designed to prepare for some specific
occupation.

NOTE—Students who wish to qualify for Veterans Administration
benefits should come prepared to finance their living expenses for a
period of sixty days. This is the normal length of time required to
set up a veteran’s file in the regional office and for the issuance of
monthly checks. All veterans must present a photostatic copy of their
discharge in order to be excused from the Physical Education re-

ADMISSION OF SPECIAL STUDENTS

Mature individuals who lack some of the requirements for admission
as regular students may be admitted as special students on a full or
part-time basis. Special students may become regular students upon
fulfilling the requirements for entrance. This may be done by pass-
ing the high school level tests in General Educational Development
or, in some cases, by substituting certain college courses for high
school units.

REGISTRATION AND COUNSELING TESTS

The college admission tests of the American College Testing (A.C.T.)
Program are required of all new students prior to registration at
Mesa College. It is recommended that prospective students take
these tests during their senior year. Transfer students should contact
the registrar sufficiently in advance of registration to make arrange-
ments to take the tests, or to have an official report of the scores
from a previous administration on file prior to registration. The tests
are available at designated centers throughout the state and region
on five different dates, in October, December, February, April, and
August.

A $6.00 fee must be submitted with registration form to the A.C.T.
Regional Office four weeks prior to the date on which the student
elects to take the test. Detailed information regarding testing centers,
dates, and registration supplies will be available through high school
principal or from the Director of Admissions at Mesa College.

A residual testing program will be available in connection with Fall
and Winter Registration for those students who do not take the tests
during their senior year. These students will be required to take the
tests during the Fall Registration Orientation program or, for the
Winter Quarter, one day prior to registration in order that results
will be available to students and their advisors during registration.
A special testing fee will be collected from these students at the time
they report for testing.

Students do not “pass” or “fail” these tests. The results are avail-
able to the student and his counselor and form an excellent basis
for counseling and planning a course of study to meet the particular
needs of students, and assist in sectioning and placement of students
in class sections in keeping with their abilities and interests. Extra
classroom instruction is provided during the first quarter for those
whose test scores indicate weaknesses or deficiencies in certain areas
such as English and mathematics.
College Board Scholastic Aptitude Test scores (S.A.T.) when received, are filed in the student's permanent record and personnel folder where they are available for counseling purposes if desired. However, these S.A.T. scores are not required by Mesa College and will not excuse the student from the A.C.T. program.

PROFICIENCY EXAMINATIONS
Proficiency examinations may be taken by regularly enrolled students to determine whether credit may be allowed for courses taken in an unapproved institution or higher learning; to determine amount of credit to be given for work done outside of class; and to provide a basis for exemptions from certain courses.

DIVISIONS AND DEPARTMENTS OF INSTRUCTION
Mesa College offers courses under the following divisions and departments: Agriculture, Art, Biological Science, Business, Chemistry, English, Foreign Language, General Education, Geology, Health, Home Economics, Humanities, Mathematics and Engineering, Music, Nursing, Physics, Physical Education, Psychology and Education, Social Science, Speech and Drama, Technical and Vocational, Trades and Industry, Continuing Education.

COURSES OF STUDY REQUIREMENTS
The course of study which an individual student pursues depends upon his present interests and his future plans. Freshman requirements for the principal courses offered at Mesa College are similar to those at senior colleges. Students who plan to continue college work after leaving Mesa College should decide upon the college to which they will transfer and plan their course here so that freshman and sophomore requirements of the college of their choice will have been met. This is a student responsibility although counselors will be glad to help.

REGISTRATION
In order to become a student of Mesa College, whether regular or special, an applicant must register on official forms provided by the college and at the appointed time. Credit will be given only for courses in which the student is registered.

N.C.D. 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. A student may combine in his registration both credit and N.C.D. courses, but the total hours involved should not exceed a normal schedule.

Those whose major interest lies in the field of Education, English, Foreign Language, History, Law, Music, Social Science, or Speech, should register to meet the requirements of the Associate in Arts degree and, in addition, take the specific courses required in one of these fields, by the school to which they expect to transfer.

Those who are interested in Agriculture, Dentistry, Engineering, Home Economics, Mathematics, Medicine, Pharmacy, Nursing or related fields, should register in courses leading to the Associate in Science degree, and take the particular courses required by these departments in the universities and professional schools of their choice in the first two years.

CERTIFICATES, DIPLOMAS, DEGREES
Mesa College grants a certificate, diploma, or degree, according to the type of curriculum selected by the student and upon completion

VTET 51. CALIBRATION AND MAINTENANCE OF TEST EQUIPMENT S. 4 hours
An introductory presentation of the basic theory and principles of the construction and operation of instruments most often used by industry. Emphasis will be placed on the standardization, calibration, serving and maintenance of the major portion of industrial test equipment. Class: 2 hours. Laboratory: 4 hours.

VTET 54. RESEARCH PROJECT W. 1 hour
Individual assignment to the development of apparatus of special interest to the student with the instructor's approval. Students provide their materials. A written report of the work will be made. Frequent conferences between the student and his adviser will serve to guide the student's progress. In writing the report the student will be guided by principles learned in VTET 55. Prerequisite: VTET 55. Laboratory: 3 hours.

VTET 55. INTRODUCTION TO COMPUTERS S. 4 hours
The student is introduced to the binary concept. He is shown how two states can be used to perform logic functions and count. He will use simpler logic gates to construct more complex devices. The student studies Boolean algebra, logic truth tables, and how the transition from a logic requirement to a gaging network is accomplished. He also will deal with digital subsystems and study the mathematical process of binary addition including methods of complementary binary subtraction, binary coded decimal counting and code conversion. Finally he brings together the above knowledge by discussing digital systems.

Engineering

VTET 11. SPECIFICATIONS AND COST ESTIMATES F. 2 hours
Preparation of specifications and contract documents. Estimates of cost and construction. Bidding schedules for civil engineering projects. Prerequisite: 2 years of high school mechanical drawing or Engineering 16 or consent of instructor.

VTET 12. FLUID MECHANICS AND HYDRAULICS W. 3 hours

VTET 30. CONSTRUCTION PRACTICES S. 3 hours
A study of construction techniques, materials, structural systems, and job, site planning.

VTET 31. CONCRETE I W. 3 hours
An introduction to cement, aggregates, selection and design of concrete mixtures, and sampling and testing procedures.
VTOL 19. BASIC ELECTRONICS  S.  7 hours.
   Electron emission, thermionic emitters, vacuum tube, static and dynamic characteristics, concepts of semiconductors, classes of amplifier operations, transistor types, transistor equivalent circuits, beam power vacuum tubes, multisection tubes, gas tubes, phototubes and electron-ray indicators, cathode-ray tube, high frequency tubes, tube and semiconductor manual and specification interpretation, tube designation and biasing. Prerequisites: VTOL 15 and VTOL 18. Class: 4 hours. Laboratory: 6 hours.

VTOL 51. PULSE AND VIDEO CIRCUITS I  F.  5 hours.
   The study of electronic circuit technology applying the principles of vacuum tubes to circuits designed to produce nonintrinsic or pulse signal waveforms. Analysis of multivibrators, blocking and shock excited oscillators, limiters, clamps and sweep generator circuits will be made both in the classroom and laboratory. Class: 3 hours. Laboratory: 4 hours.

VTOL 52. PULSE AND VIDEO CIRCUITS II W.  4 hours.
   A continuation of VTOL 51 with emphasis on the analysis of electronic circuits and systems utilizing the circuits studied in VTOL 51. Television and radar is studied applying the principles of pulse shaping circuits. Class: 2 hours. Laboratory: 4 hours.

VTOL 53. TRANSISTOR ELECTRONICS I  F.  4 hours.
   A course of semiconductor action, junction transistor, static characteristics; principles of transistor circuitry, transistor circuit parameters, common-base amplifier, common-emitter amplifier and bias stabilization. Laboratory application will be to audio amplifiers, voltage-regulated power supplies, superheterodyne receivers and transistors, transmitters. Class: 2 hours. Laboratory: 4 hours.

VTOL 56. COMMUNICATION THEORY I  F.  4 hours.
   Amplitude modulation and frequency modulation. Radio frequency oscillators and power amplifiers, antennas, modulators, radio-frequency measurements. Two-way communications. Requirements for government radio operator licenses. Communications application. Prerequisite: VTOL 10. Class: 2 hours. Laboratory: 4 hours.

VTOL 57. COMMUNICATION THEORY II W.  4 hours.
   Continuation of VTOL 56. Prerequisite: VTOL 51. Class: 2 hours. Laboratory: 4 hours.

VTOL 58. PHYSICS  F.  5 hours.
   Graphical and mathematical analysis of force, laws of motion, machines, mechanical power, strength of material, fluid mechanics and thermal conductivity; basic principles of physics. Emphasis on applied problems. Class: 4 hours. Laboratory: 4 hours.

VTOL 59. ULTRA-HIGH FREQUENCIES AND MICROWAVES I  W.  4 hours.
   Line sections, wave guides and cavities; UHF tubes and oscillators; klystrons, magnetrons and traveling-wave tubes; microwave antennas; principle of radar and microwave systems. Prerequisite: VTOL 15 and VTOL 51. Class: 2 hours. Laboratory: 4 hours.

Graduation and Degree Requirements

of the specific requirements of each. These include completion certificates, a Mesa College diploma, and the degrees, Associate in Arts, Associate in Science, Associate in Commerce, and Associate in Applied Science.

A completion certificate may be awarded those who complete satisfactorily a terminal course of less than two years duration.

No student will be awarded more than one degree.

GRADUATION (Minimum Requirements)

To graduate from Mesa College a student must:

1. Have been regularly enrolled at least three quarters, including the one next preceding the time of his graduation, and must have earned a minimum of 24 quarter hours at Mesa College.

2. Complete with an average of C (2.0 GPA) or better, 93 credit hours, including social science or literature, 9 hours; English 11 and 12, 6 hours, plus either English 13 or 3 hours of freshman literature; and physical education, 3 hours, to qualify for the MESA COLLEGE DIPLOMA.

   Additional requirements for an ASSOCIATE DEGREE include the specific course requirements listed on this page and on page 40 and, in the event that credit hours exceed 93, an overall average of C or better is required on all credit hours attempted.

3. File with the Director of Admissions and Records a petition for graduation within 3 weeks after registering for the last quarter.

4. Satisfy all general and specific requirements of Mesa College which pertain to him, including the fulfillment of all financial obligations.

5. Have removed from his record all marks of deficiency in those subjects for which he expects to receive credit toward graduation.

6. Be in attendance upon the Commencement exercises of his class unless a petition of absence, properly made by him to the committee on graduation, is approved by that committee.

DEGREES

The Associate in Arts and Associate in Science degrees are granted to students who qualify as regular students, meet the minimum requirements for graduation stated in the preceding paragraphs, and in addition complete the appropriate specific degree requirements as follows.*

* Specific requirements for the Associate in Commerce Degree may be found on page 40.

General Requirements for all DEGREES and the MESA COLLEGE DIPLOMA

All Mesa College graduates must complete with an average of C, or better, 93 hours, including:

   Freshman English ................................................................. 9 hours
   Social Science or Literature .............................................. 9 hours
   Physical Education (3 quarters of activity courses) ............... 3 hours

Specific Requirements for the ASSOCIATE IN ARTS DEGREE

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Specific Requirements for the ASSOCIATE IN SCIENCE DEGREE

Laboratory science and mathematics 39 hours
Approved electives 33 hours

Specific Requirements for the ASSOCIATE IN APPLIED SCIENCE DEGREE

Students enrolled in one of the specially designed Vocational-Technical curricula may qualify for this degree upon completion of the general requirements listed above and the specific technical course requirements appropriate to the curriculum in question. The specific V-T course requirements are listed in the Vocational-Technical section of this catalog. The general requirement of nine hours in Social Science or Literature is modified to include Psychology for this degree.

TEACHER PREPARATION

Mesa College recognizes the need for teachers, and encourages students of ability to prepare for teaching. A four-year program of training is needed for entry into the teaching profession, and students should plan their two years at Mesa in accordance with the requirements of the higher institution to which they expect to transfer. Since the first two years of teacher training is basically general education for improvement of background, students should follow the General Liberal Arts (transfer) program with suitable choice of electives. Mesa College has an active student education organization, M.E.S.A., which is affiliated with the Colorado Student Education Association. The Mesa College chapter is represented at state education meetings and conventions.

TRANSFER OF CREDIT

Accreditation by the North Central Association of Colleges and Secondary Schools assures the acceptance of credits earned at Mesa College by other accredited colleges and universities throughout the United States. However, students are reminded that acceptance of transfer credit by any accredited college depends upon the individual student's previous grade average and a certification from the registrar of the former school that the student is in "good standing".

A student in good standing is entitled to a transcript of his record at no charge. One transcript is furnished free of charge. A fee of $1.00 is charged for each additional transcript.

Credits transferred from an accredited junior college are accepted in senior colleges and universities up to a maximum prescribed by the particular institution for the first two years of a curriculum similar to the one from which the student transfers.

Junior colleges in Colorado are authorized by State law to provide only the first two years of college instruction. This is the equivalent of 90 academic hours, plus three hours of physical education, for most higher institutions.

Students who earn more than 90 academic hours may not receive credit for the excess hours on transfer to a four-year state college in Colorado that requires only 90 hours for Junior standing.

A student expecting to transfer to a senior college is advised to examine carefully the current catalog of the particular college he expects to enter and to follow as closely as possible its particular recommendations for programs of study.

exponents and radicals; quadratic equations; vector algebra including complex quantities and "j" operator. Class: 4 hours.

VT 12. MATHEMATICS FOR ELECTRONICS  W. 4 hours.

Trigonometry as applied to technical work; use of tables; solution of right triangles; law of sines and cosines; logarithms; graphical representation of the trigonometric functions. Class: 4 hours.

VT 13. MATHEMATICS FOR ELECTRONICS  S. 4 hours.

Mathematics used in solving problems involving vector and harmonic motion; complex rotation and vector algebra; functions and graphs; graphic methods used in solving problems relating to slope and rate of slope change; basic calculus; including limits; derivations and integrations; mechanics of La Place operational calculus as related to the study of control circuits; problem assignments illustrating applications; oscilloscope demonstrations showing mathematical interpretations of electric waveforms; differentiation and integration to provide an understanding of expressions frequently encountered in technical literature. Class: 4 hours.

VT 14. SHOP PROCESSES  F. 2 hours.

The course is designed to help the student develop information in the use of hand tools, machine tools, equipment and various types of material which he will encounter in his work as a technician. Laboratory exercises are designed to introduce students to tools, materials and equipment. Shop safety is stressed. Class: 1 hour. Laboratory: 2 hours.

VT 15. TECHNICAL DRAWING  I  F. 1 hour.

An elementary course designed for students having limited drawing experience. Use of templates, including lettering templates; fundamentals of drawing, and drafting room practices; electrical circuit drawing, terms, symbols and standards. All symbols used are those established by the U.S. Bureau of Standards. Emphasis is placed on construction and interpretation of typical industrial drawings. Laboratory: 2 hours.

VT 17. CONCEPTS OF DIRECT CURRENT CIRCUITS  F. 7 hours.

An introduction to electronics, atomic structure, electrodynamics, basic electrical units, electronic components and diagrams, powers of ten, ammeters, voltmeters, ohmmeters, multimeters, Magnetic fundamentals, electromagnetism, meter movements, special meters, Kierchoff's first and second laws, electrical power, self inductance, mutual inductance, inductors, capacitors, capacitor marking systems, capacitor theory. Class: 4 hours. Laboratory: 3 hours.

VT 18. ALTERNATING CURRENT CIRCUIT ANALYSIS  W. 7 hours.

Generation of alternating current, alternating current fundamentals, multi-polar generators, introduction to vectors, A-C resistive circuits, inductance, inductive reactance and impedance, series L-R circuits analysis, parallel L-R circuits analysis, A-L time constants, capacitance and capacitive reactance, series R-C circuits analysis, parallel R-C circuits analysis, R-C time constants, series R-L-C circuit analysis, parallel R-L-C circuit, power in A-C circuits, series, parallel resonant R-L-C circuits, Q and bandwidth of resonant circuits, impedance matching and reflected impedance, transformer losses and ratings, application of vector algebra in the analysis of impedance networks. Prerequisites: Mathematics VTEL 11. The course is conducted in conjunction with Mathematics VTEL 12. Class: 4 hours. Laboratory: 3 hours.
Data Processing

VTDP 11  INTRODUCTION TO DATA PROCESSING  F.  2 hours.
An introduction to the fundamentals of business data processing systems. This course is designed to introduce the student to basic unit record equipment and the computer. For the person who is contemplating going into the data processing field this is an excellent opportunity to investigate this rapidly growing vocational area.

VTDP 12  KEYPUNCH AND VERIFIER  FW.  2 hours.
This course is designed to teach the basic fundamentals of both the keypunch and verifier machines and to develop operational skills with both.

VTDP 13, 14  PRINCIPLES OF PUNCH CARD EQUIPMENT I, II  WS.  5 hours.
A course designed to acquaint students with the operation and application of automatic data processing equipment. The student will use the latest IBM equipment in gaining an ability to solve business problems at electronic speeds. Systems and procedures involved in data processing will be stressed throughout.

VTDP 15, 16  DATA PROCESSING MACHINES I, II  FWS.  3 hours.
A night school program similar to VTDP 13, 14 but intended primarily for adults in the community.

VTDP 51  ASSEMBLER LANGUAGE AND FLOW CHARTING  F.  5 hours.
A beginning programming course that will include computer logic flow charting and programming fundamentals. The student will write programs in Assembler language for the IBM 360 System.

VTDP 52  COBOL PROGRAMMING  W.  5 hours.
The student will write programs using Cobol. An emphasis will be placed on traditional business applications such as payroll, accounts receivable and inventory control. Methods will be covered enabling the student to debug and document their programs.

VTDP 53  FORTRAN IV  S.  3 hours.
Develops skill in Fortran IV involving scientific, engineering and mathematically oriented programs. Students will convert mathematical formulas to Fortran IV instruction permitting the computer to handle the mechanics of the problem.

VTDP 54  AUTOMATED SYSTEMS  S.  5 hours.
This course requires students to work together as a systems team to analyze actual business applications and convert these to an automated system. The new system will be designed and flowcharted by the students and the programs written in Cobol. The course emphasizes the methods of system documentation which will permit adequate disclosure.

VTDP 55  RPG  S.  5 hours.
A course teaching the student to program in RPG. The applications will primarily be concerned with the writing of lists, reports and financial statements. Also operating procedures for the 360 System will be explained.

Electronics

VTEN 11  MATHEMATICS FOR ELECTRONICS  F.  4 hours.
A review of algebra, geometry and the fundamental concepts of trigonometry; special products and factoring; simultaneous equations;
ACADEMIC PROBATION AND SUSPENSION

Students who fail to make minimum acceptable grade-point averages for any given quarter will be placed on academic probation by the Admissions Committee for the succeeding quarter enrolled. Students failing to meet minimum prescribed academic standards for two consecutive quarters are subject to academic suspension for one or more terms. In cases of extremely low grades students may be suspended at the end of the first quarter of attendance. Students who are on academic probation are not eligible to hold office in student organizations, nor to represent the College in any regularly sponsored group or activity.

EVALUATION

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

GRADE REPORTS

Individual reports are sent to parents, or by request, to individual students who have reached their majority at the end of each quarter. Special reports may be obtained upon application to the Records Office at any time. An official report is withheld, however, until all fees are paid.

SYSTEM OF GRADES

Grades in Mesa College are indicated as follows: A, for superior work; B, good; C, fair; D, minimum passing; F, not passing; Inc., incomplete; S, satisfactory; U, unsatisfactory; WP, withdrawn passing; WF, withdrawn failing; TP, for unapproved withdrawal; and WN, withdrawn from non-credit course.

INCOMPLETES

A grade of “Incomplete” may be reported only on account of illness at the time of a final examination, or when the student for reasons beyond his control has been unable to finish all the work of the course. This grade may be given only upon agreement between the instructor and the Records Office of the College. If arrangements for satisfactory completion of the course are not made before the end of the following quarter a grade of “F” will be assigned for the course.

WITHDRAWAL FROM COLLEGE

A student who desires to withdraw from the college should notify his faculty advisor and report to the Office of the Dean of Students, where the necessary withdrawal papers will be filled out and officially signed by the Dean of Students or one of the Associate Deans. The student will receive a grade of “WP” (Withdrawal Passing) for each course in which he is passing at the time of withdrawal; and a “WF” (Withdrawal Failing) for each course he is failing. Failure to record the withdrawal with the appropriate Dean within one week after withdrawal proceedings have been initiated will result in the assignment of a grade of “TP” (Technical Failure) in each course.

Official withdrawal from the College will not be granted during the last three weeks of a quarter, except in emergencies.

HONORABLE DISMISSAL

A statement of “honorable dismissal” will be given a student if at the time of withdrawal his status as to conduct, character, and scholarship is such as to entitle him to continue in the College.

VTBU 57. RETAILING-MARKETING

Basic principles of selling, retailing, merchandising, and advertising. Successful leadership in retail selling explored.

VTBU 58. SMALL BUSINESS MANAGEMENT

Designed for those students contemplating small business ownership or management. Topics include: Markets, inventory, ownership alternatives, long-range planning, travel and recreation industries.

VTBU 59. BUSINESS MANAGEMENT PRACTICES

Designed to help managers and directors of children’s centers, or for assistants having responsibilities for office work. Record keeping, including the business and financial reports that are essential. Good personnel relations, and sound purchasing techniques.

VTBU 60. MEDICAL TRANSCRIPTION

The aim of this course is to build shorthand and transcription competency in working with medical correspondence and professional records. Transcribing machines and direct dictation will be used. Prerequisite: Secretarial Science 23 or permission of the instructor.

VTBU 61. LEGAL TRANSCRIPTION

A course designed for students who plan to work as legal secretaries. The course will consist of transcribing legal material from both shorthand notes and transcribing machines. Emphasis will be placed on the correct arrangement and typing of the various legal documents. Prerequisites: Secretarial Science 14, Secretarial Science 23, and VTBU 57 or permission of the instructor.

VTBU 62. SCIENTIFIC TRANSCRIPTION

Skill is developed in transcribing from dictation and prepared tapes specialized words and terms used in chemistry, physiology, and other sciences. Emphasis on accuracy of transcription and correct spelling. Transcribing machines and direct dictation will be used. Prerequisite: Secretarial Science 23 or permission of the instructor.

Child Care

VTCC 11. NURSERY SCHOOL EDUCATION

S. 1 hour. The nursery school as a laboratory for learning about children; its philosophy, goals, and operation. Students will spend one morning a week at assigned laboratory experience, and have a group meeting one day a week for discussion and evaluation.

VTCC 51. PRINCIPLES OF CHILD WELFARE

W. 2 hours. History and philosophy of child welfare movement. Study of laws affecting children at all governmental levels. Local, state and national agencies offering family and child welfare services. Licensing and health regulations for children’s centers.

VTCC 52, 53. INTERNSHIP IN LICENSED CENTER

WS. 3 hours. Students spend a minimum of three hours per day working in licensed centers under a qualified teacher. Supervised by college instructor with conference periods and evaluation of student’s progress.

VTCC 55. TECHNIQUES OF ADULT EDUCATION

S. 3 hours. This class is intended to help the student understand the teacher’s role in adult education: to know how and why adults want to learn; how to plan a course of study for adults; and to learn methods and techniques used in teaching.
Biological Sciences and Home Economics

VTBU 12. NUTRITION F. 3 hours.
A study of the function of foods and their relationship to health.

VTBU 13. DIET THERAPY F. 1 hour.
A study of diets as related to conditions of illness and their role in the treatment. Laboratory experience is arranged.

Business

VTBU 12. INTRODUCTION TO BUSINESS F. 3 hours.
This is an orientation course for vocational students in business programs to facilitate the adjustment of the student to college and to introduce him to the field of business. The course surveys the American business system with emphasis on the market, structure and function of business operations, and the interrelations between the businessman and his environment.

VTBU 13, 14, 15. PRINCIPLES OF ACCOUNTING FWS. 3 hours.
Intended for those vocational students who plan to enter the field of business. The course includes the development of the fundamental principles of double-entry bookkeeping, the balance sheet, profit and loss statements, controlling accounts, partnership accounting, opening corporation books, bonds, bond sinking funds, and managerial uses of financial statements. The final quarter is devoted largely to corporate accounting and the completion of a practice set. Class meets daily.

VTBU 16. SALESMANSHIP F. 3 hours.
Selling techniques developed. Psychological factors, initiative, and personality involved in influencing others in business transactions are studied.

VTBU 17. ADVERTISING W. 3 hours.
A study involving the student in the dynamics of modern advertising, its practices, principles, media, and methods. It emphasizes the role and responsibilities of advertising in a changing business world.

VTBU 31. BUDGETING I F. 3 hours.
Nature and objectives of budgeting, budgeting and management, budgeting procedures.

VTBU 32. BUDGETING II W. 3 hours.
Sales budget, production budget, operating expense budget, estimated income statement, capital expenditures budget.

VTBU 33. AUTOMATED ACCOUNTING W. 3 hours.
Introduction to automated equipment and its use as applied to payroll, banking, accounts receivable, accounts payable, and general ledger; operation of tab equipment related as input to computer.

VTBU 34. MUNICIPAL OF FUND ACCOUNTING W. 3 hours.
Accounting and financial records of national, state, and local governments, and institutions such as schools and hospitals.

VTBU 35. ADVANCED ACCOUNTING S. 3 hours.
Accounting statements reviewed, theory of income, asset and equity valuation.

VTBU 36. PURCHASING S. 3 hours.
Acquisition and control of equipment and supplies, purchasing policies, selection, source, economies of the market.
TYPE CURRICULUMS AND COURSE DESCRIPTIONS

The following pages provide suggested curriculums and descriptions of courses available in the various divisions and subject matter areas and departments to assist students in planning their courses. The curriculums include both general and special requirements for graduation with the appropriate degree or diploma as indicated. Faculty advisers will assist in selecting courses for other fields which may be desired by students and in accordance with requirements of specific institutions.

Arts and Science courses offered at Mesa College are grouped in thirty-seven departments or fields of study within nine major divisions. The descriptions which follow indicate the content of the course and list the pre-requisites for those which are not beginning courses. Courses are numbered and given titles. For example, History 55 is a course number and United States History is the corresponding course title.

Courses numbered from 1 through 9 are remedial in nature and not intended for transfer nor for Associate Degree requirements. Courses numbered from 10 to 50 are designed for freshmen and those numbered above 50, for sophomores. Numbers end in 1, 2, 3, according to the quarter in which they are regularly offered. Some courses, however, are offered two or three quarters during the year so that students may enter at the beginning of any quarter and be able to take a full schedule of work. PWS means fall, winter, spring.

Orientation

Each first-time student is required to participate in the Orientation program during Fall Quarter for transfer students and new freshmen. This program aids the student in his adjustment to college as it deals with planning a course of study, study habits, extra-curricular activities, social and personal adjustment. Students meet in small groups with assigned faculty advisers. Assemblies covering many of the areas mentioned above will be conducted throughout the academic year.

Specific orientation or introduction courses are required of students majoring in such areas as Agriculture, Business, Engineering, Forestry, and Home Economics.

Curriculums

Two types of general curriculums are suggested on the following page. For students who have definite majors in mind, additional suggested curriculums will be found at the beginning of the catalog sections devoted to the respective academic divisions. The curriculums found within the respective divisions represent sample or type curriculums to assist students in planning a program related to a certain subject-matter area and are not all-inclusive. There are sufficient course offerings throughout the various divisions to provide many other subject matter and vocational areas in which students may secure one or two years of lower-division course work at Mesa College. Following are some suggested subject-matter areas for which specific sample curriculums will not be found but which can be provided for by substituting appropriate courses available within the division in some of the existing suggested curriculums:


VTA 16. SOUND APPLICATION  S. 3 hours.
This course is designed to develop competencies in the recording of sound for use by teachers in classroom situations.

VTA 51. ADVANCED PRODUCTION I— STILL PHOTOGRAPHY  F. 3 hours.
This course is designed to develop competencies in the production of still photographic materials which teachers can use in classroom situations.

VTA 52. ADVANCED PRODUCTION II— MOTION PICTURE PHOTOGRAPHY  W. 3 hours.
This course is designed to develop competencies in the production of 8-mm and 16-mm motion picture materials which teachers can use for instructional purposes.

VTA 53. ADVANCED PRODUCTION III  S. 5 hours.
This course is designed to develop competencies in basic television production skills for use in both education and industry. Students will become involved with camera operation, studio lighting, set design, television direction, operation of video tape equipment and other skills basic to television operation.

VTA 54. ORGANIZATION OF INSTRUCTIONAL MATERIALS I  S. 3 hours.
This class will serve as a basic course in the techniques of procedural operation of an instructional materials center, a study of the methods of keeping records and data, procedures, and basic in-service training techniques.

VTA 55. ORGANIZATION OF INSTRUCTIONAL MATERIALS II  W. 3 hours.
A study of library techniques and procedures, both book and film, physical arrangements and traffic patterns. Sources of equipment and materials will be researched and studied.

VTA 56. ORGANIZATION OF INSTRUCTIONAL MATERIALS III  S. 2 hours.
A final look at the field and a preview of things to come. Outside speakers will be utilized, and an independent study of the field will be undertaken. A year-end convention-demonstration may be held, with the graduating class managing the arrangements.

VTA 57. PROJECTION EQUIPMENT MAINTENANCE  W. 4 hours.
A course in understanding the mechanical and electronic operation of projection equipment, and a study of repair and maintenance problems. The course will consist largely of applied laboratory.

VTA 58. TRANSCRIPTION EQUIPMENT MAINTENANCE  S. 5 hours.
A study of understanding the mechanical and electronic operation of tape recorders, record players, and other magnetic storage devices, covering repair, problem locating, and trouble-shooting. The course will consist largely of applied laboratory.
VTAM 55. AUTOMATIC TRANSMISSION
FUNDAMENTALS  F. 5 hours.
The principles of operation of planetary gear sets, fluid couplings, torque converters, servor, bands, clutch packs and control circuits are the main objectives of this course.

VTAM 57. TROUBLE SHOOTING  W. 4 hours.
The ability to diagnose automotive troubles is of great importance. Here the student is given specialized training in this area.

VTAM 58. SERVICE MANAGEMENT  S. 4 hours.
This course is designed to introduce the student into the basic problems and solutions of service management. It will deal with management control, scheduling work, flat rating service charges, work orders, training, managing service personnel and customer relations.

VTAM 59. AUTOMOTIVE MACHINING AND
ENGINE REBUILDING  S. 4 hours.
This course has been designed to develop basic skills in the specialized field of automotive machine work and engine rebuilding. It includes cylinder reboring, reconditioning of connecting rods, pistons, pins, valve seats and guides, surface grinding and general engine rebuilding.

VTAM 60. BODY SERVICES  S. 1 hour.
A short course dealing with the servicing and adjusting of doors, window mechanism, trunk lids, glass and trimming.

Audio-Visual

VTAV 11. GRAPHIC ARTS I  F. 3 hours.
This course is designed to develop competencies in the preparation of graphic materials.

VTAV 12. GRAPHIC ARTS II  W. 3 hours.
This course is designed to develop competencies in the preparation of transparencies and paper copy materials.

VTAV 13. GRAPHIC ARTS III  S. 3 hours.
An introduction to graphic arts technology as related to the reproduction of various graphic design techniques; provides opportunity to develop basic skills in offset lithography, screen process, and relief printing.

VTAV 14. VISUAL COMMUNICATION AND
GRAPHIC ARTS  F. 3 hours.
Techniques and methods of graphic arts and their relation to a more effective visual communication medium, including the psychology of perception and also public opinion, polls, and surveys. A survey of the visual communication field.

VTAV 15. INTRODUCTION TO EDUCATIONAL MEDIA  S. 3 hours.
An introductory formal course in educational media designed to impart the philosophy, aims and content of the field. Emphasis will be placed on the role of communications technology in education. Operation of equipment and production of materials will be overviewed.

GENERAL CURRICULUMS
(Broad programs available to students who have not selected a definite major in one of the specific divisions.)

GENERAL EDUCATION
Associate in Arts

FIRST YEAR

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SECOND YEAR

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</tr>
<tr>
<td>Literature</td>
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GENERAL LIBERAL ARTS (Transfer)
Associate in Arts

FIRST YEAR

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Hours</th>
<th>Winter Quarter</th>
<th>Hours</th>
<th>Spring Quarter</th>
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<tbody>
<tr>
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<td>English 13</td>
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<td></td>
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<td>18</td>
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</tbody>
</table>

Note: A foreign language is advised if the student is planning on two years of a language in his course of study. First-year language may be substituted for mathematics or science by those students who prefer to complete two years of language at the junior college level.

SECOND YEAR

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Hours</th>
<th>Winter Quarter</th>
<th>Hours</th>
<th>Spring Quarter</th>
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<tbody>
<tr>
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</tr>
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<td>Psychology 21</td>
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</table>
Division of Biological Sciences and Home Economics

The Division includes the course offerings in the areas of Agriculture, the Biological Sciences, and Home Economics.

The aims of this division are to provide for our students:
1. The basic courses in a pre-professional curriculum.
2. Courses for non-science majors for general education.
3. Vocational training for those students who will terminate their education at the junior college level.

AGRICULTURE

AGRICULTURE SCIENCE*
Associate in Science

Those students entering into Agriculture Science should have a good mathematical and science background and have been an above average student in high school. The following freshman curriculum is recommended.

<table>
<thead>
<tr>
<th>First Year</th>
<th>Winter Quarter</th>
<th>Hours</th>
<th>Spring Quarter</th>
<th>Hours</th>
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<tr>
<td>Full Year</td>
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<td></td>
<td>Full Year</td>
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</tr>
<tr>
<td>Biology 21</td>
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<td>English 11</td>
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<td></td>
<td>14</td>
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<td>15</td>
<td></td>
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</tbody>
</table>

VTAM 15. APPLIED PHYSICS FOR AUTO MECHANICS W. 3 hours.
A survey course of the principles of physics used in auto mechanics. No laboratory.

VTAM 16. BASIC ELECTRICITY W. 4 hours.
A study of basic electricity as it applies to the automobile is the objective of this course. Topics taken up include: Magnetism, magnetic lines of force, magnetic induction, electromagnetism, the electron theory, electrical terms, conductors, insulators and batteries.

VTAM 17. IGNITION SYSTEMS W. 3 hours.
All units comprising the ignition system, consisting of the primary and secondary circuits, are studied here. The distributor and related parts, coil, ignition switch, resistors, spark plugs, cables and wiring, as well as ignition timing are fully covered. All adjustments and service procedures are included.

VTAM 18. DIFFERENTIAL W. 3 hours.
Both conventional and limited slip differentials are covered. Methods of repair and adjustment of the bearings, ring gear and pinion, axles and parts are included.

VTAM 19. FUEL SYSTEMS S. 6 hours.
The chemical properties of fuels, fuel and air ratios, metering, atomizing, vaporizing and mixing are studied. The complete fuel system—gas is thoroughly treated. Single, dual and four barrel carburetors, single and double action fuel pumps of all popular makes are included.

VTAM 20. CLUTCH AND DRIVE LINE W. 1 hour.
A comprehensive study of the clutch pressure plate assembly, clutch disk, clutch pedal and linkage, clutch release bearing, pilot bearing, U-joints and drive shafts are treated in this section.

VTAM 21. SUSPENSION W. 2 hours.
The identification of chassis parts, measurements, the frame, springs, shackles, shock absorbers, front axles, suspension and steering geometry, steering gears, tires, wheels, and wheel balancing are the items covered in this section.

VTAM 22. ALIGNMENT S. 2 hours.
This course is designed for the study and practice of alignment techniques, including caster-camber, kingpin inclination, torsion bar height, toe-in, and steering mechanisms.

VTAM 23. ELECTRICAL SYSTEMS AND COMPONENTS S. 5 hours.
Starters, generators, alternators, voltage regulators, solenoids, switches, relays, lights, wiring and cables are thoroughly covered both in theory and practical application. A complete lab on the servicing and adjustment of these units, using the latest equipment, is part of this course.

VTAM 24. STANDARD TRANSMISSIONS AND OVERDRIVES F. 4 hours.
A course to acquaint the student with gears, gear ratios, the synchromesh transmission and overdrives. A complete lab on repair and maintenance is included.
VTAB 51. FRAME REPAIR
W. 3 hours.
Inspection, measurement, and repair methods used to repair united and conventional frames. Shop: 10 hours.

VTAB 54. REPAIR AND REFINISHING III
F. 5 hours.
Continuation of shop learning practices. Severe collision repair procedures are studied. Shop: 15 hours.

VTAB 62. PANEL FITTING
W. 2 hours.
Methods used in all directional adjustment and fit of hinges on body panels (hoods, doors, doors). Class: 3 hours. Shop: 1 hour.

VTAB 64. REPAIR AND REFINISHING IV
W. 5 hours.
Continuation of shop learning procedures. Emphasis on metal work and spot painting. Shop: 13 hours.

VTAB 71. SHOP MANAGEMENT
S. 3 hours.
Study of shop operation, expenditures, floor-plan design and equipment for the modern-day shop. Expectations and management of employees.

VTAB 72. ESTIMATING
S. 2 hours.
Study of parts catalogs, flat rate, R&R procedures, insurance adjustments, and the writing of collision repair bids.

VTAB 74. REPAIR AND REFINISHING V
S. 5 hours.
Concentration of shop and learning experiences in the area in which the student wishes to specialize. Shop: 15 hours.

Auto Mechanics

VTAM 11. APPLIED MATH FOR AUTO MECHANICS
F. 3 hours.
A brief review of the arithmetic, shop math, and algebra that students will need to handle the mathematical aspects of auto mechanics.

VTAM 12. SHOP PRACTICE
F. 2 hours.
This is an introductory course designed to teach and develop basic shop practices and skills. It will cover such things as the use of hand, power, and special tools. The care of tools and equipment, automotive fastenings, locking devices, tubing, connectors, fittings, basic welding and safety practices are included.

VTAM 13. AUTOMOTIVE BRAKE SYSTEMS
W. 2 hours.
This is a complete course in the servicing and repair of the hydraulic brake system. Includes the basic principles of hydraulics, servicing the linkages, drum, cylinders, lines and power booster units, adjusting and bleeding the system.

VTAM 14. INTERNAL COMBUSTION ENGINES
F. 7 hours.
A basic study of the internal combustion engines dealing with types, design, construction, principles of operation and application of engine components. The physical principles of cooling, lubrication, ignition and fueling as well as minor engine tune-ups are studied.

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APPLIED AGRICULTURE
Associate in Science or Diploma

The following curriculum is suggested for those students not electing to major in Agriculture Science but who are interested in a course suitable for transfer and leading to a Bachelor of Science degree.

FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Fall Quarter</th>
<th>Winter Quarter</th>
<th>Spring Quarter</th>
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<tbody>
<tr>
<td>Agriculture 11</td>
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<td>16</td>
</tr>
</tbody>
</table>

*Consult with counselor to plan a program that will meet your individual transfer needs for second-year curriculum. Recommended electives for the Agriculture Science major: American Government, World Civilizations, Speech, Literature, Economics. Recommended electives for the Applied Agriculture major: Agriculture 12, Agriculture 26, Mathematics 21, 22, 23; American Government, World Civilizations, Literature, Chemistry 21, 22, 23.

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TERMINAL AGRICULTURE

Students who plan to terminate their formal education with study at Mesa College may follow a course of study of their own choosing. Such a course may lead to a Mesa College Diploma or Associate Degree. (See pages 24, 25.)

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BIOLOGICAL SCIENCES

FIRST YEAR

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<th>Spring Quarter</th>
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<td>3</td>
</tr>
<tr>
<td>English 11</td>
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<td>Physical Education</td>
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SECOND YEAR

<table>
<thead>
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<th>Spring Quarter</th>
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</thead>
<tbody>
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<tr>
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## Vocational-Technical Course Descriptions

(Although a number of colleges and universities recognize certain vocational-technical courses for transfer credit, students are advised that these courses are not intended for transfer and are not applicable to the Associate in Arts and Associate in Science degrees.)

### Auto Body and Fender

**VTAB 10. APPLIED MATHEMATICS**
- F. 3 hours
- A brief review of arithmetic, shop mathematics, and algebra that students will need to handle the mathematical aspects of auto mechanics.

**VTAB 11. GENERAL AUTO BODY REPAIR**
- F. 5 hours
- An introduction to theory and practices of auto body repair. Basic principles involved are studied and practiced.

**VTAB 12. SHOP PRACTICE**
- F. 1 hour
- General information pertaining to technical aspects. Includes safety practices, tools, and materials. Orientation of student to school rules, regulations and curriculum. Safety practices while training. Type of work encountered in the field.

**VTAB 13. OXYACETYLENE WELDING**
- F. 2 hours
- The course includes the theory and practice of oxyacetylene welding of mild steel, the identification of base and filler metals and melting temperatures of various metals. Special emphasis is placed on root penetration and fusion of welding materials. If time permits, some brazing and bronze welding of mild steel and cast iron, as used in auto-body repair, will be included. Class: 2 hours. Shop: 8 hours.

**VTAB 16. AUTO RECONDITIONING**
- WS. 3 hours
- A related course in auto body repair designed to teach a skill in auto reconditioning. Involved will be glass installation, painting of spot repair, panel repair, cleaning and repair of upholstery, motor cleaning. Also buffing and polishing. A course designed to give a person a saleable skill in a much shorter time.

**VTAB 21. GENERAL REFINISHING**
- W. 4 hours
- A comprehensive study of auto refinishing which will include metal conditioners, primers, sealers, surfacers, reducers, thinners, and the different types of paints and the techniques used to apply them.

**VTAB 24. REPAIR AND REFINISHING I**
- W. 5 hours
- Bench work on auto body parts. Manipulative practice of skills needed to advance in general auto body work with emphasis on auto finishing. Shop: 12 hours.

**VTAB 25. PANEL AND SPOT PAINTING**
- F. 3 hours
- Paint composition, refinishing products and their correct usage, color matching and procedures to be used in making a lacquer or acrylic spot repair. Class: 3 hours. Shop: 1 hour.

**VTAB 23. ARC WELDING**
- S. 2 hours
- A beginning course in welding mild steel in down-hand position with electric arc welding equipment. Proper care, use of equipment, and safety precautions and practices are heavily stressed. Shop: 4 hours.

**VTAB 24. REPAIR AND REFINISHING II**
- S. 5 hours
- Continuation of Repair and Refinishing I. Emphasizes all types of metal work. Includes working with aluminum, galvanized iron, and other metals utilized in auto body work. Shop: 15 hours.

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### Pre-Forestry

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Hours</th>
<th>Winter Quarter</th>
<th>Hours</th>
<th>Spring Quarter</th>
<th>Hours</th>
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<td>5</td>
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</tr>
<tr>
<td>Chem. 11</td>
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* Substitute approved elective if student can begin with Math 22.

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### SECOND YEAR

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Hours</th>
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### HOMEMAKING (Terminal)

**Mesa College Diploma**

#### FIRST YEAR

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#### SECOND YEAR

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<th>Spring Quarter</th>
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SECOND YEAR

<table>
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<th>Summer Quarter</th>
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* Elective: Income Tax; Personal Finance; Geography; Language; Typing; Office Machines; Insurance.

** Work experience to be arranged during the intervening summer or at the end of the program on a full-time basis (600 hours), or on a part-time basis over a period of two or more quarters.

Welding
Certificate
Mr. Branton, Mr. Nutting

This program is designed for twelve months in length. If a student leaves before completion, he will be awarded a certificate of capability. If he completes the program, he will be awarded a certificate of completion. The course is designed to give the student the required knowledge of metals, layout work and welding processes. A student will gain manipulative skills and related information essential to enter and progress in the occupation. Instruction and shop practice are given in oxyacetylene and electric arc welding of ferrous and non-ferrous metals in all positions.

WELDING CURRICULUM

(See VTHL course descriptions beginning on page 126.)

FIRST YEAR

<table>
<thead>
<tr>
<th></th>
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<th>Spring Quarter</th>
<th>Summer Quarter</th>
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SUMMER

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Agriculture

Students enrolling for the study of agriculture at Mesa College should at the very outset decide whether they wish to take a course leading toward Agricultural Science, Applied Agriculture, or a terminal program.

1. AGRICULTURAL PROFESSION

F. 1 hour.

Required of all freshmen who will major in agriculture. A survey of the various fields of study. Guidance in choosing major and minor fields of study. The opportunities as well as responsibilities associated with positions in agriculture when operating one's own business as well as when employed in one of the professions.

11. INTRODUCTORY ANIMAL SCIENCE

F. 5 hours.

A study designed to furnish a general knowledge of the important principles of the livestock industry as it pertains to agriculture. Selections and evaluation of beef cattle, dairy cattle, sheep, and swine on a purchased and market basis are carried out. Emphasis is placed on types, breeds, markets, and market classification. Three lectures and two laboratory periods per week.

12. FARM POWER

FW. 3 hours.

A theory and demonstration course on internal combustion engines, electrical systems, and power transfer. Special attention is given to proper operation, care, and adjustment of motors, engines, and transportation equipment of the farm. Two lecture periods and one two-hour laboratory per week.

14. LIVESTOCK JUDGING AND SELECTION

F. 2 hours.

A study of animal form and its relation to the function of the individual. Emphasis is placed on the evaluation of live animals in
terms of their probable value for producing the product for which they are intended. Market and breeding classes of livestock will be judged. Prerequisite: Agriculture 11. Two laboratory periods per week.

23. CROP PRODUCTION
S. 6 hours.
A study of the principles of field crop production with emphasis on cultural practices and botanical characteristics of crops grown in the intermountain region. Five hours lecture and one three-hour laboratory per week. Prerequisite: 5 hours of plant science or consent of instructor.

32. FEED AND FEEDING
W. 5 hours.
Fundamentals of animal nutrition. Feeds and their uses. Calculation of rations to meet livestock requirements.

42. ECONOMIC ORGANIZATION OF AGRICULTURE
W. 5 hours.
Agriculture's role in our changing economy; modern technology and its implications for farm and non-farm people; structure of agricultural industry and farm business; government and agriculture; analysis of the operating farm economy.

51. BASIC HORTICULTURE
F. 5 hours.
Principles of horticulture science as applied to the propagation and culture of horticulture crops, language design, and improvement of plants. Prerequisite: 5 hours of plant science or consent of instructor.

52. FRUIT PRODUCTION
S. 5 hours.
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: 5 hours of plant science, Agriculture 51, or consent of instructor.

56. SOILS
S. 5 hours.
A study of the formation, properties, and management of soils. Special attention is given to soil conditions that affect crop yields. Four hours lecture and three hours laboratory per week. Prerequisite: Chemistry 31 or Chemistry 21 for Agriculture students; waived for Forestry.

61. FORAGE CROPS
F. 4 hours.
A study of the production and preservation as hay or silage of the principal forage crops and cultivated grasses. Special attention is given to the production and maintenance of farm pastures. Prerequisite: Agriculture 23. Class meets daily.

62. GENERAL DAIRY HUSBANDRY
W. 2 hours.
A general course in dairying. History and present status of the dairy industry: starting dairy herds; breeds of dairy cattle; cow testing associations; club work; study of herd records; calf feeding; general principles of feeding, management and housing of dairy cattle. Prerequisite: Agriculture 11. Open to sophomore students. Two periods per week and one laboratory period per week.

65. ENVIRONMENTAL INSECTS
S. 5 hours.
An introductory course in the elementary anatomy and physiology of insects. A study of the life histories and habits of the more important insect pests and recommendations for their control. Four lectures and one laboratory period per week.

### SECOND YEAR OPTIONS

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**Travel And Recreation Management**

Associate in Applied Science Degree

Mr. Cassidy

This curriculum has been developed in recognition of the importance of the rapidly growing tourist industry to Western Colorado and to the Rocky Mountain Region. It is designed to train students to serve tourist-related trades and industries in the region.

Employment possibilities for graduates of this program would range from receptionist and office work with limited supervisory responsibilities to positions entailing management responsibilities in a wide range of service agencies, such as transportation companies, travel agents and bureaus, air hostesses, office managers, assistant managers, assistant recreational directors, tour and resort guides, ticket agents, etc.

### TRAVEL AND RECREATION MANAGEMENT CURRICULUM

(See VT course descriptions beginning on page 262.)

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Practical Nursing Certificate
Mrs. Schumann

A twelve-month course designed to prepare qualified men and women for service in hospitals and other health agencies as licensed practical nurses. Upon completion of this course, the graduate is qualified to take the licensing examination.

The program is approved by the Colorado Board of Licensed Practical Nurse Examiners and by the Colorado State Board for Community Colleges and Occupational Education.

High School graduation or equivalent (G.E.D.) and satisfactory scores on aptitude tests and/or ACT tests are required for admission.

Applicants follow the same procedures as all other applicants to Mesa College. Supplementary forms and detailed instructions for making application specifically for Practical Nursing may be secured from the Division of Health Programs.

PRACTICAL NURSING CURRICULUM

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* Two class laboratory hours, one class hour.

** Three clinical laboratory hours, class hour.

Secretary—Legal, Medical, Scientific
Associate in Applied Science

The purpose of this program is to train students with marketable skills to perform services in legal offices or scientific endeavors of various kinds. In addition to secretarial training, students are given training in legal or scientific terminology and legal or scientific transcription.

SECRETARY—LEGAL, MEDICAL, SCIENTIFIC CURRICULUM
(Gen VT course descriptions beginning on page 100.)

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* Transcription Machines may be substituted for Shorthand in the Medical Office Assistant option.

Biology

11, 12, 13. GENERAL BIOLOGY

A study of the fundamental biological principles involving both plant and animal life; survey of all of the phyla of the animal kingdom and the divisions of the plant kingdom; the place of man in the world of living things; and the relationships of man to other organisms. Students who elect this course may not receive full credit for general college botany or zoology. Two lectures, one laboratory each week.

14, 15. HUMAN ANATOMY AND PHYSIOLOGY F. 5 hrs., W. 4 hrs.

A study of the structure and function of the human body. The anatomy and physiology of the integument, skeletal, muscular, nervous, sensory, circulatory, respiratory, excretory, digestive, endocrine, and reproductive systems are studied during the two quarters. Three lectures and two laboratories each week in the fall quarter, and three lectures and one laboratory per week in the winter quarter.

21, 22. GENERAL BOTANY

FW. 5 hours.

The structure and functions of the higher plants, including a study of roots, stems, leaves, flowers, and seeds during fall quarter. Study of plant forms including a study of roots, stems, leaves, flowers, and seeds during fall quarter. Study of plant forms including the algae, fungi, mosses, ferns, gymnosperms, and angiosperms during the winter quarter. Three lectures and two laboratories per week.

23. PLANT TAXONOMY

S. 5 hours.

This is a study of the classification and identification of the flowering plants. Emphasis is placed on plant family characteristics and the use of keys for identification. Four laboratories and one lecture each week with the use of mounted specimens and field trips. Prerequisite: Biology 22 or consent of the instructor.

31, 32. GENERAL ZOOLOGY

WS. 5 hours.

A detailed study of the fundamental principles of the science of animal biology, and a survey of all of the animal phyla with attention given to both structure and function. Three lectures and two laboratory periods each week. Full credit will not be given to those who have general biology credit. A course for agriculture, pre-medical, veterinary, pre-dental, home economics, biology, and zoology majors.

41. ATTRIBUTES OF LIVING SYSTEMS

F. 4 hours.

An introductory course in biology which emphasizes the levels of organization, stability and change in living systems. Three lectures and one laboratory per week.

42. PRINCIPLES OF ANIMAL BIOLOGY

W. 5 hours.

A course designed to give the student broad morphological, physiological, and ecological features and the relationships of the principal phyla of animals. Prerequisite: Biology 41 or consent of instructor. Three lectures and two laboratories per week.

43. PRINCIPLES OF PLANT BIOLOGY

S. 5 hours.

The student is exposed to the diversity of relationships of plants and their structure and functional characteristics. Prerequisite: Biology 41 or consent of instructor. Three lectures and two laboratories per week.
52. **PRINCIPLES OF HEREDITY**  
W. 3 hours.  
Facts and principles of heredity as developed from the study of plants and animals. Human inheritance; genius, mental defects, individual differences, as well as the principles of heredity as applied to agriculture and livestock breeding. Open to all Sophomores.

53. **GENERAL MICROBIOLOGY**  
S. 5 hours.  
An introductory course consisting of lectures and laboratory work in identification, cultivation, and isolation of molds, yeasts and bacteria. Emphasis upon non-pathogenic forms. Prerequisite: 9 hours of biological science.

61. **POPULATION AND COMMUNITY BIOLOGY**  
F. 5 hours.  
Designed to provide an elementary understanding in heredity by utilizing the biology of populations of organisms, as shown by principles and essential facts of population genetics, energetics, dynamics distribution and sociology.

65. **ENVIRONMENTAL INSECTS**  
S. 5 hours.  
An introductory course in the elementary anatomy and physiology of insects. A study of the life histories and habits of the more important insect pests and recommendations for their control. Four lectures and one laboratory period per week.

### Forestry

1. **FORESTRY OCCUPATIONS**  
F. 1 hour.  
An orientation program designed to acquaint the student with the varied forestry professions and job characteristics. Required of all pre-forestry students.

12. **PRINCIPLES OF CONSERVATION**  
FW. 3 hours.  
A survey of natural resources including forests, range, minerals, water, and wildlife. National, state and local policies and programs for the use of such resources. This course is open to all students. Three lectures per week.

22. **MAP DRAFTING AND READING**  
W. 3 hours.  
A one quarter course intended for students not taking a full year's program in drafting. Lettering and use of elementary drafting equipment. Maps, their construction and interpretation is included. The course meets for two hours lecture and two hours laboratory per week.

### Home Economics

1. **ORIENTATION (Introduction To Home Economics)**  
F. 1 hour.  
For Home Economics majors to explore opportunities in all fields of Home Economics. Some emphasis is placed on the use of time and study habits which will help the student to get the most from college.

10. **BASIC CLOTHING CONSTRUCTION**  
FW. 3 hours.  
Basic clothing construction processes applied to the individual. Two hours lecture, four hours laboratory.

11. **COSTUME SELECTION**  
FW. 2 hours.  
The relationship of the principles of design to the planning and selection of clothing. Two hours lecture.
W. 3 hours. 
Developed from the study of genius, mental defects, implications of heredity as applied to all Sophomores.

S. 5 hours. 
Res and laboratory work in molds, yeasts and bacteria. Prerequisite: 9 hours of biology.

LOGY F. 5 hours. 
Understanding in heredity by genetics, as shown by population, energetics, dynamics

S. 5 hours. 
Anatomy and physiology of habits of the more important r control. Four lectures and

F. 1 hour. 
Direct the student with the characteristics. Required of all

FW. 3 hours. 
Rests, range, minerals, water, calories and programs for the . to all students. Three lect-

W. 3 hours. 
Pre not taking a full year's of elementary drafting equipment is included. The 3 hours laboratory per week.

CS (Economics) F. 1 hour. 
Opportunities in all fields of engineering, time and to get the most from college.

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12. NUTRITION FW. 3 hours. 
The study of the functions of foods and its relation to health. Emphasis is placed on the application of nutrition knowledge to the selection of food.

15. TEXTILES FS. 5 hours. 
Study of textile fabrics and fibers with emphasis on selection, care and wearing qualities of clothing. Three hours lecture, four hours laboratory.

17. INTERMEDIATE CLOTHING CONSTRUCTION WS. 3 hours. 
Construction processes are studied and developed through the making of garments to meet individual needs.

32. HOME MANAGEMENT FS. 3 hours. 
Study of family-living problems with emphasis on management of all resources. Three hours lecture.

33. HOUSE PLANNING WS 2 hours. 
A combination lecture and laboratory course which involves the analyzing and evaluating of house plans as well as developing plans which the student can use.

34. INTRODUCTION TO CHILD CARE FW. 3 hours. 
A lecture course pertaining to pre-natal growth; care of mother and baby; behavior patterns of the pre-school age child as shown in physical, emotional, and social growth.

36. HOME FURNISHING FS. 3 hours. 
A study of the decoration and furnishing of a home. Artistic appreciation and buying techniques for household furnishings are emphasized. Three hours lecture.

38. CHILD DEVELOPMENT WS. 3 hours. 
Essentials of child psychology. Study of the growth and development of young children, with emphasis on understanding and guidance. Motor skills, intelligence, emotional patterns and social behavior, examined and related to the child's place in our society.

42. INTRODUCTION TO FOODS FW. 3 hours. 
For those students who are not Home Economics majors. Emphasis placed on the principles of food preparation.

51. FOOD SELECTION AND PREPARATION FW. 3 hours. 
For Home Economics majors. Principles and techniques of preparing all classes of foods. College chemistry is prerequisite to this course.

53. PREPARATION AND SERVICE OF MEALS S. 3 hours. 
Planning, preparing and serving family meals.

61. TAILORING FS. 3 hours. 
Planning and construction of a tailored garment such as a suit or coat. Prerequisite: Home Economics 10 or 17 or consent of instructor.
Division of Business

The basic purpose of the Mesa College Business Division is to provide young men and women with the necessary specialized training for a future of self-reliance and economic opportunity. Terminal programs in business education and skills are offered to those who desire to prepare for clerical positions with business concerns, educational institutions, and governmental agencies. They provide the necessary preparation for beginning bookkeepers, assistant accountants, stenographers, typists, filing clerks, business machine operators, and other types of business and office workers. A student is permitted to select, from a variety of courses, those which meet his own individual needs. Students may enroll for one or two years, depending on the amount of preparation needed or desired.

Instructorial Staff: Mr. Geffred, Chairman; Mr. Carsten, Mr. Dickson, Miss Caps; Mr. Cassidy; Mr. Gravas, Mrs. Hager, Mrs. Harper, Miss Reed, Mr. Spurred; Mr. Tinga; Mrs. Uhrich; Mr. Youngquist.

PROGRAMS

Two types of terminal programs are planned, one for the student who has not had previous training in business, and one for the student who has completed part of his business training in high school or elsewhere.

The Division of Business enjoys a fine reputation among the colleges and universities of the area for its high level transfer programs in Business Administration, Accounting, and Secretarial Science.

New programs in technical education have been added to the business curriculum to meet the need for better trained manpower. See page 160.

ASSOCIATE IN COMMERCE DEGREE

The Associate in Commerce is granted to two groups of graduates: (1) those who follow the accounting option and (2) those whose interests are in the secretarial field.

Each group must meet the general requirements for graduation as stated on page 25 and in addition complete the following special course requirements.

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<th>Course</th>
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**PROFESSIONAL PROGRAMS**

**ACCOUNTING**

**Associate in Commerce**

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**BUSINESS ADMINISTRATION**

**Associate in Commerce**

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**SECRETARIAL**

**Associate in Commerce**

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13-15 14-16 15


Accounting

13. SECRETARIAL ACCOUNTING  3.  3 hours.

For those who plan to go into secretarial office work and may be required to keep the accounts of a dentist, lawyer, or other professional individual, or for those who will need to keep financial records for themselves. It is a terminal course and is not required for those who plan to take Principles of Accounting. No credit allowed if credit already established in Accounting 32. Class meets daily.

31. 32. PRINCIPLES OF ACCOUNTING  FWS.  3 hours.

Intended for those students who plan to major in business administration or elect the two-year accounting option. The course includes the development of the fundamental principles of double-entry bookkeeping, the balance sheet, profit and loss statements, controlling accounts, accounting, opening corporation books, bonds, bank sinking funds, and introduction to job order and process accounting. The final quarter is devoted largely to corporate accounting and the completion of a practice set. Class meets daily.

62. 63. INTERMEDIATE ACCOUNTING  WS. 3 hours.

A two-semester course developed to fill the need for two groups of students: the terminal student who wishes to have a better understanding of accounting theory, and the accounting and business administration majors for whom the intermediate study is the foundation for specialized courses. The course presents a continuation of corporate accounting with emphasis on financial statements and current items. Final quarter is devoted to further study emphasizing noncurrent items and corporate capital. Prerequisite: Accounting 33.

64. COST ACCOUNTING  F.  5 hours.

An introduction to the determination of the cost of manufacturing. Emphasis will involve the three elements of cost—material, labor, and overhead. The job cost system, process cost system, and standard cost system will be the major topics. Miscellaneous cost factors will be introduced at appropriate times.

ELECTRONICS TECHNOLOGY CURRICULUM

Vocational-Technical / 95

ASSOCIATE IN APPLIED SCIENCE

FIRST YEAR

<table>
<thead>
<tr>
<th>Full Quarter</th>
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<th>Winter Quarter</th>
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* Other approved electives may be substituted.

ENGINEERING TECHNICIAN

Mr. Horn, Mr. Ramsey

Engineering technology is one of the fields of study that requires the application of scientific and engineering knowledge with the aid of scientific and engineering skills and equipment. The program is designed to enable technicians to take the ideas of design, research, and advanced engineering of the engineer who normally has little time for practical application and translate them into practical application: to work with the engineer to develop a design from idea to plan and then to production. The demand for the services of engineering technicians is great due to the extreme shortage of engineering technicians. Career opportunities are excellent.

Students interested in Engineering Technology should have good communication skills, math and physical science aptitude, at least one and one-half years of high school algebra and geometry, and one year of chemistry or physics. Students should be curious about what things work and should have some mechanical aptitude.

CIVIL ENGINEERING TECHNICIAN CURRICULUM

ASSOCIATE IN APPLIED SCIENCE

FIRST YEAR

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<th>Hours</th>
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</table>
Computer personnel plan the patterns to be followed by the computer to produce many types of information.

A student at Mesa College will, during the two years of attendance, spend much time working directly on and with the data processing machines including the electronic computer. Problems similar to those of actual business will be solved by the student using IBM machines.

Data Processing technicians are employed by business and industry in the following positions:
- Machine Operators
- Programmers
- Machine Supervisors
- Research
- Installation Supervisors
- Computer Specialists

## DATA PROCESSING CURRICULUM
(See TV course descriptions beginning on page 110.)

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### Electronics Technology

Associate in Applied Science

Mr. Allmaras, Mr. Timpf

The Electronics Technology curriculum has been arranged to provide optimum specialized technical instruction. The objective and the emphasis throughout is on an understanding of the engineering principles basic to the field of electronics. The curriculum is organized in a manner unlike that found in the professional engineering school or in the traditional trade school.

The curriculum is organized to provide a basic preparation for entry employment in a variety of occupations in the field of electronics. The courses are arranged in workable sequence suitable to the instructional needs of the students with an appropriate balance between technology courses, general education courses, and laboratory applications. It is not a pre-engineering curriculum suitable for transfer to four-year institutions.

A graduate of this program will have a good foundation in the principles of electronics and considerable facility with the “hardware” encountered in the electronics industry.

A background of algebra, geometry, and trigonometry is desired for this program.

### General Business

#### 19. WORD STUDY (Business)

A 2-hour course stressing the study of words: their spelling, meaning, derivation, and pronunciation with emphasis on spelling. Emphasis will be placed on business terms. Open to all students.

#### 11. BUSINESS COMMUNICATION

A 3-hour course studying the essentials of English in business communication. Creative, logical, and critical thinking are applied to the criticism, preparation, and planning of business letters and written and oral reports. Attention is given to application letters and the employment interview. Prerequisites: English 11 and a knowledge of typing.

#### 12. INTRODUCTION TO BUSINESS

A 3-hour course designed to provide an understanding of how the American business system operates and its place and role in the economy. Surveys the American business system with emphasis on business functions and the interrelations between the businessman and his environment. Required of freshman business and accounting students.

#### 21, 22, 23. BUSINESS MACHINES

A 2-hour course covering the fundamentals of office machines, including typewriters, adding machines, calculators, and related equipment. A student earns two hours of credit for each hour of machine training, with a maximum of four hours per term. Provided for is a study of the machines that will be used in a particular business. Business 22, 23 indicates Fall, Winter, and Spring quarters rather than a sequence course. Usually offered through Continuing Education division.

#### 26. SALESMSHANSHIP

A 3-hour course covering the techniques of salesmanship, including psychological factors, basic principles of salesmanship, and personality development in business.

#### 37. ADVERTISING

A 3-hour course covering the principles and practices of advertising. Emphasis will be placed on the role of advertising in influencing consumer behavior.

#### 33. INCOME TAX

A 3-hour course covering the tax law applied to businesses and individuals.

#### 36. PERSONAL FINANCE AND MONEY MANAGEMENT

A 2-hour course covering the principles of personal finance, including retirement planning, investments, and financial planning.

#### 39. INSURANCE

A 3-hour course covering the principles of personal finance, including retirement planning, investments, and financial planning.
42. **FILING**  
F. 2 hours.  
Alphabetic, numeric, geographic, subject, and soundex systems of filing are studied. Practice is given in the filing of material and the locating of filed correspondence.

43. **BUSINESS MATHEMATICS I**  
FWS. 4 hours.  
Review of the fundamental skills of whole numbers, decimals, fractions, interest, and percentages as they apply to business and consumer problems. The student will use office machines as well as pencil and paper in solving the problems required in this course. This course is required of those majoring in business. Class meets daily.

44. **BUSINESS MATHEMATICS II**  
FWS. 4 hours.  
A continuation of Business 43. Will pursue further studies in interest, compound interest, mortgage interest, mill levies, depreciation and annuities.

45. **BUSINESS DATA PROCESSING**  
FWS. 3 hours.  
An introduction to the fundamentals of business data processing systems. This course is designed to introduce the student to automated data processing systems including unit record and computer equipment, their use and potential as viewed from the employee and management level.

51. **BUSINESS LAW I**  
F. 3 hours.  
A study of: Contracts in general; Relation of Principle and Agent; Employer and Employee; Negotiable Instruments; Principal and Surety; Insurer and Insured; Bailor and Bailee.

52. **BUSINESS LAW II**  
W. 3 hours.  
Contracts continued: Carriers and Shippers; Vendor and Vendor; Landlord and Tenant; Partnerships; Corporations. Prerequisite: Business Law I. Required for A.C. degree. Accounting option.

53. **BUSINESS LAW III**  
S. 3 hours.  
A continuation of Business 52: Torts; Business Crimes; Bankruptcy; Property; Deeds of Conveyance, Mortgages. Prerequisite: Business Law II.

---

**Secretarial Science**

10. **BEGINNING TYPEWRITING**  
FW. 2 hours.  
A course for those students with no previous training. No credit will be given if student has high school credit. Class meets daily. Available in night school only.

11. **BEGINNING TYPEWRITING (continuation of SS 10)**  
WS. 2 hours.  
No credit will be given if student has high school credit. Class meets daily. Available in night school only.

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**SECOND YEAR**

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* Suggested Electives: Word Study; Fiction; Speech; Basic Mathematics; College Algebra; Advanced English; World and Colorado History; Accounting 1; Business Math; Applied Psychology; Personal Hygiene.

**Child Care Center Director**

**Associate in Applied Science**

**Mrs. Beemer**

A Children's Day-Care Center curriculum is offered to meet the needs of those presently employed in nursery schools or day-care centers and those contemplating working in the field.

Students majoring in this curriculum take courses designed to increase their understanding of the education and care of children. It is required that the student have laboratory experience in Mesa College's Child Development Center and other community child-care facilities.

Students successfully completing the course may find employment in private and cooperative day-care centers, nursery schools, children's homes, institutions for exceptional children, etc. Placement is dependent on individual maturity and professional growth.

**CHILD CARE CENTER CURRICULUM**

(See V.T. course descriptions beginning on page 93.)

**Associate in Applied Science**

**FIRST YEAR**

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* Suggested Electives: Applied Psychology; Typing; Personal Development; Business Mathematics.

**Data Processing**

**Associate in Applied Science**

**Mr. Dickson, Mr. Squirrell, Mr. Youngquist**

The electronic data processing field offers a wide diversification of job possibilities for trained personnel. Key Punch operators assist in the preparation of punched cards in which the data is originally recorded. Machine operators supervise the operation of the data processing machines.
Auto Body and Fender
Associate in Applied Science
Mr. Sidener

At the end of one year a student will be awarded a certificate of capability. Upon completion of the requirement set forth in the curriculum, a student will receive the Associate in Applied Science Degree. Practical application covers all phases of body and fender repair, including a comprehensive unit in auto painting. Training gives the necessary laboratory skills, knowledge of theory, principles, and related subjects essential to enter and progress competitively in the occupation.

AUTO BODY AND FENDER CURRICULUM
(See VT course descriptions beginning on page 101.)

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SECOND YEAR

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Auto Mechanics and Technology
Associate in Applied Science
Mr. Bement, Mr. Charlesworth, Mr. Heck, Mr. Tyler

This program is designed to train persons who wish to enter into the automotive service trades. The automotive service trades include general mechanics, specialists of various types, shop foremen, service managers, service salesmen, instructors, factory service representatives, insurance adjustors, and other positions. It will provide the necessary foundation upon which students may enter and advance themselves in the automotive trades. The curriculum is designed to provide a student job entry skills upon completion of one year, at which time a certificate may be awarded.

AUTO MECHANICS AND TECHNOLOGY CURRICULUM
(See VT course descriptions beginning on page 103.)

Associate in Applied Science

FIRST YEAR

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14. INTERMEDIATE TYPEWRITING
FW. 3 hours.

15. ADVANCED TYPEWRITING
WS. 2 hours.
Study of tabulations, telegrams, memos, business letters and legal forms. Fundamental skills are developed on duplicating machines. Prerequisite: Secretarial Science 14. Class meets daily.

17. DICTATION AND TRANSCRIPTION MACHINES
S. 3 hours.
A course to develop fundamental skills on various types of dictation and transcription machines. Emphasis is placed on machine operation, and speed and accuracy of transcription on the typewriter. Prerequisite: One year of high school typing, Secretarial Science 14, or enrollment in Secretarial Science 14.

21. SHORTHAND THEORY
F. 4 hours.
A course for those students with no previous knowledge of shorthand. A limited amount of dictation is given. No credit will be given if student has high school credit. Class meets daily.

22. SHORTHAND THEORY
W. 4 hours.
Continuation of Secretarial Science 21. No credit will be given if student has high school credit. Class meets daily. Prerequisite: Secretarial Science 21.

23. BEGINNING DICTATION
FS. 4 hours.
Review of the principles of shorthand. Dictation is given at the rate of 80 to 100 words a minute. Machine transcription, with special attention to letter arrangement. Prerequisite: Secretarial Science 22 or equivalent, Secretarial Science 14 or enrollment in Secretarial Science 14. Class meets daily.

31. INTERMEDIATE DICTATION AND TRANSCRIPTION
W. 4 hours.
A dictation speed of 80 to 110 words a minute is attained with a mailable transcript. Prerequisite: Secretarial Science 23. Class meets daily.

33. SECRETARIAL PRACTICE
W. 2 hours.
Skill is developed in the application of typing and shorthand to office situations and on transcribing machines. Business dress, business ethics, and personality development is discussed. Prerequisite: Credit or enrollment in Secretarial Science 25 and Secretarial Science 14.
ONE- AND TWO-YEAR PROGRAMS

Accounting and Secretarial

The Division of Business offers one- and two-year programs in both accounting and secretarial science. The basic purpose of these programs is to afford students an opportunity to receive training which will in a relatively short time fit them for employment.

In the two-year accounting program general education is incorporated with two years of accounting and related subjects. The one-year curriculum offers only one year of accounting and related subjects.

The two-year secretarial program incorporates general education with the skills of shorthand, typing, and secretarial practice.

The one-year clerical and stenographic courses concentrate on the rapid development of skills to enable the student to seek employment in the shortest possible time.

Both the two-year accounting and two-year secretarial programs lead to the Associate of Commerce degree or the Mesa College Diploma.

ACCOUNTING (18 Months)

Associate in Commerce

FIRST YEAR

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ACCOUNTING (9 Months)*

Certificate

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* Course descriptions are given in General Business and other sections of this catalog.
PROGRAMS

SECRETARIAL COURSE (18 Months)*
Associate in Commerce

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STENOGRAPHIC-CLERICAL COURSE (9 Months)*
Certificate

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<th>Fall Quarter</th>
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* Course descriptions are given under General Business, Secretarial Science, and other sections of this catalog.

Job-Entry Occupations in Business

See Pages 97, 118 for Curriculum

This vocational program is designed to help students acquire skills for entry into a number of occupations in business. It is also intended to offer students with limited academic backgrounds an opportunity to gain additional skills before attempting a college-level program. For a description of the Job-Entry curriculum, see the Vocational-Technical section of this catalog.
Division of Fine Arts

The Division of Fine Arts is composed of the departments of Music, Drama, and Art. These areas of study endeavor to provide courses and instruction primarily for the continued cultural development of students by bringing them in contact with the cultures of the past and present. Such study invariably define the influence of the arts to intellectual and moral development that contribute to a fuller and nobler life for the individual and for society.

| Instructional Staff | Mr. Schnider, Chairman; Mr. Blackburn, Head, Department of Music; Mr. Birkedahl, Mr. MacDonald, Mr. Rutt; Mr. Mailer, Mr. Robinson, Head, Department of Speech and Drama; Mr. Sanders; Mr. Schneider. |

### ART

#### Associate in Arts

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Hours</th>
<th>Winter Quarter</th>
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<th>Spring Quarter</th>
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#### SECOND YEAR

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74. EDUCATIONAL PSYCHOLOGY  
S. 5 hours.
The psychological principles underlying the social, emotional, and intellectual development of the child as these relate to educational theory and practice. It is recommended that those students who are primarily interested in education take this course as a continuation of Psychology 21 and 22, which are prerequisites.

SOCIAL SCIENCE
11, 12, 13. INTRODUCTION TO SOCIAL SCIENCE  
FWS. 3 hours.
An introduction to the fields of anthropology and sociology constitutes the first quarter's work; a survey of government is included the second quarter; the third quarter introduces the student to the field of economics. Courses not required in sequence.

SOCIOLGY
44. MARRIAGE AND THE FAMILY  
FWS. 3 hours.
The development of marriage and the family in various selected cultures from primitive times to date; an examination of the important aspects of courtship and marriage; contemporary marital and domestic problems; changing functions of the family, efforts at stabilization, and the problem of adjustment to a changing society.

61, 62. GENERAL SOCIOLOGY  
FW. 3 hours.
A survey of concepts in the study of sociology, acquainting students with terminology, basic principles involved, and important theoretical concepts. Includes a study of basic group relationships, ranging from family to world, with approaches from the standpoint of race, nationality, population factors, social mobility, ecology, and mass behavior patterns. The two quarters should be taken consecutively and 61 is prerequisite to 62.

63. SOCIAL PROBLEMS  
S. 3 hours.
Introductory approach to some of the major social problems of the modern world, including crime, poverty, divorce, disease, mass conformity, political apathy, sub-standard housing, and mental health. Students prepare papers on special studies in addition to regular textbook assignments, discussions, and lectures. Prerequisite: Sociology 61 and 62.

MUSIC
Associate in Arts

FIRST YEAR

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<th>Course</th>
<th>Fall Quarter</th>
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<td>English 12</td>
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<td>Music 14</td>
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<td>Music 16</td>
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<tr>
<td>Microphone</td>
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<td>Applied Music</td>
<td>Music 17</td>
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<tr>
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SECOND YEAR

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<tr>
<td>Microphone</td>
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<td>Applied Music</td>
<td>Music 24</td>
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<td>Science 11</td>
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<td>Science 12</td>
<td>Science 13</td>
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Art
The Department of Art functions to enable the student to gain an understanding and appreciation of art principles in graphic and plastic art forms through numerous experiences gained in the basic courses offered. Development of creative ability is stressed in the use of various media and techniques. The art department also serves to promote artistic and cultural growth in the community by participating in art activities and by sponsoring frequent exhibits of student work and traveling exhibits in the college art gallery.

The Art Collection. The art department reserves the right to retain two examples of work from each student to add to its collection.

11, 12, 13. FREEHAND DRAWING  
FWS. 2 hours.
A basic course emphasizing art principles in outdoor sketching, drawing of still-life groups, and work from casts. Individually is encouraged and interpretations expressed in various media, such as pencil, charcoal, pen and ink, colored chalks, lithograph and conte crayons. Part of the laboratory work is done outdoors where the student is trained to see, comprehend, and express graphically studies in compositional arrangements. Analytical observations are made from contemporary materials and reproductions. Four laboratory hours per week.

14. INTRODUCTION TO ART  
FS. 2 hours.
A basic art lecture course for beginning art majors who have limited high school background in art; also open to other students who wish to study art appreciation and do some studio work. Experienced art students may challenge this course by submitting an acceptable portfolio of previous work and passing a test of art terminology.

15. DESIGN IN COLOR  
W. 2 hours.
Various approaches to two-dimensional form are studied with emphasis on color theory and practice.

16. THREE-DIMENSIONAL FORM  
S. 2 hours.
Work is with three-dimensional design in a variety of media. A course leading to work in sculpture, media, processes, and ceramics.
21. **ART IN THE HOME**    WS. 2 hours.
A course designed especially for majors in Home Economics with
stress placed on design and color problems in the home and everyday
living.

31. **LETTERING AND LAYOUT**    FW. 2 hours.
Skills in freehand and build-up letters are emphasized; also, the use
of lettering in conjunction with concepts in advertising and total
design. Word construction and layout designs are stressed on advertis-
ing materials. This course is recommended for business students, stu-
dents in the Travel and Recreation Management Program, and for
others wishing to acquire skills in lettering and layout.

41. **HISTORY OF ART**    FWS. 3 hours.
A survey of art of all ages reflecting the various cultures of man-
kind from the prehistoric to the present.

51. **WATERCOLOR PAINTING**    F. 2 hours.
Emphasis will be placed upon the study of form and composition as the
student learns to apply various methods of watercolor rendering.
Prerequisite: Art 15.

53. **FIGURE DRAWING**    W. 3 hours.
A sophomore-level course open to art majors and non-art majors who
meet the prerequisites. Two hours of lecture-discussion (human anat-
omy, proportions, critiques, etc.) and four hours of studio work each
week. Prerequisites: Art 11, 12, 13.

55. **SCULPTURE**    FWS. 3 hours.
Studio work in carving, modeling or assemblage processes is done each
quarter. Basic sculpture materials including plaster, clay, wood and
metal are used. Some study of the work of contemporary sculptors is
done. Prerequisite: Art 16. Intended for Art Majors.

61. **ART PROCESSES AND MEDIA**    FWS. 3 hours.
Two-and-three dimensional problems, abstract and concrete, involving
application to various craft materials. Six laboratory hours per week.
Prerequisites: Art 15 and 16.

65. **CERAMICS**    FWS. 2 hours.
A studio course in ceramic materials and processes, including hand-
building, potter’s wheel, glazing and firing. Equal emphasis is given
work in studio production of pottery and laboratory problems in
clay bodies, glazes and decoration techniques. During the third quar-
ter the student may emphasize either pottery or ceramic sculpture in
his studio work; the laboratory work is in glaze formulation. Pre-
requisite: Art 16 for art majors. Other students may take the course
with permission of the instructor.

71. **PAINTING AND COMPOSITION**    FWS. 3 hours.
Composition is stressed in creative problems; understanding of light
and dark massing gained through preparatory designs for paintings.
Oil and synthetic materials are studied and paintings executed in full
color. Six laboratory hours per week. Prerequisites: Art 11, 12, 13 and
Art 15.

35. **HISTORY OF BLACK AMERICA**    WS. 3 hours.
This is a history of the Black American from early beginnings in
Africa to modern times. It concerns itself with the struggle, on the
part of the Negro-American, for identity, equality, and acceptance
through the changing attitudes of Anglo-Americans. It treats the
various responses of the Black Americans to their minority status.

**POLITICAL SCIENCE**

11, 12, 13. **AMERICAN GOVERNMENT**    FWS. 3 hours.
A course which treats the framework and functions of the national
government. Some attention is given to both state and local govern-
ments. An attempt is made to bring into relief the contemporary
scene—philosophical, political, social, economic—within which the
government operates and within which the student will be called
upon to perform the duties of responsible citizenship.

52. **PHILOSOPHY OF AMERICAN DEMOCRACY**    W. or S. 3 hours.
A course which deals with significant issues in the contemporary
cultural political life. Ordinarily the instructor chooses relevant topics.
Reading, lecture and discussion.

54. **STATE AND LOCAL GOVERNMENTS**    FW. 3 hours.
A course designed for advanced political science students. The ob-
jective of this course is to gain an understanding of political theory
of states, the meaning of federalism, the influence of Constitution-
allism, the political development of state constitutions, and a survey of the
states’ executive, legislative and judicial branches. Prerequisites:
Political Science 11, 12, and 13.

61. **COMPARATIVE GOVERNMENTS**    FWS. 3 hours.
An introduction to the comparative study of politics. The emphasis
is on the principal political systems. Fall quarter: Political culture,
modern ideologies, Great Britain. Winter quarter: France, Germany,
Soviet Union. Spring quarter: The developing nations. Models are
Tangania, Mexico or Brazil, Yugoslavia, Iran or Turkey.

**PSYCHOLOGY**

21, 22, 23. **GENERAL PSYCHOLOGY**    FWS. 3 hours.
A course designed to give the student a fundamental understanding
of the causes and methods of behavior, and to give him practical sug-
gestions for the control and improvements of his own life. Factors in
development, motivation, emotions, the special senses, attention and
perception, learning and thinking. The role of psychology in the
solving of personal and social problems including a study of individ-
ual differences, intelligence, dynamic factors in personality, and
social and vocational adjustment.

32. **HUMAN GROWTH AND DEVELOPMENT**    F. 3 hours.
This course is designed to assist the student in understanding the
psychological and physiological development of the individual from
conception through the period of old age.
tools of economic analysis needed for enlightened citizenship. The
study includes an analysis of American capitalism, national income,
government and fiscal policies, money, banking and monetary poli-
cies, the economics of the firm, international economic policies, com-
petitive economic systems, and some current domestic and interna-
tional economic problems. Not open to freshmen.

GEOGRAPHY
11. INTRODUCTION TO GEOGRAPHY
F. 3 hours.
This course is a basic survey of essentials of college geography, in-
cluding vocabulary, basic principles and techniques.

12. CULTURAL GEOGRAPHY
S. 3 hours.
A survey of world regional geography, with attention focused on so-
cial and behavioral patterns resulting from environment.

13. ECONOMIC GEOGRAPHY
W. 3 hours.
The relationship of geographical factors to economic life of people in
various world regions constitutes the emphasis of this course.

HISTORY
11, 12, 13. WESTERN CIVILIZATIONS
FWS. 3 hours.
This course seeks to give the student a background in political, eco-
nomic, social, cultural, and military history of mankind from ancient
to modern times, with particular emphasis being given to the develop-
ment of western civilization. Class discussion, reports, lectures, and
assigned readings are used to accomplish this purpose.

14, 15, 16. HISTORY OF EASTERN CIVILIZATION
FWS. 3 hours.
A survey of the history of Asia. Fall quarter: The history and culture
of Asia before Western penetration. Winter quarter: The penetration
of the Orient by the Occident and its impact. Spring quarter: The
forces of nationalism and modernity in a new and more committed
Asia.

20. HISTORY OF COLORADO
F., W. or S. 3 hours.
A survey of the history of Colorado from prehistoric times to the
present. The course includes consideration of the pre-historic peoples,
the trapping and trading era, the mining period, and economic, po-

tical and social development of the state.

24, 25, 26. HISTORY OF LATIN AMERICA
FWS. 3 hours.
A survey of the history of Latin America. In the first quarter pre-
Columbian civilizations, the Colonial period, and the Revolutionary
period will be studied. Second quarter: The emergence of the Latin-
American republics. Third quarter: 20th Century problems and pros-
pects. Considerable attention will be given to relations between Latin
America and the United States.

31, 32, 33. UNITED STATES HISTORY
FWS. 3 hours.
A survey course in the history of the United States. Fall quarter:
Colonial period to Age of Jackson; Winter quarter: Expansionist Era
to Progressive Era; Spring quarter: World War I to the present.

31, 32, 33. PRINTMAKING
FWS. 3 hours.
Introduction to the techniques and processes of various printmaking
media, including intaglio, planographic, and relief. Etchings, en-
going, aquatint, dry point, collotype, woodcut, linocut, serigraphy
and stone lithography are the printing techniques available. The his-
tory of printmaking is also emphasized. Prerequisite: Art 11 and 12.

Drama
12. CREATIVE PLAY ACTIVITIES—DRAMA
S. 3 hours.
This course is designed for those students who will be working with
preschoolers, kindergarten and elementary students. Through the
creative process students will develop plays from stories, books, his-
torical events, etc. Also, there will be a section on puppetry.

17, 18, 19. PLAY PRODUCTION
FWS. 1 hour.
This is a practical course of stagecraft concerned with the production
of plays presented at the college. The students work in the areas of
scenery, construction, painting, lighting, make-up, properties. Hours
are arranged for laboratory assignment plus one hour a week in class
assignment.

31, 32, 33. HISTORY OF THEATRE
FWS. 2 hours.
A course exploring the historical aspects of the theatre as an insti-
tution and showing its relationships to the other arts and to the
social environment.

34, 35, 36. DEVELOPMENT OF THE CINEMA
FWS. 2 hours.
Through the medium of classic films, this course explores the tech-
niques and history of the motion-picture industry. The first quarter
is devoted to the American film, the second quarter to the foreign
film, and the third quarter to the documentary and the art film.

41. THEATRE PRACTICE: INTRODUCTION
F. 2 hours

42. THEATRE PRACTICE: COSTUME AND MAKE-UP
W. 2 hours

43. THEATRE PRACTICE: ACTING AND DIRECTING
S. 2 hours
This course introduces and acquaints the student with the theatre and
the presentation of plays. The first quarter places an emphasis on
type of plays, drama and the audience and what to look for in view-
ing a play. The second quarter places an emphasis on costuming and
make-up. The third quarter is an introduction to the directing of
plays, acting and stage techniques.

44. THEATRE PRACTICE: SCENE CONSTRUCTION
F. 2 hours

45. THEATRE PRACTICE: LIGHTING AND SOUND
W. 2 hours

46. THEATRE PRACTICE: SCENE DESIGN
S. 2 hours
A three-quarter sequence course designed to meet the basic stagecraft
requirements of many four year institutions. The first quarter is con-
cerned with the construction, handling and painting of scenery; the
second quarter is an introduction to stage lighting; the third quarter
is an introduction to scene design and the importance to the finished
production.
51. BEGINNING ACTING  
WS. 2 hours.
This course is designed to introduce the student to the principles and techniques of acting through pantomime, improvisation, and performance of solo, duo, and group scenes. It will be offered on demand (minimum of ten students). Prerequisite: Drama 41, 42, 43 or permission of the instructor.

53. INDEPENDENT STUDY IN PROBLEMS IN THEATRE  
FWS. 1-3 hours.
Independent work which may include a study of plays and papers; direction of a play (one-act or three-act); designing and erecting of scenery and/or costumes for a production; a theatre tour followed by discussion and papers on plays attended.

56, 63. PLAY PRODUCTION  
FWS. 1 hour.
A continuation of Drama 17, 18, 19. Provides opportunities for a student to receive credit in Play Production during sophomore year.

Music

THEORY, HISTORY, AND EDUCATION

10. MUSIC FUNDAMENTALS  
WS. 2 hours.
A study of the basic music tools. No background in music is required. This course will include the essentials of music needed for teachers in grades-school classrooms. The course is recommended for those who do not desire the concentration of the regular Music Theory course, but who wish to obtain a knowledge of musical tools. It is also recommended as a preparation for music theory. Material to be covered will include the study of familiar songs from a melodic and harmonic viewpoint, scales, keys, notation, music reading and harmony.

11. MUSIC APPRECIATION  
FW. 2 hours.
A study of famous composers and compositions. Encourages an interest in concert music. Course designed for non-music majors, students who are not musicians but who wish to increase their knowledge of music. All types of music from early masters to contemporary jazz are considered.

14. ELEMENTARY THEORY  
FW. 3 hours.
This course is designed to give the student a thorough grounding in the elements of music. A detailed study is made of keys, scales, modes, intervals, triads, seventh chords, etc. The techniques and rules of simple, four-part harmony are studied and practiced and keyboard techniques for the above are developed. Knowledge of piano essential; or piano studied concurrently with Music Theory.

17. SIGHT SINGING AND EAR TRAINING  
FW. 1 hour.
Sight singing is developed by practice in vocal recognition of tonal and rhythm patterns and by singing graded musical exercises. Ear training is developed by means of rhythmic, melodic, and harmonic dictation exercises. The course should be taken in conjunction with Elementary Theory since materials in both courses are correlated.

POLITICAL SCIENCE

FIRST YEAR

Associate in Arts

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<th>Course</th>
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SECOND YEAR

Associate in Arts

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PRE-LAW*

Associate in Arts

FIRST YEAR

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*Recommended Electives: Accounting or Economics.

ANTHROPOLOGY

11. INTRODUCTION TO ANTHROPOLOGY  
FW. 3 hours.
A three-quarter introductory survey of the basic concepts of anthropology. Major areas studied are the biological nature of man, the evolution of man, race, and the development and history of culture.

ECONOMICS

51. PRINCIPLES OF ECONOMICS  
FW. 3 hours.
An introductory course dual purpose of which is to provide basic background for the student who plans to pursue advanced study in the field as well as to equip the ordinary citizen with some basic
Division of Social Science

Courses offered by the Division of Social Science are designed to accomplish the following:

1. To prepare the student for more advanced work in upper division courses to be taken at a four-year college or university.
2. To help prepare students for a more active, intelligent role as citizens in their respective communities.
3. To meet the needs of students interested in participating in one of the technical or vocational programs offered by the college.

Instructional Staff: Mr. Jones, Chairman; Mr. Dally; Mrs. Plank; Mr. Harper; Mr. Rightnow; Mr. Hill; Mr. Tom; Mr. Mackensie; Mr. Miskin; Mr. Morin; Mr. Nicholas; Mr. Perry; Mr. Roberts; Miss Sholles; Mr. Tumin.

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### 21, 22, 23. STRING CLASS

**FWS. 1 hour.**

This course provides classroom instruction to beginners in bowed strings, including violin, viola, cello, bass.

### 24, 25, 26. HISTORY OF MUSIC

**FWS. 2 hours.**

This course makes an in-depth survey of musical development of Ancient, Medieval Renaissance, Baroque, Classical, Romantic and Modern music. Lectures and readings are illustrated with recordings, films and guest performances. The course work is geared to the music major and minor; however, any student with sufficient background may take the course.

### 27, 28, 29. PIANO CLASS

**FWS. 1 hour.**

This course provides classroom instruction to beginners in piano.

### 31, 32, 33. WOODWIND CLASS

**FWS. 1 hour.**

This course provides classroom instruction to beginners in woodwinds. Particular emphasis is given to obtaining proficiency on clarinet. Winter quarter deals mainly with flute and sax and spring quarter deals with oboe and bassoon. Woodwind class should be considered a full-year course.

### 34, 35, 36. BRASS CLASS

**FWS. 1 hour.**

This course provides classroom instruction to beginners in brass instruments.

### 51, 52, 53. ADVANCED THEORY

**FWS. 3 hours.**

Only those who have mastered the material of Elementary Theory should register for this course. Topics include altered chords, modulations, non-harmonic tones, elementary counterpoint, and musical forms. Four-part harmony from melody and figured bass is stressed. Original composition is practiced and encouraged. Drill in sight-singing, and melodic and harmonic dictation is continued from the first year program.

### 57, 58, 59. CONDUCTING

**FWS. 1 hour.**

An introductory study of conducting: Choir (Fall Quarter), Band (Winter Quarter), Orchestra (Spring Quarter).

### APPLIED MUSIC—ENSEMBLE

Besides regularly scheduled class meetings, members of ensembles are required to attend special rehearsals and to take part in programs. All applied music courses are open to both freshmen and sophomores.

### 10, 11, 12. JAZZ ENSEMBLE

**FWS. 1 hour.**

By audition only. Preference is given to participating members of marching band in the fall and wind ensemble in winter and spring quarters. The initial stages of the band's development includes studying and playing dance band repertoire, practical performance and jazz improvisation. The group performs several concerts on campus each year, plays area dances and makes a concert tour in the spring.
31. MARCHING BAND  
F. 1 hour.
Open to all students regardless of major. The marching band performs at all home games and parades in several local parades. A limited number of scholarships are available by audition with the director. The band may accompany the football team out of town when need and finances permit. Marching band credit may be substituted for one hour of Physical Education requirement. Rehearsals at 1 p.m. daily during marching season.

32. SYMPHONIC WIND ENSEMBLE  
WS. 1 hour.
Open to all students, regardless of major, who demonstrate sufficient ability to study, rehearse, and present advanced forms of wind ensemble literature. The group presents a formal concert each quarter and presents concerts in local high schools. Occasionally guest conductors and nationally known soloists perform with the group.

33. INSTRUMENTAL ENSEMBLE  
FWS. 1/2 hour.
Groups are organized based upon the talents and interests of the students. These groups may consist of various combinations of woodwind, string, brass, and percussion instruments.

34. PEP BAND  
W. 1 hour.
Membership is open to any student based upon ability and instrumentation. The group performs at all home basketball games. Repertoire includes pep, jazz, and rock tunes. Rehearses two hours per week during basketball season. The group may accompany the basketball team out of town when need and finances permit.

35. SYMPHONY ORCHESTRA  
FWS. 1 hour.
The Mesa College Civic Symphony Orchestra draws its personnel from the professional, amateur, and student musicians of Grand Junction and other Western Slope communities. At least three concerts are presented during the school year. Nationally known musicians appear with the orchestra as guest soloists. Admission by special permission of the director.

36. VOCAL ENSEMBLE  
FWS. 1/2 hour.
Vocal ensembles include men's and women's trios, quartets, double quartets, etc. Groups organized are based upon the talents and interests of the students.

37. COLLEGE CHOIR  
FWS. 1 hour.
Open to all men and women who wish to sing the best in all styles of choir literature. This group performs several concerts and membership is necessary to be eligible for the Modern Choir.

38. PIANO ACCOMPANYING  
FWS. 1/2 hour.
A course designed for giving piano majors actual experience in supervised accompanying.

39. COMMUNITY CHOIR  
FW. 1 hour.
Open to college faculty, students and community members, and performs with the community orchestra. Outstanding opportunity to sing the world's greatest music.

41, 42, 43. GENERAL PHYSICS LABORATORY  
FWS. 1 hour.
This course permits the student to observe some of the principles discussed in the lecture class, take and evaluate quantitative data, and learn to prepare detailed laboratory reports. Designed to be taken with the lecture course but is not mandatory. One three-hour session per week.

51. ENGINEERING PHYSICS I  
FS. 4 hours.
A university level course in elementary physics for engineers, mathematicians, and physical science majors. This first of a three-quarter sequence is devoted entirely to the study of mechanics. Principles and mathematical models are stressed. Application to a wide variety of situations is used as a device to develop insight. The calculus and vector descriptions are used frequently. Four lecture-recitation periods per week. Concurrent registration in Math 51 is a minimum math corequisite.

51. ENGINEERING PHYSICS I LABORATORY  
FS. 1 hour.
Laboratory work in mechanics is accomplished in one three-hour period per week. This course is normally taken concurrently with Physics 51.

52. ENGINEERING PHYSICS II  
FW. 4 hours.
This second in the three-quarter sequence considers the fields of electricity and magnetism. Presentation techniques and objectives are the same as for Physics 51. Lecture-recitation, prerequisites follow logically from Physics 51.

52. ENGINEERING PHYSICS II LABORATORY  
FW. 1 hour.
Laboratory work in electricity and magnetism is undertaken in one three-hour period per week. This course is normally taken concurrently with Physics 52.

53. ENGINEERING PHYSICS III  
WS. 4 hours.
This course is concerned with wave motion, sound, heat, light, and a brief introduction to modern physics. Four lecture-recitation periods per week. Prerequisite: Satisfactory completion of Physics 52.

53. ENGINEERING PHYSICS III LABORATORY  
WS. 1 hour.
Laboratory work in wave motion, sound, heat and light are undertaken in one three-hour period per week. This course is normally taken concurrently with Physics 53.

64. MODERN PHYSICS  
S. 4 hours.
This course is an extension of the Physics 51, 52, 53 sequence. It is devoted to the study of special relativity, quantum effects and theory, nuclear physics and the solid state. Four lecture-discussion periods per week. Prerequisite: Physics 53.

64. MODERN PHYSICS LABORATORY  
S. 1 hour.
This laboratory course in modern physics meets for one three-hour period per week. Investigations into charge on the electron, Planck's constant, photoelectric effect and related phenomena are undertaken. Enrollment in this course is normally concurrent with Physics 64.
22. STELLAR SYSTEM ASTRONOMY W. 3 hours.
Students may enter without Stellar Astronomy with permission of the
instructor. Subjects include: stars, variable stars, binaries, clusters,
nebula, galaxies, space measurements, stellar and galactic evolution.
Two group observing nights and other activities will be scheduled.
No laboratory.

23. WEATHER AND CLIMATE S. 3 hours.
A non-mathematical introductory course intended primarily for liberal
arts students, prospective teachers, or science majors. Subjects
include: atmospheric structure, heat, pressure, wind, moisture, instru-
ments, storms, forecasting, and climate. One field trip, study of daily
weather maps, local observing and some practice forecasting. No
laboratory.

21. OLD WORLD ARCHAEOLOGY F. 3 hours.
A survey of the archaeology of Eurasia and Africa with emphasis on
the emergence and spread of early man and its scientific and
technologic advances up to and including the Iron Age. Basic arche-
eologic concepts such as excavation procedures and modern dating
methods are discussed. Class meets three periods per week.

22. NEW WORLD ARCHAEOLOGY W. 2 hours.
A survey of archaeology of North, Middle and South America emphasizing
origin of inhabitants, distribution of sites, changes in tool, and
sciences and achievements. The first portion of the course deals primarily
with Paleo-Indian Traditions and the latter portion with the Inca,
Mayan and Aztec Civilizations. Class meets three periods per week.

23. SOUTHWESTERN ARCHAEOLOGY S. 3 hours.
A survey of archaeology of the American Southwest. The course is
designed to acquaint the student with the principal pre-Columbian
peoples of this region, their origins, distribution, and technological
achievements. Typical sites of each culture are discussed. Class meets
three periods per week.

Physics

19. INTRODUCTION TO PHYSICS S. 4 hours.
A course in physics consisting of lectures, demonstrations, discus-
sions, for the non-science major. Four lectures per week.

19. INTRODUCTION TO PHYSICS LABORATORY S. 1 hour.
A three-hour laboratory with special emphasis on the understanding
of underlying principles and methods of physics and their application
to life in modern times.

41. 42. GENERAL PHYSICS FWS. 4 hours.
This is a basic course in non-calculus physics with a thorough presenta-
tion stressing fundamental principles and relationships, practical
applications and problem solving. The subject areas covered are
mechanics, heat, sound, light, electricity, and modern physics. Cannot
be taken without concurrent registration in the laboratory course.
Four lectures per week. Prerequisite: Mathematics through college
trigonometry.

71. 72. 73. MODERN CHOIR FWS. 1 hour.
A selected group of singers who must also be members of the college
choir. This "contact group" sings Broadway show tunes, jazz, and
popular music, and entertains both on campus and at community
functions. Auditions are held for membership in this group.

APPLIED MUSIC—INDIVIDUAL LESSONS

Individual music lessons are given in piano, voice, and most of the
orchestral and band instruments. The fee, determined by the Music
Department, is $35.00 per quarter which entitles the student to one
lesson a week per quarter. All applied music fees are to be paid at
the time of registration.

The number of hours credit in applied music is to be determined for
each student by the music staff. Those who register for one lesson
per week may receive one or two hours credit. Music majors may
register for four hours credit by special permission only.

Music majors and students performing in a major musical group (such as
orchestra, band, and choir) are eligible for scholarship considera-
tion to assist them in meeting the costs of applied lesson fees. Inqui-
ries are to be directed to the Music Department.

11, 13, 12. VOICE FWS. 1, 2, 4 hours.
14, 15, 16. PIANO FWS. 1, 2, 4 hours.
17, 18, 19. ORGAN FWS. 1, 2, 4 hours.
21, 22, 23. STRING INSTRUMENT FWS. 1, 2, 4 hours.
24, 25, 26. BRASS INSTRUMENT FWS. 1, 2, 4 hours.
27, 28, 29. WOODWIND INSTRUMENT FWS. 1, 2, 4 hours.
34, 35, 36. PERCUSION FWS. 1, 2 hours.
Division of Health Programs

Programs are offered in Associate Degree Nursing (R.N.), Practical Nursing (L.P.N.), and Medical Office Assisting.

The number of students admitted to the nursing programs is limited. Applicants need to be in good health, have satisfactory references, and show aptitude for service in the area chosen. A college committee chooses applicants for admission from those who meet minimum requirements.

Early application is essential. Special forms are required for Practical Nursing.

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INSTRUCTIONAL STAFF: Miss Moses, Chairman; Miss Simms; Miss Erickson; Miss Hassen; Miss Kay; Mrs. Morrow; Mrs. Schumann; Mrs. Simon; Mrs. Welsh; Mrs. Williams.

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NURSING (R.N.)
Associate in Science

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SUMMER | Six Weeks
Nursing 44 (Psychiatric Nursing) 6 Hours
at Colorado State Hospital, Pueblo, Colorado

SECOND YEAR

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*Each nursing course includes laboratory (clinical experience). For example, Nursing 11 consists of three clinical hours and two three-hour laboratory periods per week. The proportion of laboratory to class time increases as the student progresses in the program.

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PHYSICAL SCIENCE

11, 13. SURVEY OF PHYSICAL SCIENCE FWS. 3 hours.
A logically developed course in physical science rather than a "cutdown" version of the courses in the various departments represented. The aim is to give a definite conception of the physical world and some appreciation of the scientific method and its sociological significance. Sequence of topics will be as follows: Survey of Physical Science 11 includes force and motion, heat, electricity, sound, and light. Survey of Physical Science 13 includes the chemistry of matter and nuclear energy. Survey of Physical Science 13 includes astronomy, meteorology, and geology. Not recommended for students who are taking or have taken other college courses in physical science.

21. SOLAR SYSTEM ASTRONOMY F. 3 hours.
Introductory course intended for liberal arts students, prospective teachers or science majors. Subjects include: measurement of location and time, navigation, gravity, sun, planets, comets, meteors, satellites, the moon, astronomical instruments, and space travel. Two group observing nights and other activities will be scheduled. No laboratory.
Geology

21, 22, 23. EARTH SCIENCE  FWS. 4 hours.
A general approach to the broad aspects of geology and closely related fields. The earth’s environment in space, its atmosphere, hydrosphere, and composition are considered full quarter. The winter quarter study of earth processes is expanded during spring quarter to consider the origin and physical changes of the earth and the evolution of life forms throughout earth history. Designed for non-science majors without any previous earth science experience, who need a laboratory science (refer to lab description). Should be taken in sequence. Four lectures.

21. 22, 23. EARTH SCIENCE LABORATORY  FWS. 1 hour.
Consists of weekly two hour lab investigations and one or more field trips per quarter. Should be taken concurrently with Earth Science Lecture. Fall quarter involves map interpretation and mineral and rock examination. Topography and structure of the earth are investigated winter quarter by use of photos, maps, and cross-sections. Interpreting regional and general geologic history by examining the rock sequence and fossil specimens concludes spring quarter.

31, 32. GENERAL GEOLOGY  FW. 4 hours.
A study of the earth, its materials, development of landforms and the geologic processes acting on and within the earth. Designed as an introductory course for geology and other science majors. Should be taken in sequence. Four lectures per week.

31, 32. GENERAL GEOLOGY LABORATORY  FW. 1 hour.
A laboratory course designed to supplement the General Geology lecture course. Devoted to the study of rocks and minerals and the study and interpretation of topographic and geologic maps. Should be taken in sequence. May be taken separately or in conjunction with lecture. Meets for two hour session or field trip each week.

33. HISTORICAL GEOLOGY  S. 4 hours
Origin of the earth and development of the earth’s crust through geologic time. Includes the evolution of life forms in the fossil record. Four lectures per week. Prerequisite: Geology 22 or 32.

33. HISTORICAL GEOLOGY LABORATORY  S. 1 hour.
Interpretation of geologic maps and aerial photographs and study of representative fossils. Several field trips to study local geologic sections. One all-day field trip. One day per week for two hours.

41. ENVIRONMENTAL EARTH SCIENCE STUDIES  FWS. 2 hours.
A two-quarter hour course for students planning a career in research management and environmental control. Individual study of the local area and a seminar format are used to build a foundation of knowledge to be utilized in solving environmental problems. Open to advanced students upon consultation.

51. ROCKY MOUNTAIN GEOLOGY  S. 3 hours.
A study of the physical and historical geology of the Western Colorado region, primarily in the field. One lecture per week and one 3-hour lab per week plus four all-day field trips and four half-day field trips. Prerequisite: Geology 33.

Nursing (R.N.)

Initiated in September 1962, this program is fully accredited by the Colorado Board of Nursing and by the National League for Nursing. Upon completion of the prescribed course of study, the graduate receives the Associate in Science degree and is eligible to take the examination for licensure as a Registered Nurse.

The purpose of the nursing curriculum is to prepare graduates to serve as registered nurses in first level (staff nurse) positions in hospitals, nursing homes, physicians’ offices, and other health agencies where adequate direction is provided.

Laboratory experiences are planned with St. Mary’s, Grand Junction Osteopathic, and Veterans’ Administration Hospitals, and other health and welfare agencies in the community. A six-week course in psychiatric nursing is scheduled for the summer following the first academic year, at the Colorado State Hospital in Pueblo.

Admission is based on a strong high school background, including chemistry. Preference is given to those in the upper half of the high school class, with an ACT Composite Standard score of 18 or above. Students are to have a grade point average of at least 2.0 grade average in nursing courses at the end of Spring Quarter of their freshman year, and to maintain this each succeeding quarter thereafter in order to continue in the program. Courses must be successfully completed in sequence as numbered.

11. FUNDAMENTALS OF NURSING  F. 5 hours.
The student learns and applies basic principles of nursing and care for patients who present common nursing problems. Concepts of health care and of nursing as a profession are included. Three class hours; six laboratory hours.

22. NURSING OF ADULTS  W. 5 hours.
Learning of basic principles is continued and applied to patients presenting certain medical and surgical conditions and nursing problems. The student learns to give complete nursing care to individual patients. Three class hours; six laboratory hours.

33. MATERNITY AND INFANT NURSING  S. 5 hours.
The student learns to care for mothers and infants in the pre- and post-partum period as well as during labor and delivery, and for the infants. She views the life cycle from the focus of the family, and learns to teach parents in the care of themselves and their infants. Experience is gained in the hospital and in other health and social agencies where mothers and infants are found. Three class hours; six laboratory hours.
44. **PSYCHIATRIC NURSING**

Summer. 6 hours.

Although the concepts of psychiatric and mental health nursing are integrated through the curriculum, six weeks in the summer of the first year are spent at the Colorado State Hospital in Pueblo. This time is devoted to intensive learning in relation to patients with mental and emotional disturbances. Six class hours; 28 laboratory hours.

51, 52. **NURSING OF CHILDREN AND ADULTS** F and W. 8 hours.

In these courses the student learns to care for patients of all ages presenting increasingly difficult nursing problems. Special emphasis is given to the care of children and to patients with medical-surgical conditions. The total needs of each patient are considered by the student as she plans and gives nursing care based on scientific principles. Four class hours; 12 laboratory hours.

63. **PROBLEMS IN NURSING**

S. 3 hours.

Content is aimed toward meeting the needs of students as they complete the program. Student cares for patients requiring a variety of nursing measures and a higher degree of knowledge, judgment, and skill. Three class hours, 15 laboratory hours.

73. **TRENDS IN NURSING**

S. 3 hours.

The history of nursing is reviewed. Special attention is given to current trends in nursing and health care, as well as changes projected for the future. The student is encouraged to assume a responsible role as a registered nurse to meet future demands.

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**Medical Office Assistant**

Initiated in 1964, the Medical Office Assistant program is designed to prepare workers for employment in physicians' offices, hospitals, clinics, and other health agencies. For information on this program see the Vocational-Technical section of this catalog.

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**Practical Nursing**

A 12-month course designed to prepare qualified men and women for service in hospitals and other health agencies as licensed practical nurses. Upon completion of the course, the graduate is qualified to take the licensing examination. For information please see the Vocational-Technical section of this catalog.

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23. **INTRODUCTION TO ORGANIC CHEMISTRY LABORATORY**

S. 1 hour.

Basic organic procedures are undertaken enabling the student to (1) observe the properties of organic compounds, (2) identify organic compounds, and (3) undertake an organic preparation. One three-hour session per week.

31, 32. **GENERAL INORGANIC CHEMISTRY**

FW. 4 hours.

Fundamental principles and applications of general inorganic chemistry. The areas covered include atomic structure, periodic law, gas laws, kinetic theory, stoichiometry, bonding, oxidation-reduction, thermodynamics, electrochemistry, and chemical equilibrium. Designed for Chemistry, Pre-Medicine, Pre-Veterinary Medicine, Engineering and other science majors. Mathematics 21 or Mathematics 26 must be taken prior to, or concurrently with, this course. Prerequisite: High School Chemistry and satisfactory entrance examination score, or Chemistry 21. Four lectures per week.

31. **GENERAL INORGANIC CHEMISTRY LABORATORY**

FW. 1 hour.

The laboratory work consists of an introduction of gravimetric, volumetric, and instrumental quantitative analysis. One three-hour session per week.

33. **INORGANIC CHEMISTRY AND QUALITATIVE ANALYSIS**

S. 3 hours.

A lecture course designed to thoroughly acquaint the student with the equilibrium systems of Inorganic Chemistry in a theoretical and practical way with emphasis on the broad view of inorganic chemistry. Three lectures per week.

33. **INORGANIC CHEMISTRY AND QUALITATIVE ANALYSIS LABORATORY**

S. 2 hours.

This laboratory consists of two three-hour sessions per week with a total of six hours. The work undertaken consists of a study of a few selected equilibrium systems of inorganic chemistry. To facilitate this study, qualitative analysis is intermixed with many ion concentration determinations.

41. **INTRODUCTORY INORGANIC, ORGANIC AND PHYSIOLOGICAL CHEMISTRY**

F. 3 hours.

A lecture course designed to investigate principles of Inorganic Chemistry, Organic Chemistry, and Biochemistry. It is intended primarily for persons pursuing the Associate Degree Nursing Program and the Medical Office Assistant Program. Prerequisite: High School Chemistry or Chemistry 21.

51, 52, 53. **ORGANIC CHEMISTRY**

FW. 3 hours.

Lectures and discussions concerning the chemical and physical properties of the major classes of organic compounds. Mechanistic, stereochemical acid-base, and related theories are used throughout to relate and unify the various parts of the subject. Course may be taken with or without accompanying laboratory. Prerequisite: Chemistry 32 or consent of the instructor.

54, 55, 56. **ORGANIC CHEMISTRY LABORATORY**

FW. 2 hours.

Laboratory exercises to accompany Chemistry 51, 52, 53. Provides experience in the syntheses and with the reactions of many classes of compounds. Classical qualitative analysis is introduced. Some experience with methods used to establish theoretical principles is also obtained.
PHYSICAL SCIENCE
Associate in Science

FIRST YEAR

Fall Quarter | Hours | Winter Quarter | Hours | Spring Quarter | Hours
---|---|---|---|---|---
English 13 | 4 | English 13 | 5 | English 13 | 5
Mathematics 29 | 5 | Mathematics 29 | 6 | Mathematics 29 | 6
Chem. 21 or Geol. 21 | 3 | Chem. 21 or Geol. 21 | 4 | Chem. 21 or Geol. 21 | 4
Biol. Sci. or Ed. | 3 | Biol. Sci. or Ed. | 3 | Biol. Sci. or Ed. | 3
Chem. or Geol. Lab. | 1 | Chem. or Geol. Lab. | 1 | Chem. or Geol. Lab. | 1
| 15 | | | | 15

SECOND YEAR

Fall Quarter | Hours | Winter Quarter | Hours | Spring Quarter | Hours
---|---|---|---|---|---
Physics 61 | 4 | Physics 61 | 5 | Physics 61 | 5
Mathematics 21 | 4 | Mathematics 21 | 5 | Mathematics 21 | 5
Chemistry 51 and 54 or electives | 3 | Chemistry 51 and 54 or electives | 3 | Chemistry 51 and 54 or electives | 3
Physical Education | 1 | Physical Education | 1 | Physical Education | 1
Physics II Lab. | 1 | Physics II Lab. | 1 | Physics II Lab. | 1
| 15 | | | | 15

*Students with a deficiency in mathematics will make the same substitutions suggested in the Engineering curriculum.

Chemistry

11. CHEMICAL PROFESSIONS
F. 1 hour.
This course is designed to assist the student in assessing his abilities and desires to pursue professions requiring a considerable background in chemistry. It also considers methods of study for scientific fields and is intended to be valuable in the pre-professional programs leading to the study of medicine, dentistry, pharmacy, and chemical and chemical assistants.

12. CHEMICAL PROFESSIONS
WS. 1 hour.
Courses designed to continue the study of the chemical professions and the various techniques, instruments and materials used in chemistry and chemical analysis.

21. GENERAL CHEMISTRY
FWS. 4 hours.
A lecture course in fundamental principles of chemistry and their application. The areas covered include atomic structure, bonding, periodic laws, and molecular relationships of elements and compounds, oxidation-reduction, electrolysis, and ionic equilibrium. Designed for students in Liberal Arts, Nursing, Home economics, and Agriculture. Prerequisites: High School algebra or satisfactory entrance examination scores. Four lectures per week.

22. GENERAL CHEMISTRY LABORATORY
FWS. 1 hour.
The laboratory sessions are designed to acquaint the student with the instruments and procedures used in general chemistry. The work involves metric measurement, observation of chemical changes, and the physical properties of some elements and a few selected ions and compounds. The laboratory gives the student a chance to observe, discover, and report. The elementary concepts and the work undertaken enhance the class study. One three-hour session per week.

23. INTRODUCTION TO ORGANIC CHEMISTRY
S. 4 hours.
A lecture course in fundamentals of Organic Chemistry. Four lectures per week. Prerequisite: Chemistry 22 or 32.

Division of Humanities

The aims of the Division of Humanities are to promote in students cultural awareness, critical judgment, and facility in the use of language. Students are encouraged to understand, to evaluate, to appreciate, and to participate in the forms of man's expression. With these objectives in view, students should develop enduring values, both aesthetic and utilitarian.

For suggested curricula see General Education and General Liberal Arts, Page 25.

Education

51. INTRODUCTION TO EDUCATION
FWS. 3 hours.
A short survey of the field of education. Important aspects considered are: History of American Education, present philosophies of education, major problems of education, present practices, and the school as a social institution. Required of education majors.

English

1. ENGLISH AS A SECOND LANGUAGE
FWS. 3 hours.
This course is for the nonnative speaker of English. It includes listening, speaking, writing, pronunciation, usage, spelling, culture, and grammar. Upon completion of the course, students receive three hours of credit toward a Mesa College Diploma. Students may begin the course any quarter, and need not take it for three quarters.

4. ENGLISH GRAMMAR
FWS. 3 hours.
This course is a review of functional grammar and usage as well as sentence structure and mechanics. The department recommends that students who make low scores on the American College Test take this course before English 11. Credit is not intended for transfer nor for Associate Degree requirements.

11. ENGLISH COMPOSITION
FWS. 3 hours.
The primary objective of this course is to develop the ability to write well-organized paragraphs and essays. History of the language and vocabulary are given attention. The first quarter stresses informal
writing; the second quarter stresses formal writing, including a research paper; the third quarter consists of the study of at least one novel and some other types of literature as well as some critical writing. The three quarters must be taken in sequence.

15. TECHNICAL REPORT WRITING  
FWS. 3 hours.  
This course is designed to assist potential scientists, technologists, vocational technological specialists, and nurses to describe scientific processes in clear, correct, language; to construct scientific statements with logic and clarity and to be able to present them orally or in writing; to write complex business letters; to draft agreements, contracts, and research proposals with accuracy. A permitted substitute for English 13 for certain students.

21. ENGLISH: SPELLING  
FWS. 2 hours.  
A course designed primarily to assist the student in overcoming spelling difficulties. Attention will also be given to pronunciation, meaning, and usage.

22. ENGLISH: VOCABULARY  
FWS. 2 hours.  
This course emphasizes vocabulary improvement by means of word analysis and study of contributions from other languages. English 21 is not a prerequisite. The course is also recommended for reading improvement.

23. ENGLISH: ADVANCED VOCABULARY  
WS. 2 hours.  
A continuation of English 22, which is a prerequisite. Study involves vocabulary study with the use of records, context, and analysis. Language of the space age and other specific areas will also be a part of the course.

31, 32. 33. INTRODUCTION TO JOURNALISM  
FWS. 3 hours.  
A course in journalism including fundamentals in news and feature writing, advertising and business operations, study of outstanding newspapers, copyreading and proofreading techniques, newspaper layout, radio writing, and history of journalism. The course also includes some work in magazine writing and writing markets.

51, 52, 53. CREATIVE WRITING  
FWS. 3 hours.  
The student is directed in practice to develop ease in written expression. Narrative exposition in the Fall Quarter, with emphasis on form and content of critical and self-analysis themes, is followed by the study of the techniques of the short story and narrative composition in the Winter Quarter; criticism, biography, and the personal essay constitute the work of the Spring Quarter. Prerequisites: English 11, 12, and 15 or English 11 and 12 with permission of the instructor.

Foreign Language

Students who have had some foreign language in high school should check with the instructors regarding placement. Since some four-year schools now require two years of study in the same foreign language, departmental instructors recommend that the student begin his study of a foreign language during his freshman year so that he will have continuity of study under the same instructor with the same method and similar materials. The foreign language department operates a laboratory consisting of a monitoring console and fifteen student booths, each equipped with a dual-band tape recorder, earphones, and microphone. Each student works individually in his respective language by listening to the language of native speakers on specially prepared tapes on which the student records his own voice also for practice in speaking and for comparison with the language of the native speaker.
### SECOND YEAR

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<th>Winter Quarter</th>
<th>Hours</th>
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<td>Chemistry 3</td>
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<td>Chemistry 52</td>
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<td>Chemistry 34</td>
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<td>Chemistry 52</td>
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<tr>
<td>Mathematics 31</td>
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<td>Mathematics 52</td>
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<td>Physics 51</td>
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<td>Physics 51</td>
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<td>Electives</td>
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### PRE-DENTISTRY

**Associate in Science**

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<td>English 11</td>
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<td>Chemistry 21</td>
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<td>Mathematics 21</td>
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<tr>
<td>Chemistry 21</td>
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<tr>
<td>Biology 41</td>
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<td>Biology 41 Lab.</td>
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| Winter Quarter | Hours | Spring Quarter | Hours |
| Physics 41 | 4     | Physics 41 | 4     |
| Physics 41 Lab. | 3 | Physics 41 Lab. | 3 |
| Chemistry 21 and 24 | 2 | Chemistry 21 and 24 | 2 |
| Psychology 3 | 3     | Psychology 3 | 3     |
| Physical Education | 3 | Physical Education | 3 |
| Soc. Sci. or Lit. | 3 | Soc. Sci. or Lit. | 3 |
|             | 17    |               | 17    |

### GEOLOGY

**Associate in Science**

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<td>English 11</td>
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<td>Biology 21</td>
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<td>Biology 21 Lab.</td>
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<td>Mathematics 21</td>
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| Winter Quarter | Hours | Spring Quarter | Hours |
| Geology 22 | 2     | Geology 22 | 2     |
| Geology 22 Lab. | 1 | Geology 22 Lab. | 1 |
| Geology 22 | 2     | Geology 22 | 2     |
| Geology 22 | 2     | Geology 22 | 2     |
| Chemistry 22 or 24 | 2 | Chemistry 22 or 24 | 2 |
| Chemistry Lab. | 1 | Chemistry Lab. | 1 |
| Physical Education | 3 | Physical Education | 3 |
| Soc. Sci. or Lit. | 3 | Soc. Sci. or Lit. | 3 |
|             | 17    |               | 17    |

* Earth Science majors should substitute Physical Science 21, 22, 23.

### FRENCH

11, 12, 13. **FIRST YEAR FRENCH**  
FWS. 3 hours  
This beginning course is an introduction to the French language and culture through the use of a culturally oriented text. All four language skills are developed and stressed at the beginning and continued throughout the year.

51, 52, 53. **SECOND YEAR FRENCH**  
FWS. 3 hours  
This course is a review of all four language skills together with the essentials of pronunciation, grammatical structure, and clear expression through a word study of vocabulary distinctions. Students prepare some exercises, both oral and written, which are completely original. Prerequisite: Two years of high school French or one year of college French or permission of the instructor. Open to freshmen who qualify.

### GERMAN

11, 12, 13. **FIRST YEAR GERMAN**  
FWS. 5 hours  
A three quarter sequence designed to develop basic skill in the understanding, speaking, reading, and writing of German. Initial emphasis is given to the development of the skills of understanding and speaking. As the program advances, emphasis is also given to the skills of reading and writing.

51, 52, 53. **SECOND YEAR GERMAN**  
FWS. 3 hours  
A review and continuation of German grammar, with further practice in understanding, speaking, reading, and writing. Selections of German literature from the earliest beginnings to modern times will be studied. Prerequisite: two years of high school German or one year of college German. Open to freshmen who qualify.

### SPANISH

11, 12, 13. **FIRST YEAR SPANISH**  
FWS. 5 hours  
A three quarter sequence designed to develop basic skill in the understanding, speaking, reading, and writing of Spanish. Initial emphasis is given to the development of the skills of understanding and speaking. As the program advances, emphasis is also given to the skills of reading and writing.

51, 52, 53. **SECOND YEAR SPANISH**  
FWS. 3 hours  
A review and continuation of Spanish grammar, with further practice in understanding, speaking, reading, and writing. Readings are selected from standard Spanish and Spanish-American authors. Prerequisite: two years of high school Spanish or one year of college Spanish. Open to freshmen who qualify.

51, 62, 63. **SPANISH CONVERSATION AND COMPOSITION**  
FWS. 2 hours  
An advanced class stressing the building of a practical vocabulary and the use of oral and written Spanish in situations representative of contemporary living. Prerequisites: Spanish 53, four years of high school Spanish, or upon consultation. Open to freshmen who qualify.
21. CHILDREN'S LITERATURE  FWS. 3 hours.
A course designed to give those who are interested in literature for the child an opportunity to survey the best in books. Material is selected for various grade levels as well as for preschool and special education. Skills in presenting literature to children are developed. The course is also intended for students majoring in Library Science.

22. WORLD LITERATURE  FWS. 3 hours.
The student is introduced to representative literary figures of the world, to major types and forms of literary classics, and to their cultural backgrounds. British and American writers are not included because of their availability in other courses offered. Works studied include Homer, the Bible, Sophocles, Dante, Cervantes, Goethe, Molière, Pushkin and others.

34. MYTHOLOGY (Classical)  FS. 3 hours.
This is a one-quarter course offered to acquaint the student with the basic stories of Greek and Roman mythology which have been quoted so universally that a knowledge of them is essential to literary appreciation. Open to freshmen and sophomores. Offered Fall and Spring quarters.

35. MYTHOLOGY (Medieval)  W. 3 hours.
This is a one-quarter course in Norse, Oriental and Medieval Mythology. It aims to acquaint the student with the early cultures of other races as well as some of the famous stories of medieval Europe upon which many of our masterpieces of literature are based. Open to freshmen and sophomores. Offered Winter Quarter and on demand.

41. INTRODUCTION TO LITERATURE—FICTION  FWS. 3 hours.
This study of novels by American, English and European authors of the nineteenth and twentieth centuries aims to broaden the student's knowledge of some of the world's best fiction and to acquaint the student with critical techniques in order that the student may form a basis for independent evaluation.

42. INTRODUCTION TO LITERATURE—POETRY  FWS. 3 hours.
This course is planned to develop the student's understanding and appreciation of English and American poetry. The class analyzes poems as to form and philosophy and later the individual student engages in the production of representative poetry. Open to freshmen and sophomores.

43. INTRODUCTION TO LITERATURE—DRAMA  FWS. 3 hours.
A short survey course in the development of dramatic literature beginning with the classic plays of the Greeks and continuing to the present-day theatrical literature. Open to freshmen and sophomores.

44. INTRODUCTION TO LITERATURE—BIOGRAPHY  WS. 3 hours.
Representative writings in biography, autobiography, and biographical fiction serve to acquaint the student with the development and place in literature of these three literary types. The course aims to develop in the student some critical appreciation of biography as an art form. Open to freshmen and sophomores.

45. INTRODUCTION TO ORIENTAL LITERATURE  S. 3 hours.
A survey of the literature of Asia, including the Near East, Middle East, the Far East. This course includes some of the great religious literature of the Orient, as well as poetry, prose, and drama.

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**Division of Physical Sciences**

It is the intent of the Physical Science Division to offer courses which will enable students to:

1. pursue the cultural aspects of scientific subjects.
2. prepare for advanced work in scientific education.
3. prepare for technicians' work in the various physical science fields.

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**TWO-YEAR CHEMISTRY PROGRAM**

Associate in Science

**FIRST YEAR**

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<td>English</td>
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**SECOND YEAR**

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<td>Mathematics 31</td>
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**CHEMISTRY**

Associate in Science

**FIRST YEAR**

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<td>English</td>
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<td>Chemistry 31 Lab.</td>
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</table>
HPE 47. THEORY AND PRACTICE OF SPORTS  F. 2 hours.
Men majors: Fundamental skills in football and basketball. Lecture and laboratory.
Women majors: Fundamental skills in field hockey and speedball. Lecture and laboratory.
Freshman physical education majors are encouraged to take HPE 47 and continue through the entire Theory and Practice series while attending Mesa College.

HPE 48. THEORY AND PRACTICE OF SPORTS  W. 2 hours.
Coeducational class dealing with the fundamentals of volleyball. Lecture and laboratory.

HPE 49. THEORY AND PRACTICE OF SPORTS  S. 2 hours.
Coeducational class dealing with the fundamentals of swimming. Lecture and laboratory.

HPE 50. THEORY AND PRACTICE OF SPORTS  F. 2 hours.
Coeducational class dealing with the fundamentals of badminton. Lecture and laboratory.

HPE 51. THEORY AND PRACTICE OF SPORTS  W. 2 hours.
Coeducational class dealing with the fundamentals of gymnastics, tumbling, and trampoline. Lecture and laboratory.

HPE 52. THEORY AND PRACTICE OF SPORTS  S. 2 hours.
Coeducational class dealing with the fundamentals of track and field. Lecture and laboratory.

Physical Education Activities

PE 11. SWIMMING  PE 20. SCUBA
PE 12. DIVING  PE 30. GYMNASICS
PE 13. BOWLING  PE 31. SOFTBALL
PE 14. GOLF  PE 32. VOLLEYBALL
PE 15. BADMINTON  PE 33. FLAG FOOTBALL
PE 16. SQUARE AND POLK DANCE  PE 34. SOCCER
PE 17. SOCIAL DANCE  PE 35. BASEBALL
PE 18. MODERN DANCE  PE 36. BASKETBALL
PE 19. ARCHERY  PE 37. SPEEDBALL
PE 20. TENNIS  PE 38. FIELD HOCKEY
PE 21. SKIING  PE 39. FIELD BASEBALL
PE 22. HANDBALL  PE 40. FIELD RUGBY
PE 23. VOLLEYBALL  PE 41.  VARSITY FOOTBALL
PE 24. WEIGHT TRAINING  PE 42. VARSITY BASKETBALL
(MEN)  PE 43. VARSITY BASEBALL
PE 25. WRESTLING (MEN)  PE 44. VARSITY TRACK
PE 26. TRACK AND FIELD  PE 45. VARSITY TENNIS
(WOMEN)  PE 46. VARSITY SKIING
PE 47. BODY IMPROVEMENT  PE 48. STEEPERETTES

NOTE: All classes are coeducational unless specified otherwise. Not all classes are offered each quarter. Students must select required activity courses so as to have credit in three differently numbered courses. Each activity course is for one credit hour.

46. INTRODUCTION TO AFRO-AMERICAN LITERATURE  S. 3 hours.
This is a survey course of American literature as represented by the best known and most talented Afro-American authors of the Nineteenth and Twentieth Centuries. Writers are selected on the basis of literary merit rather than on their political or social prominence. Among others, works by W. E. B. DuBois, Langston Hughes, James Baldwin, LeRoi Jones, Eldridge Cleaver, Paul L. Dunbar, and James Wright are included in this course.

47. INTRODUCTION TO LATIN-AMERICAN LITERATURE  S. 3 hours.
This is a survey course to provide an insight into the cultural background of the Spanish-American, Mexican-American, and the Indian of the Southwest. The course is designed to show the relevance of these heritages to modern American culture.

51, 52, 53. SURVEY OF ENGLISH LITERATURE  FWS. 3 hours.
A course in the development of English poetry and prose from Beowulf to the present. The literature is presented against its political and social backgrounds. This course is designed to meet the requirements of those planning to major in English literature. Prerequisite: English 12.

51, 52, 53. UNITED STATES LITERATURE  FWS. 3 hours
This course consists of three quarters presenting the development of American prose and poetry from the seventeenth century to the present. It aims to develop appreciation of literature and to increase the student's understanding of America as it is today through knowledge of the thought and culture of the past. Credit will be given for any single quarter. Prerequisite: English 12.

54. INTRODUCTION TO SHAKESPEARE  S. 3 hours.
This course provides an opportunity for students to be introduced to one of the world's greatest literary artists. His works are prominent in all literature, and his influence on the works of other artists in many fields of the humanities is a unifying discipline for literature courses. The course will cover five or six of Shakespeare's plays, from his earliest works to his latest, to show his growth and development as a dramatist. Prerequisite: English 11, 12, 13.

Philosophy

51, 52. INTRODUCTION TO PHILOSOPHY  FWS. 3 hours.
A study of the basic problems of philosophy. This is done by an examination of central issues: reality, truth, beauty, art, cosmos, faith, knowledge, ethics, morality. Selected readings from great philosophers. Lectures, readings and discussion. No prerequisite; either or both courses may be taken.

Reading

5. READING FOR NONNATIVE  FWS. 1 hour
For students of English as a second language. This is an adjunct to English 1. Vocabulary, comprehension, oral and silent reading are included to meet student needs. May be taken for three quarters with credit toward the Mesa College Diploma.
10. **READING AND STUDY SKILLS**  
FWS. 3 hours.
This one-quarter course is recommended for all students whose college entrance test scores indicate a reading deficiency. A personalized approach is used to develop vocabulary, comprehension, and concentration. Study skills necessary for college success are emphasized. This course is open to all students. The class meets three times a week for three credit hours. Credit may be used for transfer, or for a diploma, or for a Mesa College degree requirement.

12. **READING IMPROVEMENT**  
FWS. 3 hours.
This developmental reading course stresses vocabulary, comprehension, and flexibility of rate. The course includes two hours of structured classroom work and one hour of skills practice in the Reading Center. This course is open to any student and is accepted for Mesa College degree requirements.

**Speech**

11. **FUNDAMENTALS OF SPEECH**  
FWS. 3 hours.
Speech 11 is a basic course in speech designed to aid the beginning speech student in acquiring proper, easy, and effective in speaking. Emphasis is placed on platform behavior, diction, delivery and speech organization.

Speech 12 places emphasis on the organization and delivery of the various types of speech, i.e., convincing, persuasive, informative, entertaining speeches. Speech 12 is open to any freshman or sophomore who has completed Speech 11 or who has successfully completed two years of high school speech with an overall B average.

Speech 13 is a continuation of Speech 12 with greater emphasis upon the longer speech, i.e., after dinner speaking, public address and book reviews, plus a study of classical speeches.

15. **ORAL INTERPRETATION**  
S. 3 hours.
This course places emphasis on the oral reading of prose, poetry and drama in an expressive and artistic manner. Diction, quality of tone, and meaning of material receive special attention.

16. **VOICE AND DICTIO**  
F., W. or S. 3 hours
A study of the development and use of the speaking voice with emphasis on voice placement, speech sounds and the phonetic alphabet.

23. **RADIO-TELEVISION SPEECH**  
F. 3 hours.
Microphone techniques and radio announcing for all students interested in improving their oral reading. Communication of ideas, voice control and general American pronunciation. Tape-recorded projects.

24. **RADIO-TELEVISION WRITING**  
W. 3 hours.
Analysis and preparation of station announcements, program formats, commercials, news, musical introductions and short plays.

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**Health and Physical Education**

**HPE 20. FIRST AID**  
FWS. 2 hours.
A course in which the student learns the proper emergency first aid techniques to deal with personal or community disaster. The American National Red Cross course content is used and an ARC Standard or Advanced certificate is issued to qualified students. Lecture and laboratory.

**HPE 21. LIFESAVING**  
FWS. 2 hours.
A course designed to provide the interested student with a basic water safety and lifesaving skills background. The American National Red Cross course content is used and an ARC W.S.I. certificate is issued to qualified students. Lecture and laboratory. Prerequisite: ARC Senior Lifesaving certification.

**HPE 22. WATER SAFETY INSTRUCTOR’S COURSE**  
S. 2 hours.
A course designed to provide the student with the skills and techniques necessary to teach all aspects of the swimming and diving program. The American National Red Cross course content is used and an ARC W.S.I. certificate is issued to qualified students. Lecture and laboratory. Prerequisite: ARC Senior Lifesaving certification.

**HPE 23. INSTRUCTOR’S COURSE IN FIRST AID**  
S. 2 hours.
A course designed to provide the student with the skills and techniques necessary to teach all aspects of first aid. The American National Red Cross course content is used and an ARC F.I.A. certificate is issued to qualified students. Lecture and laboratory. Prerequisite: ARC Advanced First Aid certification.

**HPE 41. PERSONAL AND COMMUNITY HEALTH**  
S. 3 hours.
A course designed to acquaint the student with the health problems of the community, as well as personal health problems. Emphasis on development of proper attitudes and health practices. Lecture and laboratory.

**HPE 42. INTRODUCTION TO PHYSICAL EDUCATION**  
F. 3 hours.
A course to acquaint the students with the background, growth, philosophical basis, and current trends in physical education. Designed for physical education majors. Lecture. Recommended for Freshman majors.

**HPE 43. SPORTS OFFICIATING**  
W. 3 hours.
A class for physical education majors wishing to acquaint themselves with the skills and techniques of officiating the three major sports: football, basketball, and baseball. Lecture and laboratory. Sophomore standing recommended.

**HPE 44. ORGANIZATION AND ADMINISTRATION**  
OF INTRAMURALS  
F. 3 hours.
A course designed for physical education majors or individuals interested in the organization and administration of the secondary or college level intramural program. Lecture and laboratory. Sophomore standing recommended.
# Division of Physical Education

The Division of Physical Education provides an instructional program in physical education activities for all students. The program is designed to secure optimum health and physical fitness, based on the individual needs and interests of the students. All regular or full-time students, except one-year business students and adults over twenty-five, are required to take a physical education activity for a minimum of three quarters unless physically unable as evidenced by a doctor's certificate.

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### PHYSICAL EDUCATION

**Associate in Arts**

#### FIRST YEAR

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<th>Fall Quarter</th>
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#### SECOND YEAR

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25. **TELEVISION PRODUCTION**

- Analysis and preparation of short television programs.

26, 27. **DEBATE**

- Instruction and participation in Argumentation, Debate, Original Oratory, and Extemporaneous Speaking with an opportunity to enter intercollegiate competition.

28. **DISCUSSION**

- S. 3 hours.
- This course is offered to provide another three hours credit for students interested in discussion. The topics for discussion are changed each year, and thus it is not repetitious in nature or content.

45, 46, 47. **PROBLEMS IN SPEECH**

- FWS. 1 hour.
- This is an independent study course which includes special problems and work in speech and/or speech activities. Each course has the credit value of one hour with the possibility of three credit hours to be earned by pursuing the total sequence. The course is designed to permit students to attain more proficiency and activity in the speech program.

51, 52. **DEBATE**

- FW. 3 hours.
- This is a continuation of Debate 27, 28.

53. **DISCUSSION**

- S. 3 hours.
- This course is primarily designed to teach the student fundamentals and techniques of problem solving through cooperative group discussion efforts. Emphasis will be placed on committee membership aims and techniques.
Division of Mathematics and Engineering

It is the function of the Division of Mathematics and Engineering to offer courses which
1) enable a student to complete two years of study before transferring to another college to complete the requirements for a baccalaureate degree in Mathematics or Engineering.
2) enable a student majoring in another area to complete a minor in Mathematics or Engineering.
3) will be a service to other divisions for students majoring in areas such as Business, Science, Pre-Professional, and Vocational-Technical.

Instructional Staff: Mr. Davis, Chairman; Mr. Bailey; Mr. Britton; Miss Baker; Mr. Hawkins; Mr. Henson; Mr. Hear; Mr. Kees; Mr. Luke; Mr. Murray; Mr. Phillips; Mr. Nance.

ENGINEERING
Associate in Science

FIRST YEAR

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<th>Fall Quarter</th>
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SECOND YEAR

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* Civil Engineering students take Surveying. To qualify for the Associate in Science degree, electrical students must be in social science or literature. Students should consult with advisors regarding requirements of the Engineering School of their choice. Some students may qualify for advanced placement; others may need additional study prior to embarking on this program.

53. CALCULUS
FWS. 5 hours.
The last course in the sequence of courses in analytic geometry and calculus. This course is designed to cover the topics of vectors in three-dimensions, partial derivatives of functions of several variables, multiple integration, and infinite series. Prerequisite: Mathematics 52.

60. SPECIAL PROBLEMS IN COMPUTER SCIENCE S. 3 hours.
Elementary numerical analysis using the high speed computer. Much work will be done with subprogramming. Topics that may be considered are Taylor's Theorem, Truncating Errors, Iteration Processes, least square methods. Prerequisite: Engineering 11 and Mathematics 52.

63. INTRODUCTION TO DIFFERENTIAL EQUATIONS WS. 5 hours.
An introduction to the formal study of differential equations with applications. Some of the topics covered are: equations of order one, elementary applications, nonhomogeneous equations, variation of parameters, inverse differential operators, Laplace transforms, and nonlinear equations. Prerequisite: Mathematics 53 or consent of instructor.

66. INTRODUCTION TO LINEAR ALGEBRA S. 5 hours.
This course is designed to give students a foundation so that they can apply the notions and techniques of the algebra and geometry of vector spaces, linear transformations and matrices, linear equations, quadratic forms and symmetric matrices, and elementary Eigenvalue Theory. Also prepares the student for advanced work by developing his powers of abstract reasoning. Prerequisite: Mathematics 53.
23. **COLLEGE ALGEBRA AND TRIGONOMETRY** FWS. 5 hours.
This course is a freshman course for the mathematics or science student. Topics include properties of the real number system, equations and inequalities in one variable, and polynomial, rational, exponential, logarithmic, circular, and trigonometric functions. Prerequisite: Mathematics 21, or 3 years of high school mathematics, and a good mathematics entrance exam score. (Trigonometry recommended.)

29. **COLLEGE ALGEBRA AND TRIGONOMETRY** FW. 5 hours.
A continuation of Mathematics 26. Topics include inverse circular functions and conditional equations, matrices and determinants, systems of equations, complex numbers and vectors, sequences, series, and trigonometric functions. Prerequisite: Mathematics 21, or 3 years of high school mathematics (including trigonometry) and a good mathematics entrance exam score.

31. **PROGRAMMABLE CALCULATOR** S. 1 hour.
Theory and operation of the programmable calculator. Prerequisite: Mathematics 23 or consent of instructor.

35. **INTRODUCTION TO PROBABILITY AND STATISTICS** WS. 5 hours.
An introductory course in statistics and statistical methods, primarily intended for the agricultural sciences, business administration, economics, business administration, psychology, sociology, and the medical sciences. Examples and exercises have been chosen from all of the major areas. Some of the topics discussed are: analysis of data, elementary probability, binomial distribution, random sampling, student's t-distribution, regression and correlation, chi-square, F-distribution, and analysis of variance. Prerequisite: Mathematics 29 or consent of instructor.

50. **ANALYTIC GEOMETRY WITH CALCULUS** FWS. 5 hours.
A combined course of analytic geometry and calculus. Fundamental principles of beginning analytic geometry, including different forms of the equations of straight line, circle, and parabola. Elementary theory of limits, continuity, derivations, and various applications of these topics are considered. Prerequisite: Mathematics 29 or equivalent.

51. **CALCULUS** FWS. 5 hours.
A continuation of Mathematics 50. Differential and integral calculus combined with analytic geometry, together with applications. Special emphasis in calculus on the transcendental functions. Prerequisite: Mathematics 50.

52. **CALCULUS** FWS. 5 hours.
A continuation of Mathematics 51, with special emphasis placed on polar coordinates, conic sections, hyperbolic functions, and vectors in a plane. The formulas and methods of integration and applications of integration are covered. Prerequisite: Mathematics 51.

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### MATHEMATICS

**Associate in Arts or Science**

#### FIRST YEAR

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**Engineering**

10. **BASIC ENGINEERING DRAWING** F. 3 hours.
A course for students with little background in mechanical drawing, and those who lack the basic fundamentals of drawing necessary for working with the space relationships of descriptive geometry. The course includes use of drawing instruments, lettering, geometric constructions, principles of orthographic projection, technical sketching, sectional and auxiliary views. Two lectures and four laboratory periods per week.

11. **INTRODUCTION TO FORTRAN PROGRAMMING** FW. 3 hours.
Various math, science, and engineering problems are put in FORTRAN language and then run on the high-speed computer. Emphasis will be on logic, flow charts, input and output. Prerequisite: Mathematics 22 or equivalent.

12. **ENGINEERING GRAPHICS AND DESIGN I** FW. 3 hours.
An introductory course in engineering graphics emphasizing creative engineering design. Topics include creative design, freehand sketching, projection systems, dimensioning, descriptive geometry, and conventional practices as they are applied in the design process.

13. **ENGINEERING GRAPHICS AND DESIGN II** S. 3 hours.
A continuation of engineering graphics including a detailed study of manufacturing and production processes, computer-aided graphic design, and graphic representation of design data, all of which will be applied to creative design problems. Prerequisites: Engineering 11 and 12.

14. **FORTRAN AND ENGINEERING PROBLEMS** S. 3 hours.
Implied Do-loops. 2 and 3 Dimensional Arrays—Common Storage Equivalences statements. Problems dealing with arrays and subscripted variables. Compiled Go To. Problems using function subroutines—external statements. Read and Write statements—transferring data to and from tape. Namelist statements.
Mathematics and Engineering

1. BASIC MATHEMATICS  
F. 3 hours.  
Designed to reinforce the students' knowledge of basic arithmetic processes. Includes a review of addition, subtraction, multiplication, and division of whole numbers, followed by a more careful treatment of decimals and fractions. Evaluation of formulas, areas, volume, unit conversion, powers and roots of numbers.

2. BASIC ALGEBRA  
FW. 5 hours.  
An introduction to algebra for the student having no algebra background or who is not sufficiently prepared to undertake College Algebra. A study is made of basic algebraic processes: operations with signed numbers and literal expressions, linear equations; fractions, factoring, simultaneous equations, graphs, and quadratic equations.

15, 16, 17. ELEMENTS OF MATHEMATICS I, II, III  
FWS. 3 hours.  
A course for prospective teachers in the elementary schools. Presents some of the basic principles which underlie mathematical processes and mathematical reasoning. Includes some areas of classical mathematics which are 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.

21. COLLEGE ALGEBRA  
FW. 5 hours.  
The systems of integers, rational numbers, real numbers, and complex numbers are studied. Quadratic, exponential, and logarithmic functions, as well as some topics from matrices and the theory of equations, are included. Prerequisite: Mathematics 2 or a full year of modern second-year high school algebra.

22. DATA PROCESSING MATHEMATICS  
WS. 5 hours.  
This course is directed to those students who are studying in the fields of data processing and computer programming. Included are applications of number systems with other bases to computers, some number theory, matrix methods, linear programming, study of Boolean algebra, introduction to trigonometry, and the study of sets as applied to the computer. Prerequisite: Mathematics 21 or equivalent.

23. TRIGONOMETRY  
FWS. 5 hours.  
Emphasizes the circular and trigonometric functions and methods of solving right and oblique triangles. The inverse trigonometric functions, conditional equations, and trigonometric identities are included. Complex numbers are covered through DeMoivre's Theorem. Also the study of spherical trigonometry with emphasis on solutions of spherical triangles is embraced. Prerequisite: Mathematics 21 or equivalent.

27. MATHEMATICS OF FINANCE  
S. 5 hours.  
Mathematical methods to the solution of business problems. Important definitions and formulas will be illustrated by carefully selected problems. Topics will include investment, scientific method, break-even analysis, probability and annuity problems. Prerequisite: Mathematics 23 or consent of instructor.
22. SLIDE RULE FW. 1 hour.
Theory and operation of the slide rule, including use of trigonometric scales and log log scales. Prerequisite: Students must have had or must be taking concurrently a course in trigonometry.

62. STATICS S. 4 hours.
Topics include principles of statics, study of vectors, forces and couples, force systems and their resistances, force systems if equilibrium (friction, cables, strings, friction, center of gravity of triangular areas and masses, and moments of inertia). Prerequisite: Mathematics 51 and Physics 51, and to be taken concurrently with Mathematics 52.

63. DYNAMICS S. 4 hours.
Principles of dynamics. Topics include angular and linear displacement, velocity and acceleration of particles and rigid bodies in motion, simple vibrations, and applications of principles of force-mass-acceleration, work-kinetic energy, the impulse-momentum to solution of problems of force systems acting on moving particles and rigid bodies. Prerequisites: Engineering 62 and Mathematics 52.

65. FLUID MECHANICS S. 4 hours.
Basic concepts of fluid mechanics, fluid properties, fluid statics and introduction to dynamics, momentum equation, mechanical energy equation, applications to laminar and turbulent flow. Co-requisite: Engineering 63.

71. ELEMENTARY SURVEYING F. 3 hours.
An introduction to the principles of surveying and mapping; familiarization with the basic instruments and their uses. Two lectures and two laboratory periods per week. Prerequisites: Mathematics 29 or Mathematics 23.

72. SURVEYING: CURVES AND EARTHWORK W. 3 hours.
The course includes calculations and field procedures for surveying circular, spiral and parabolic curves; route planning, location and design; measurement and computation of earthwork quantities; and slope stake. Two lectures and two laboratory periods per week. Prerequisite: Engineering 71.

73. ADVANCED SURVEYING S. 3 hours.
Celestial observations to determine latitude, longitude, and true azimuth, stereographic projection, triangulation, state plane coordinate systems, and computer applications in surveying. Two lectures and two laboratory periods per week. Prerequisites: Engineering 71 and Engineering 72.

74. TOPOGRAPHICAL SURVEYING F. 3 hours.
The fundamentals of map-making. Includes use of Plano Table and alidade, basic control, contour mapping, map reading. Taught primarily for non-engineers who are students in related fields; i.e., Forestry, Geology, Archaeology, etc. Offered only if sufficient demand. Three lectures and one laboratory period per week. Prerequisite: Mathematics 21 or equivalent.

81, 85. CIRCUIT ANALYSIS I, II, III FWS. 4 hours.
A general introduction to the analysis of any system of interconnected components with special emphasis on electrical circuits. The first quarter is devoted to establishing the essential features of the analysis scheme. The second quarter is concerned with the application of special analysis techniques to electrical systems using the analysis scheme. Required of all engineers. Prerequisite: Mathematics 51 and Physics 51 with completion or concurrent enrollment in Physics 52.

Mathematics

1. BASIC MATHEMATICS FW. 3 hours.
Designed to reinforce the student's knowledge of basic arithmetic principles. Includes a review of addition, subtraction, multiplication, and division of whole numbers, followed by a more careful treatment of decimals and fractions. Evaluation of formulas, areas, volumes, unit conversion, powers and roots of numbers.

2. BASIC ALGEBRA FW. 5 hours.
An introduction to algebra for the student having no algebra background or who is not sufficiently prepared to undertake College Algebra. A study of basic algebraic processes: operations with signed numbers and literal expressions, linear equations; fractions, factoring, simultaneous equations, graphs, and quadratic equations.

15, 16, 17. ELEMENTS OF MATHEMATICS I, II, III FWS. 3 hours.
A course for prospective teachers in the elementary schools. Presents some of the basic principles which underlie mathematical processes and mathematical reasoning. Includes some areas of classical mathematics which are 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.

21. COLLEGE ALGEBRA FW. 5 hours.
The systems of integers, rational numbers, real numbers, and complex numbers are studied. Quadratic, exponential, and logarithmic functions, as well as some topics from matrices and the theory of equations, are included. Prerequisite: Mathematics 2 or a full year of modern second-year high school algebra.

22. DATA PROCESSING MATHEMATICS WS. 5 hours.
This course is directed to students who are studying in the fields of data processing and computer programming. Included are applications of number systems with other bases to computers, some number theory, matrix theory, linear programming, study of logic, Boolean algebra, introduction to trigonometry, and the study of sets as applied to the computer. Prerequisite: Mathematics 21 or equivalent.

23. TRIGONOMETRY FWS. 5 hours.
Emphasizes the circular and trigonometric functions and methods of solving right and oblique triangles. The inverse trigonometric functions, conditional equations, and trigonometric identities are included. Complex numbers are covered through DeMoivre's Theorem. Also the study of spherical trigonometry with emphasis on solutions of spherical triangles is embraced. Prerequisite: Mathematics 21 or equivalent.

27. MATHEMATICS OF FINANCE S. 5 hours.
Mathematical methods to the solution of business problems. Important definitions and formulas will be illustrated by carefully selected problems. Topics will include investment, scientific method, break-even analysis, probability and annuity problems. Prerequisite: Mathematics 23 or consent of instructor.
28. COLLEGE ALGEBRA AND TRIGONOMETRY  FWS. 5 hours.
This is a course in freshman mathematics for the mathematics or science student. Topics include properties of the real number system, equations and inequalities in one variable, and polynomial, rational, exponential, logarithmic, circular, and trigonometric functions. Prerequisite: Mathematics 21, or 3 years of high school mathematics and a good mathematics entrance exam score. (Trigonometry recommended.)

29. COLLEGE ALGEBRA AND TRIGONOMETRY  FW. 5 hours.
A continuation of Mathematics 28. Topics include inverse circular functions and conditional equations, matrices and determinants, systems of equations, complex numbers and vectors, sequences, series, math induction, the binomial theorem, and some probability. Prerequisite: Mathematics 28, or 3 years of high school mathematics (including trigonometry) and a good mathematics entrance exam score.

31. PROGRAMMABLE CALCULATOR  S. 1 hour.
Theory and operation of the programmable calculator. Prerequisite: Mathematics 28 or consent of instructor.

35. INTRODUCTION TO PROBABILITY AND STATISTICS  WS. 5 hours.
An introductory course in statistics and statistical methods, primarily intended for the agricultural sciences, business administration, economics, finance, actuarial science, psychology, sociology, and the natural sciences. Examples and exercises have been chosen from all of these subject areas. Some of the topics discussed are: analysis of data, elementary probability, binomial distribution, random sampling, the student’s t-distribution, regression and correlation, chi-square, F-distribution, and analysis of variance. Prerequisite: Mathematics 29 or consent of instructor.

40. ANALYTIC GEOMETRY WITH CALCULUS  FWS. 5 hours.
A combined course of analytic geometry and calculus. Fundamental principles of beginning analytic geometry, including different forms of the equation of straight line, circle, and parabola. Elementary functions, limits, continuity, derivatives, and various applications of these topics are considered. Prerequisite: Mathematics 30 or equivalent.

51. CALCULUS  FWS. 5 hours.
A continuation of Mathematics 50. Differential and integral calculus combined with analytic geometry, together with applications. Special emphasis in calculus on the transcendental functions. Prerequisite: Mathematics 50.

52. CALCULUS  FWS. 5 hours.
A continuation of Mathematics 51, with special emphasis placed on polar coordinates, conic sections, hyperbolic functions, and vectors in a plane. The formulas and methods of integration and applications of integration are covered. Prerequisite: Mathematics 51.

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MATHMATICS
Associate in Arts or Science

FIRST YEAR

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Engineering

10. BASIC ENGINEERING DRAWING  FW. 3 hours.
A course for students with little background for mechanical drawing and those who lack the basic fundamentals of drawing necessary for working with the space relationships of descriptive geometry. The course includes use of drawing instruments, lettering, geometric constructions, principles of orthographic projection, technical sketching, sectional and auxiliary views. Two lectures and four laboratory periods per week.

11. INTRODUCTION TO FORTRAN PROGRAMMING  FW. 3 hours.
Various math, science, and engineering problems are put in FORTRAN language and then run on the high speed computer. Emphasis will be on logic, flow charting, input and output. Prerequisite: Mathematics 22 or equivalent.

12. ENGINEERING GRAPHICS AND DESIGN I  FW. 3 hours.
An introductory course in engineering graphics emphasizing creative engineering design. Topics include creative design, freehand sketching, projection systems, dimensioning, descriptive geometry, and conventional practices as they are applied in the design process.

13. ENGINEERING GRAPHICS AND DESIGN II  S. 3 hours.
A continuation of engineering graphics including a detailed study of manufacturing and production processes, computer aided graphics design, and graphical representation of design data, all of which will be applied to creative design problems. Prerequisites: Engineering 11 and 12.

14. FORTRAN AND ENGINEERING PROBLEMS  S. 3 hours.
Implied Do-loops 2 and 3 Dimensional Arrays—Common Storage-Equivalence statements. Problems dealing with arrays and subscripted variables. Computed Go To. Problems using function subroutines—external statements. Read and Write statements—transferring data to and from tape. Name list statements.
### Division of Mathematics and Engineering

It is the function of the Division of Mathematics and Engineering to offer courses which

1. enable a student to complete two years of study before transferring to another college to complete the requirements for a baccalaureate degree in Mathematics or Engineering,

2. enable a student majoring in another area to complete a minor in Mathematics or Engineering,

3. will be a service to other divisions for students majoring in areas such as Business, Science, Pre-Professional, and Vocational-Technical.

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**ENGINEERING**

**Associate in Science**

#### FIRST YEAR

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*Civil Engineering students take Surveying. To qualify for the Associate in Science degree, electives must be in social science or literature. Students should consult with advisors regarding requirements of the Engineering School of their choice. Some students may qualify for advanced placement, others may need additional study prior to embarking on this program.*

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53. **CALCULUS**  
FWS. 5 hours.  
The last course in the sequence of courses in analytic geometry and calculus. This course is designed to cover the topics of vectors in three-dimensions, partial derivatives of functions of several variables, multiple integration, and infinite series. Prerequisite: Mathematics 52.

60. **SPECIAL PROBLEMS IN COMPUTER SCIENCE**  
S. 3 hours.  
Elementary numerical analysis using the high speed computer. Much work will be done with subprogramming. Topics that may be considered are Taylor's Theorem, Truncating Errors, Iteration Processes, least square methods. Prerequisite: Engineering 11 and Mathematics 52.

63. **INTRODUCTION TO DIFFERENTIAL EQUATIONS**  
WS. 5 hours.  
An introduction to the formal study of differential equations with applications. Some of the topics covered are: equations of order one, elementary applications, nonhomogeneous equations, variation of parameters, inverse differential operators, Laplace transforms, and nonlinear equations. Prerequisite: Mathematics 53 or consent of instructor.

66. **INTRODUCTION TO LINEAR ALGEBRA**  
S. 5 hours.  
This course is designed to give students a foundation so that they can apply the notions and techniques of the algebra and geometry of vector spaces, linear transformations and matrices, linear equations, quadratic forms and symmetric matrices, and elementary Eigenvalue Theory. Also prepares the student for advanced work by developing his powers of abstract reasoning. Prerequisite: Mathematics 53.
Division of Physical Education

The Division of Physical Education provides an instructional program in physical education activities for all students. The program is designed to secure optimum health and physical fitness, based on the individual needs and interests of the students. All regular or full-time students, except one-year business students and adults over twenty-five, are required to take a physical education activity for a minimum of three quarters unless physically unable as evidenced by a doctor’s certificate.

Institutional Staff: Mr. Nelson, Chairman; Mr. Bergman; Mr. Bundi; Mr. England; Mrs. Humphries; Mr. Perrin; Mrs. Sullivan; Mr. Teager.

PHYSICAL EDUCATION
Associate in Arts

FIRST YEAR

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10. READING AND STUDY SKILLS  
FWS. 3 hours.
This one-quarter course is recommended for all students whose college entrance test scores indicate a reading deficiency. A personalized approach is used to develop vocabulary, comprehension, and concentration. Study skills necessary for college success is emphasized. This course is open to all students. The class meets three times a week for three credit hours. Credit may be used for transfer, or for a diploma, or for a Mesa College degree requirement.

12. READING IMPROVEMENT  
FWS. 3 hours.
This developmental reading course stresses vocabulary, comprehension, and flexibility of rate. The course includes two hours of structured classroom work and one hour of skills practice in the Reading Center. This course is open to any student and is accepted for Mesa College degree requirements.

Speech

11. 12. 13. FUNDAMENTALS OF SPEECH  
FWS. 3 hours.
Speech 11 is a basic course in speech designed to aid the beginning speech student in acquiring poise, ease and effectiveness in speaking. Emphasis is placed on platform behavior, diction, delivery and speech organization.
Speech 12 places emphasis on the organization and delivery of the various types of speech, i.e. convincing, persuasive, informative, entertaining speeches. Speech 12 is open to any freshman or sophomore who has completed Speech 11 or who has successfully completed two years of high school speech with an overall B average.
Speech 13 is a continuation of Speech 12 with greater emphasis upon the longer speech, i.e. after dinner speaking, public address and book reviews, plus a study of classical speeches.

15. ORAL INTERPRETATION  
S. 3 hours.
This course places emphasis on the oral reading of prose, poetry and drama in an expressive and artistic manner. Diction, quality of tone and meaning of material receive special attention.

16. VOICE AND DICTION  
F., W. or S. 3 hours
A study of the development and use of the speaking voice with emphasis on voice placement, speech sounds and the phonetic alphabet.

23. RADIO-TELEVISION SPEECH  
F. 3 hours.
Microphone techniques and radio announcing for all students interested in improving their oral reading. Communication of ideas, voice control and general American pronunciation. Tape-recorded projects.

24. RADIO-TELEVISION WRITING  
W. 3 hours.
Analysis and preparation of station announcements, program formats, commercials, news, musical introductions and short plays.

Health and Physical Education

HPE 20. FIRST AID  
FWS. 2 hours.
A course in which the student learns the proper emergency first aid techniques to deal with personal or community disaster. The American National Red Cross course content is used and an ARC Standard or Advanced certificate is issued to qualified students. Lecture and laboratory.

HPE 21. LIFESAVING  
FWS. 2 hours.
A course designed to provide the interested student with a basic water safety and lifesaving skills background. The American National Red Cross course content is used and an ARC Senior Lifesaving certificate is issued to qualified students. Lecture and laboratory.

HPE 22. WATER SAFETY INSTRUCTOR’S COURSE  
S. 2 hours.
A course designed to provide the student with the skills and techniques necessary to teach all aspects of the swimming and diving program. The American National Red Cross course content is used and an ARC W.S.I. certificate is issued to qualified students. Lecture and laboratory. Prerequisite: ARC Senior Lifesaving certification.

HPE 33. INSTRUCTOR’S COURSE IN FIRST AID  
S. 2 hours.
A course designed to provide the student with the skills and techniques necessary to teach all aspects of first aid. The American National Red Cross course content is used and an ARC F.I.A. certificate is issued to qualified students. Lecture and laboratory. Prerequisite: ARC Advanced First Aid certification.

HPE 41. PERSONAL AND COMMUNITY HEALTH  
S. 3 hours.
A course designed to acquaint the student with the health problems of the community, as well as personal health problems. Emphasis on development of proper attitudes and health practices. Lecture and laboratory.

HPE 42. INTRODUCTION TO PHYSICAL EDUCATION  
F. 2 hours.
A course to acquaint the students with the background, growth, philosophical basis, and current trends in physical education. Designed for physical education majors. Lecture. Recommended for freshmen majors.

HPE 43. SPORTS OFFICiating  
W. 3 hours.
A class for physical education majors wishing to acquaint themselves with the skills and techniques of officiating the three major sports: football, basketball, and baseball. Lecture and laboratory. Sophomore standing recommended.

HPE 44. ORGANIZATION AND ADMINISTRATION OF INTRAMURALS  
F. 2 hours.
A course designed for physical education majors or individuals interested in the organization and administration of the secondary or college level intramural program. Lecture and laboratory. Sophomore standing recommended.
HPE 47. THEORY AND PRACTICE OF SPORTS  F. 3 hours.
Men majors: Fundamental skills in football and basketball. Lecture and laboratory.
Women majors: Fundamental skills in field hockey and speedball. Lecture and laboratory.
Freshman physical education majors are encouraged to take HPE 47 and continue through the entire Theory and Practice series while attending Mesa College.

HPE 48. THEORY AND PRACTICE OF SPORTS  W. 2 hours.
Coeducational class dealing with the fundamentals of volleyball. Lecture and laboratory.

HPE 49. THEORY AND PRACTICE OF SPORTS  S. 2 hours.
Coeducational class dealing with the fundamentals of swimming. Lecture and laboratory.

HPE 51. THEORY AND PRACTICE OF SPORTS  F. 2 hours.
Coeducational class dealing with the fundamentals of badminton. Lecture and laboratory.

HPE 52. THEORY AND PRACTICE OF SPORTS  W. 2 hours.
Coeducational class dealing with the fundamentals of gymnastics, tumbling, and trampoline. Lecture and laboratory.

HPE 53. THEORY AND PRACTICE OF SPORTS  S. 2 hours.
Coeducational class dealing with the fundamentals of track and field. Lecture and laboratory.

Physical Education Activities


NOTE: All classes are coeducational unless specified otherwise. Not all classes are offered each quarter. Students must select required activity courses so as to have credit in three differently numbered courses. Each activity course is for one credit hour.

46. INTRODUCTION TO AFRO-AMERICAN LITERATURE  S. 3 hours.
This is a survey course of American Literature as represented by the best known and most talented Afri-American authors of the Nineteenth and Twentieth Centuries. Writers are selected on the basis of literary merit rather than on their political or social prominence. Among others, works by W. E. B. DuBois, Langston Hughes, James Baldwin, LeRoi Jones, Eldridge Cleaver, Paul L. Dunbar, and James Wright are included in this course.

47. INTRODUCTION TO LATIN-AMERICAN LITERATURE  S. 3 hours.
This is a survey course to provide an insight into the cultural background of the Spanish-American, Mexican-American, and the Indian of the Southwest. The course is designed to show the relevance of these heritages to modern American culture.

51, 52, 53. SURVEY OF ENGLISH LITERATURE  FWS. 3 hours.
A course in the development of English poetry and prose from Beowulf to the present. The literature is presented against its political and social backgrounds. This course is designed to meet the requirements of those planning to major in English literature. Prerequisite: English 12.

51, 52, 53. UNITED STATES LITERATURE  FWS. 3 hours.
This course consists of three quarters. Presents the development of American prose and poetry from the seventeenth century to the present. It aims to develop appreciation of literature and to increase the student's understanding of America as it is today through knowledge of the thought and culture of the past. Credit will be given for only one of the three quarters. Prerequisite: English 12.

64. INTRODUCTION TO SHAKESPEARE  S. 3 hours.
This course provides an opportunity for students to be introduced to one of the world's greatest literary artists. His works are prominent in all literature, and his influence on the works of other artists in many fields of the humanities is a unifying discipline for literature courses. The course will cover five or six of Shakespeare's plays, from his earliest works to his latest, to show his growth and development as a dramatist. Prerequisite: English 11, 12, 13.

51, 52. INTRODUCTION TO PHILOSOPHY  FWS. 3 hours.
A study of the basic problems of philosophy. This is done by an examination of central issues: reality, truth, beauty, art, cosmos, faith, knowledge, ethics, morality, Selected readings from great philosophers. Lectures, readings and discussion. No prerequisite; either or both courses may be taken.

Reading

5. READING FOR THE NONNATIVE  FWS. 1 hour.
For students of English as a second language. This is an adjunct to English 1. Vocabulary, comprehension, oral and silent reading are included to meet student needs. May be taken for three quarters with credit toward the Mesa College Diploma.
21. CHILDREN'S LITERATURE  FWS. 3 hours.
A course designed to give those who are interested in literature for the child an opportunity to survey the best in books. Material is judged for various grade levels as well as for preschool and special education. Skills in presenting literature to children are developed. The course is also intended for students majoring in Library Science.

31, 32, 33. WORLD LITERATURE  FWS. 3 hours.
The student is introduced to representative literary figures of the world, major types and forms of literary classics, and to their cultural backgrounds. British and American writers are not included because of their availability in other courses offered. Works studied include Homer, the Bible, Sophocles, Dante, Cervantes, Goethe, Moliere, Pushkin and others.

34. MYTHOLOGY (Classical)  FS. 3 hours.
This is a one-quarter course offered to acquaint the student with the basic stories of Greek and Roman mythology which have been quoted so universally that a knowledge of them is essential to literary appreciation. Open to freshmen and sophomores. Offered Fall and Spring quarters.

35. MYTHOLOGY (Medieval)  W. 3 hours.
This is a one-quarter course in Norse, Oriental, and Medieval Mythology. It aims to acquaint the student with the early cultures of other races as well as some of the famous stories of medieval Europe upon which many of our masterpieces of literature are based. Open to freshmen and sophomores. Offered Winter Quarter and on demand.

41. INTRODUCTION TO LITERATURE—FICTION  FWS. 3 hours.
This study of novels by American, English and European authors of the nineteenth and twentieth centuries aims to broaden the student's knowledge of some of the world's best fiction and to acquaint the student with critical techniques in order that the student may form a basis for independent evaluation.

42. INTRODUCTION TO LITERATURE—POETRY  FWS. 3 hours.
This course is planned to develop the students' understanding and appreciation of English and American poetry. The class analyzes poems as to form and philosophy and later the individual student engages in evaluation of representative poetry. Open to freshmen and sophomores.

43. INTRODUCTION TO LITERATURE—DRAMA  FWS. 3 hours.
A short survey course in the development of dramatic literature beginning with the classic plays of the Greeks and continuing to the present-day theatrical writings. Open to freshmen and sophomores.

44. INTRODUCTION TO LITERATURE—BIOGRAPHY  WS. 3 hours.
Representative writings in biography, autobiography, and biographical fiction serve to acquaint the student with the development and place in literature of these three literary types. The course aims to develop in the student some critical appreciation of biography as an art form. Open to freshmen and sophomores.

45. INTRODUCTION TO ORIENTAL LITERATURE  S. 3 hours.
A survey of the literature of Asia, including the Near East, Middle East, and Far East. This course includes some of the great religious literature of the Orient, as well as poetry, prose, and drama.

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**Division of Physical Sciences**

It is the intent of the Physical Science Division to offer courses which will enable students to:

1. pursue the cultural aspects of scientific subjects,
2. prepare for advanced work in scientific subjects,
3. prepare for technicians' work in the various physical science fields.

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**TWO-YEAR CHEMISTRY PROGRAM**

*Associate in Science*

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**CHEMISTRY**

*Associate in Science*

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Institutional Staff: Mr. McNew, Chairman; Mr. Alinamar; Mr. Hoppe; Mr. Evans; Mr. Johnson; Mr. Lane; Mr. Pullman; Mr. Roddick; Mr. Scott; Mr. White; Mr. Young.
## SECOND YEAR

<table>
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<tr>
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## PRE-DENTISTRY

**Associate in Science**

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## GEOLGY

**Associate in Science**

### FIRST YEAR

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* Earth Science majors should substitute Physical Science 21, 22, 23.

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## FRENCH

### FIRST YEAR FRENCH

FWS. 3 hours.

This beginning course is an introduction to the French language and culture through the use of a culturally oriented text. All four language skills are developed and stressed at the beginning and continued throughout the year.

### SECOND YEAR FRENCH

FWS. 3 hours.

This course is a review of all four language skills together with the essentials of pronunciation, grammatical structure, and clear expression through a word study of vocabulary distinctions. Students prepare some exercises, both oral and written, which are completely original. Prerequisite: Two years of high school French or one year of college French or permission of the instructor. Open to freshmen who qualify.

## GERMAN

### FIRST YEAR GERMAN

FWS. 5 hours.

A three quarter sequence designed to develop basic skill in the understanding, speaking, reading, and writing of German. Initial emphasis is given to the development of the skills of understanding and speaking. As the program advances, emphasis is also given to the skills of reading and writing.

### SECOND YEAR GERMAN

FWS. 3 hours.

A review and continuation of German grammar, with further practice in understanding, speaking, reading, and writing. Selections of German literature from the earliest beginnings to modern times will be studied. Prerequisite: two years of high school German or one year of college German. Open to freshmen who qualify.

## SPANISH

### FIRST YEAR SPANISH

FWS. 5 hours.

A three quarter sequence designed to develop basic skill in the understanding, speaking, reading, and writing of Spanish. Initial emphasis is given to the development of the skills of understanding and speaking. As the program advances, emphasis is also given to the skills of reading and writing.

### SECOND YEAR SPANISH

FWS. 3 hours.

A review and continuation of Spanish grammar, with further practice in understanding, speaking, reading, and writing. Readings are selected from standard Spanish and Spanish-American authors. Prerequisite: two years of high school Spanish or one year of college Spanish. Open to freshmen who qualify.

## SPANISH CONVERSATION AND COMPOSITION

FWS. 2 hours.

An advanced class stressing the building of a practical vocabulary and the use of oral and written Spanish in situations representative of contemporary living. Prerequisite: Spanish 52. Open to freshmen who qualify.
writing; the second quarter stresses formal writing, including a research paper; the third quarter consists of the study of at least one novel and some other types of literature as well as some critical writing. The three quarters must be taken in sequence.

15. TECHNICAL REPORT WRITING  FWS. 3 hours.  
This course is designed to assist potential scientists, technologists, vocational technological specialists, and engineers to develop the capacity to produce, in clear, correct, language; to construct scientific statements with logic and clarity and to be able to present them orally or in writing; to write complex business letters; to draft agreements, contracts, and research proposals with accuracy. A permitted substitute for English 18 for certain students.

21. ENGLISH: SPELLING  FWS. 2 hours.  
A course designed primarily to assist the student in overcoming spelling difficulties. Attention will also be given to pronunciation, meaning, and usage.

22. ENGLISH: VOCABULARY  FWS. 2 hours.  
This course emphasizes vocabulary improvement by means of word analysis and study of contributions from other languages. English 21 is not a prerequisite. The course is also recommended for reading improvement.

23. ENGLISH: ADVANCED VOCABULARY  WS. 2 hours.  
A continuation of English 22, which is a prerequisite. Study involves vocabulary study with the use of records, context, and analysis. Language of the space age and other specific areas will also be a part of the course.

31, 32, 33. INTRODUCTION TO JOURNALISM  FWS. 3 hours.  
A one-quarter course in journalism including fundamentals in news and feature writing, advertising and business operations, study of outstanding newspapers, copyreading and proofreading techniques, newspaper layout, radio writing, and history of journalism. The course also includes some work in magazine writing and writing markets.

51. 52, 53. CREATIVE WRITING  FWS. 3 hours.  
The student is directed in practice to develop ease in written expression. Narrative exposition in the Fall Quarter, with emphasis on form and content of critical and self-analysis themes, is followed by a study of the techniques of the short story and narrative composition in the Winter Quarter, criticism, biography, and the personal essay constitute the work of the Spring Quarter. Prerequisites: English 11, 12, and 15 or English 11 and 12 with permission of the instructor.

Foreign Language

Students who have had some foreign language in high school should check with the instructors regarding placement. Since some four-year schools now require two years of study in the same foreign language, departmental instructors recommend that the student begin his study of a foreign language during his freshman year so that he will have continuity of study under the same instructor with the same method and similar materials. The foreign language department operates a laboratory consisting of a monitoring console and fifteen student booths, each equipped with a dual-channel tape recorder, earphones, and microphone. Each student works individually in his respective language by imitating the languages of native speakers on specially prepared tapes on which the student records his own voice also for practice in speaking and for comparison with the language of the native speaker.

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PRE-MEDICINE* AND PRE-VETERINARY MEDICINE
Associate in Science

FIRST YEAR

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SECOND YEAR

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*It is recommended that pre-medical students work toward a major in either biology or chemistry. Students should be aware that many medical schools are requiring mathematics through calculus and that it may be advisable to alter the second-year program to include calculus unless the student is assured that calculus is not required.

PRE-OPTOMETRY AND PRE-PHARMACY
Associate in Science

FIRST YEAR

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SECOND YEAR (Pre-Optometry)

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SECOND YEAR (Pre-Pharmacy)

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*Consult with counselor regarding Mathematics 13, 23, 33 for Optometry.
**Division of Humanities**

The aims of the Division of Humanities are to promote in students cultural awareness, critical judgment, and facility in the use of language. Students are encouraged to understand, to appreciate, and to participate in the forms of man's expression. With these objectives in view, students should develop enduring values, both aesthetic and utilitarian.

For suggested curricula see General Education and General Liberal Arts, Page 31.

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**Chemistry**

11. CHEMICAL PROFESSIONS

F. 1 hour.

This course is designed to assist the student in assessing his abilities and desires to pursue professions requiring a considerable background of chemistry. It also covers methods of study for scientific fields and is intended to be valuable in the pre-professional programs leading to the study of medicine, dentistry, pharmacy, chemistry, and chemical assistants.

12. 13. CHEMICAL PROFESSIONS

WS. 1 hour.

Courses designed to continue the study of the chemical professions and the various techniques, instruments, and materials used in chemistry and chemical analyses.

21. 22. GENERAL CHEMISTRY

FWS. 4 hours.

A lecture course in fundamental principles of chemistry and their application. The areas covered include atomic structure, bonding, periodic laws, gas laws, mass relationships, classification of compounds, oxidation-reduction, electrochemistry, and ionic equilibrium. Designed for students in Liberal Arts, Nursing, Homemaking and Agriculture. Prerequisite: High School algebra or satisfactory entrance examination scores. Four lectures per week.

21. 22. GENERAL CHEMISTRY LABORATORY

FWS. 1 hour.

The laboratory sessions are designed to acquaint the student with the instruments and procedures used in basic chemistry. The work involves metric measurement, observation of chemical changes, and observation of the physical properties of some elements and a few selected compounds. The laboratory gives the student a chance to observe, discover, and report. The elementary properties of matter and the work undertaken enhance the classroom study. One three-hour session per week.

23. INTRODUCTION TO ORGANIC CHEMISTRY

S. 4 hours.

A lecture course in fundamentals of Organic Chemistry. Four lectures per week. Prerequisite: Chemistry 22 or 32.

---

**Education**

51. INTRODUCTION TO EDUCATION

FWS. 3 hours.

A short survey of the field of education. Important aspects considered are: History of American Education, present philosophies of education, major problems of education, present practices, and the school as a social institution. Required of education majors.

---

**English**

1. ENGLISH AS A SECOND LANGUAGE

FWS. 3 hours.

This course is for the non-native speaker of English. It includes listening, speaking, writing, pronunciation, usage, spelling, literature, and grammar. Upon completion of the course, students receive three hours of credit toward a Mesa College Diploma. Students may begin the course any quarter, and most should take it for three quarters.

4. ENGLISH GRAMMAR

FWS. 3 hours.

This course is a review of functional grammar and usage as well as sentence structure and mechanics. The department recommends that students who make low scores on the American College Test take this course before English 11. Credit is not intended for transfer nor for Associate Degree requirements.

11. 13. ENGLISH COMPOSITION

FWS. 3 hours.

The primary objective of this course is to develop the ability to write well-organized paragraphs and essays. History of the language and vocabulary are given attention. The first quarter stresses informal
44. **PSYCHIATRIC NURSING**

Summer. 6 hours.
Although the concepts of psychiatric and mental health nursing are integrated through the curriculum, six weeks in the summer of the first year are spent at the Colorado State Hospital in Pueblo. This time is devoted to intensive learning in relation to patients with mental and emotional disturbances. Six class hours; 24 laboratory hours.

51, 52. **NURSING OF CHILDREN AND ADULTS** F and W. 8 hours.

In these courses the student learns to care for patients of all ages presenting increasingly difficult nursing problems. Special emphasis is given to the care of children and to patients with medical-surgical conditions. The total needs of each patient are considered by the student as she plans and gives nursing care based on scientific principles. Four class hours; 12 laboratory hours.

63. **PROBLEMS IN NURSING**

S. 8 hours.
Content is aimed toward meeting the needs of students as they complete the program. Student cares for patients requiring a variety of nursing measures and a higher degree of knowledge, judgment, and skill. Three class hours, 13 laboratory hours.

73. **TRENDS IN NURSING**

S. 3 hours.
The history of nursing is reviewed. Special attention is given to current trends in nursing and health care, as well as changes projected for the future. The student is encouraged to assume a responsible role as a registered nurse to meet future demands.

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**Medical Office Assistant**

Initiated in 1964, the Medical Office Assistant program is designed to prepare workers for employment in physicians' offices, hospitals, clinics, and other health agencies. For information on this program see the Vocational-Technical section of this catalog.

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**Practical Nursing**

A 12-month course designed to prepare qualified men and women for service in hospitals and other health agencies as licensed practical nurses. Upon completion of the course, the graduate is qualified to take the licensing examination. For information please see the Vocational-Technical section of this catalog.

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23. **INTRODUCTION TO ORGANIC CHEMISTRY LABORATORY**

S. 1 hour.
Basic organic procedures are undertaken enabling the student to (1) observe the properties of organic compounds, (2) identify organic compounds, and (3) undertake an organic preparation. One three-hour session per week.

31, 32. **GENERAL INORGANIC CHEMISTRY** FWS. 4 hours.
Fundamental principles and applications of general inorganic chemistry. The areas covered include atomic structure, periodic law, gas laws, kinetic theory, stoichiometry, bonding, oxidation-reduction, thermodynamics, electricity, and chemical equilibrium. Designed for Chemistry, Pre-Medicine, Pre-Veterinary Medicine, Engineering and other science majors. Mathematics 21 or Mathematics 28 must be taken prior to, or concurrently with, this course. Prerequisite: High School Chemistry and satisfactory entrance examination score, or Chemistry 21. Four lectures per week.

31, 32. **GENERAL INORGANIC CHEMISTRY LABORATORY**

FW. 1 hour.
The laboratory work consists of an introduction of gravimetric, volumetric, and instrumental quantitative analysis. One three-hour session per week.

33. **INORGANIC CHEMISTRY AND QUALITATIVE ANALYSIS**

S. 3 hours.
A lecture course designed to thoroughly acquaint the student with the equilibrium systems of Inorganic Chemistry in a theoretical and practical way with emphasis on the broad view of inorganic chemistry. Three lectures per week.

33. **INORGANIC CHEMISTRY AND QUALITATIVE ANALYSIS LABORATORY**

S. 2 hours.
This laboratory consists of two three-hour sessions per week with a total of six hours. The work undertaken consists of a study of a few selected equilibrium systems of inorganic chemistry. To facilitate this study, qualitative analysis is intermixed with many ion concentration determinations.

41. **INTRODUCTORY INORGANIC, ORGANIC AND PHYSIOLOGICAL CHEMISTRY**

F. 3 hours.
A lecture course designed to investigate principles of Inorganic Chemistry, Organic Chemistry, and Biochemistry. It is intended primarily for persons pursuing the Associate Degree Nursing Program and the Medical Office Assistant Program. Prerequisite: High School Chemistry or Chemistry 21.

51, 52, 53. **ORGANIC CHEMISTRY**

FW. 3 hours.
Lectures and discussions concerning the chemical and physical properties of the major classes of organic compounds. Mechanistic stereochemical acid-base, and related theories are used throughout to relate and unify the various parts of the subject. Course may be taken with or without accompanying laboratory. Prerequisite: Chemistry 32 or consent of the Instructor.

54, 55, 56. **ORGANIC CHEMISTRY LABORATORY**

FW. 2 hours.
Laboratory exercises to accompany Chemistry 51, 52, 53. Provides experience in the synthesis and with the reactions of many classes of compounds. Classical qualitative analysis is introduced. Some experience with methods used to establish theoretical principles is also obtained.
31, 23. EARTH SCIENCE  
FWS. 4 hours.
A general approach to the broad aspects of geology and closely related fields. The earth's environment in space, its atmosphere, hydrosphere, and composition are considered fall quarter. The winter quarter study of earth processes is expanded during spring quarter to consider the origin and physical changes of the earth and the evolution of life forms throughout earth history. Designed for non-science majors without any previous earth science experience, who need a laboratory science (refer to lab description). Should be taken in sequence. Four lectures.

31, 23. EARTH SCIENCE LABORATORY  
FWS. 1 hour.
Consists of weekly two-hour lab investigations and one or more field trips per quarter. Should be taken concurrently with Earth Science Lecture. Fall quarter involves interpretation of mineral and rock examination. Topography and structure of the earth are investigated winter quarter by use of photos, maps, and cross-sections. Interpreting regional and general geologic history by examining the rock sequence and fossil specimens concludes spring quarter.

31, 32. GENERAL GEOLOGY  
FWS. 4 hours.
A study of the earth, its materials, development of landforms and the geologic processes acting on and within the earth. Designed as an introductory course for geology and other science majors. Should be taken in sequence. Four lectures per week.

31, 32. GENERAL GEOLOGY LABORATORY  
FWS. 1 hour.
A laboratory course designed to supplement the General Geology lecture course. Devoted to the study of rocks and minerals and the study and interpretation of topographic and geologic maps. Should be taken in sequence. May be taken separately or in conjunction with lecture. Meets for two-hour sessions or field trip each week.

33. HISTORICAL GEOLOGY  
S. 4 hours.
Origin of the earth and development of the earth's crust through geologic time. Includes the evolution of life forms in the fossil record. Four lectures per week. Prerequisite: Geology 22 or 32.

33. HISTORICAL GEOLOGY LABORATORY  
S. 1 hour.
Interpretation of geologic maps and aerial photographs and study of representative fossils. Several field trips to study local geologic sections. One all-day field trip. One day per week for two weeks.

41. ENVIRONMENTAL EARTH SCIENCE STUDIES  
FWS. 2 hours.
A two-quarter hour course for students planning a career in research management and environmental control. Individual study of the local area and a seminar format are used to build a foundation of knowledge to be utilized in solving environmental problems. Open to advanced students upon consultation.

41. ROCKY MOUNTAIN GEOLOGY  
S. 2 hours.
A study of the physical and historical geology of the Western Colorado region, primarily in the field. One lecture per week and one 5-hour laboratory plus four all-day field trips and four half-day field trips. Prerequisite: Geology 33.

NURSING+  
(Transfer)

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*This freshman year curriculum, with greater emphasis on basic physical and social sciences, is suggested for the student who wishes to transfer to a 4-year college program.

Nursing (R.N.)

Initiated in September 1962, this program is fully accredited by the Colorado Board of Nursing and by the National League for Nursing. Upon completion of the prescribed course of study, the graduate receives the Associate in Science degree and is eligible to take the examination for licensure as a Registered Nurse.

The purpose of the nursing curriculum is to prepare graduates to serve as registered nurses in first level (staff nurse) positions in hospitals, nursing homes, physicians' offices, and other health agencies where adequate direction is provided.

Laboratory experiences are planned with St. Mary's, Grand Junction Osteopathic, and Veterans' Administration Hospitals, and other health and welfare agencies in the community. A six-week course in psychiatric nursing is scheduled for the summer following the first academic year, at the Colorado State Hospital in Pueblo.

Admission is based on a strong high school background, including chemistry. Preference is given to those in the upper half of the high school class, with an ACT Composite Standard score of 18 or above. Students are to have at least a 2.0 grade average in nursing courses at the end of Spring Quarter of their freshman year, and to maintain this each succeeding quarter thereafter in order to continue in the program. Courses must be successfully completed in sequence as numbered.

11. FUNDAMENTALS OF NURSING  
F. 5 hours.
The student learns and applies basic principles of nursing and cares for patients who present common nursing problems. Concepts of health care and of nursing as a profession are included. Three class hours; six laboratory hours.

22. NURSING OF ADULTS  
W. 5 hours.
Learning of basic principles is continued and applied to patients presenting certain medical and surgical conditions and nursing problems. The student learns to give complete nursing care to individual patients. Three class hours; six laboratory hours.

33. MATERNITY AND INFANT NURSING  
S. 5 hours.
The student learns to care for mothers in the pre- and post-partum period as well as during labor and delivery, and for the infants. She views the life cycle from the focus of the family, and learns to teach parents in the care of themselves and their infants. Experience is gained in the hospital and in other health and social agencies where mothers and infants are found. Three class hours; six laboratory hours.
Division of Health Programs

Programs are offered in Associate Degree Nursing (R.N.), Practical Nursing (L.P.N.), and Medical Office Assisting.

The number of students admitted to the nursing programs is limited. Applicants need to be in good health, have satisfactory references, and show aptitude for service in the area chosen. A college committee chooses applicants for admission from those who best meet requirements.

Early application is essential. Special forms are required for Practical Nursing.

Instructtional Staff: Miss Metz, Chairman; Miss Rice; Miss Erickson; Miss Harris; Mrs. Gray; Mrs. McBurney; Mrs. Schumann; Mrs. Simon; Mrs. Walten; Mrs. Williams.

NURSING (R.N.)

Associate in Science

FIRST YEAR

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SUMMER — Six Weeks

Nursing 41 (Psychiatric Nursing) 6 Hours
at Colorado State Hospital, Pueblo, Colorado

SECOND YEAR

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*Each nursing course includes laboratory (clinical experience). For example, Nursing 11 consists of these class hours and two three-hour laboratory periods per week. The proportion of laboratory to class time increases as the student progresses in the program.

52. 33. PALEONTOLOGY FW 2 hours.
The morphology, classification, evolution, ecology, methods and uses of fossil invertebrates. Two lectures per week. Prerequisite: Geology 23 or 33.

54. 33. PALEONTOLOGY LABORATORY FW 1 hour.
Identification and environmental conditions of representative fossil invertebrates. One or more field trips each quarter. One day per week for two hours.

54. STRATIGRAPHY S 3 hours.
A study of the formation, composition, sequence, correlation, description and classification of stratified rocks of the earth's crust. Three lectures per week. Prerequisite: Geology 52.

54. STRATIGRAPHY LABORATORY S 1 hour.
Field trips to study local stratigraphic units. One field trip per week.

61. CRYSTALLOGRAPHY F 2 hours.
A study of the solid state of matter, the crystalline state, morphological crystallography, crystal classification and crystal chemistry. Also a study of crystal models and natural crystals. Two lectures per week. Prerequisite: Chemistry 31, Geology 21 or 31, or consent of the instructor.

61. CRYSTALLOGRAPHY LABORATORY F 1 hour.
Crystals and crystal models are measured, studied, and classified. Different methods of describing and illustrating crystals are learned.

62. 63. MINERALOGY WS 2 hours.
Physical properties, description, occurrence, association and identification of the more common minerals; physics and chemistry of minerals; mineral uses. Two lectures per week. Prerequisite: Geology 61.

62. 63. MINERALOGY LABORATORY WS 1 hour.
Chemical techniques for identifying certain elements and ions are studied in relation to mineral groups. Unknown minerals are identified and the physical and chemical properties and origins of many minerals are learned.

Physical Science

11, 13, SURVEY OF PHYSICAL SCIENCE FWS 3 hours.
A logically developed course in physical science rather than a "cut-down" version of the elementary courses in the various departments represented. Its aim is to give a definite conception of the physical world and some appreciation of the scientific method and its sociological significance. Sequence of topics will be as follows: Survey of Physical Science 11 includes force and motion, heat, electricity, sound, and light: Survey of Physical Science 12 includes the chemistry of matter and nuclear energy: Survey of Physical Science 13 includes astronomy, meteorology, and geology. Not recommended for students who are taking or have taken other college courses in physical science.

21. SOLAR SYSTEM ASTRONOMY F 3 hours.
Introductory course intended for liberal arts students, prospective teachers or science majors. Subjects include: measurement of location and time, navigation, gravity, sun, planets, comets, meteors, satellites, the moon, astronomical instruments, and space travel. Two group observing nights and other activities will be scheduled. No laboratory.
22. STELLAR SYSTEM ASTRONOMY  W.  3 hours.
Students may enter without Solar Astronomy with permission of the
instructor. Subjects include: stars, variable stars, binaries, clusters,
nebula, galaxies, space measurements, stellar and galactic evolution.
Two group observing nights and other activities will be scheduled.
No laboratory.

23. WEATHER AND CLIMATE  S.  3 hours.
A non-mathematical introductory course intended primarily for lib-
eral arts students, prospective teachers, or science majors. Subjects
include atmospheric structure, heat, pressure, wind, moisture, instru-
ments, storms, forecasting, and climate. One field trip, study of daily
weather maps, local observing and some practice forecasting. No
laboratory.

31. OLD WORLD ARCHAEOLOGY  F.  3 hours.
A survey of the archaeology of Eurasia and Africa with emphasis on
the emergence and spread of early man and on his scientific and
technological advances up to and including the Iron Age. Basic archae-
ocological concepts such as excavation procedures and modern dating
methods are discussed. Class meets three periods per week.

32. NEW WORLD ARCHAEOLOGY  W.  3 hours.
A survey of archaeology of North, Middle and South America emphasis-
ing origin of inhabitants, distribution of sites, changes in tools, and
scientific achievements. The first portion of the course deals primarily
with Paleo-Indian Traditions and the later portion with the Inca,
Myan and Aztec Civilizations. Class meets three periods per week.

33. SOUTHWESTERN ARCHAEOLOGY  S.  3 hours.
A survey of archaeology of the American Southwest. The course is
designed to acquaint the student with the principal pre-Columbian
peoples of this region, their origins, distribution, and technological
achievements. Typical sites of each culture are disclosed. Class meets
three periods per week.

Physics

10. INTRODUCTION TO PHYSICS  S.  4 hours.
A course in physics consisting of lectures, demonstrations, discus-
sions, for the non-science major. Four lectures per week.

10. INTRODUCTION TO PHYSICS LABORATORY  S.  1 hour.
A three-hour laboratory with special emphasis on the understanding
of underlying principles and methods of physics and their application
to life in modern times.

41, 42, 43. GENERAL PHYSICS  FWS.  4 hours.
This is a basic course in non-calculus physics with a thorough presen-
tation stressing fundamental principles and relationships, practical
applications and problem solving. The subject areas covered are
mechanics, heat, sound, light, electricity, and modern physics. Cannot
be taken without concurrent registration in the laboratory course.
Four lectures per week. Prerequisite: Mathematics through college
trigonometry.

71, 72, 73. MODERN CHOIR  FWS.  1 hour.
A selected group of singers who must also be members of the college
choir. This "contact troupe" sings Broadway show tunes, jazz, and
popular music, and entertains both on campus and at community
functions. Auditions are held for membership in this group.

APPLIED MUSIC—INDIVIDUAL LESSONS

Individual music lessons are given in piano, voice, and most of the
orchestral and band instruments. The fee, determined by the Music
Department, is $35.00 per quarter which entitles the student to one
lesson one week per quarter. All applied music fees are to be paid at
the time of registration.

The number of hours credit in applied music is to be determined for
each student by the music staff. Those who register for one lesson
per week may receive one or two hours credit. Music majors may
register for four hours credit by special permission only.

Music majors and students performing in a major musical group (such
as orchestra, band, and choir) are eligible for scholarship considera-
tion to assist them in meeting the costs of applied lesson fees. Inquir-
ies are to be directed to the Music Department.

11, 12, 13. VOICE  FWS.  1, 2, 4 hours.
14, 15, 16. PIANO  FWS.  1, 2, 4 hours.
17, 18, 19. ORGAN  FWS.  1, 2, 4 hours.
21, 22, 23. STRING INSTRUMENT  FWS.  1, 2, 4 hours.
24, 25, 26. BRASS INSTRUMENT  FWS.  1, 2, 4 hours.
27, 28, 29. WOODWIND INSTRUMENT  FWS.  1, 2, 4 hours.
34, 35, 36. PERCUSSION  FWS.  1, 2 hours.
31. MARCHING BAND  F. 1 hour.
Open to all students regardless of major. The marching band performs at all home games and marches in several local parades. A limited number of scholarships are available by audition with the director. The band may accompany the football team out of town when need and finances permit. Marching band credit may be substituted for one hour of Physical Education requirement. Rehearses at 1 p.m. daily during marching season.

32, 33. SYMPHONIC WIND ENSEMBLE  WS. 1 hour.
Open to all students, regardless of major, who demonstrate sufficient ability to study, rehearse, and present advanced forms of wind ensemble literature. The group presents a formal concert each quarter and presents concerts in local high schools. Occasionally guest conductors and nationally known soloists perform with the group.

37, 38, 39. INSTRUMENTAL ENSEMBLE  FWS. ½ hour.
Groups are organized based upon the talents and interests of the students. These groups may consist of various combinations of woodwinds, strings, brass, and percussion instruments.

40. PEP BAND  W. 1 hour.
Membership is open to any student based upon ability and instrumentation. The group performs at all home basketball games. Repertoire includes pop, jazz, and rock tunes. Rehearses two hours per week during basketball season. The group may accompany the basketball team out of town when need and finances permit.

41, 42, 43. SYMPHONY ORCHESTRA  FWS. 1 hour.
The Mesa College Civic Symphony Orchestra draws its personnel from the professional, amateur, and student musicians of Grand Junction and other Western Slope communities. At least three concerts are presented during the school year. Nationally known musicians appear with the orchestra as guest soloists. Admission by special permission of the director.

44, 45, 46. VOCAL ENSEMBLE  FWS. ½ hour.
Vocal ensembles include men's and women's trios, quartets, double quartets, etc. Groups organized are based upon the talents and interests of the students.

47, 48, 49. COLLEGE CHOIR  FWS. 1 hour.
Open to all men and women who wish to sing the best in all styles of choir literature. This group performs several concerts and membership is necessary to be eligible for the Modern Choir.

51, 52, 53. PIANO ACCOMPANYING  FWS. ½ hour.
A course designed for giving piano majors actual experience in supervised accompanying.

57, 58, 59. COMMUNITY CHOIR  FW. 1 hour.
Open to college faculty, students and community members, and performs with the community orchestra. Outstanding opportunity to sing the world's greatest music.

41, 42, 43. GENERAL PHYSICS LABORATORY  FWS. 1 hour.
This course permits the student to observe some of the principles developed in the lecture class, take and evaluate quantitative data, and learn to prepare detailed laboratory reports. Designed to be taken with the lecture course but is not mandatory. One three-hour session per week.

51. ENGINEERING PHYSICS I  FS. 4 hours.
A university level course in elementary physics for engineers, mathematicians, and physical science majors. This first of a three-quarter sequence is devoted entirely to the study of mechanics. Principles and mathematical models are stressed. Application to a wide variety of situations is used as a device to develop insight. The calculus and vector descriptions are used frequently. Four lecture-recitation periods per week. Concurrent registration in Math 51 is a minimum math prerequisite.

51. ENGINEERING PHYSICS I LABORATORY  FS. 1 hour.
Laboratory work in mechanics is accomplished in one three-hour period per week. This course is normally taken concurrently with Physics 51.

52. ENGINEERING PHYSICS II  FW. 4 hours.
This second in the three-quarter sequence considers the fields of electricity and magnetism. Presentation techniques and objectives are the same as for Physics 51. Lecture-recitation, prerequisites follow logically from Physics 51.

53. ENGINEERING PHYSICS II LABORATORY  FW. 1 hour.
Laboratory work in electricity and magnetism is undertaken in one three-hour period per week. This course is normally taken concurrently with Physics 52.

53. ENGINEERING PHYSICS III  WS. 4 hours.
This course is concerned with wave motion, sound, heat, light, and a brief introduction to modern physics. Four lecture-recitation periods per week. Prerequisite: Satisfactory completion of Physics 52.

53. ENGINEERING PHYSICS III LABORATORY  WS. 1 hour.
Laboratory work in wave motion, sound, heat and light are undertaken in one three-hour period per week. This course is normally taken concurrently with Physics 53.

64. MODERN PHYSICS  S. 4 hours.
This course is an extension of the Physics 51, 52, 53 sequence. It is devoted to the study of special relativity, quantum effects and theory, nuclear physics and the solid state. Four lecture-discussion periods per week. Prerequisite: Physics 53.

64. MODERN PHYSICS LABORATORY  S. 1 hour.
This laboratory course in modern physics meets for one three-hour period per week. Investigations into charge on the electron, Planck's constant, photoelectric effect and related phenomena are undertaken. Enrollment in this course is normally concurrent with Physics 64.
Division of Social Science

Courses offered by the Division of Social Science are designed to accomplish the following:

1. To prepare the student for more advanced work in upper division courses to be taken at a four-year college or university.
2. To help prepare students for a more active, intelligent role as citizens in their respective communities.
3. To meet the needs of students interested in participating in one of the technical or vocational programs offered by the college.

Instructor Staff: Mr. Jones, Chairman; Mr. Daily; Mrs. Funk; Mr. Harris; Mr. Highman; Mr. Holloway; Mr. Jon MacKinnon; Mr. Marker; Mr. Mooney; Mr. Negley; Mr. Pearson; Miss Shielas; Mr. Trenour.

SOCIAL SCIENCE
Associate in Arts

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31, 22, 25. STRING CLASS
FWS. 1 hour
This course provides classroom instruction to beginners in bowed strings, including violin, viola, cello, bass.

24, 25, 26. HISTORY OF MUSIC
FWS. 2 hours
This course makes an in-depth survey of musical development of Ancient, Medieval, Renaissance, Baroque, Classical, Romantic, Modern music. Lectures and readings are illustrated with recordings, films and guest performances. The course work is geared to the music major and minor, however, any student with sufficient background may take the course.

27, 28, 29. PIANO CLASS
FWS. 1 hour
This course provides classroom instruction to beginners in piano.

31, 32, 33. WOODWIND CLASS
FWS. 1 hour
This course provides classroom instruction to beginners in woodwinds. Particular emphasis is given to obtaining proficiency in clarinet. Winter quarter deals mainly with flute and sax and spring quarter deals with oboe and bassoon. Woodwind class should be considered a full-year course.

41, 42, 43. BRASS CLASS
FWS. 1 hour
This course provides classroom instruction to beginners in brass instruments.

51, 52, 53. ADVANCED THEORY
FWS. 3 hours
Only those who have mastered the material of Elementary Theory should register for this course. Topics studied include altered chords, modulations, non-harmonic tones, elementary counterpoint, and musical forms. Four-part harmony from melody and figured bass is stressed. Original composition is practiced and encouraged. Drill in sight-singing, and melodic and harmonic dictation is continued from the first year program.

67, 68, 69. CONDUCTING
FWS. 1 hour
An introductory study of conducting: Choir (Fall Quarter), Band (Winter Quarter), Orchestra (Spring Quarter).

APPLIED MUSIC—ENSEMBLE
Besides regularly scheduled class meetings, members of ensembles are required to attend special rehearsals and to take part in programs. All applied music courses are open to both freshmen and sophomores.

10, 20, 30. JAZZ ENSEMBLE
FWS. 1 hour
By audition only. Preference is given to participating members of marching band in the fall and wind ensemble in winter and spring quarters. The initial stages of the band's development includes studying and playing dance band repertoire, practical performance and jazz improvisation. The group performs several concerts on campus each year, plays area dances and makes a concert tour in the spring.
51, 52. BEGINNING ACTING  WS. 2 hours.
This course is designed to introduce the student to the principles and
techniques of acting through pantomime, improvisation, and performance
of solo, duo, and group scenes. It will be offered on demand
(minimum of ten students). Prerequisites: Drama 41, 42, 43 or permission
of the instructor.

55, 56, 57. INDEPENDENT STUDY IN PROBLEMS
IN THEATRE  FWS. 1.5 hours.
Independent work which may include a study of plays and papers,
direction of a play (one-act or three-act); directing and creating of
scenery and/or costumes; a production; a theatre tour followed by
discussion and papers on plays attended.

61, 62, 63. PLAY PRODUCTION  FWS. 1 hour.
A continuation of Drama 17, 18, 19. Provides opportunity for a student
to receive credit in Play Production during sophomore year.

Music

THEORY, HISTORY, AND EDUCATION

10. MUSIC FUNDAMENTALS  WS. 2 hours.
A study of the basic music tools. No background in music is required.
This course will include the essentials of music needed for teachers
in grade-school classrooms. The course is recommended for those
who do not desire the concentration of the regular Music Theory
courses, but who wish to obtain a knowledge of musical tools. It is
also recommended as a preparation for musical theory. Material to be
covered will include the study of familiar songs from a melodic and
harmonic viewpoint, scales, keys, notation, music reading and harmony.

11, 12, 13. MUSIC APPRECIATION  FWS. 2 hours.
A study of famous composers and compositions. Encourages an interest
in concert music. Course designed for non-music majors, students
who are not musicians but wish to increase their knowledge of music.
All types of music from early masters to contemporary jazz are considered.

14, 15, 16. ELEMENTARY THEORY  FWS. 3 hours.
This course is designed to give the student a thorough ground work
in the elements of music. A detailed study is made of keys, scales,
modes, intervals, triads, seventh chords, etc. The techniques and
rules of simple, four-part harmony are studied and practiced and keyboard techniques for the above are developed. Knowledge of piano
essential; or piano studied concurrently with Music Theory.

17, 18, 19. SIGHT SINGING AND EAR TRAINING  FWS. 1 hour.
Sight singing is developed by practice in vocal recognition of tonal
and rhythm patterns and by singing graded musical exercises. Ear
training is developed by means of rhythmic, melodic, and harmonic
diction exercises. The course should be taken in conjunction with
Elementary Theory since materials in both courses are correlated.
tools of economic analysis needed for enlightened citizenship. The study includes an analysis of American capitalism, national income, government and fiscal policies, money, banking and monetary policies, the economics of the firm, international economic policies, competitive economic systems, and some current domestic and international economic problems. Not open to freshmen.

GEOGRAPHY

11. INTRODUCTION TO GEOGRAPHY  F. 3 hours.
This course is a basic survey of essentials of college geography, including vocabulary, basic principles and techniques.

12. CULTURAL GEOGRAPHY  S. 3 hours.
A survey of world regional geography, with attention focused on social and behavioral patterns resulting from environment.

13. ECONOMIC GEOGRAPHY  W. 3 hours.
The relationship of geographical factors to economic life of people in various world regions constitutes the emphasis of this course.

HISTORY

11, 12, 13. WESTERN CIVILIZATIONS  FWS. 3 hours.
This course seeks to give the student a background in political, economic, social, cultural, and military history of mankind from ancient to modern times, with particular emphasis being given to the development of western civilization. Class discussion, reports, lectures, and assigned readings are used to accomplish this purpose.

14, 15, 16. HISTORY OF EASTERN CIVILIZATION  FWS. 3 hours.
A survey of the history of Asia. Fall quarter: The history and culture of Asia before Western penetration. Winter quarter: The penetration of the Orient by the Occident and its impact. Spring quarter: The forces of nationalism and modernity in a new and more committed Asia.

20. HISTORY OF COLORADO  F., W. or S. 3 hours.
A survey of the history of Colorado from pre-historic times to the present. The course includes consideration of the pre-historic peoples, the trapping and trading era, the mining period, and economic, political and social development of the state.

24, 25, 26. HISTORY OF LATIN AMERICA  FWS. 3 hours.
A survey of the history of Latin America. In the first quarter pre-Columbian civilizations, the Colonial period, and the Revolutionary period will be studied. Second quarter: The emergence of the Latin-American republics. Third quarter: 20th Century problems and prospects. Considerable attention will be given to relations between Latin America and the United States.

31, 32, 33. UNITED STATES HISTORY  FWS. 3 hours.
A survey course in the history of the United States. Fall quarter: Colonial period to Age of Jackson; Winter quarter: Expansion Era to Progressive Era; Spring quarter: World War I to the present.

11, 12, 13. PRINTMAKING  FWS. 3 hours.
Introduction to the techniques and processes of various printmaking media, including intaglio, planographic, and relief. Etchings, engraving, aquatint, dry point, collography, woodcut, linocut, serigraphy and stone lithography are the printing techniques available. The history of printmaking is also emphasized. Prerequisites: Art 11 and 12.

Drama

12. CREATIVE PLAY ACTIVITIES—DRAMA  S. 3 hours.
This course is designed for those students who will be working with preschoolers, kindergarten and elementary students. Through the creative process of students will develop plays from stories, books, historical events, etc. Also, there will be a session on puppetry.

17, 18, 19. PLAY PRODUCTION  FWS. 1 hour.
This is a practical course of stagecraft concerned with the production of plays presented at the college. The students work in the areas of scenery, construction, painting, lighting, make-up, properties. Hours are arranged for laboratory assignment plus one hour a week in class assignment.

31, 32, 33. HISTORY OF THEATRE  FWS. 2 hours.
A course exploring the historical aspects of the theatre as an institution and showing its relationships to the other arts and to the social environment.

34, 35, 36. DEVELOPMENT OF THE CINEMA  FWS. 2 hours.
Through the medium of classic films, this course explores the techniques and history of the moving picture industry. The first quarter is devoted to the American film, the second quarter to the foreign film, and the third quarter to the documentary and the art film.

41. THEATRE PRACTICE: INTRODUCTION  F. 2 hours
42. THEATRE PRACTICE: COSTUME AND MAKE-UP  W. 2 hours
43. THEATRE PRACTICE: ACTING AND DIRECTING  S. 2 hours
This course introduces and acquaints the student with the theatre and the presentation of plays. The first quarter places an emphasis on types of plays, drama and the audience and what to look for in viewing a play. The second quarter places an emphasis on costume and make-up. The third quarter is an introduction to directing of plays, acting and stage techniques.

44. THEATRE PRACTICE: SCENE CONSTRUCTION  F. 2 hours
45. THEATRE PRACTICE: LIGHTING AND SOUND  W. 2 hours
46. THEATRE PRACTICE: SCENE DESIGN  S. 2 hours
A three-quarter sequence course designed to meet the basic stagecraft requirements of many four-year institutions. The first quarter is concerned with the construction, handling and painting of scenery; the second quarter is an introduction to stage lighting; the third quarter is an introduction to scene design and the importance to the finished production.
ART IN THE HOME  
A course designed especially for majors in Home Economics with stress placed on design and color problems in the home and everyday living.

LETTERING AND LAYOUT
Skills in freehand and build-up letters are emphasized; also, the use of lettering in conjunction with concepts in advertising and total design. Word construction and layout designs are stressed on advertising materials. This course is recommended for business students, students in the Travel and Recreation Management Program, and for others wishing to acquire skills in lettering and layout.

HISTORY OF ART
A survey of art of all ages reflecting the various cultures of mankind from the prehistoric to the present.

WATERCOLOR PAINTING
Emphasis will be placed upon the study of form and composition as the student learns to apply various methods of watercolor rendering. Prerequisite: Art 14.

FIGURE DRAWING
A sophomore-level course open to art majors and non-art majors who meet the prerequisites. Two hours of lecture-discussion (human anatomy, proportions, critiques, etc.) and four hours of studio work each week. Prerequisites: Art 11, 12, 13.

SCULPTURE
Studio work in carving, modeling or assemblage processes is done each quarter. Basic sculpture materials including plaster, clay, wood and metal are used. Some study of the work of contemporary sculptors is done. Prerequisite: Art 16. Intended for Art Majors.

ART PROCESSES AND MEDIA
Two-and-three dimensional problems, abstract and concrete, involving application to various craft materials. Six laboratory hours per week. Prerequisites: Art 15 and 16.

CERAMICS
A studio course in ceramic materials and processes, including hand-building, potter's wheel, glazing and firing. Equal emphasis is given to work in studio production of pottery and laboratory problems in clay bodies, glazes and decoration techniques. During the third quarter the student may emphasize either pottery or ceramic sculpture in his studio work; the laboratory work is in glaze formulation. Prerequisite: Art 16 for art majors. Other students may take the course with permission of the instructor.

PAINTING AND COMPOSITION
Composition is stressed in creative problems; understanding of light and dark masses gained through preparatory designs for paintings. Oil and synthetic materials are studied and paintings executed in full color. Six laboratory hours per week. Prerequisites: Art 11, 12, 13 and Art 15.

HISTORY OF BLACK AMERICA
This is a history of the Black American from early beginnings in Africa to modern times. It concerns itself with the struggle, on the part of the Negro-American, for identity, equality, and acceptance through the changing attitudes of Anglo-Americans. It treats the varying responses of the Black Americans to their minority status.

AMERICAN GOVERNMENT
A course which treats the framework and functions of the national government. Some attention is given to both state and local governments. An attempt is made to bring into relief the contemporary scene—philosophical, political, social, economic—within which the government operates and within which the student will be called upon to perform the duties of responsible citizenship.

PHILOSOPHY OF AMERICAN DEMOCRACY
A course which deals with significant issues in the contemporary political culture. Ordinarily the instructor chooses relevant topics. Reading, lecture and discussion.

STATE AND LOCAL GOVERNMENTS
A course designed for advanced political science students. The objective of this course is to gain an understanding of political theory of states, the meaning of federalism, the influence of Constitutionalism, the development of state constitutions, and a survey of the states' executive, legislative and judicial branches. Prerequisites: Political Science 11, 12, and 13.

COMPARATIVE GOVERNMENTS
An introduction to the comparative study of politics. The emphasis is on the principal political systems. Fall quarter: Political culture, modern ideologies, Great Britain. Winter quarter: France, Germany, Soviet Union. Spring quarter: The developing nations. Models are Tanzania, Mexico or Brazil, Yugoslavia, Iran or Turkey.

PSYCHOLOGY
GENERAL PSYCHOLOGY
A course designed to give the student a fundamental understanding of the causes and methods of behavior, and to give him practical suggestions for the control and improvements of his own life. Factors in development, motivation, emotions, the special senses, attention and perception, learning, and thinking. The role of psychology in the solving of personal and social problems including a study of individual differences, intelligence, dynamic factors in personality, and social and vocational adjustment.

HUMAN GROWTH AND DEVELOPMENT
This course is designed to assist the student in understanding the psychological and physiological development of the individual from conception through the period of old age.
74. **Educational Psychology**  
S. 5 hours.  
The psychological principles underlying the social, emotional and  
intellectual development of the child as these relate to educational  
theory and practice. It is recommended that those students who are  
primarily interested in education take this course as a continuation of  
Psychology 21 and 22, which are prerequisites.

**Sociology**

11, 12, 13. **Introduction to Social Science** FWS. 3 hours.  
An introduction to the fields of anthropology and sociology constitutes  
the first quarter’s work; a survey of government is included the  
second quarter; the third quarter introduces the student to the field of  
economics. Courses not required in sequence.

**Sociology**

44. **Marriage and the Family** FWS. 3 hours.  
The development of marriage and the family in various selected  
cultures from primitive times to date; an examination of the important  
aspects of courtship and marriage; contemporary marital and domestic  
problems; changing functions of the family, efforts at stabilization,  
and the problem of adjustment to a changing society.

61. **General Sociology** FW. 2 hours.  
A survey of concepts in the study of sociology, acquainting students  
with terminology, basic principles involved, and important theoretical  
concepts. Includes a study of basic group relationships, ranging from  
family to world, with approaches from the standpoint of race, nationalitv,  
population factors, social mobility, ecology, and mass behavior  
patterns. The two quarters should be taken consecutively and 61 is  
prerequisite to 62.

63. **Social Problems** S. 3 hours.  
Introductory approach to some of the major social problems of the  
modern world, including crime, poverty, divorce, disease, mass  
conformity, political apathy, sub-standard housing, and mental health.  
Students prepare papers on special studies in addition to regular  
textbook assignments, discussions, and lectures. Prerequisite: Soci- 
ology 61 and 62.

**Music**

**Associate in Arts**

**First Year**

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<th>Fall Quarter</th>
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**Second Year**

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</table>

**Art**

The Department of Art functions to enable the student to gain an  
understanding and appreciation of art principles in graphic and plastic  
art forms through numerous experiences gained in the basic courses  
offered. Development of creative ability is stressed in the use of various  
media and techniques. The art department also serves to promote artistic  
and cultural growth in the community by participating in art activities  
and by sponsoring frequent exhibits of student work and traveling exhibits  
in the college art gallery.

The Art Collection. The art department reserves the right to retain two  
examples of work from each student to add to its collection.

11, 12, 13. **Freehand Drawing** FWS. 2 hours.  
A basic course emphasizing art principles in outdoor sketching,  
drawing of still-life groups, and work from casts. Individuality is en-  
couraged and interpretations expressed in various media, such as  
charcoal, pastel, and colored chalks, lithograph and watercolor  
crayons. Part of the laboratory work is done outdoors where the  
student is trained to see, comprehend, and express graphically studies  
in compositional arrangements. Analytical observations are made from  
contemporary materials and reproductions. Four laboratory  
hours per week.

14. **Introduction to Art** FS. 3 hours.  
A basic art lecture course for beginning art majors who have limited  
high school background in art; also open to other students who wish  
to study art appreciation and do some studio work. Experienced art  
students may challenge this course by submitting an acceptable portfolio  
of previous work and passing a test of art terminology.

15. **Design in Color** W. 2 hours.  
Various approaches to two-dimensional form are studied with  
emphasis on color theory and practice.

16. **Three-Dimensional Form** S. 2 hours.  
Work is with three-dimensional design in a variety of media. A course  
leading to work in sculpture, media, and processes, and ceramics.
Division of Fine Arts

The Division of Fine Arts is composed of the departments of Music, Drama, and Art. These areas of study endeavor to provide courses and instruction primarily for the continued cultural development of students by bringing them in contact with the cultures of the past and present. Such studies invariably define the influence of the arts to intellectual and moral development that contribute to a fuller and nobler life for the individual and for society.

Instructional Staff: Mr. Robles, Chairman; Mr. Blackman, Head, Department of Music; Mr. Brinkley, Mr. Blackman, Head, Department of Speech and Drama; Mr. Barnette; Mr. Schneider.

<table>
<thead>
<tr>
<th>ART</th>
<th>Associate in Arts</th>
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|     | SECOND YEAR       |
|     | Fall Quarter | Hours | Winter Quarter | Hours | Spring Quarter | Hours |
| Lit. or Soc. Sci. | 3 | Lit. or Soc. Sci. | 3 | Lit. or Soc. Sci. | 3 |
| Psychology 21 | 3 | Psychology 22 | 3 | Psychology 23 | 3 |
| Sophomore Art Classes | 6 | Sophomore Art Classes | 6 | Sophomore Art Classes | 6 |
| 19 |  | 15 |  | 15 |

Vocational-Technical Education

Area Vocational School

Audio-Visual and
Graphic Communications — 91, 106
Auto Body and Fender — 92, 103
Child Care Center — 93, 109
Data Processing — 93, 100
Electronics Technology — 94, 110
Engineering Technician — 95, 113
Fire Science Technology — 99, 115
Geologic Technician — 96
Job Entry — 97
Library Technician — 97, 118
Medical Office Assistant — 98
Police Science — 99, 121
Practical Nursing — 100, 119
Secretary—Legal,
Medical, Scientific — 100
Travel and Recreation
Management — 101, 125
Welding — 102, 126
Area Vocational School

Recognizing the national need for better-trained manpower, the Mesa College Area Vocational School provides a large variety of learning opportunities for students who wish to become skilled technicians. Thousands of jobs await those who have the skills and abilities demanded by business and industry.

Because the Area Vocational School's clientele represents many ethnic origins, disadvantaged and non-disadvantaged groups, and persons with a wide range of educational backgrounds, the programs and course offerings are structured to provide broad areas of learning opportunities.

The curriculum of each of the programs described on the following pages is designed to provide job-entry skills even though the student may not complete the program. The further the student proceeds in each program, the greater skill he acquires; upon completion of the curriculum the student reaches the technician level. While the objective of each of the programs is to produce a skilled technician, the Area Vocational School also places emphasis upon general enrichment courses.

The following curricula lead to the Associate in Applied Science Degree, the Mesa College Diploma, or a Certificate. High school dropouts, and adults may enroll for any of these programs. If a student seeks the Associate in Applied Science Degree he must meet the general requirements of the program and follow the suggested curriculum for the skill in which he enrolls. (The student must be a high school graduate or must complete the GED test.) If a student does not seek the degree, he may enroll for whatever individual courses he desires and for whatever number of credit hours he wishes.

SECRETARIAL COURSE (18 Months)*

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STENOGRAPHIC-CLERICAL COURSE (9 Months)*

Certificate

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* Course descriptions are given under General Business, Secretarial Science, and other sections of this catalog.

Job-Entry Occupations in Business

See Pages 97, 118 for Curriculum

This vocational program is designed to help students acquire skills for entry into a number of occupations in business. It also is intended to offer students with limited academic backgrounds an opportunity to gain additional skills before entering a college-level program. For a description of the Job-Entry curriculum, see the Vocational-Technical section of this catalog.
ONE- AND TWO-YEAR PROGRAMS

Accounting and Secretarial

The Division of Business offers one- and two-year programs in both accounting and secretarial science. The basic purpose of these programs is to afford students an opportunity to receive training which will in a relatively short time fit them for employment.

In the two-year accounting program general education is incorporated with two years of accounting and related subjects. The one-year curriculum offers only one year of accounting and related subjects.

The two-year secretarial program incorporates general education with the skills of shorthand, typing, and secretarial practice.

The one-year clerical and stenographic courses concentrate on the rapid development of skills to enable the student to seek employment in the shortest possible time.

Both the two-year accounting and two-year secretarial programs lead to the Associate of Commerce degree or the Mesa College Diploma.

ACCOUNTING (18 Months)

Associate in Commerce

FIRST YEAR

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SECOND YEAR

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<th>Hours</th>
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ACCOUNTING (9 Months)* Certificate

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</table>

* Course descriptions are given in General Business and other sections of this catalog.
## Auto Body and Fender

**Associate in Applied Science**

Mr. Sidelner

At the end of one year a student will be awarded a certificate of capability. Upon completion of the requirement set forth in the curriculum, a student will receive the Associate in Applied Science Degree. Practical application covers all phases of body and fender repair, including a comprehensive unit in auto painting. Training gives the necessary laboratory skills, knowledge of theory, principles and related subjects essential to enter and progress competitively in the occupation.

### AUTO BODY AND FENDER CURRICULUM

(See VT course descriptions beginning on page 100.)

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Hours</th>
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<tbody>
<tr>
<td>English (Auto)</td>
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<tr>
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#### SECOND YEAR

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<td>Panel Repair</td>
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<td>Panel and Spot Painting</td>
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<table>
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<td>Manufacturing</td>
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<td>Janitorial Maintenance</td>
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<td>Refine</td>
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</table>

## Auto Mechanics and Technology

**Associate in Applied Science**

Mr. Benedict, Mr. Charlesworth, Mr. Hecks, Mr. Tyler

This program is designed to train persons who wish to enter into the automotive service trades. The automotive service trades include general mechanics, specialists of various kinds, shop foremen, service managers, service salesmen, instructors, factory service representatives, insurance appraisers and othet positions. It will provide the necessary foundation upon which students may enter into and advance themselves in the automotive trades. The curriculum is designed to provide a student job entry skills upon completion of one year, at which time a certificate may be awarded.

### AUTO MECHANICS AND TECHNOLOGY CURRICULUM

(See VT course descriptions beginning on page 100.)

#### FIRST YEAR

<table>
<thead>
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<tbody>
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<td>VTAM 14</td>
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<td>VTAM 18</td>
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<table>
<thead>
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<tbody>
<tr>
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<td>Physical Education</td>
<td>3</td>
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<tr>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>
42. **FILING**
Alphabetic, numeric, geographic, subject, and surnames systems of filing are studied. Practice is given in the filing of material and the locating of filed correspondence.

43. **BUSINESS MATHEMATICS I**
FWS. 4 hours.
Review of the fundamental skills of whole numbers, decimals, fractions, interest, and percentages as they apply to business and consumer problems. The student will use office machines as well as pencil and paper in solving the problems required for this course. This course is required of those majoring in business. Class meets daily.

44. **BUSINESS MATHEMATICS II**
FWS. 4 hours.
A continuation of Business 43. Will pursue further studies in interest, compound interest, mortgage interest, mill levies, depreciation and annuities.

45. **BUSINESS DATA PROCESSING**
FWS. 2 hours.
An introduction to the fundamentals of business data processing systems. This course is designed to introduce the student to the automated data processing systems including unit record and computer equipment, their use and potential as viewed from the employee and management level.

51. **BUSINESS LAW I**
F. 3 hours.
A study of: Contracts in general; Relation of Principle and Agent; Employer and Employee; Negotiable Instruments; Principal and Surety; Insurer and Insured; Bailor and Bailee.

52. **BUSINESS LAW II**
W. 3 hours.
Contracts continued: Carriers and Shippers; Vendor and Vendee; Landlord and Tenant; Partnerships; Corporations. Prerequisites: Business Law I. Required for A.C. degree, Accounting option.

53. **BUSINESS LAW III**
S. 3 hours.
A continuation of Business 52: Torts; Business Crimes; Bankruptcy; Property, Deeds of Conveyance; Mortgages. Prerequisite: Business Law II.

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### Secretarial Science

10. **BEGINNING TYPEWRITING**
FW. 2 hours.
A course for those students with no previous training. No credit will be given if student has high school credit. Class meets daily. Available in night school only.

11. **BEGINNING TYPEWRITING** (continuation of SS 10)
WS. 2 hours.
No credit will be given if student has high school credit. Class meets daily. Available in night school only.
Computer personnel plan the patterns to be followed by the computer to produce many types of information.

A student at Mesa College will, during the two years of attendance, spend much time working directly on and with the data processing machines including the electronic computer. Problems similar to those of actual business will be solved by the student using IBM machines.

Data Processing technicians are employed by business and industry in the following positions:
- Machine Operators
- Machine Supervisors
- Programmers
- Research
- Computer Specialists

**DATA PROCESSING CURRICULUM**

(See VT course descriptions beginning on page 130.)

<table>
<thead>
<tr>
<th>Term</th>
<th>English 11</th>
<th>Mathematics 21</th>
<th>Accounting 26</th>
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**SECOND YEAR**

<table>
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<th>Economics 22</th>
<th>Psychology 22</th>
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<th>VTD P 14</th>
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</table>

**Electronics Technology**

*Associate in Applied Science*

Mr. Allmaras, Mr. Timpke

The Electronics Technology curriculum has been arranged to provide optimum specialized technical instruction. The objective and the emphasis throughout is on an understanding of the engineering principles basic to the field of electronics. The curriculum is organized in a manner unlike that found in the professional engineering school or in the traditional trade school.

The curriculum is organized to provide a basic preparation for entry employment in a variety of occupations in the field of electronics. The courses are arranged in workable sequence suitable to the instructional needs of the students with an appropriate balance between technology courses, general education courses, and laboratory applications. It is not a pre-engineering curriculum suitable for transfer to four-year institutions.

A graduate of this program will have a good foundation in the principles of electronics and considerable facility with the “hardware” encountered in the electronics industry.

A background of algebra, geometry, and trigonometry is desired for this program.

**General Business**

10. **WORD STUDY (Business)**

F. 2 hours.

A study of words: their spelling, meaning, derivation, and pronunciation with emphasis on spelling. Emphasis will be placed on business terms. Open to all students.

11. **BUSINESS COMMUNICATION**

FWS. 3 hours.

A study of the essentials of English in business communication. Creative, logical, and critical thinking are applied to the criticism, preparation, and planning of business letters and written and oral reports. Attention is given to application letters and the employment interview. Prerequisite: English 11 and a knowledge of typing.

12. **INTRODUCTION TO BUSINESS**

FWS. 3 hours.

A general course designed to provide an understanding of how the American business system operates and its place and role in the economy. Surveys the American business system with emphasis on business functions and the interrelations between the businessman and his environment. Required of freshman business and accounting students.

21. **BUSINESS MACHINES**

FWS. 2 hours.

Fundamental skills are developed on the ten-key adding machine, rotary calculator, and printing calculator. A student earns two hours of credit for each quarter of machines, with a maximum of four hours, provided he does not repeat the machine taken in a prior quarter. Business 21, 22, 23 indicates fall, Winter, and Spring quarters rather than a sequence course. Usually offered through Continuing Education division.

26. **SALESMANSHIP**

FW. 2 hours.

Selling techniques developed. Psychological factors, initiative, and personality involved in influencing others in business transactions are studied.

27. **ADVERTISING**

W. 3 hours.

A study involving the student in the dynamics of modern advertising, its practices, principles, media, and methods. It emphasizes the role and responsibilities of advertising in a changing business world.

32. **INCOME TAX**

WS. 3 hours.

The tax law applied to individuals and small businesses.

36. **PERSONAL FINANCE AND MONEY MANAGEMENT**

S. 3 hours.

A course designed to help those who want to do a better job of managing personal finances. The course will deal with the everyday financial problems that beset every man and woman, young or old. Financial problems of consumers will be studied.

39. **INSURANCE**

S. 3 hours.

A basic study of the common types of protection afforded by insurance including fire, life, automobile, accident, and health.
**SECON OD YEAR**

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Hours</th>
<th>Winter Quarter</th>
<th>Hours</th>
<th>Spring Quarter</th>
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<td>1605</td>
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**Accounting**

13. **SECRETARIAL ACCOUNTING** S. 3 hours.

For those who plan to go into secretarial office work and may be required to keep the accounts of a dentist, lawyer, or other professional individual, or for those who will need to keep financial records for themselves. It is a terminal course and is not required for those who plan to take Principles of Accounting. No credit allowed if credit already established in Accounting 32. Class meets daily.

31, 32, 33. **PRINCIPLES OF ACCOUNTING** FWS. 3 hours.

Intended for those students who plan to major in business administration or elect the two-year accounting option. The course includes the development of the fundamental principles of double-entry bookkeeping, the balance sheet, profit and loss statements, controlling accounts, partnership accounting, opening corporation books, bonds, bond sinking funds, and introduction to job order and process accounting. The final quarter is devoted largely to corporate accounting and the completion of a practice set. Class meets daily.

62, 63. **INTERMEDIATE ACCOUNTING** WS. 3 hours.

A two-semester course developed to fit the needs of two groups of students: the terminal student who wishes to have a better understanding of accounting theory; and, the accounting and business administration majors for whom the intermediate study is the foundation for specialized courses. The course presents a continuation of corporate accounting with emphasis on financial statements and current items. Final quarter is devoted to a further study emphasizing noncurrent items and corporate capital. Prerequisite: Accounting 33.

64. **COST ACCOUNTING** F. 5 hours.

An introduction to the determination of the cost of manufacturing. Emphasis will involve the three elements of cost—material, labor and overhead. The job cost system, process cost system and standard cost system will be the major topics. Miscellaneous cost factors will be introduced at appropriate times.
SECOND YEAR

<table>
<thead>
<tr>
<th>Course</th>
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<th>Spring Quarter Hours</th>
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<td>Physics 41</td>
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* Mathematics 18 would be approved for elective to Mathematics 20.

DRAFTING TECHNICIAN CURRICULUM
(See VT course descriptions beginning on page 109.)

Associate in Applied Science

FIRST YEAR

<table>
<thead>
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<th>Fall Quarter Hours</th>
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<td>VTET 51</td>
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12  12

SECOND YEAR

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15  15

Options

Electrical Applied—In place of VTET 35 and VTET 36 during Fall Quarter, take VTET 37. In place of VTET 34 and VTET 33 during Winter Quarter, take VTET 38.

VTET 36—Alternating Current Circuit Analysis

Civil Applied—In place of VTET 35 (Mechanical Systems), take VTET 32 (Building and Plan Drawing). In place of VTET 38 (Electrical Systems), take VTET 37 (Municipal Engineering).

Geologic Technician
Associate in Applied Science

Mr. Roadman, Mr. Scott, Mr. Young

The purpose of this program is to train support personnel to work with professional geologists, engineers, and researchers who work for oil companies, various agencies and bureaus of the federal government and certain areas of private industry. Individuals so trained would be able to work with technical competence in the operation of laboratory, research, and exploratory equipment, should be able to compile technical data from such equipment, identify and classify geologic specimens, perform limited drafting services, and be conversant with professionals in geology.

PROFESSIONAL PROGRAMS

ACCOUNTING
Associate in Commerce

FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Fall Quarter Hours</th>
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<th>Spring Quarter Hours</th>
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15-17  15-17

SECOND YEAR

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<td>Business 32</td>
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<td>Math or Science</td>
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</tr>
<tr>
<td>Speech 11</td>
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<td>English 13</td>
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16  16


BUSINESS ADMINISTRATION
Associate in Commerce

FIRST YEAR

<table>
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<th>Fall Quarter Hours</th>
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<tr>
<td>English 11</td>
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<td>Accounting 33</td>
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<tr>
<td>Mathematics 21</td>
<td>3</td>
<td>English 13</td>
<td>3</td>
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<tr>
<td>Chemistry</td>
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17  17

SECOND YEAR

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<tr>
<td>English 13</td>
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<td>Psychology</td>
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</tr>
<tr>
<td>Literature*</td>
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15  15

SECRETARIAL
Associate in Commerce

FIRST YEAR

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15  16
Vocational-Technical / 97

GEOLOCIC TECHNICIAN CURRICULUM
(See VI course descriptions beginning on page 139.)

FIRST YEAR

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<tbody>
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SECOND YEAR

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<td>19</td>
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<td>17</td>
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</tbody>
</table>

* Mathematics 28, 29, 30 may be substituted.
** Chemistry 31, 32, 33, or Biology 21, 22 and Speech may be substituted.

Job Entry Occupations In Business
Certificate
A Vocational Program Designed to Help Students Acquire Skills for Job Competency
Mrs. Uhraub

This program is designed for high school drop-outs, high school graduates, and adults who desire to gain skills in Typing, shorthand, Bookkeeping, and related courses for entry into occupations in business such as Bookkeeper, Receptionist, File Clerk, Typist, and Stenographer. For students who have a limited academic background, the program provides an opportunity to review and improve before attempting a college-level curriculum.

The program is designed for 11 months' training. No college credit and no grades are given. The student progresses at his own rate of speed. Upon leaving the program, he will be given a certificate stating his accomplishments. Classes meet six hours per day, five days per week.

JOB ENTRY CURRICULUM

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<td>VTE 2</td>
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<td>VTE 3</td>
<td>Bookkeeping or Accounting</td>
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</tr>
<tr>
<td>VTE 4</td>
<td>shorthand</td>
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<tr>
<td>VTE 5</td>
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<td>VTE 6</td>
<td>Wood Study</td>
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<td>VTE 7</td>
<td>Office Machines</td>
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</tr>
<tr>
<td>VTE 8</td>
<td>Laboratory</td>
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Library Technician
Associate in Applied Science
Mrs. Basinger, Miss Goff, Miss Messenger, Mr. Wenger

This program is designed to train library technicians for employment in libraries of all types and sizes. It is a two-year program leading to an Associate in Applied Science degree and is a combination of technical and general course work and practical application through actual library work experience.

PROGRAMS
Two types of terminal programs are planned, one for the student who has not had previous training in business, and one for the student who has completed part of his business training in high school or elsewhere.

The Division of Business enjoys a fine reputation among the colleges and universities of the area for its high level transfer programs in Business Administration, Accounting, and Secretarial Science.

New programs in technical education have been added to the business curriculum to meet the need for better trained manpower. See page 108.

ASSOCIATE IN COMMERCE DEGREE
The Associate in Commerce is granted to two groups of graduates: (1) those who follow the accounting option and (2) those whose interests are in the secretarial field.

Each group must meet the general requirements for graduation as stated on page 23 and in addition complete the following special course requirements.

Social Science or Literature .......................................... 18 hours
Business Mathematics .................................................... 4 hours
Introduction to Business ................................................. 3 hours
Accounting ................................................................. 3 hours
Business Data Processing ............................................... 3 hours
Business Electives ....................................................... 30 hours
Other Electives .......................................................... 20 hours

Institutional Staff: Mr. Geffredi, Chairman; Mr. Carstens; Mr. Dickson; Miss Copp; Mr. Camfield; Mr. Grives; Mrs. Haden; Mrs. Harper; Miss Root; Mr. Squirrell; Mr. Topping; Mrs. Uhraub; Mr. Youngquist.
LIBRARY TECHNICIAN CURRICULUM

(Faculty VT course descriptions on page 16.)

FIRST YEAR

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Winter Quarter</th>
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<tr>
<td>English 11</td>
<td>English 13</td>
<td>English 15</td>
<td>2</td>
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<tr>
<td>VT 12</td>
<td>VT 14</td>
<td>VT 16</td>
<td>2</td>
</tr>
<tr>
<td>Biology</td>
<td>Biology 17</td>
<td>Biology 19</td>
<td>3</td>
</tr>
<tr>
<td>VT 15</td>
<td>VT 17</td>
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<tr>
<td>Physical Education</td>
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SECOND YEAR

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<th>Winter Quarter</th>
<th>Spring Quarter</th>
<th>Hours</th>
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<tbody>
<tr>
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<td>VT 12</td>
<td>VT 14</td>
<td>2</td>
</tr>
<tr>
<td>Social Science</td>
<td>Social Science</td>
<td>Social Science</td>
<td>2</td>
</tr>
<tr>
<td>Speech 11</td>
<td>Speech 13</td>
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<td>Literature</td>
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<td>Effective</td>
<td>Effective 17</td>
<td>Effective 19</td>
<td>2</td>
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</table>


Medical Office Assistant

Associate in Applied Science Degree

Mrs. Morrow

In the field of medicine, a fascinating one for many young women, a new and fascinating career has been receiving increased attention in recent years—the Medical Office Assistant. Mesa College will prepare young women for ability and character for the course in a two-year curriculum.

The Medical Office Assistant must be versatile, fitted by training and personality to work with professional medical people in various ways. In addition to general education, she needs basic knowledge and skills such as typing, medical shorthand, accounting and office procedures. Courses in anatomy, biology, and medical terminology are working tools and provide a basis for acquiring the vocabulary of medicine. Courses in laboratory techniques provide a background for laboratory assisting.

Medical Office Assistants are employed by the following:

Private Medical Offices
Public Health Clinics
Industrial or Private Clinics
Medical Research Agencies
Drug Companies

MEDICAL OFFICE ASSISTANT CURRICULUM*

(See VT course descriptions beginning on page 16.)

FIRST YEAR

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Winter Quarter</th>
<th>Spring Quarter</th>
<th>Hours</th>
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<tbody>
<tr>
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<tr>
<td>VT 12</td>
<td>VT 14</td>
<td>VT 16</td>
<td>2</td>
</tr>
<tr>
<td>Biology</td>
<td>Biology 17</td>
<td>Biology 19</td>
<td>2</td>
</tr>
<tr>
<td>VT 15</td>
<td>VT 17</td>
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<tr>
<td>Physical Education</td>
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SECOND YEAR

<table>
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<tr>
<th>Fall Quarter</th>
<th>Winter Quarter</th>
<th>Spring Quarter</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>VT 11</td>
<td>VT 12</td>
<td>VT 14</td>
<td>2</td>
</tr>
<tr>
<td>Social Science</td>
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<tr>
<td>Speech 11</td>
<td>Speech 13</td>
<td>Speech 15</td>
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</tr>
<tr>
<td>Literature</td>
<td>Literature 17</td>
<td>Literature 19</td>
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<tr>
<td>Secretarial Science 14</td>
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<tr>
<td>Effective</td>
<td>Effective 17</td>
<td>Effective 19</td>
<td>2</td>
</tr>
</tbody>
</table>

*M for Women

Medical Office Assistant

Associate in Applied Science Degree

Mrs. Morrow

In the field of medicine, a fascinating one for many young women, a new and interesting career has been receiving increased attention in recent years—the Medical Office Assistant. Mesa College will prepare young women for ability and character for the course in a two-year curriculum.

The Medical Office Assistant must be versatile, fitted by training and personality to work with professional medical people in various ways. In addition to general education, she needs basic knowledge and skills such as typing, medical shorthand, accounting and office procedures. Courses in anatomy, biology, and medical terminology are working tools and provide a basis for acquiring the vocabulary of medicine. Courses in laboratory techniques provide a background for laboratory assisting.

Medical Office Assistants are employed by the following:

Private Medical Offices
Public Health Clinics
Industrial or Private Clinics
Medical Research Agencies
Drug Companies

MEDICAL OFFICE ASSISTANT CURRICULUM*

(See VT course descriptions beginning on page 16.)

FIRST YEAR

<table>
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<th>Fall Quarter</th>
<th>Winter Quarter</th>
<th>Spring Quarter</th>
<th>Hours</th>
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<tbody>
<tr>
<td>English 11</td>
<td>English 13</td>
<td>English 15</td>
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<tr>
<td>VT 12</td>
<td>VT 14</td>
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<tr>
<td>Biology</td>
<td>Biology 17</td>
<td>Biology 19</td>
<td>2</td>
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<tr>
<td>VT 15</td>
<td>VT 17</td>
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<tr>
<td>Physical Education</td>
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</tbody>
</table>

12. NUTRITION

FW 3 hours

The study of the functions of food and its relation to health. Emphasis is placed on the application of nutrition knowledge to the selection of food.

15. TEXTILES

FS 5 hours

Study of textile fabrics and fibers with emphasis on selection, care and wearing qualities of clothing. Three hours lecture, four hours laboratory.

17. INTERMEDIATE CLOTHING CONSTRUCTION

WS 3 hours

Construction processes are studied and developed through the making of garments to meet individual needs.

32. HOME MANAGEMENT

FS 3 hours

Study of family living problems with emphasis on management of all resources. Three hours lecture.

33. HOUSE PLANNING

WS 2 hours

A combination lecture and laboratory course which involves the analyzing and evaluating of house plans as well as developing plans which the student can use.

34. INTRODUCTION TO CHILD CARE

FW 3 hours

A lecture course pertaining to pre-natal growth; care of mother and baby, behavior patterns of the pre-school age child as shown in physical, emotional, and social growth.

36. HOME FURNISHING

FS 3 hours

A study of the decoration and furnishing of a home. Artistic appreciation and buying techniques for household furnishings are emphasized. Three hours lecture.

38. CHILD DEVELOPMENT

WS 3 hours

Essentials of child psychology. Study of the growth and development of young children, with emphasis on understanding and guidance. Motor skills, intelligence, emotional patterns and social behavior, examined and related to the child's place in our society.

41. INTRODUCTION TO FOODS

FW 3 hours

For those students who are not Home Economics majors. Emphasis placed on the principles of food preparation.

51. FOOD SELECTION AND PREPARATION

FW 3 hours

For Home Economics majors. Principles and techniques of preparing all classes of foods. College chemistry is prerequisite to this course.

53. PREPARATION AND SERVICE OF MEALS

S 3 hours

Planning, preparing and serving family meals.

61. TAILORING

FS 3 hours

Planning and construction of a tailored garment such as a suit or coat. Prerequisite: Home Economics 10 or 17 or consent of instructor.
52. PRINCIPLES OF HEREDITY  W. 3 hours.
Facts and principles of heredity as developed from the study of
plants and animals. Human inheritance; genius, mental defects, in-
dividual differences, as well as the principles of heredity as applied
to agriculture and livestock breeding. Open to all Sophomores.

53. GENERAL MICROBIOLOGY  S. 5 hours.
An introductory course consisting of lectures and laboratory work in
identification, cultivation, and isolation of molds, yeasts and bacteria.
Emphasis upon non-pathogenic forms. Prerequisite: 9 hours of biolog-
sical science.

54. POPULATION AND COMMUNITY BIOLOGY  F. 5 hours.
Designed to provide an elementary understanding of heredity by
utilizing the biology of populations of organisms, as shown by prin-
ciples and essential facts of population genetics, energetics, dynamics
distribution and sociology.

55. ENVIRONMENTAL INSECTS  S. 5 hours.
An introductory course in the elementary anatomy and physiology of
insects. A study of the life histories and habits of the more important
insect pests and recommendations for their control. Four lectures and
one laboratory period per week.

Forestry
1. FORESTRY OCCUPATIONS  F. 1 hour.
An orientation program designed to acquaint the student with the
varied forestry professions and job characteristics. Required of all
pre-forestry students.

12. PRINCIPLES OF CONSERVATION  FW. 3 hours.
A survey of natural resources including forests, range, minerals, water,
and wildlife. National, state and local policies and programs for the
use of such resources. This course is open to all students. Three lee-
tures per week.

22. MAP DRAFTING AND READING  W. 3 hours.
A one quarter course intended for students not taking a full year's
program in drafting. Lettering and use of elementary drafting equip-
ment, maps, their construction and interpretation is included. The
course meets for two hours lecture and two hours laboratory per week.

Home Economics
1. ORIENTATION (Introduction to Home Economics)  F. 1 hour.
For Home Economics majors to explore opportunities in all fields of
Home Economics. Some emphasis is placed on the use of time and
study habits which will help the student get the most from college.

10. BASIC CLOTHING CONSTRUCTION  FW. 3 hours.
Basic clothing construction processes applied to the individual. Two
quarters lecture, four hours laboratory.

11. COSTUME SELECTION  FW. 2 hours.
The relationship of the principles of design to the planning and
selection of clothing. Two hours lecture.

Police and Fire Science Technology
Associate in Applied Science
This two-year program is designed to train students for service with
law-enforcement and fire-protection agencies. Upon completion of the core
curriculum during the first year and either the Police or Fire Science option
during the second year, the student will receive the Associate in Applied
Science Degree.

The Police and Fire Science Technology program has been initiated in
the night school in order to provide presently employed police officers and
firemen the opportunity to upgrade their education and skills.

POLICE AND FIRE SCIENCE TECHNOLOGY
(See VF course descriptions beginning on pages 115, 321.)

FIRST YEAR
Police Science
Fall Quarter
<table>
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Winter Quarter
<table>
<thead>
<tr>
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Spring Quarter
<table>
<thead>
<tr>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criminal Law</td>
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<td>Criminal Procedure</td>
</tr>
<tr>
<td>Criminal Investigation</td>
</tr>
<tr>
<td>Traffic Control</td>
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<tr>
<td>Court Procedure</td>
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SECOND YEAR
Police Science
Fall Quarter
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<tbody>
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<tr>
<td>Police Procedure</td>
</tr>
<tr>
<td>Juvenile Delinquency</td>
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<td>Juvenile Procedure</td>
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<tr>
<td>Sociology and Social Science</td>
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<td>Business Mathematics</td>
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Winter Quarter
<table>
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<tbody>
<tr>
<td>Criminal Law</td>
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<td>Criminal Procedure</td>
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<tr>
<td>Criminal Investigation</td>
</tr>
<tr>
<td>Traffic Control</td>
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<tr>
<td>Court Procedure</td>
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</table>

Spring Quarter
<table>
<thead>
<tr>
<th>Hours</th>
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<tbody>
<tr>
<td>First Aid</td>
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<tr>
<td>Criminal Procedure</td>
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<tr>
<td>Social Science</td>
</tr>
<tr>
<td>Constitutional Law</td>
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<td>Traffic Control</td>
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Fire Science
Fall Quarter
<table>
<thead>
<tr>
<th>Hours</th>
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<td>Fundamentals of Fire Prevention and Equipment</td>
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<td>Fire Hydraulics</td>
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<tr>
<td>Safety and Equipment</td>
</tr>
<tr>
<td>General Chemistry</td>
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<td>Hazardous Material</td>
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Winter Quarter
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<thead>
<tr>
<th>Hours</th>
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<tbody>
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<tr>
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Spring Quarter
<table>
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Practical Nursing
Certificate
Mrs. Schumann

A twelve-month course designed to prepare qualified men and women for service in hospitals and other health agencies as licensed practical nurses. Upon completion of this course, the graduate is qualified to take the licensing examination.

The program is approved by the Colorado Board of Licensed Practical Nurse Examiners and by the Colorado State Board for Community Colleges and Occupational Education.

High School graduation or equivalent (G.E.D.) and satisfactory scores on aptitude tests and/or ACT* tests are required for admission.

Applicants follow the same procedures as all other applicants to Mesa College. Supplementary forms and detailed instructions for making application specifically for Practical Nursing may be secured from the Division of Health Programs.

PRACTICAL NURSING CURRICULUM

<table>
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<th>Fall Quarter</th>
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</tbody>
</table>

* Two class laboratory hours, one class hour.
** Three clinical laboratory hours, class hour.

Secretary—Legal, Medical, Scientific
Associate in Applied Science

The purpose of this program is to train students with marketable skills to perform services in legal offices or scientific endeavors of various kinds. In addition to secretarial training, students are given training in legal or scientific terminology and legal or scientific transcription.

SECRETARY—LEGAL, MEDICAL, SCIENTIFIC CURRICULUM
(See VT course descriptions beginning on page 103)

FIRST YEAR

<table>
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<tr>
<th>Fall Quarter</th>
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<th>Hours</th>
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* Transcription Machines may be substituted for shorthand in the Medical Office Assistant option.

11, 12, 13. GENERAL BIOLOGY
FWS. 3 hours.
A study of the fundamental biological principles involving both plant and animal life; survey of all of the phyla of the animal kingdom and the divisions of the plant kingdom; the place of man in the world of living things; and the relationships of man to other organisms. Students who elect this course may not receive full credit for general college botany or zoology. Two lectures, one laboratory each week.

14, 15. HUMAN ANATOMY AND PHYSIOLOGY F. 5 hrs., W. 4 hrs.
A study of the structure and function of the human body. The anatomy and physiology of the integument, skeletal, muscular, nervous, sense, circulatory, respiratory, excretory, digestive, endocrine, and reproductive systems are studied during the two quarters. Three lectures and two laboratories each week in the fall quarter, and three lectures and one laboratory per week in the winter quarter.

21, 22. GENERAL BOTANY
FW. 5 hours.
The structure and functions of the higher plants, including a study of roots, stems, leaves, flowers, and seeds during fall quarter. Study of plant forms including a study of roots, stems, leaves, flowers, and seeds during fall quarter. Study of plant forms including the alage, fungi, mosses, ferns, gymnosperms, and angiosperms during the winter quarter. Three lectures and two laboratories per week.

23. PLANT TAXONOMY
S. 5 hours.
This is a study of the classification and identification of the flowering plants. Emphasis is placed on plant family characteristics and the use of keys for identification. Four laboratories and one lecture each week with the use of mounted specimens and many field trips. Pre-requisite: Biology 22 or consent of the instructor.

31, 32. GENERAL ZOOLOGY
WS. 5 hours.
A detailed study of the fundamental principles of the science of animal biology, and a survey of all of the animal phyla with attention given to both structure and function. Three lectures and two laboratory periods each week. Full credit will not be given to those who have general-biology credit. A course for agriculture, pre-medical, veterinary, pre-dental, home economics, biology, and zoology majors.

41. ATTRIBUTES OF LIVING SYSTEMS
F. 4 hours.
An introductory course in biology which emphasizes the levels of organization, stability and change in living systems. Three lectures and one laboratory per week.

42. PRINCIPLES OF ANIMAL BIOLOGY
W. 5 hours.
A course designed to give the student broad morphological, physiological, and ecological features and the relationships of the principal phyla of animals. Pre-requisite: Biology 41 or consent of instructor. Three lectures and two laboratories per week.

43. PRINCIPLES OF PLANT BIOLOGY
S. 5 hours.
The student is exposed to the diversity of relationships of plants and their structure and functional characteristics. Pre-requisite: Biology 41 or consent of instructor. Three lectures and two laboratories per week.
terms of their probable value for producing the product for which they are intended. Market and breeding classes of livestock will be judged. Prerequisite: Agriculture 11. Two laboratory periods per week.

22. CROP PRODUCTION  
S. 6 hours.  
A study of the principles of field crop production with emphasis on cultural practices and botanical characteristics of crops grown in the inter-mountain region. Five hours lecture and one three-hour laboratory per week. Prerequisite: 5 hours of plant science or consent of instructor.

23. FEED AND FEEDING  
W. 5 hours.  
Fundamentals of animal nutrition. Feeds and their uses. Calculation of rations to meet livestock requirements.

42. ECONOMIC ORGANIZATION OF AGRICULTURE  
W. 5 hours.  
Agriculture’s role in our changing economy; modern technology and its implications for farm and non-farm people; structure of agricultural industry and farm business; government and agriculture; analysis of the operating farm economy.

51. BASIC HORTICULTURE  
F. 5 hours.  
Principles of horticulture science as applied to the propagation and culture of horticulture crops, language design, and improvement of plants. Prerequisite: 5 hours of plant science or consent of instructor.

52. FRUIT PRODUCTION  
S. 5 hours.  
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: 5 hours of plant science, Agriculture 51, or consent of instructor.

56. SOILS  
S. 5 hours.  
A study of the formation, properties, and management of soils. Special attention is given to soil conditions that affect crop yields. Four hours lecture and three hours laboratory per week. Prerequisite: Chemistry 51 or Chemistry 21 for Agriculture students; waived for Forestry.

56. FORAGE CROPS  
F. 4 hours.  
A study of the production and preservation as hay or silage of the principle forage crops and cultivated grasses. Special attention is given to the production and maintenance of farm pastures. Prerequisite: Agriculture 23. Class meets daily.

63. GENERAL DAIRY HUSBANDRY  
W. 3 hours.  
A general course in dairying. History and present status of the dairy industry; starting dairy herds; breeds of dairy cattle; cow testing associations; club work; study of herd records; calf feeding; general principles of feeding, management and housing of dairy cattle. Prerequisite: Agriculture 11. Open to sophomore students. Two periods and one laboratory period per week.

65. ENVIRONMENTAL INSECTS  
S. 5 hours.  
An introductory course in the elementary anatomy and physiology of insects. A study of the life histories and habits of the more important insect pests and recommendations for their control. Four lectures and one laboratory period per week.

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SECOND YEAR OPTIONS

Medical Office Assistant

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<th>Fall Quarter</th>
<th>Winter Quarter</th>
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Legal

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Scientific

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Travel And Recreation Management

Associate in Applied Science Degree

Mr. Cassidy

This curriculum has been developed in recognition of the importance of the rapidly growing tourist industry to Western Colorado and to the Rocky Mountain Region. It is designed to train students to serve tourism-related trades and industries in the region.

Employment possibilities for graduates of this program would range from receptionist and office work with limited supervisory responsibilities to positions entailing management responsibilities in a wide range of service agencies, such as transportation companies, travel agents and bureaus, air hostesses, office managers, assistant managers, assistant recreational directors, tour and resort guides, ticket agents, etc.

TRAVEL AND RECREATION MANAGEMENT CURRICULUM

(See VT course descriptions beginning on page 163.)

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FIRST YEAR

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<thead>
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<th>Winter Quarter</th>
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SECOND YEAR

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<td>Business 51</td>
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* Electives: Income Tax; Personal Finance; Geography; Language; Typing; Office Machines; Insurance.

** Work experience to be arranged during the intervening summer or at the end of the program on a full-time basis (100 hours) or on a part-time basis over a period of two or more quarters.

Welding
Certificate
Mr. Branton, Mr. Nutting

This program is designed for twelve months in length. If a student leaves before completion, he will be awarded a certificate of capability. If he completes the program, he will be awarded a certificate of completion. The course is designed to give the student the required knowledge of metals, layout work and welding processes. A student will gain manipulative skills and related information essential to enter and progress in the occupation. Instruction and shop practice are given in oxyacetylene and electric arc welding of ferrous and non-ferrous metals in all positions.

WELDING CURRICULUM
(See VTRU course descriptions beginning on page 228.)

FIRST YEAR

<table>
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<th>Hours</th>
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SUMMER

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SECOND YEAR

HOME ECONOMICS (Transfer)
Associate in Science

FIRST YEAR

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SECOND YEAR

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Agriculture

Students enrolling for the study of agriculture at Mesa College should at the very outset decide whether they wish to take a course leading toward Agricultural Science, Applied Agriculture, or a terminal program.

1. AGRICULTURAL PROFESSION
   F. 1 hour.
   Required of all freshmen who will major in agriculture. A survey of the various fields of study. Guidance in choosing major and minor fields of study. The opportunities as well as responsibilities associated with positions in agriculture when operating one's own business as well as when employed in one of the professions.

11. INTRODUCTORY ANIMAL SCIENCE
   F. 5 hours.
   A study designed to furnish a general knowledge of the important principles of the livestock industry as it pertains to agriculture. Selections and evaluation of beef cattle, dairy cattle, sheep, and swine on a purebred and market basis are carried out. Emphasis is placed on types, breeds, markets, and market classification. Three lectures and two laboratory periods per week.

12. FARM POWER
   FW. 3 hours.
   A theory and demonstration course on internal combustion engines, electrical systems, and power transfer. Special attention is given to proper operation, care, and adjustment of motors, engines, and transportation equipment of the farm. Two lecture periods and one two-hour laboratory per week.

14. LIVESTOCK JUDGING AND SELECTION
   F. 2 hours.
   A study of animal form and its relation to the function of the individual. Emphasis is placed on the evaluation of live animals in
### PRE-FORESTRY

**FIRST YEAR**

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* Substitute approved elective if student can begin with Math 28.

### SECOND YEAR

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**HOME MAKING (Terminal)**

**Mesa College Diploma**

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### Vocational-Technical Course Descriptions

(Although a number of colleges and universities recognize certain vocational-technical courses for transfer credit, students are advised that these courses are not intended for transfer and are not applicable to the Associate in Arts and Associate in Science degrees.)

**VTAB 10. APPLIED MATHEMATICS**  F. 3 hours
A brief review of the arithmetic, shop mathematics, and algebra that students will need to handle the mathematical aspects of auto mechanics.

**VTAB 11. GENERAL AUTO BODY REPAIR**  F. 5 hours
An introduction to theory and practices of auto body repair. Basic principles involved are studied and practiced.

**VTAB 12. SHOP PRACTICE**  F. 1 hour
General information pertaining to technical aspects. Includes safety practices, tools, and materials. Orientation of student to school rules, regulations and curriculum. Safety practices while training. Type of work encountered in the field.

**VTAB 13. OXYACETYLENE WELDING**  F. 3 hours
The course includes the theory and practice of oxyacetylene welding of mild steel, the identification of base and filler metals and melting temperatures of various metals. Special emphasis is placed on root penetration and fusion of welding materials. If time permits, some brazing and bronze welding of mild steel and cast iron, as used in auto-body repair, will be included. Class: 2 hours. Shop: 8 hours.

**VTAB 15. AUTO RECONDITIONING**  WS. 3 hours
A related course in auto body repair designed to teach a skill in auto reconditioning. Involved will be glass installation, painting of spot repair, panel repair, cleaning and repair of upholstery, motor cleaning. Also buffing and polishing. A course designed to give a person a saleable skill in a much shorter time.

**VTAB 21. GENERAL REFINISHING**  W. 4 hours
A comprehensive study of auto refinishing which will include metal conditioners, primers, sealers, surfacers, reducers, thinners, and the different types of paints and the techniques used to apply them.

**VTAB 24. REPAIR AND REFINISHING I**  W. 5 hours
Bench work on auto body parts. Manipulative practice of skills needed to advance in general auto body work with emphasis on auto finishing. Shop: 15 hours.

**VTAB 28. PANEL AND SPOT PAINTING**  F. 3 hours
Paint composition, refinishing products and their correct usage, color matching and procedures to be used in making a lacquer or acrylic spot repair. Class: 3 hours. Shop: 1 hour.

**VTAB 29. ARC WELDING**  S. 2 hours
A beginning course in welding mild steel in hand-held position with electric arc welding equipment. Proper care, use of equipment, and safety precautions and practices are heavily stressed. Shop: 4 hours.

**VTAB 34. REPAIR AND REFINISHING II**  S. 5 hours
Continuation of Repair and Refinishing I. Emphasizes all types of metal work. Includes working with aluminum, galvanized iron, and other metals utilized in auto body work. Shop: 15 hours.
VTAB 51. FRAME REPAIR
W. 2 hours.
Inspection, measurement and repair methods used to repair utilized and conventional frames. Shop: 10 hours.

VTAB 54. REPAIR AND REFINISHING III
F. 5 hours.
Continuation of shop learning practices. Severe collision repair procedures are studied. Shop: 15 hours.

VTAB 52. PANEL FITTING
W. 2 hours.
Methods used in all directional adjustment and fit of hinges on body panels (hoods, deck, doors). Class: 3 hours. Shop: 1 hour.

VTAB 54. REPAIR AND REFINISHING IV.
W. 5 hours.
Continuation of shop learning procedures. Emphasis on metal work and spot painting. Shop: 10 hours.

VTAB 71. SHOP MANAGEMENT
S. 3 hours.
Study of shop operation, expenditures, floor-plan design and equipment for the modern-day shop. Expectations and management of employees.

VTAB 72. ESTIMATING
S. 2 hours.
Study of parts catalogs, flat rate, R&R procedures, insurance adjustments, and the writing of collision repair bids.

VTAB 74. REPAIR AND REFINISHING V
S. 5 hours.
Concentration of shop and learning experiences in area in which student wishes to specialize. Shop: 15 hours.

Auto Mechanics

VTAM 11. APPLIED MATH FOR AUTO MECHANICS
F. 3 hours.
A brief review of the arithmetic, shop math, and algebra that students will need to handle the mathematical aspects of auto mechanics.

VTAM 12. SHOP PRACTICE
F. 2 hours.
This is an introductory course designed to teach and develop basic shop practices and skills. It will cover such things as the use of hand, power and special tools. The care of tools and equipment, automotive fastenings, lock devices, tubing, connectors, fittings, basic welding and safety practices are included.

VTAM 13. AUTOMOTIVE BRAKE SYSTEMS
W. 3 hours.
This is a complete course in the servicing and repair of the hydraulic brake system. Includes the basic principles of hydraulics, servicing the linings, drums, cylinders, lines and power booster units, adjusting and bleeding the system.

VTAM 14. INTERNAL COMBUSTION ENGINES
F. 7 hours.
A basic study of the internal combustion engines dealing with types, design, construction, principles of operation and application of engine components. The physical principles of cooling, lubrication, ignition and fueling as well as minor engine tune-ups are studied.

Biological Sciences, Home Economics

APPLIED AGRICULTURE* Associate in Science or Diploma

The following curriculum is suggested for those students not electing to major in Agriculture Science but who are interested in a course suitable for transfer and leading to a Bachelor of Science degree.

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SECOND YEAR

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*Consult with counselor to plan a program that will best meet individual transfer needs for second-year curricula. Suggested electives for the Agriculture Science major: American Government, World Civilizations, Speech, Literature, Economics. Suggested electives for the Applied Agriculture major: Agriculture 12, Agriculture 35, Mathematics 21, 22, 23; American Government, World Civilizations, Literature, Chemistry 21, 22, 23.

TERMINAL AGRICULTURE

Students who plan to terminate their formal education with study at Mesa College may follow a course of study of their own choosing. Such a course may lead to a Mesa College Diploma or Associate Degree. (See pages 24, 25.)
Division of Biological Sciences and Home Economics

The Division includes the course offerings in the areas of Agriculture, the Biological Sciences, and Home Economics.

The aims of this division are to provide for our students:
1) The basic courses in a pre-professional curriculum.
2) Courses for non-science majors for general education.
3) Vocational training for those students who will terminate their education at the junior college level.

AGRICULTURE

AGRICULTURE SCIENCE*

Associate in Science

Those students entering into Agriculture Science should have a good mathematical and science background and have been an above average student in high school. The following freshman curriculum is recommended.

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<th>FIRST YEAR</th>
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<td></td>
<td>Fall Quarter</td>
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VTAM 15. APPLIED PHYSICS FOR AUTO MECHANICS W. 3 hours.
A survey course of the principles of physics used in auto mechanics. No laboratory.

VTAM 16. BASIC ELECTRICITY W. 4 hours.
A study of basic electricity as it applies to the automobile is the objective of this course. Topics taken up include: Magnetism, magnetic lines of force, magnetic induction, electromagnetism, the electron theory, electrical terms, conductors, insulators and batteries.

VTAM 17. IGNITION SYSTEMS W. 3 hours.
All units comprising the ignition system, consisting of the primary and secondary circuits, are studied here. The distributor and related parts, coil, ignition switch, resistors, spark plugs, cables and wiring, as well as ignition timing are fully covered. All adjustments and service procedures are included.

VTAM 18. DIFFERENTIAL W. 3 hours.
Both conventional and limited slip differentials are covered. Methods of repair and adjustment of the bearings, ring gear pinion, axles and other parts are included.

VTAM 19. FUEL SYSTEMS S. 6 hours.
The chemical properties of fuels, fuel and air ratios, metering, atomizing, vaporizing and mixing are studied. The complete fuel system— is thoroughly treated. Single, dual and four barrel carburetors, single and double action fuel pumps of all popular makes are included.

VTAM 20. CLUTCH AND DRIVE LINE W. 1 hour.
A comprehensive study of the clutch pressure plate assembly, clutch disk, clutch pedal and linkage, clutch release bearing, pilot bearing, U-joints and drive shafts are treated in this section.

VTAM 53. SUSPENSION W. 2 hours.
The identification of chassis parts, measurements, the frame, springs, shackles, shock absorbers, front axles, suspension and steering geometry, steering gears, tires, wheels, and wheel balancing are the items covered in this section.

VTAM 53. ALIGNMENT S. 2 hours.
This course is designed for the study and practice of alignment techniques, including caster-camber, kingpin inclination, torsion bar height, toe-in, and steering mechanisms.

VTAM 54. ELECTRICAL SYSTEMS AND COMPONENTS S. 5 hours.
Starters, generators, alternators, voltage regulators, solenoids, switches, relays, lights, wiring and cables are thoroughly covered both in theory and practical application. A complete lab on the servicing and adjustment of these units, using the latest equipment, is part of this course.

VTAM 55. STANDARD TRANSMISSIONS AND OVERDRIVES F. 4 hours.
A course to acquaint the student with gears, gear ratios, the synchronmesh transmission and overdrives. A complete lab on repair and maintenance is included.
VTAM 56. AUTOMATIC TRANSMISSION FUNDAMENTALS  F. 5 hours.
The principles of operation of planetary gear sets, fluid couplings, torque converters, servos, bands, clutch packs and control circuits are the main objectives of this course.

VTAM 57. TROUBLE SHOOTING  W. 4 hours.
The ability to diagnose automotive troubles is of great importance. Here the student is given specialized training in this area.

VTAM 58. SERVICE MANAGEMENT  S. 4 hours.
This course is designed to introduce the student into the basic problems and solutions of service management. It will deal with management control, scheduling work, flat rating service charges, work orders, training, managing service personnel and customer relations.

VTAM 59. AUTOMOTIVE MACHINING AND ENGINE REBUILDING  S. 4 hours.
This course has been designed to develop basic skills in the specialized field of automotive machine work and engine rebuilding. It includes cylinder re boring, reconditioning of connecting rods, pistons, pins, valve seats and guides, surface grinding and general engine rebuilding.

VTAM 60. BODY SERVICES  S. 1 hour.
A short course dealing with the servicing and adjusting of doors, window mechanism, trunk lids, glass and trimming.

Audio-Visual

VTAV 11. GRAPHIC ARTS I  F. 3 hours.
This course is designed to develop competencies in the preparation of graphic materials.

VTAV 12. GRAPHIC ARTS II  W. 3 hours.
This course is designed to develop competencies in the preparation of transparencies and paper copy materials.

VTAV 13. GRAPHIC ARTS III  S. 3 hours.
An introduction to graphic arts technology as related to the reproduction of various graphic design techniques; provides opportunity to develop basic skills in offset lithography, screen process, and relief printing.

VTAV 14. VISUAL COMMUNICATION AND GRAPHIC ARTS  F. 3 hours.
Techniques and methods of graphic arts and their relation to a more effective visual communication medium, including the psychology of perception and also public opinion, polls, and surveys. A survey of the visual communication field.

VTAV 15. INTRODUCTION TO EDUCATIONAL MEDIA  S. 3 hours.
An introductory formal course in educational media designed to impart the philosophy, aims and content of the field. Emphasis will be placed on the role of communications technology in education. Operation of equipment and production of materials will be overviewed.

GENERAL CURRICULUMS
(Broad programs available to students who have not selected a definite major in one of the specific divisions.)

GENERAL EDUCATION
Associate in Arts

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GENERAL LIBERAL ARTS (Transfer)
Associate in Arts

FIRST YEAR

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Note: A foreign language is advised if the student is planning on two years of a language in his course of study. First-year language may be substituted for mathematics of science by those students who prefer to complete two years of language at the junior college level.

SECOND YEAR

<table>
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TYPE CURRICULUMS AND COURSE DESCRIPTIONS

The following pages provide suggested curriculums and descriptions of courses available in the various divisions and subject matter areas and departments to assist students in planning their courses. The curriculums include both general and special requirements for graduation with the appropriate degree or diploma as indicated. Faculty advisors will assist in selecting courses for other fields which may be desired by students and in accordance with requirements of specific institutions.

Arts and Science courses offered at Mesa College are grouped in thirty-seven departments or fields of study within nine major divisions. The descriptions which follow indicate the content of the course and list the prerequisites for those which are not beginning courses. Courses are numbered and given titles. For example, History 20 is a course number and United States History is the corresponding course title.

Courses numbered from 1 through 9 are remedial in nature and not intended for transfer nor for Associate Degree requirements. Courses numbered from 10 to 50 are designed for freshmen and those numbered above 50, for sophomores. Numbers end in 1, 2, 3, according to the quarter in which they are regularly offered. Some courses, however, are offered two or three quarters during the year so that students may enter at the beginning of any quarter and be able to take a full schedule of work. PWS means fall, winter, spring.

Orientation

Each first-time student is required to participate in the Orientation program offered during Fall Quarter for transfer students and new freshmen. This program aids the student in his adjustment to college as it deals with planning a course of study, budget of time, study habits, extra-curricular activities, social and personal adjustment. Students meet in small groups with assigned faculty advisors. Assemblies covering many of the areas mentioned above will be conducted throughout the academic year.

Specific orientation or introduction courses are required of students majoring in such areas as Agriculture, Business, Engineering, Forestry, and Home Economics.

Curriculums

Two types of general curriculums are suggested on the following page. For students who have definite majors in mind, additional suggested curriculums will be found at the beginning of the catalog sections devoted to the respective academic divisions. The curriculums found within the respective divisions represent sample or type curriculums to assist students in planning programs related to a certain subject-matter area and are not all inclusive. There are sufficient course offerings throughout the various divisions to provide many other subject matter and vocational areas in which students may secure one or two years of lower division course work at Mesa College. Following are some suggested subject-matter areas for which specific sample curriculums will not be found but which can be provided for by substituting appropriate courses available within the division in some of the existing suggested curriculums:


VTAV 10. SOUND APPLICATION S. 3 hours.
This course is designed to develop competencies in the recording of sound for use by teachers in classroom situations.

VTAV 51. ADVANCED PRODUCTION I—
STILL PHOTOGRAPHY F. 3 hours.
This course is designed to develop proficiencies in the production of still photographic materials which teachers can use in classroom situations.

VTAV 52. ADVANCED PRODUCTION II—
 MOTION PICTURE PHOTOGRAPHY W. 3 hours.
This course is designed to develop proficiencies in the production of 8-mm and 16-mm motion picture materials which teachers can use for instructional purposes.

VTAV 53. ADVANCED PRODUCTION III S. 5 hours.
This course is designed to develop proficiencies in basic television production skills for use in both education and industry. Students will become involved with camera operation, studio lighting, set design, television direction, operation of video tape equipment and other skills basic to television operation.

VTAV 54. ORGANIZATION OF INSTRUCTIONAL MATERIALS I S. 3 hours.
This class will serve as a basic course in the techniques of procedural operation of an instructional materials center, a study of the methods of keeping records and data procedures, and basic in-service training techniques.

VTAV 55. ORGANIZATION OF INSTRUCTIONAL MATERIALS II W. 3 hours.
A study of library techniques and procedures, both book and film, physical arrangements and traffic patterns. Sources of equipment and materials will be researched and studied.

VTAV 56. ORGANIZATION OF INSTRUCTIONAL MATERIALS III S. 2 hours.
A final look at the field and a preview of things to come. Outside speakers will be utilized, and an independent study of the field will be undertaken. A year-end convention-demonstration may be held, with the graduating class managing the arrangements.

VTAV 57. PROJECTION EQUIPMENT MAINTENANCE W. 4 hours.
A course in understanding the mechanical and electronic operation of projection equipment, and a study of repair and maintenance problems. The course will consist largely of applied laboratory.

VTAV 58. TRANSCRIPTION EQUIPMENT MAINTENANCE S. 5 hours.
A study of understanding the mechanical and electronic operation of tape recorders, record players, and other magnetic storage devices, covering repair, problem locating, and trouble-shooting. The course will consist largely of applied laboratory.
Biological Sciences and Home Economics

VTBU 12. NUTRITION F. 3 hours.
A study of the function of foods and their relationship to health.

VTBU 13. DIET THERAPY F. 1 hour.
A study of diets as related to conditions of illness and their role in
the treatment. Laboratory experience is arranged.

Business

VTBU 12. INTRODUCTION TO BUSINESS F. 3 hours.
This is an orientation course for vocational students in business pro-
grams to facilitate the adjustment of the student to college and to
introduce him to the field of business. The course surveys the Ameri-
can business system with emphasis on the market, structure and func-
tion of business operations, and the interrelations between the busi-
nessman and his environment.

VTBU 13, 14, 15. PRINCIPLES OF ACCOUNTING F, W, S. 2 hours.
Intended for those vocational students who plan to enter the field of
business. The course includes the development of the fundamental
principles of double-entry bookkeeping, the balance sheet, profit and
loss statements, controlling accounts, partnership accounting, opening
corporation books, bonds, bond sinking funds, and managerial uses of
financial statements. The final quarter is devoted largely to corporate
accounting and the completion of a practice set. Class meets daily.

VTBU 16. SALESMANSHIP F. 3 hours.
Selling techniques developed. Psychological factors, initiative, and
personality involved in influencing others in business transactions are
studied.

VTBU 17. ADVERTISING W. 3 hours.
A study involving the student in the dynamics of modern advertising,
its practices, principles, media, and methods. It emphasizes the role
and responsibilities of advertising in a changing business world.

VTBU 51. BUDGETING I F. 3 hours.
Nature and objectives of budgeting, budgeting and management, bud-
getting procedures.

VTBU 52. BUDGETING II W. 3 hours.
Sales budget, production budget, operating expense budget, estimated
income statement, capital expenditures budget.

VTBU 53. AUTOMATED ACCOUNTING W. 3 hours.
Introduction to automated equipment and its use as applied to payroll,
banking, accounts receivable, accounts payable, and general ledger;
operation of tab equipment related as input to computer.

VTBU 54. MUNICIPAL OF FUND ACCOUNTING W. 3 hours.
Accounting and financial records of national, state, and local govern-
ments, and institutions such as schools and hospitals.

VTBU 55. ADVANCED ACCOUNTING S. 3 hours.
Accounting statements reviewed, theory of income, asset and equity
valuation.

VTBU 56. PURCHASING S. 3 hours.
Acquisition and control of equipment and supplies, purchasing poli-
cies, selection, source, economics of the market.

Academic
Divisions
and
General Studies
Programs

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ACADEMIC PROBATION AND SUSPENSION

Students who fail to make minimum acceptable grade-point averages for any given quarter will be placed on academic probation by the Admissions Committee for the succeeding quarter enrolled. Students failing to maintain prescribed academic standards for two consecutive quarters are subject to academic suspension for one or more terms. In cases of extremely low grades students may be suspended at the end of the first quarter of attendance. Students who are on academic probation are not eligible to hold office in student organization or to represent the College in any regularly sponsored group or activity.

EVALUATION

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

GRADE REPORTS

Individual reports are sent to parents, or by request, to individual students who have reached their majority at the end of each quarter. Special reports may be obtained upon application to the Records Office at any time. An official report is withheld, however, until all fees are paid.

SYSTEM OF GRADES

Grades in Mesa College are indicated as follows: A, for superior work; B, good; C, fair; D, minimum passing; F, not passing. Inc., incomplete; S, satisfactory; U, unsatisfactory; WP, withdrawn passing; WF, withdrawn failing; TF, for unapproved withdrawal; and WN, withdrawn from non-credit course.

INCOMPLETES

A grade of “incomplete” may be reported only on account of illness at the time of a final examination, or when the student for reasons beyond his control has been unable to finish all of the work of a course. This grade may be given only upon agreement between the instructor and the Records Office of the College. If arrangements for satisfactory completion of the course are not made before the end of the following quarter a grade of “F” will be assigned for the course.

WITHDRAWAL FROM COLLEGE

A student who desires to withdraw from the college should notify his faculty advisor and report to the Office of the Dean of Students, where the necessary withdrawal papers will be filled out and officially signed by the Dean of Students or one of the Associate Deans. The student will receive a grade of “WP” (Withdrawal Passing) for each course in which he is passing at the time of withdrawal, and a “WF” (Withdrawal Failing) for each course he is failing. Failure to record the withdrawal with the appropriate Dean within one week after withdrawal proceedings have been initiated will result in the assignment of a grade of “TF” (Technical Failure) in each course.

Official withdrawal from the College will not be granted during the last three weeks of a quarter, except in emergencies.

HONORABLE DISMISSAL

A statement of “honorable dismissal” will be given a student if at the time of withdrawal his status as to conduct, character and scholarship is such as to entitle him to continue in the College.

VTCU 57. RETAILING-MARKETING

W. 2 hours.

Basic principles of selling, retailing, merchandising, and advertising. Successful leadership in retail selling explored.

VTCU 58. SMALL BUSINESS MANAGEMENT

W. 3 hours.

Designed for those students contemplating small business ownership or management. Topics include: Markets, inventory, ownership alternatives, long-range planning, travel and recreation industries.

VTCU 59. BUSINESS MANAGEMENT PRACTICES

F. 2 hours.

Designed to help managers and directors of children's centers, or for assistants having responsibilities for office work. Record keeping, including the business and financial reports that are essential. Good personnel relations, and sound purchasing techniques.

VTCU 60. MEDICAL TRANSCRIPTION

S. 3 hours.

The aim of this course is to build shorthand and transcription competency in working with medical correspondence and professional records. Transcribing machines and direct dictation will be used. Prerequisite: Secretarial Science 23 or permission of the instructor.

VTCU 61. LEGAL TRANSCRIPTION

S. 3 hours.

A course designed for students who plan to work as legal secretaries. The course will consist of transcribing legal material from both shorthand notes and transcribing machines. Emphasis will be placed on the correct arrangement and typing of the various legal documents. Prerequisites: Secretarial Science 14 and VTCU 57 or permission of the instructor.

VTCU 62. SCIENTIFIC TRANSCRIPTION

S. 3 hours.

Skill is developed in transcribing from dictation and prepared tapes of specialized words and terms used in chemistry, physics, and other sciences. Emphasis on accuracy of transcription and correct spelling. Transcribing machines and direct dictation will be used. Prerequisite: Secretarial Science 23 or permission of the instructor.

Child Care

VTCC 11. NURSERY SCHOOL EDUCATION

S. 2 hours.

The nursery school as a laboratory for learning about children: its personnel, goals, and operation. Students will spend one morning a week at assigned laboratory experience, and have a group meeting one day a week for discussion and evaluation.

VTCC 51. PRINCIPLES OF CHILD WELFARE

W. 2 hours.

History and philosophy of child welfare movement. Study of laws affecting children at all governmental levels. Local, state and national agencies offering family and child welfare services. Licensing and health regulations for children's centers.

VTCC 52, 53. INTERNSHIP IN LICENSED CENTER

WS. 3 hours.

Students spend a minimum of three hours per day working in licensed centers under a qualified teacher. Supervised by college instructor with conference periods and evaluation of student's progress.

VTCC 55. TECHNIQUES OF ADULT EDUCATION

S. 3 hours.

This class is intended to help the student understand the teacher's role in adult education; to know how and why adults want to learn; how to plan a course of study for adults; and to learn methods and techniques used in teaching.
Data Processing

VTDP 11. INTRODUCTION TO DATA PROCESSING  F. 3 hours.
An introduction to the fundamentals of business data processing systems. This course is designed to introduce the student to basic unit record equipment and the computer. For the person who is contemplating going into the data processing field this is an excellent opportunity to investigate this rapidly growing vocational area.

VTDP 12. KEYPUNCH AND VERIFIER  FW. 2 hours.
This course is designed to teach the basic fundamentals of both the keypunch and verifier machines and to develop operational skills with both.

VTDP 13, 14. PRINCIPLES OF PUNCH CARD EQUIPMENT I, II  WS. 5 hours.
A course designed to acquaint students with the operation and application of automatic data processing equipment. The student will use the latest IBM equipment in gaining an ability to solve business problems at electronic speeds. Systems and procedures involved in data processing will be stressed throughout.

VTDP 15, 16. DATA PROCESSING MACHINES I, II  FWS. 3 hours.
A night school program similar to VTDP 13, 14 but intended primarily for adults in the community.

VTDP 17. ASSEMBLER LANGUAGE AND FLOW CHARTING  F. 5 hours.
A beginning programming course that will include computer logic flow charting and programming fundamentals. The student will write programs in Assembler language for the IBM 360 System.

VTDP 18. COBOL PROGRAMMING  W. 5 hours.
The student will write programs using Cobol. An emphasis will be placed on traditional business applications such as payroll, accounts receivable and inventory control. Methods will be covered enabling the student to debug and document their programs.

VTDP 19. FORTRAN IV  S. 2 hours.
Develops skill in Fortran IV involving scientific, engineering and mathematically oriented programs. Students will convert mathematical formulas. Students will convert mathematical formulas to Fortran IV instruction permitting the computer to handle the mechanics of the problem.

VTDP 20. AUTOMATED SYSTEMS  S. 5 hours.
This course requires students to work together as a systems team to analyze actual business applications and convert these to an automated system. The new system will be designed and flowcharted by the students and the programs written in Cobol. The course emphasizes the methods of system documentation which will permit adequate disclosure.

VTDP 21. RPG  S. 5 hours.
A course teaching the student to program in RPG. The applications will primarily be concerned with the writing of lists, reports and financial statements. Also operating procedures for the 360 System will be explained.

Electronics

VTEL 11. MATHEMATICS FOR ELECTRONICS  F. 4 hours.
A review of algebra, geometry and the fundamental concepts of trigonometry; special products and factoring; simultaneous equations.

GENERAL REGULATIONS

LATE REGISTRATION
Students registering late will be required to make up the work they have missed. Students are not permitted to enroll for a full-time class schedule after the first week of classes in any quarter. See page 26 for information on late registration fee.

ATTENDANCE
A student at Mesa College is expected to attend all sessions of each class in which he is enrolled. Failure to do so may result in a low-end grade or exclusion from class. At any time during a quarter, a student who fails to attend regularly may be dropped from college rolls.

All instructors are required to keep a record of all absences. Whenever the instructor thinks that absences are seriously affecting a particular student's work, it shall be his duty to report this fact to the office of the Dean of Students.

Absences will be excused when incurred by reason of a student's participation in required field trips, intramural games and other trips arranged by the College only if previously approved by the Dean of Students. The coach or instructor or other official whose work requires absences from classes shall file in the Dean of Students' office 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 sixteen quarter hours (eighteen for engineering students) and the minimum load is twelve hours, except for a few special and part-time students. Eighteen hours is the maximum load until a student has shown his ability to take more, and then he may be permitted to carry more hours if his schedule is approved by the admissions committee.

COURSE CONTINUATION
Courses which continue for three quarters generally should be taken throughout the year by students planning to transfer credits to senior colleges or universities, and in the sequence indicated by the course numbers. Example: French 11, 12, 13, FWS (fall, winter, spring). To receive transfer credit for this course it is necessary to take all three quarters.

ACADEMIC STANDARDS
Standards of scholarship at Mesa College depend upon the objectives, nature and content of the courses. While individual progress is a basic consideration, and the development of each student in the light of his needs and aptitudes is the major concern of the College, it cannot be too strongly emphasized that if minimum standards are not maintained failure will result.

A student's achievement is considered satisfactory when he maintains a grade-point average of 2.0 (C) or higher.
Specific Requirements for the ASSOCIATE IN SCIENCE DEGREE
Laboratory science and mathematics 39 hours
Approved electives ....................................................... 33 hours

Specific Requirements for the ASSOCIATE IN APPLIED SCIENCE DEGREE
Students enrolled in one of the specially designed Vocational-Technical curricula may qualify for this degree upon completion of the general requirements listed above and the specific technical course requirements appropriate to the curriculum in question. The specific V-T course requirements are listed in the Vocational-Technical section of this catalog. The general requirement of nine Social Science or Literature is modified to include Psychology for this degree.

TEACHER PREPARATION
Mesa College recognizes the need for teachers, and encourages students of ability to prepare for teaching. A four-year program of training is needed for entry into the teaching profession, and students should plan their two years at Mesa in accordance with the requirements of the higher institution to which they expect to transfer. Since the first two years of teacher training is basically general education for improvement of background, students should follow the General Liberal Arts (transfer) program with a suitable choice of electives. Mesa College has an active student education organization, M.E.S.A., which is affiliated with the Colorado Student Education Association. The Mesa College chapter is represented at most state education meetings and conventions.

TRANSFER OF CREDIT
Accreditation by the North Central Association of Colleges and Secondary Schools assures the acceptance of credits earned at Mesa College by other accredited colleges and universities throughout the United States. However, students are reminded that acceptance of transfer credit by any accredited college depends upon the individual student's previous grade average and a certification from the registrar of the former school that the student is in "good standing".
A student in good standing is entitled to a transcript of his record at any time. One transcript is furnished free of charge. A fee of $1.00 is charged for each additional transcript.
Credits transferred from an accredited junior college are accepted in senior colleges and universities up to a maximum prescribed by the particular institution for the first two years of a curriculum similar to the one from which the student transfers.
Junior colleges in Colorado are authorized by State law to provide only the first two years of college instruction. This is the equivalent of 90 academic hours, plus three hours of physical education, for most higher institutions.
Students who earn more than 90 academic hours may not receive credit for the excess hours on transfer to a four-year state college in Colorado that requires only 90 hours for Junior standing.
A student expecting to transfer to a senior college is advised to examine carefully the current catalog of the particular college he expects to attend. He is advised to follow closely the recommendations for programs of study.

VTEI 12. MATHEMATICS FOR ELECTRONICS
Mathematics used in solving problems involving vector and harmonic motion; complex rotation and vector algebra; functions and graphs; graphic methods used in solving problems relating to slope and rate of slope change; basic calculus, including limits; derivations and integrations; mechanics of La Place operational calculus as related to the study of control circuits; problem assignments illustrating applications; oscilloscope demonstrations showing mathematical interpretation of electric waveforms; differentiation and integration to provide an understanding of expressions frequently encountered in technical literature. Class: 4 hours.

VTEI 13. MATHEMATICS FOR ELECTRONICS
Trigonometry as applied to technical work; use of tables; solution of right triangles; law of sines and cosines; logarithms; graphical representation of the trigonometric functions. Class: 4 hours.

VTEI 14. SHOP PROCESSES
The course is designed to help the student develop information in the use of hand tools, machine tools, equipment and various types of materials which he will encounter in his work as a technician. Laboratory exercises are designed to introduce students to tools, materials and equipment. Shop safety is stressed. Class: 1 hour. Laboratory: 2 hours.

VTEI 15. TECHNICAL DRAWING
An elementary course designed for students having limited drawing experience. Use of templates, including lettering templates; fundamentals of design; mechanical drawing, drafting room practices; electronic circuit drawing, terms, symbols and standards. All symbols used are those established by the U.S. Bureau of Standards. Emphasis is placed on construction and interpretation of typical industrial drawings. Laboratory: 2 hours.

VTEI 17. CONCEPTS OF DIRECT CURRENT CIRCUITS
An introduction to electronics, atomic structure, electronics, electricity, basic electrical units, electronic components and diagrams, powers of ten, amplifiers, vacuum tubes, ohmmeters, multimeters. Magnetic fundamentals, electric circuits, electromagnetism, circuit elements, power, series and parallel combinations, Ohm's law, first and second laws, electrical power, self inductance, mutual inductance, inductors, capacitors, capacitors marking systems, conventional theory. Class: 4 hours. Laboratory: 6 hours.

VTEI 18. ALTERNATING CURRENT CIRCUIT ANALYSIS
Generation of alternating current, alternating current fundamentals, multi-polar generators, introduction to vectors, A-C resistive circuits, inductance, inductive reactance and impedance, series L-R circuits analysis, parallel L-R circuits analysis, R-L time constants, capacitance and capacitive reactance, series R-C circuits analysis, parallel R-C circuits analysis, R-C time constants, series R-L-C circuit analysis, parallel R-L-C circuit, power in A-C circuits, series, parallel resonant R-L-C circuits, Q and bandwidth of resonant circuits, impedance matching and reflection, transformer basics, and to follow closely the recommendations for programs of study. Application of vector algebra in the analysis of impedance networks. Prerequisites: Mathematics VTEI 11. The course is conducted in conjunction with Mathematics VTEI 12. Class: 4 hours. Laboratory: 6 hours.
of the specific requirements of each. These include completion certificates, a Mesa College diploma, and the degrees, Associate in Arts, Associate in Science, Associate in Commerce, and Associate in Applied Science.

A completion certificate may be awarded those who complete satisfactorily a terminal course of less than two years’ duration.

No student will be awarded more than one degree.

**GRADUATION (Minimum Requirements)**

To graduate from Mesa College a student must:

1. Have been regularly enrolled at least three quarters, including the one next preceding the time of his graduation, and must have earned a minimum of 34 quarter hours at Mesa College.
2. Complete with an average of C (2.0 GPA) or better, 98 credit hours.
   - including social science or literature, 9 hours; English 11 and 12, 6 hours, plus either English 13 or 3 hours of freshman literature; and physical education, 3 hours, to qualify for the MESA COLLEGE DIPLOMA.
   - Additional requirements for an ASSOCIATE DEGREE include the specific course requirements listed on this page and on page 40 and, in the event that credit hours exceed 98, an overall average of C or better is required on all credit hours attempted.
3. File with the Director of Admissions and Records a petition for graduation within 8 weeks after registering for the last quarter. Penalty for late filing shall be $1.00.
4. Satisfy all general and specific requirements of Mesa College which pertain to him, including the fulfillment of all financial obligations.
5. Have removed from his record all marks of deficiency in those subjects for which he expects to receive credit toward graduation.
6. Be in attendance upon the Commencement exercises of his class unless a petition of absence, properly made by him to the committee on graduation, is approved by that committee.

**DEGREES**

The Associate in Arts and Associate in Science degrees are granted to students who qualify as regular students, meet the minimum requirements for graduation stated in the preceding paragraphs, and in addition complete the appropriate specific degree requirements as follows.*

*Specific requirements for the Associate in Commerce Degree may be found on page 40.

**General Requirements for all DEGREES and the MESA COLLEGE DIPLOMA**

All Mesa College graduates must complete with an average of C, or better, 93 hours, including:

- Freshman English
- Social Science or Literature
- Physical Education (3 quarters of activity courses)

**Specific Requirements for the ASSOCIATE IN ARTS DEGREE**

- Physical Science
- History or other Social Science
- Literature
- Biology or Psychology
- Approved electives
College Board Scholastic Aptitude Test scores (S.A.T.), when received, are filed in the student's permanent record and personnel folder where they are available for counseling purposes if desired. However, these S.A.T. scores are not required by Mesa College and will not excuse the student from the A.C.T. program.

PROFICIENCY EXAMINATIONS

Proficiency examinations may be taken by regularly enrolled students to determine whether credit may be allowed for courses taken in an unapproved institution of higher learning; to determine amount of credit to be given for work done outside of class; and to provide a basis for exemptions from certain courses.

DIVISIONS AND DEPARTMENTS OF INSTRUCTION

Mesa College offers courses under the following divisions and departments: Agriculture, Art, Biological Science, Business, Chemistry, English, Foreign Language, General Education, Geology, Health, Home Economics, Humanities, Mathematics and Engineering, Music, Nursing, Physics, Physical Education, Psychology and Education, Social Science, Speech and Drama, Technical and Vocational, Trades and Industry, Continuing Education.

COURSES OF STUDY REQUIREMENTS

The course of study which an individual student pursues depends upon his present interests and his future plans. Freshman requirements for the principal courses offered at Mesa College are similar to those at senior colleges. Students who plan to continue college work after leaving Mesa College should decide upon the college to which they will transfer and plan their course here so that freshman and sophomore requirements of the college of their choice will have been met. This is a student responsibility although counselors will be glad to help.

REGISTRATION

In order to become a student of Mesa College, whether regular or special, an applicant must register on official forms provided by the college and at the appointed time. Credit will be given only for courses in which the student is registered.

N.C.D. 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. A student may combine in his registration both credit and N.C.D. courses, but the total hours involved should not exceed a normal schedule.

Those whose major interest lies in the field of Education, English, Foreign Language, History, Law, Music, Social Science, or Speech, should register to meet the requirements of the Associate in Arts degree and, in addition, take the specific courses required in one of these fields, by the school to which they expect to transfer. Those who are interested in Agriculture, Dentistry, Engineering, Home Economics, Mathematics, Medicine, Pharmacy, or related fields, should register in courses leading to the Associate in Science degree, and take the particular courses required by these departments in the universities and professional schools of their choice in the first two years.

CERTIFICATES, DIPLOMAS, DEGREES

Mesa College grants a certificate, diploma, or degree, according to the type of curriculum selected by the student and upon completion of the requirements.

VTEL 61. CALIBRATION AND MAINTENANCE OF TEST EQUIPMENT

S. 4 hours.

An introductory presentation of the basic theory and principles of the construction and operation of instruments most often used by industry. Emphasis will be placed on the standardization, calibration, servicing and maintenance of the major portion of industrial test equipment. Class: 2 hours. Laboratory: 4 hours.

VTEL 64. RESEARCH PROJECT

W. 1 hour.

Individual assignment to the development of apparatus of special interest to the student with the instructor's approval. Students provide their materials. A written report of the work will be made. Frequent conferences between the student and his adviser will serve to guide the student's progress. In writing the report the student will be guided by the principles learned in VTEL 55. Prerequisite: VTEL 55. Laboratory: 3 hours.

VTEL 65. INTRODUCTION TO COMPUTERS

S. 4 hours.

The student is introduced to the binary concept. He is shown how two states can be used to perform logic functions and count. He will use simpler logic gates to construct more complex devices. The student studies Boolean algebra, logic truth tables, and how the transition from a logic requirement to a gating network is accomplished. He also will deal with digital subsystems and study the mathematical process of binary addition including methods of complimentary binary subtraction, binary coded decimal counting and code conversion. Finally he brings together the above knowledge by discussing digital systems.

Engineering

VTEL 11. SPECIFICATIONS AND COST ESTIMATES

F. 2 hours.

Preparation of specifications and contract documents. Estimates of cost and construction. Bidding schedules for civil engineering projects. Prerequisite: 2 years of high school mechanical drawing or Engineering 10 or consent of instructor.

VTEL 12. FLUID MECHANICS AND HYDRAULICS

W. 3 hours.


VTEL 39. CONSTRUCTION PRACTICES

S. 3 hours.

A study of construction techniques, materials, structural systems, and job, site planning.

VTEL 40. CONCRETE I

W. 3 hours.

An introduction to cement, aggregates, selection and design of concrete mixtures, and sampling and testing procedures.
VTET 51. ELECTRICAL-ELECTRONIC DRAFTING  
F. 3 hours.  
A course designed to develop ability to work with symbols, terms, and drafting standards which are used in electrical and electronic drafting, and to apply them to the drafting of electrical circuits and basic electrical and electronic apparatus. Prerequisite: Engineering 10 or equivalent.

VTET 52. DRAFTING AND DESIGN—STRUCTURAL I  
F. 3 hours.

VTET 53. DRAFTING AND DESIGN—TOPOGRAPHICAL  
F. 3 hours.

VTET 54. MECHANICAL DRAFTING  
W. 3 hours.  
A study of advanced drafting techniques, working drawings, conventions, parts lists, and the use of handbooks, technical references and manuals.

VTET 55. DRAFTING AND DESIGN—MECHANICAL SYSTEMS  
W. 3 hours.

VTET 56. INTRODUCTION TO MACHINE DESIGN  
S. 3 hours.  
An analysis of machine parts and their functions, and the layout of drafting of various threads, gears, cams, and linkages. Prerequisite: VTET 54.

VTET 57. DRAFTING AND DESIGN—ELECTRICAL SYSTEMS  
S. 3 hours.  
A series of courses pursuing in detail and depth such subjects as steel structural detailing, shop diagrams, welding symbols, fabricating operations, concrete layout, reinforced concrete detailing, mechanical systems, electrical systems, and topographic drawings. The series will have a design project so that the student, working with the instructor, may obtain an original solution.

VTET 58 DRAFTING AND DESIGN—ARCHITECTURAL  
W. 3 hours.  
Architectural fundamentals of perspective drawings, shadows and architectural rendering. Symbols, use of templates and special equipment. Working drawings and specifications. Class: 2 hours. Laboratory: 4 hours.

VTET 59. TECHNICAL ILLUSTRATING I  
3 hours.  
The study of techniques used to prepare illustrations for advertising, marketing, and educational purposes. Basic rendering, airbrush, and scratchboard technique are applied to pictorial, exploded, and photographic views resulting in a variety of illustrations and transparencies.

VTET 60. TECHNICAL ILLUSTRATING II  
3 hours.  
A continued study of the techniques used to prepare a variety of illustrations. Emphasis is placed on advanced rendering, airbrush, and pictorial projection techniques. Prerequisite: VTET 59.

VTET 61. REPRODUCTIONS  
FW. 3 hours.  
Use of all types of reproduction methods, blueprinting, offset printing, photographic copying, thermofaxing. Class: 1 hour. Laboratory: 3 hours.

VTET 62, 63. STRENGTH OF MATERIALS I, II  
FW. 3 hours.  
Stress and strain of members in tension, compression, shear and torsion. Beam and column deflection and design. Properties of riveted and welded joints. Centroids and moments of inertia. Laboratory investigations of the properties of various materials and testing procedures used in engineering. Co-requisite: VTET 64. Class: 3 hours. Laboratory: 3 hours.

Admission Requirements
A veteran who does not meet the normal entrance requirements for admission, but who proves, through tests, that he is ready to do college work, will be admitted.
A veteran may take regular courses leading to an associate degree granted by Mesa College and preparing him for entrance to the higher division of four-year colleges and universities, or he may follow a terminal program designed to prepare for some specific occupation.

NOTE—Students who wish to qualify for Veterans Administration benefits should come prepared to finance their living expenses for a period of sixty days. This is the normal length of time required to set up a veteran's file in the regional office and for the issuance of monthly checks. All veterans must present a photostatic copy of their discharge in order to be excused from the Physical Education requirement.

ADMISSION OF SPECIAL STUDENTS
Mature individuals who lack some of the requirements for admission as regular students may be admitted as special students on a full or part-time basis. Special students may become regular students upon fulfilling the requirements for entrance. This may be done by passing the high school level tests in General Educational Development or, in some cases, by substituting certain college courses for high school units.

REGISTRATION AND COUNSELING TESTS
The college admission tests of the American College Testing (A.C.T.) Program are required of all new students prior to registration at Mesa College. It is recommended that prospective students take these tests during their senior year. Transfer students should contact the registrar sufficiently in advance of registration to make arrangements to take the tests, or to have an official report of the scores from a previous administration on file prior to registration. The tests are available at designated centers throughout the state and region on five different dates: in October, December, February, April, and August.

A $6.00 fee must be submitted with registration form to the A.C.T. Regional Office four weeks prior to the date on which the student elects to take the test. Detailed information regarding testing centers, dates, and registration supplies will be available through high school principals or from the Director of Admissions at Mesa College.

A residual testing program will be available in connection with Fall and Winter Registration for those students who do not take the tests during their senior year. These students will be required to take the tests during the Fall Registration Orientation program or, for the Winter Quarter, one day prior to registration in order that results will be available to students and their advisors during registration. A special testing fee will be collected from these students at the time they report for testing.

Students do not "pass" or "fail" these tests. The results are available to the student and his counselor and form an excellent basis for counseling and planning a course of study to meet the particular needs of students, and assist in selecting placement of students in class sections in keeping with their abilities and interests. Extra classroom instruction is provided during the first quarter for those whose test scores indicate weaknesses or deficiencies in certain areas such as English and mathematics.
TRANSFER APPLICANTS
An applicant for admission who has already attended another institution of college rank may not disregard his collegiate record and apply for admission as a first-time freshman.
Transfer students (Colorado residents) who may be on probation or suspension from the institution previously attended cannot be admitted until they have been approved by the Admissions Committee. In such cases the applicant must address a written petition to this committee describing the circumstances leading up to the probation or suspension status and any significant changes in these circumstances that would indicate that a successful record might be established at Mesa College. Out-of-state transfer applicants must be in good standing at the college institution most recently attended to be eligible for admission to Mesa College.

ADVANCED PLACEMENT
The college will recognize unusual secondary school work by means of advanced placement for those who have taken especially enriched or accelerated courses before entering college. Applicants ordinarily qualify for such placement by satisfactory achievement on placement examinations prepared or approved by the respective departmental staff members. Further information may be obtained by writing to the Admissions and Records Office.

ADMISSION TO ADVANCED STANDING
Students honorably dismissed from other colleges or institutions may be admitted to advanced standing in Mesa College. Students applying for advanced standing will furnish to the Admissions Office a transcript of all college work sent from each institution attended. Transfer students will be required to take the ACT test prior to registration unless the test has been taken previously and an official record of the scores is on file with the Director of Admissions. Such test scores are not a regular part of the official transcript and are released by the student’s former school only at the student’s specific request. A high school transcript is required of all transfer students.

HEALTH CERTIFICATE AND RESIDENCE AFFIDAVIT
Students entering Mesa College for the first time are required to send a certificate of good health signed by a family physician or a physician approved by the college. This certificate is available at the college office.
Each student is required to file a notarized residence affidavit at the time he first registers at Mesa College for the academic year. This affidavit is to be signed by the parent or legal guardian of each minor student, or by the student, if over 21. These affidavit forms will be provided each student as a part of pre-registration information and material.
These two items are required before acceptance is granted.

ADMISSION OF VETERANS
Mesa College is open to any veteran who qualifies for college education and its Veteran Service program has been organized to give the most efficient assistance possible in planning his program of study.
The College is approved by the Veterans Administration for the education and training of veterans under Public Law 894 and others.

VTET 64. MECHANICS
Basic principles of statics. Applications of the basic equilibrium equations to coplanar and concurrent, non-concurrent force systems. Miscellaneous topics include friction, hydrostatic loading, cables and anchors.

VTET 65. INDEPENDENT STUDY IN ENGINEERING TECHNOLOGY
3 hours.
Qualified students conduct an in-depth study of a problem of their choice related to engineering technology with instructor’s approval. A maximum of 5 credits may be awarded dependent upon the extent of the study. Prerequisite: Instructor’s permission.

VTET 66. MUNICIPAL ENGINEERING
S. 3 hours.
History of cities, organizations of municipal services, zoning street layout, subdivisions, water-supply treatment, sewage disposal.

VTET 67. SOILS ENGINEERING
S. 3 hours.
Properties of soils with compaction, consistency, classification, moisture, frost-action, permeability, strength, lateral pressure, bearing capacity, piling foundations, soil exploration, spread-footings, subgrades and pavements. Earth dams. Class: 3 hours. Laboratory: 2 hours.

VTET 68. HIGHWAY ENGINEERING
W. 3 hours.
Specific problems of highways, including planning, economy, finance, location, characteristics of design such as curves, alignment, grades, earthwork columns, subgrades, selection of equipment, job planning, estimating and proposal preparation.

Fine Arts
VTFA 11. ELEMENTARY ART
W. 3 hours.
Methods of teaching art at preschool levels are stressed. Students work in various media in execution of problems pertaining to art for this age child. Art experiences for children designed to inspire enjoyment and expression. Preschool and kindergarten guidance emphasized as the foundation for appreciation and love of art.

VTFA 12. CREATIVE PLAY ACTIVITY—DRAMA
W. 3 hours.
This course is designed for those students who will be working with preschoolers, kindergarteners and elementary students. Through the creative process students will develop plays from stories, books, historical events, etc. Also, there will be a section on puppetry.

VTFA 13. CREATIVE PLAY ACTIVITY—MUSIC
S. 3 hours.
This course is designed for those students who will be working with preschoolers, kindergarten and elementary students. Through the creative process students will develop simple tunes, knowledge and appreciation of music. A part of the course will be on the creating of musical instruments from simple objects.

Fire Science
VTFS 51. FUNDAMENTALS OF FIRE PREVENTION
F. 3 hours.
Organization and function of the fire prevention organization; inspections; surveying and mapping procedures; recognition of fire hazards; engineering a solution of the hazard; endorsement of the solution; public relations as affected by fire prevention.
VTFS 52. FIRE HYDRAULICS  F.  3 hours.
Review of basic mathematics; hydraulic laws and formulas as applied to the fire service; application of formulas and mental calculation to hydraulic problems; water supply problems; underwriters' requirements for pumps.

VTFS 53. FIRE APPARATUS AND EQUIPMENT  F.  3 hours.
Driving laws, driving technique, construction and operation of pumping engines, ladder trucks, aerial platforms, specialized equipment; apparatus maintenance.

VTFS 54. HAZARDOUS MATERIALS I  F.  3 hours.
A review of basic chemistry, storage, handling, laws, standards and fire fighting practices pertaining to hazardous materials.

VTFS 61. PLANT LAYOUT FOR FIRE SAFETY  W.  3 hours.
An analysis of industrial fire protection.

VTFS 62. RELATED CODES AND ORDINANCES I  W.  3 hours.
Familiarization with national, state, and local laws and ordinances which influence the field of fire prevention.

VTFS 63. FIRE FIGHTING TACTICS AND STRATEGY  W.  3 hours.
Review of fire chemistry, equipment, and manpower; basic fire fighting tactics and strategy; methods of attack; pre-planning fire problems.

VTFS 64. HAZARDOUS MATERIALS II  W.  3 hours.
Continuation of the study of hazardous materials covering storage, handling, laws, standards, and fire fighting practices with emphasis on fire fighting and control at the company officer level.

VTFS 71. FIRE DEPARTMENT ADMINISTRATION  S.  3 hours.
Consideration of basic concepts and principles of administration applicable to the organization and administration of an efficient fire department.

VTFS 72. RESCUE AND FIRST AID  S.  5 hours.
Rescue practices, the human body, emergency care of victims, childbirth, artificial respiration, toxic gases, chemical and diseases, radioactive hazards, rescue problems, and techniques.

VTFS 73. PROPERTY AND CASUALTY INSURANCE  S.  3 hours.
An analysis of the fire insurance rating structure. Elements involved in establishing insurance rates. The grading system for cities and towns, the classification of cities and towns, and hazard factors in occupancy, construction and exposures.

VTFS 74. FIRE INVESTIGATION  S.  3 hours.
Introduction to arson and incendiaries, arson laws, and types of incendiary fires. Methods of determining fire cause, recognizing and preserving evidence, interviewing and detaining witnesses. Procedures in handling juveniles, court procedure and giving court testimony.

VTFS 75. FIRE PROTECTION EQUIPMENT AND SYSTEMS  S.  3 hours.
Portable fire extinguishing equipment; sprinkler systems; protective systems for special hazards; fire alarm and detection systems.

For those who do not plan to continue beyond the junior college, several non-specialized programs are offered. These provide for a broad training and liberal choice of electives. For those who desire to prepare for a specific vocation, guidance is given in selecting the appropriate course for such preparation.

In recent years Mesa College has given increased attention to providing programs of Vocational and Technical Education for students who do not plan, at least immediately, to complete a four-year degree. These specialized programs of a terminal, technical, or semi-professional nature are designed to help students develop the specific skills required for employment in the various technical occupations for which the training is offered.

A program of Continuing Education is designed to provide opportunities for adults to receive both academic and vocational preparation in various fields. Related training in several apprentice trades is given through the program.

MESA COLLEGE RESERVES THE RIGHT TO WITHDRAW FROM ITS OFFERINGS ANY COURSE WHICH THE ENROLLMENT DOES NOT JUSTIFY GIVING. FOR ANY PARTICULAR QUARTER ADDITIONAL COURSES WILL BE ADDED ANY QUARTER IF THERE IS SUFFICIENT DEMAND.

ADMISSIONS INFORMATION AND GRADUATION REQUIREMENTS

ADMISSION TO MESA COLLEGE

Admission to Mesa College is granted upon the filing of an application for admission and the presentation of satisfactory credentials. All applications must be filed upon the official forms available at the college, or, for Colorado residents, at the office of the high school principal. A $10 evaluation fee must accompany the admission application.

Colorado high school graduates who have completed satisfactorily a minimum of fifteen acceptable units of high school work are eligible for admission to the freshman class. The application for admission, which includes a transcript of the high school record properly filled out and signed by the high school principal, should be on file in the Admissions Office not later than August 15 for the Fall Quarter. As the number of approved applicants approaches the planned capacity for the Fall Quarter this deadline may be advanced to on or near August 1. Applications for admission for the Winter and Spring Quarters should be on file in the Admissions Office not later than two weeks prior to the beginning of the quarter.

OUT-OF-STATE RESIDENTS

Applicants who are not residents of Colorado and who are entering college for the first time must rank in the upper two-thirds of their high school graduating class to be eligible for admission to Mesa College.
Organization for Instruction

Mesa College offers programs of three general types:

1) Those offered by the nine Academic Divisions,
2) Those of a Vocational or Technical nature, and
3) Those offered through the Division of Continuing Education to serve the adult needs of the community.

The nine academic divisions of the College and the subject areas included in each are indicated below:

The Division of Biological Sciences and Home Economics: agriculture, biology, botany, forestry, home economics, zoology.

The Division of Business: accounting, general business courses, secretarial sciences.

The Division of Fine Arts: art, drama, music.

The Division of Health Programs: courses for the associate degree program in nursing, and supervision of a medical office assistant program and a program for practical nursing.

The Division of Humanities: education, English, literature, philosophy, reading, speech, and foreign languages.

The Division of Mathematics and Engineering: mathematics and engineering.

The Physical Education Division: physical education theory and activity courses for both men and women.

The Division of Physical Sciences: chemistry, geology, astronomy, archaeology, and physics.

The Division of Social Sciences: anthropology, economics, geography, history, political science, psychology, and sociology.

Vocational-Technical programs of the College are found in a separate section of the catalog and include offerings in the following fields:

Associate Degree Professional Nursing; Audio-Visual and Graphic Communications Technician; Automotive Mechanics and Technology; Child Care Center Director; Data Processing; Electronics; Engineering Technician; Geologic Technician; Job Entry In Business; Library Technician; Medical Office Assistant; Police and Fire Service; Practical Nursing; Secretary, Legal or Scientific; Travel and Recreation Management; Welding.

The program for the two years at Mesa College will depend upon what the student plans to do at the end of two years. For those who plan to continue college work in a four-year college or university the courses in liberal arts, which are equivalent to such first- and second-year courses at higher institutions of the state, are required. Certain definite lower-division requirements are met by the courses leading to the Associate in Art or the Associate in Science degree. Other courses will depend upon the field in which the student's major interest lies, but will consist of such as fit into the student's planned program to be followed in the junior and senior years.

Graphic Communications

VTGC 70. DARKROOM PROCEDURES F. 3 hours.
A study of the darkroom, its equipment, and the functions therein. The chemistry of photography and film will be studied. The student will become proficient at processing film.

VTGC 71. COLD-TYPE COMPOSITION AND PASTE UP I F. 3 hours.
A basic study of cold-type composing involving the use of various composing machines. Also includes development of paste-up techniques, word spacing, type selection, use of white space and machine proficiency. Lab required.

VTGC 72. COLD-TYPE COMPOSITION AND PASTE UP II W. 3 hours.
A more advanced study of cold-type composition and paste-up. Skills are developed in multiple form work and more complicated techniques are developed. Lab required. Prerequisite: VTGC 71.

VTGC 73. DUPLICATING—OFFSET I F. 3 hours.
Methods of printing and duplicating are introduced. Principles of offset duplicating explained and practiced.

VTGC 74. DUPLICATING—OFFSET II W. 3 hours.
Various machines explained and skills practiced. Long-run, color and quality copy produced.

VTGC 75. COMMERCIAL DESIGN AND LAYOUT W. 3 hours.
A lecture and laboratory course in fundamental principles and techniques using a variety of both black-and-white and color media; pattern and design concepts are studied.

VTGC 76. PHOTOGRAPHY FOR PHOTO LITHOGRAPHY AND PLATEMAKING S. 3 hours.
Various techniques of camera, platemaking and darkroom work are developed. Also includes various methods of screening, masking and color separation. Lab required. Prerequisite: VTGC 70.

VTGC 77. GRAPHIC COMMUNICATIONS PROBLEMS S. 3 hours.
All skills developed by the student to produce work and solve problems that occur in the graphic arts field are practiced. This course is designed to develop the student's ability to deal with various situations on his own. Lab only—6 hours. For Graphic Communications majors only.

Health Programs

VTIE 47. MEDICAL TERMINOLOGY F. 3 hours.
This course includes basic medical terminology as applied to major systems of the body and related diseases. It includes special applications as related to medical practice with special emphasis on spelling.

VTIE 54, 55. LABORATORY TECHNIQUES FW. 3 hours.
The student learns to perform basic laboratory procedures such as blood counts, urinalysis, EKG, etc. Actual laboratory experiences are provided.
VTHE 59. MEDICAL OFFICE ASSISTING
The student learns to deal with patients and their families, to observe, keep records, help with physical examinations, and to assist the physician in many ways.

Humanities

VTHU 21. CHILDREN’S LITERATURE
WS. 3 hours.
A course designed to give those who are interested in literature for the child an opportunity to survey the best in books. Material is judged for various grade levels as well as for preschool and special education. Skills in presenting literature to children are developed.
The course is also intended for students majoring in Library Science.

Job Entry

VTJE 1. SHORTHAND
VTJE 2. BOOKKEEPING
VTJE 3. BUSINESS MATHEMATICS
VTJE 4. BASIC BUSINESS ENGLISH
VTJE 5. TYPEWRITING
VTJE 6. WORK STUDY
VTJE 7. LABORATORIES
VTJE 8. SPEECH
VTJE 9. PERSONAL DEVELOPMENT
VTJE 10. OFFICE MACHINES

Library Technician

VTLT 11. INTRODUCTION TO LIBRARY TECHNOLOGY
F. 2 hours.
This course is designed to give an overview of library service. A brief introduction to library history and philosophy is followed by a study of library organization, resources, public services, internal operations, personnel, career opportunities and current trends.

VTLT 12. TECHNICAL PROCESSES
F. 3 hours.
The student is introduced to the basic book, periodical, and pamphlet selection aids and how to use them. Practice is given in preparing orders, checking invoices, keeping records, collating, accessioning, giving book talks, telling stories and preparing bulletin boards. An introduction to care of films, use of projectors, tape recorders, and record players is also included.

VTLT 13. MATERIAL PROCESSING AND CIRCULATION
W. 3 hours.
This course introduces the student to various circulation systems and circulation records keeping. Includes interlibrary loan procedures and special handling of unusual materials. Attention is given to the mechanical preparation of books for library use and the care and repair of books.

VTLT 14. REFERENCE MATERIALS
S. 3 hours.
This course is designed to enable the technician to make effective use of the library’s resources. Students are required to construct bibliographies on various subjects and to become familiar with the use of the card catalog, handbooks, yearbooks, vertical files, etc. Practice is given in answering reference questions.

General Interpretations
1. In all cases where the student under 21 years of age, including married male students, will be that of the parent or legal guardian (except that the residence status of a married woman will be based upon that of her husband). Exceptions to this rule will be granted only when the parent or guardian has relinquished all responsibility for, or claim on, the student via due legal proceedings and a court order.
2. Residence of the student 21 years of age or over will be based upon the student’s own status in accordance with the above regulations; or upon the status of the husband (not the wife) in the case of married students where such husband may qualify for residence status in accordance with the above regulations.
3. Once In-State or In-District residence is established it shall not be lost until the close of the current regular academic year by virtue of removal from the state or district by parent, legal guardian or spouse.
A notarized residence affidavit signed by the parent or legal guardian of each minor student, or by the student, if over 21, is required before final acceptance is granted.

STUDENT ACTIVITIES
Mesa College offers an extensive and varied program of extra-class activities in which all freshmen as well as sophomores are eligible and encouraged to participate.
The Student Body Association is governed by elected representatives organized into a legislative body known as the Student Cabinet. The Student Cabinet, operating within the framework of a formal constitution, provides a broad program of social, educational, and cultural activities for all students of the college.
In addition, the College provides a comprehensive program of activities including intramural athletics, intramurals, drama, forensics, and numerous art and music groups in which interested students are encouraged to participate.
The Lectures and Concerts Committee, supplemented by the Student Cabinet, bring several nationally-known artists and lecturers to the campus each year to provide entertainment and educational and cultural enrichment to the faculty and student body.
The College does not have a system of social fraternities and sororities, but provides a large number of service and special interest clubs and organizations which offer all students the opportunity to participate as an integral member of a special group in which they have common interests.
Three junior college honorary groups have chapters on the Mesa College campus. They include Phi Theta Kappa, the national junior college honor fraternity for students with high academic achievement; Phi Rho Pi, a non-social national honorary forensic society for students who participate in college-sponsored speech competition; and Delta Phi Omega, an honorary dramatic fraternity for students who have contributed to the production of college plays and musicals.
The College Center Building provides offices for student government and student publications, and serves as a cultural, recreational, and social activity center available to all students. In addition, the Center includes the College Cafeteria, Snack Bar, and Bookstore.
PART-TIME STUDENT FEES

Students taking a part-time course are charged a class fee of $8 per quarter hour for Mesa Junior College District residents, $12 per quarter hour for Colorado residents who do not live in the district, and $30 per quarter hour for non-residents of Colorado. A part-time course consists of fewer than 15 quarter hours.

PAYMENT OF FEES

All tuition and fees are due and payable at the time of registration — the first day of each quarter and registration is not complete until the student's obligation is met in full. Any student who enrolls and attends classes is liable for payment of fees even though he may drop out of school. No student having unpaid financial obligations of any nature due the College shall be allowed to graduate or to receive any transcript of credits.

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

DETERMINATION OF RESIDENCE STATUS FOR TUITION PURPOSES

Residence status for tuition purposes at Mesa College is based upon the requirements as prescribed and approved in 1 B. 249 by the Colorado Legislature in 1961 and amended in 1965 for Colorado Public Institutions of Higher Learning. Basic requirements are summarized below.

In-State Residence

1. If an adult, upon moving to Colorado, is employed on a full-time basis, and files for the payment of Colorado state income taxes or files estimates of such taxes, and renounces his residency in any other state, and is not himself in the state primarily as a student, his minor children and wife may at once be classified at the in-state rate, so long as he continues his Colorado domicile.

2. An emancipated minor shall qualify for a change in status only if his parents or legal guardian or person having legal custody shall have completed the requirements for establishing domicile as defined in Item 1 above. An emancipated minor or adult student who has registered as a FULL-TIME STUDENT for more than EIGHT hours per term shall not qualify for a change in his classification for tuition purposes unless he shall have completed twelve continuous months of residence while not attending an institution of higher learning in the state or while serving in the armed forces.

3. Residence in the state primarily for the purpose of attending an institution of higher learning does not apply toward the time required for the establishment of legal residence.

In-District Residence

1. Establishment of bona-fide residence within the Mesa College District on the part of the parent or legal guardian at any time prior to the designated registration date will be the basis on which In-District Residence Status will be granted for minor children.

2. In-District Residence Status for the emancipated minor or adult student requires residence within the state for twelve months (as in 1 above) including 90 days residence within the Mesa College District immediately preceding registration.

VTLT 51. CLASSIFICATION AND CATALOGING F. 4 hours.
Elementary principles of classification based on major categories of the Dewey decimal system. Acquaintance with the Library of Congress system. Student learns format and content of catalog cards, principles of filing, use of subject headings and cutter numbers, ordering and use of Library of Congress cards. A practical approach to classification with particular emphasis on school and small libraries.

VTLT 52. CONTEMPORARY BOOKS AND PUBLISHING S. 3 hours.
A study of contemporary authors and publishers.

VTLT 53. LIBRARY SERVICES AND ADMINISTRATION W. 3 hours.
A review of types of libraries, their establishment, governing bodies, clientele, resources and financial support. Elementary library organization and administration. Preparing a library budget.

VTLT 54, 55. LIBRARY PRACTICE WS. 2, 3 hours.
The technician spends five hours per week for two quarters actually working in a library. Experience is provided under supervision of all types of library operations for which the technician is being trained.

VTLT 56. LIBRARY AUTOMATION W. 2 hours.
A study of applications of modern data processing procedures and equipment to the operations of a library.

VTLT 57. LIBRARY PROBLEMS S. 2 hours.
The work of the national and state library associations and inter-library cooperation. The types of positions in various libraries. The problem of securing and holding a position.

Mathematics and Engineering

VTIME 52. GEOLOGIC MAPPING S. 5 hours.
A survey of mapping and measuring techniques implemented by actual mapping of mines, mapping of topographic pursuits, and use of aerial photographs and of stratigraphic sections.

Practical Nursing

VTPN 11. NURSING ARTS AND SKILLS I F. 8 hours.
This course is designed to teach the basic patient care skills, to orient students to nursing institutions and to give them actual experience with patients. Time is spent in both classroom and hospital laboratory areas.

VTPN 12. OBSTETRIC NURSING I F. 1 hour.
The student is introduced to the history of obstetrics, nursing, reviews the philosophy and anatomy of the reproductive system and studies the care of the expectant mother through the prenatal period.

VTPN 16 STRUCTURE AND FUNCTION F. 3 hours.
A study of the structure and function of the human body, along with related medical terminology. An introduction to bacteriology with emphasis on common forms of pathogenic bacteria.
VTNP 17. PERSONAL HEALTH AND RELATIONSHIPS  F. 2 hours.  
A study of and a guide to good personal health. Includes personal 
hygiene, mental health, hereditary and environmental factors, and a 
brief look at drug abuse. The student is oriented to school life and 
relationships and interpersonal relationships.

VTNP 21. NURSING ARTS AND SKILLS II  W. 2 hours.  
This course teaches the more advanced techniques and skills used in 
care of patients, with emphasis placed on asepsis.

VTNP 22. OBSTETRIC NURSING II  W. 2 hours  
A study of the care of the expectant mother during birth and the 
post-partum period. Also includes the study of the infant during the 
natal and post-natal periods. Laboratory experience is included.

VTNP 23. CONDITIONS OF ILLNESS I  W. 4 hours.  
The care of the elderly; rehabilitation nursing, with special study of 
exercises and diversionary therapy; care of patients with specific 
disorders of the musculoskeletal system requiring the use of casts, 
traction, and surgery in their correction; and a study of the nursing care 
of the patient being prepared for surgery and immediately following 
surgery. Emotional and psychiatric disorders the nurse may encounter 
in the general hospital are included.

VTNP 24. DRUGS AND DOSAGE  W. 1 hour.  
Designed to teach the student guidelines for giving medications; 
also gives some historical background. Arithmetic is included.

VTNP 25, 35, 45. CLINICAL NURSING I, II, III  W S Smr. 13 hours.  
Under supervision the student gains experience in various clinical 
facilities as related to curriculum content.

VTNP 32. PEDIATRICS  S. 2 hours.  
The student studies growth and development of the normal child and 
diseases and treatments peculiar to children. A brief overview of 
mental retardation is included.

VTNP 33. CONDITIONS OF ILLNESS II  S. 4 hours.  
A course designed to teach the student about the disease conditions 
of the body. Treatment and nursing care of patients with these 
conditions, primarily medical and surgical, are studied.

VTNP 34. PHARMACOLOGY  S. 2 hours.  
A study of specific medications, their uses, effects, and untoward 
actions in relation to the human body.

VTNP 36. FIRST AID  S. 1 hour.  
This is the standard American Red Cross course consisting of ten 
hours of instruction.

VTNP 43. CONDITIONS OF ILLNESS III  Smr. 2 hours.  
A study of communicable diseases and the laws governing patients 
with communicable disease. An overview of disaster and emergency 
nursing and civil defense plans as related to the community and/or 
hospitals. A brief study of the duties of the practical nurse in home 
nursing is included.

VTNP 46. COMMUNITY HEALTH  Smr. 1 hour.  
This course is designed to provide information about the role of 
community, state and federal government in safeguarding and improving

BOOKS AND SUPPLIES  
Text books, notebooks and school supplies are sold at the College 
Bookstore. Cost of needed books and supplies will vary according to 
the courses taken by the student but ought not to exceed $150 for the 
year. Some saving may be realized by buying used books which may 
be available in limited quantities. Nursing students will have 
additional costs of uniforms and transportation to and from hospital 
training centers.

TUITION AND FEES  
The tuition and College fee applicable to the 1970-71 year were under 
study at the time of this printing and final figures on probable 
increases for 1971-72 were not available. The charges for 1970-71 are 
indicated below, and students are advised to plan on the probability 
of 10 to 15 per cent increases to help meet increasing costs to the 
College. Colorado state authorities have indicated that at least 15 per 
cent increases in tuition are anticipated at all state institutions of 
higher learning.

Tuition and Fee Schedule (1970-71):  
COLORADO RESIDENTS  Mesa College District  Out of District  
Tuition .............................................. No charge  $ 65 per Quarter  
College Fee ....................................... $ 65 per Quarter  $ 65 per Quarter  
Total .................................................. $130 per Quarter

NON-RESIDENTS  
College Fee ....................................... $ 85 per Quarter  
Tuition ................................................ $250 per Quarter  
Total .................................................. $335 per Quarter

Refunds on Tuition and Fees  
If a student withdraws within ten days from the first day of classes, 
two-thirds of the tuition and two-thirds of the College Fee may be 
refunded. No refunds will be made after the tenth day from the date 
of registration.

APPLICATION AND EVALUATION FEE  
Application and Evaluation Fee (Non-refundable) ........................................ $10  
(Valid only for quarter for which student is first admitted.)

PRIVATE AND SPECIAL INSTRUCTIONAL FEES  
Where private and special instructional services are required addi-
tional charges will be incurred by the student. These fees are payable 
in advance to the instructors and vary with the types of instruction, 
individual instructors, and other circumstances.

PRIVATE INSTRUCTION in applied music is available through the 
College and from instructors approved by the College. Cost of this instruc-
tion is $35 per quarter for one lesson per week. Other special in-
structional services available at extra cost include bowling, golf, 
skiing, etc.

EVENING SCHOOL FEES  
Evening class fees vary as to subject, time, and materials required, 
usually in accordance with the rates listed below for part-time stu-
dents. Day school students who pay full day school tuition and fees 
will not be charged extra for evening classes, except where a special 
material is required by the class.

MISCELLANEOUS FEES  
Late registration, $10 first day, $5 each additional day, maximum ................................ $30.00
Change in schedule ................................... 2.00
Graduation (cap, gown, diploma) ....................... 7.50
Late petition for graduation ........................ 1.50
Late credential fee ................................... 3.00
Aquatics Fee (wetsuit and towel) .................... 2.00
If the student is single and under 21 years of age, permission will not be granted except for reasons justifiable to College officials. Any student who is discovered in violation of housing regulations by living off-campus without permission, or who is found living off campus in housing which has not been approved by the College, may be subject to suspension from the College.

Changes in the location (address) of a student’s housing must be reported to, and approved by, the Director of Housing. Students requesting information about housing, either on or off campus, should contact the Office of Student Personnel Services.

Refund on Housing and Boarding Contract. A room reservation in College housing will not be confirmed until the $50 room deposit has been received. Once a contract is signed and the $50 room deposit made, failure to notify the Housing Director of cancellation after August 15 will result in forfeiture of the entire $50 deposit. If the reservation is cancelled prior to August 15, full refund of the $50 deposit will be made.

No refund on the housing and boarding contract will be made to a student who voluntarily withdraws from the College during a quarter. In emergency cases, necessitating withdrawal from the College, refund of board will be made, prorated according to the number of weeks remaining in the quarter. No refund for room rent will be made in such cases, however. Refund of the $25 deposit held in escrow will be made as described above.

Expenses at Mesa College

BOARD AND ROOM (See note on page 18.)

Board and Room for the 1971-72 academic year, for both men and women, in College-owned and operated residence halls is $971.80 including tax on meals payable each quarter at registration time as follows:

- Fall Quarter $347.60
- Winter Quarter $311.80
- Spring Quarter $311.80
- Total for the year $971.80

The above charges include three meals per day at the College Cafeteria with second helpings permitted at any meal except that only two meals are served on Sundays.

For those students who are permitted to live in rooms off the campus, the cost of rooms depends upon the type of accommodations provided, and ranges from $30 to $60 per month. Since board and room in private homes is very difficult to obtain, and since the cost of meals off the campus is quite expensive, the College Cafeteria offers a special quarterly meal plan which costs the student $197.60 for Fall Quarter, $176.80 for Winter Quarter, and $176.80 for Spring Quarter. Total for the year is $551.30 including tax. This includes three meals per day with second helpings permitted at any meal except that only two meals are served on Sundays, as described above for students who live in College residence halls.

Refunds on Board at College Cafeteria

Students who elect the special Cafeteria quarterly meal plan of $197.60 for the Fall Quarter, $176.80 for Winter Quarter, and $176.80 for Spring Quarter are subject to the same refund conditions as are described for students who live in the College residence halls. Students who are requested to withdraw from the College by College authorities, or who have to withdraw because of emergency conditions, normally will be given refunds for board prorated on the basis of the number of weeks in the quarter.

the health of people. Student learn about the local Department of Public Health and its functions. Field trips are included.

VTPN 47. VOCATIONAL RELATIONSHIPS
Smr. 1 hour.

Designed to teach legal and ethical responsibilities of a practical nurse. How to apply for a job, how to retain it, and how to resign.

Police Science

VTPQ 11. ADMINISTRATION OF JUSTICE
S. 3 hours.

Origin, history and development of the common law of England and the U.S. from Roman, Anglo-Saxon and Norman sources; fundamentals of constitutional and criminal law concepts; elements of local, state and federal jurisdiction and procedure as they apply to law enforcement.

VTPQ 51. INTRODUCTION TO LAW ENFORCEMENT
F. 3 hours.

History and philosophy of law enforcement and the development of modern American police system; jurisdiction of local, state and federal law enforcement agencies; fundamentals of criminal behavior and the social order; and an introduction to social pathology and current police problems.

VTPQ 52. POLICE PATROL AND PROCEDURES
F. 3 hours.


VTPQ 53. JUVENILE DELinquency and JUVENILE PROCEDURE
F. 3 hours.

A study of the origin and development of juvenile agencies; organization, functions and jurisdiction of juvenile courts; juvenile statutes, detention, court procedure and case disposition. The nature and causes of juvenile delinquency and crime; juvenile sub-cultures in contemporary society; custody and treatment of the juvenile offender.

VTPQ 54. NARCOTICS AND DRUGS
F. 3 hours.

Description, chemical properties and results of the use of narcotics and other dangerous drugs. The discovery and investigation of narcotics and other dangerous drugs. The discovery and investigation of narcotics peddlers and users; behavior and treatment of the addict; prevention techniques; cooperation with federal agencies.

VTPQ 61. CRIMINAL LAW
W. 5 hours.

An analysis of origin and structure of common law crimes and procedures; statutory crimes—felonies and misdemeanors. Definitions and distinctions between criminal and civil law; criminal court procedures; assigned criminal law case book readings; Federal and State reports; Colorado criminal code sections; the law enforcement officer as a witness; principles and techniques of direct and cross examination.

VTPQ 62. EVIDENCE
W. 2 hours.

A study of the nature, types and degrees of criminal evidence; rules governing admissibility, competency and relevancy; presentation of physical and other material evidence; direct and circumstantial evidence; hearsay rules and exceptions.
VTPO 63. CRIMINAL INVESTIGATION AND INTERROGATION
W. 3 hours.
Fundamentals of investigation; duties and responsibilities of the detective; standard and approved procedures of crime scene search, collection and preservation of evidence; recording of data of major and minor crimes. Modus operandi systems; scientific aids and other sources of information; inquiries, interviews, and interrogation methods and techniques; preparation for court action and case follow-up.

VTPO 64. TRAFFIC CONTROL AND INVESTIGATION
W. 3 hours.
The regulation, control and enforcement of Colorado traffic law and municipal ordinances. Fundamentals of traffic accident investigation, traffic courts and driver’s schools, safety campaigns and public information.

VTPO 71. FIRST AID
S. 3 hours.
A course in which the student learns the proper emergency first aid techniques to deal with personal or community disaster. The American National Red Cross course content is used and an ARC Standard or Advanced certificate is issued to qualified students. Lecture and laboratory.

VTPO 72. CRIMINAL PROCEDURE AND EVIDENCE
S. 3 hours.
Principles, duties, and mechanics of criminal procedure as applied to important areas of arrest, force, and search and seizure. Study and evaluation of evidence and proof; kinds, degrees, admissibility, competence, and weight; specifically deals with rules of evidence and procedure of particular import at the operational level in law enforcement.

VTPO 73. DEFENSIVE TACTICS
S. 2 hours.

VTPO 74. CONSTITUTIONAL LAW
S. 3 hours.
An introduction to the application of U.S. Supreme Court ruling which affect law enforcement. Assigned case book briefings of major constitutional decisions; analysis of federal statutes, interstate rulings and cases involving constitutional amendments affecting law enforcement jurisdiction and civil liberties.

VTPO 75. POLICE AUXILIARY SERVICES
S. 3 hours.
Principles of organization and administration as applied to auxiliary services. Records and communications, custody, central services, and police logistics. Special attention to police applications of electronic data processing and the collection of performance data.

Physical Science

VTPS 11. BASIC ELECTRICITY FOR A-V
W. 3 hours.
This course is designed to teach the fundamental principles of electricity and to develop an understanding of electrical circuitry and its application.

(as explained below) off-campus housing facilities should be specifically approved and supervised by the College before students commence occupancy therein. Therefore, Mesa College has adopted the following rules with reference to housing of its students:

1. To the extent that vacancies are available, all students shall live in college residence halls unless permission is granted by the Director of Housing for them to live off campus.

2. Students who cannot be accommodated in the residence halls at the time of registration and who are not excepted by the Dean of Students on one of the bases given below, are required to move into a residence hall upon notification by the College that space therein is available.

3. Students who live with their wives or husbands, or with their parents in Grand Junction or its vicinity, shall register their housing in the office of the Director of Housing prior to the commencement of each academic year and in the event of a change in address during the year.

4. Students otherwise eligible to live on campus but whose health conditions demand special services and living conditions or whose part-time employment prohibits their securing meals regularly in a college food service facility, or whose relatives make available their homes at a considerable saving to the student on room and board must secure permission from the Director of Housing to live off campus.

5. All students living off campus, except those specified in paragraphs (3) and (4) above, will be directed by the Director of Housing to live in, privately owned housing approved by the College.

General Requirement. A housing deposit of $50 is required of both men and women who live in College residence halls. Room reservations in College residence halls will be assigned in the order in which signed contracts and room deposits are received. Upon occupancy of the room for the first quarter enrolled, $25 of the $50 room deposit will be credited toward payment of room rent for the quarter. The remaining $25 will be held in escrow until such time as the student terminates his housing in the residence hall, if he graduates or transfers. Assignment of the housing contract has been complied with, and no damage charges have been assessed, the $25 deposit will be refunded to the student at the end of the college year, or at the end of the last quarter in attendance. The housing and boarding contract is a contract for the full academic year payable on a quarterly basis. Normally, no student will be permitted to break the contract unless the student is getting married, has special health problems, or is terminating his enrollment at the College.

The College reserves the right to alter board and room charges upon thirty (30) days notice prior to the scheduled date of registration for any quarter.

Off-Campus Housing. Students who cannot be accommodated in college residence halls will be granted permission to live off campus provided their housing is approved by the Director of Housing. Normally, permission will be granted for a student to live with his relative or to work in a private home for his board and room.

Students of legal age (21 years) will be permitted to live in College-approved off-campus housing unless vacancies exist in the College’s residence halls.

Any student planning to live off the campus must first secure permission to do so from the Director of Housing.
EMPLOYMENT

Part-Time Employment. The Office of Student Personnel Services operates a job placement service to assist students who work part time to help pay for their college expenses. Applications for such employment should be obtained from, and filed with, the Office of the Dean of Student Financial Affairs. Students will then be notified as steady part-time jobs become available.

Part-time employment, while attending college, is also available in each of the academic divisions and special services or agencies of the college. Application for such employment is made directly to the respective department. All students who carry a load of at least 12 semester hours shall be assigned a job in the college aid program. Mesa College also participates in the Federal Work-Study Program. Under this program, the college plans to employ approximately 100 students at an average part-time salary of about $480 for the three quarters of the academic year. The purpose of the College Work-Study Program is to provide financial assistance for academically qualified students who must have financial help toward meeting necessary college expenses.

To ensure securing assistance under this program, prospective students should file applications with the Office of Student Financial Aids not later than June 15.

Terminal Placement Service. Each year many students qualify to seek employment upon graduation or completion of a specific course of study, particularly in the vocational-technical areas. A placement service is available to students through the College Placement Office. Information is prepared for all students desiring placement assistance. The placement officer maintains contacts with appropriate business and industrial firms and arranges interviews both on and off campus between prospective employers and students.

STUDENT HEALTH SERVICES

Mesa College provides health services for all students. These include the part-time services of a medical doctor and the full-time services of a registered nurse. The type of services provided include first aid, treatment and prescription of drugs for common illness, dispensing of simple medicines, recommending proprietary drugs, consultation concerning health problems including referrals to physicians and dentists, conducting health surveys, calling on students reported ill who reside in campus housing, and visiting students confined in local hospitals. In addition, the college provides an excellent Blue Cross and Blue Shield student accident and sickness insurance plan. This plan is mandatory for all students, but carries a special waiver provision for those students who already are covered under family or other insurance plans. The plan protects the student twenty-four hours per day at school, at home, or while traveling during the school year, including interterm vacation periods.

Students entering Mesa College for the first time are required to present a certificate of good health signed by a family physician or a physician approved by the College. Expense of this examination is borne by the student. Health examination blanks are available at the College Admissions Office.

HOUSING

General Policy — Mesa College believes that its students will have their best opportunity for a well-rounded educational experience while living in a supervised residence hall designed for student living. Mesa College also believes that if residence hall facilities are not available for all students, or in the instances where exceptions have been made

VTPS 12. BASIC ACOUSTICS AND OPTICS  FS. 3 hours.

A beginning in the theory and operation of sound and acoustical principles, their behavior, function, and properties. Also covered will be the field of optics, principles, and theory of operation, as applied to both visual and mechanical means.

VTPS 13. REGIONAL NATURAL SCIENCE  S. 3 hours.

A course designed to acquaint students with the physiographic and geologic relationships of the natural environment, with emphasis placed on the climate, geology, vegetation, wildlife, and the scenic and recreational attractions of the region. Related activities are included.

VTPS 51. GEOLOGIC TERMINOLOGY  F. 2 hours.

A survey of the terminology used in the many fields of geology and which the technicians is likely to encounter. It will include terms and abbreviations used in studies of well samples, map making, petroleum drilling reports, rock and mineral descriptions.

VTPS 52. ROCKS AND MINERALS  W. 3 hours.

A review of the more common rock-forming minerals and the more common types of igneous, metamorphic, and sedimentary rocks. Ore-forming minerals will be studied as time permits. Lectures will be supplemented by laboratory studies emphasizing ore identification.

VTPS 54. ENGINEERING GEOLOGY  W. 3 hours.

A study of the application of geology and geologic methods to engineering. Geology as related to landslides; highway construction; dam-site evaluation; canal construction; construction material such as sand, gravel, stone, etc., permafrost and other features. Also includes soil testing and other engineering applications.

VTPS 55. ECONOMIC GEOLOGY  S. 4 hours.

Studies of the nature, occurrence and distribution of economic deposits of coal, petroleum, oil shale, metals, and other non- metals. Emphasis will be placed on those fields with greatest promise of employment. Will include an overview of the field of geology emphasizing exploration, development, equipment, taxation, pricing.

VTPS 56. GEOPHYSICAL TECHNIQUES  S. 3 hours.

A study of the geophysical techniques currently used in geology. Includes a survey of types of geophysical instruments, their operating principles, and nature of results obtained. When possible, instruments such as mass spectrometers, X-ray spectrometers, computers, well logging equipment, geiger counters, scintillation counters, seismographs, and other types will be observed in operation.

VTPS 57. SCIENTIFIC TERMINOLOGY  W. 3 hours.

This course is designed to acquaint the student with the terminology in the various fields of physical sciences. It includes a knowledge of terms, units, and technical vocabulary necessary for aids in scientific fields such as chemistry, physics, engineering, geology, and related areas.

VTPS 58. BASIC ELECTRONICS  W. 3 hours.

This course is designed to give the students a basic background of electronics to understand the fundamental principles of electronics, and to help develop an understanding of electronic circuits.
VTPS 59. MAP DRAFTING FOR GEOLOGY  W. 3 hours.
A one-quarter course intended for students in the geologic technician program. Stress is placed on fundamentals of drafting such as lettering and use of elementary drafting equipment. Also included are the interpretation and actual construction of topographic and geologic maps as well as other illustrations of value in preparation of technical reports. Class meets for 2 hours lecture and 2 hours laboratory per week.

VTPS 60. SUBSURFACE TECHNIQUES  F 2 hours.
An introduction to various methods of interpreting data obtained from mechanical hole-digging devices, well cuttings and cores. Methods of obtaining data will be examined, and data will be posted on maps by students in a manner that makes it usable for exploration techniques. Students will be required to construct various types of maps that are commonly used in petroleum and mining industry such as isopach, isolith, sand-shale ratio, structures, etc. Exercises in logging of cores and well cuttings will be performed to give students practical experience.

Social Science

VTSG 11. APPLIED PSYCHOLOGY  S. 3 hours.
A study of some current psychological finds on perception, motivation, prejudice, and other related topics of importance in understanding and dealing with people in work and leisure-time activities. The class is primarily designed for those in the Associate of Applied Science programs.

VTSG 12. HISTORY OF THE WEST  F. 3 hours.
A history of the Rocky Mountain region including the Great Plains and the Southwest. Included is a history of the Indian tribes in this location and the subsequent invasion by the trapper, the miner, the cattleman and the farmer. The unique cultural and political contributions of the West to the American way of life are the basic theme or objective of the course.

VTSG 13. PSYCHOLOGY OF LEARNING  W. 3 hours.
This course is designed to cover the basic principles of learning theory for the technician. Content will include multi-media approaches to education and principles of programmed instruction.

VTSG 14. HUMAN RELATIONS  S. 3 hours.
This class deals with supervision of non-professional personnel, personnel relationships, faculty relationships, salesmanship, and general working relationships with others and the problems inherent to individual and group relations.

VTSG 15. PERSONAL DEVELOPMENT  W. 3 hours.
Stresses the importance of the individual in business behavior with emphasis on developing a better understanding of self and others. The course examines proper appearance, courtesy, conduct, and human relationships in business with the objectives of providing a foundation for a working philosophy of life in keeping with Mesa College's goal for the development of the individual as well as particular skills. This course is sectioned with separate classes for men and women.

not previously received a scholarship. Applications are submitted immediately following mid-term examinations, and scholarships are tentatively awarded prior to the completion of the quarter pending maintenance of the 3.0 average through final examinations. The scholarship then becomes effective for the subsequent quarter.

In addition to the institutional scholarships described above, many scholarships and awards have been established for students of the College by private individuals and organizations of the Grand Junction area. The amounts of these awards vary but all are designed to apply toward tuition and fees.

GRANTS-IN-AID
GRANTS-IN-AID are awarded to students who have special talents in athletics, music, or art, and to scholastically capable students who have exceptional financial need. In addition, a number of grants-in-aid are made available for disadvantaged students entering vocational-technical curriculums.

EDUCATIONAL OPPORTUNITY GRANTS (EOG) are available to exceptionally needy students who wish to attend Mesa College. These grants were made available under Title IV of the Higher Education Act of 1965. Under this program, students from low-income families who have exceptional financial need may receive an outright grant of from $200 to $1,000. The amount of grant is geared to the parental contribution but may not exceed one-half of the student's total financial need, exclusive of any assistance under the College Work-Study Program.

ATHLETIC GRANTS-IN-AID equivalent to tuition and some fees are awarded each year to approximately 80 freshmen and sophomores who have excelled in various sports, either as high school seniors or freshmen at Mesa College. These awards are made by the Department of Intercollegiate Athletics of the College.

FEDERAL STUDENT AID PROGRAMS
Mesa College participates in many of the Federal Student Aid Programs. These include: (1) The National Defense Student Loan Program, (2) The Nursing Student Loan Program, (3) The Educational Opportunity Grants Program, (4) The Nursing Educational Opportunity Grants Program, and (5) the College Work-Study Program.

Financial need to pay for educational expenses is an essential requirement for eligibility 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.

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 either the Parents' Confidential Statement (PCS) of the College Scholarship Service or the Family Financial Statement (FFS) of the American College Testing Program. These forms should be available at either the high school principal's or counselor's office.

There is no deadline for submitting applications for any of the Federal Student Aid Programs, however, those students who have all application requirements complete and on file with the Admissions Office and Financial Aid Office by March 15 will receive priority. This includes, in addition to submitting either the PCS or FFS, as described above, a completed application for admission including American College Test (ACT) scores, and a completed application for financial aid on the special form provided by the Financial Aid Office of the College.
In addition, the College provides short-term and intermediate-term loan funds from which students may borrow to help meet financial obligations more temporary in nature. By definition, short-term loans are limited to a maximum of $500 repayable within 60 days or by the end of the quarter, whichever comes first. No interest is charged, but a small service charge is made. 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 limited to $1,000 with simple interest charged at five per cent plus a $1 service charge.

The MESA COLLEGE SCHOLARSHIP DEVELOPMENT FUND, INC., conducts a drive annually to raise funds for scholarships and student loans. The scholarships provided by this group amount to $50 per quarter and are awarded periodically during the academic year. This organization also serves as a receiving and clearing agency for many of the College's established scholarships and student loan funds as well as for scholarships received from organizations and clubs from other communities.

For the most part, funds available for the short-term and intermediate-term loans have been made available as a result of the efforts of this group and the generous contributions of individuals and organizations of the Grand Junction area.

SCHOLARSHIPS

Mesa College annually awards a large number of scholarships. These scholarships are awarded primarily on the basis of scholastic achievement, but include the recommendation of the high school counselor or principal, and give some consideration to the financial resources of the student's family.

Normally, scholarships cover the cost of tuition or some fees. Application deadline is March 15. No scholarship application will be considered complete and processed unless the applicant has been accepted for admission, and has American College Test (ACT) scores on file with the Admissions Office. The American College Test must be taken no later than the February testing date if test scores are to be received by the College prior to the March 15 deadline.

The principal types of scholarships offered by the College are the following:

1. THE MESA COLLEGE SCHOLARSHIP — This is a two-year scholarship. Approximately twenty-five of these scholarships are awarded to students with the highest scholastic records among the scholarship applicants to Mesa College.

2. THE MESA COLLEGE ACHIEVEMENT AWARD. This is a one-year (freshman) scholarship. It is the policy of the College to make at least one of these scholarships available to the graduates of each of the high schools of Western Colorado provided the student achieves a cumulative grade-point average of 3.0 (B) or higher by the end of the freshman year. He may apply for a sophomore scholarship which, if awarded, is valued at $500 per quarter.

3. ACADEMIC DIVISION SCHOLARSHIPS. Each academic division of the College awards one or more scholarships. These are awarded to the outstanding students in each division at the end of their freshman year for use as tuition waivers during the sophomore year.

4. SUPPLEMENTAL SCHOLARSHIPS. Each quarter a number of scholarships amounting to $500 per quarter are awarded to students who have achieved the minimum 3.0 grade point average who have

VTSO 51. APPLIED SOCIOLOGY

The purpose of this course is to familiarize the student with some of the principles that human relationships are based upon, and also the results of social situations. The emphasis is placed on social relationships in a changing society. Topics to be covered are mass communications, collective behavior, popular culture and social problems.

VTSO 52. APPLIED ECONOMICS

This course explores the basic American economic system with an analysis of capitalism, governmental monetary policies and money, and banking as they affect logical governmental units.

VTSO 53. SCHOOL AND MUNICIPAL LAW

Creation, annexation, dissolution, control of local governmental units; powers, duties, and liabilities of governmental units; legislation affecting the schools.

VTSO 54. GOVERNMENT PROBLEMS I

A course designed to study and explore problems as they relate to actual situations in governmental units such as counties, municipalities, and school districts.

VTSO 55. GOVERNMENT PROBLEMS II

A continuation of Governmental Problems I.

VTSO 56. STATE AND FEDERAL LAW

The courts, structure and jurisdiction, legislation and procedure, social legislation.

VTSO 57. LEGAL TERMINOLOGY

A course designed for students who plan to work as legal secretaries. The purpose of the course is to acquaint students with legal terminology as used in legal forms. Emphasis is placed on the spelling, meaning, and use of legal terms and phrases.

VTSO 58. LEGAL PROCEDURES I

A course to acquaint the student with everyday practices in the law office. Concentration on legal papers, forms, documents, and instruments.

VTSO 59. LEGAL PROCEDURES II

A continuation of Legal Procedures I using actual material obtained from law offices including transcription.

Travel and Recreation

VTR 11. SURVEY OF TOURISM

A course designed to acquaint students with opportunities in travel and recreation facilities. Representatives of tourist industries will address the students; the climate of what is coming; trends; etc.

VTR 51, 52. TOURIST MANAGEMENT I, II

This course will explore problems with specific applications to the various phases of the travel and recreation industry.
Student Personnel Services

COUNSELING AND GUIDANCE
At Mesa College, each student is provided with opportunities for continuous guidance and counseling. This service includes academic, social, vocational, and personal counseling.

The guidance program begins when freshmen and transfer students first arrive on the campus. Each student is assigned to a faculty advisor on the basis of his vocational and major subject interest. This person continues as the student's advisor as long as he is in college unless he asks to be transferred to another advisor. During the school year, the advisor helps the student register, basing his assistance on the student's preferences, previous records and standardized test scores. He also discusses with the student the college or vocational choice to be selected when ready to leave Mesa, and will help plan transfer of credits or entrance into a vocation.

Counseling services are available for all students of the College. These services provide an opportunity for the student to receive help in determining their abilities, aptitudes and interests. A full-time counseling service is available for students who are having difficulty in making satisfactory adjustment to college life either personally or socially. Regardless of the counseling situation, the student is assured of friendly, confidential aid.

Any student needing personal, educational, or vocational counsel is encouraged to see, at any time during regular office hours, the Dean of Students, the Associate Dean of Students, or any other member of the professional counseling staff. All counselor's offices are in the Student Personnel Services Center located on the terrace level of the Library Building. In addition, the College also provides the services of a Chaplain for those students seeking guidance on religious and spiritual matters. The office of the College Chaplain is located in the Student Health Services Building.

Representatives from the different branches of the military service frequently visit the campus to offer their counseling service. Qualified junior college graduates are given the opportunity to participate in one of the R.O.T.C. Programs offered at the four-year institutions. Students who are selected must attend a summer training program between their sophomore and junior years. This is an opportunity leading to a commission in the military service.

Mesa College is small enough to offer students the opportunity to know instructors personally. Instructors are interested in and willing to help other students as well as their own advisees.

Parents and students are invited to come to the office at Mesa College during the summer. At any time during office hours they will find someone competent to answer their questions.

STUDENT LOANS
Several kinds of loan funds are provided by Mesa College to assist students with their college expenses. Generally, eligibility for a student loan is based on financial need.

Mesa College participates in the National Defense Student Loan, the Federal Nursing Student Loan, and the United Student Aid programs. These loan programs provide important long-term loan funds from which qualified students can borrow sizable amounts of money at low interest, repayable after the student completes his college education.
golf courses, and swimming pools and the numerous outdoor attractions to be found in the nearby mountains.

LINCOLN PARK

Directly to the south and east of Mesa College across North Avenue is the beautifully landscaped Lincoln Park, the recreation center of Grand Junction. The park includes a green-turfed football field and a quarter-mile cinder track. Other physical facilities include a baseball diamond and stands, eight concrete tennis courts, a nine-hole golf course with grass fairways and greens, all available to college students. Lincoln Park is the site of the annual National Junior College Athletic Association Baseball Tournament.

ENROLLMENT

Mesa College's regular day school enrollment for Fall Quarter 1970 was 2,197, consisting of 1,512 freshmen and 685 sophomores. Eighteen students were unclassified. There were 869 men and 543 women in the Freshman Class, and 457 men and 230 women in the Sophomore Class. The geographical distribution of these students was as follows: 1,072 were from the Mesa College District; 1,002 were Colorado residents other than from the Mesa College District; 122 were from out of state, including six students from foreign countries.

In addition, 1,028 students enrolled in one or more classes in the Continuing Education Program (night school) during Fall Quarter 1970. The courses offered include both degree-credit courses as well as non-credit courses designed primarily for adults. In its role as a community college, Mesa College thus served a total of 3,226 persons during Fall Quarter 1970.

CAMPUS PARKING

All students and members of the College staff wishing to park on campus must register motor vehicles with the College Business Office. Parking permit stickers restricting the parking of motor vehicles to specified areas on campus will be issued at the time of registration or at the time a student acquires an automobile or changes automobiles.

College-Community Relations

Through mutual cooperation with the community, Mesa College has become a real cultural center, an integral factor in the educational and social development of Western Colorado. Faculty members are available for lectures and discussions on a wide range of subjects related to education, agriculture, homemaking and current social problems. Student groups appear often before public or private audiences for information or entertainment. The public is invited to attend many types of programs at the College—musical, dramatic, forensic, religious, and those devoted to public affairs and international relations—presented by faculty, students, community members, and out-of-town speakers.

At various times throughout the year, students and faculty members participate in radio and television panels and other types of programs to keep the community informed of activities at Mesa College.

Book reviews, play readings, lectures, conferences, demonstrations and musical programs are presented at the College from time to time by members of the community, for the students and the public. The churches of Grand Junction all cooperate with the College in meeting the needs for religious education among the students. Opportunities include participation in student clubs in Sunday Schools, young people's organizations, and in choirs.

VTWL 32. ELECTRIC ARC THEORY 5. 2 hours.
A study of the different types of welding machines, electrodes, structural joints and positions used in arc welding; the principles that control the arc welding procedures and manipulative techniques; the weldability of metals with various types of electrodes, using current polarity and current. Safety factors and practices relating to welding machines, welding procedures, repairing containers of various types, and personal safety are included.

VTWL 34. ARC WELDING III 5. 7 hours.
Continuation of Arc Welding II with emphasis on pipe welding and special application such as hard facing, welding of non-ferrous metals, and fabrication. Helical welding is introduced. Shop: 18 hours.

VTWL 41. SHOP MANAGEMENT Summer 5 hours.
Study of shop operation, expenditures, floor-plan design and equipment for the modern day shop. Expectations and management of employees.

VTWL 52. STRUCTURAL WELDING THEORY Summer 2 hours.
Codes issued by the American Petroleum Institute, American Metal and Welding Societies, and insurance companies are studied. These codes apply to the welds on all types of structural joints and to the types of welding electrodes used in making them. Laboratory experience includes applications of jigs and fixtures in time-saving operations for fabricating structural units for buildings, machines, bridges, and containers.

VTWL 44. ARC WELDING IV Summer 7 hours.
Continuation of Arc Welding II, including structural welding, "TIG" welding of stainless and high carbon steels, "MIG" employing the principle of a consumable wire feed. Shop: 18 hours.

VTWL 55. METALLURGY Summer 5 hours.
A description of how metals are smelted and refined. Combinations of metals which form certain alloys of steel, copper, lead, etc., are studied. Discussions and demonstrations are given on various methods of heat treating to bring about certain desired results in metals. Class: 3 hours. Shop: 2 hours.
Continuing Education, Community Services

"It's Never too Late to Learn"

One of the community college's finest traditions is providing special opportunities for adults of the community to participate in academic, vocational, cultural, and recreational activities according to their needs, interests, or desire to learn.

Mesa College offers many courses for adults of the area. The Office of Continuing Education serves thousands of 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 either for credit or no-credit and for varying lengths of time. Many regular day 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.

Through the College's cultural programs, regular students have opportunity to participate with adults of the community in various musical groups, including the Mesa College Civic Symphony Orchestra, the Mesa College Community Choir, and the Mesa College Community Band.

The College cooperates with various four-year colleges and universities of the state in providing facilities for on-campus extension classes and other services. Most of the courses made available through this arrangement are at the upper-division or graduate level. This service provides study beyond the junior college level, within certain limits, for those who do not find it expedient to go elsewhere after graduating from Mesa College.

ters and also for the Division of Continuing Education's Parent Education and Preschool program. Classrooms, play areas, observation facilities, and office spaces are located in this building.

Shop laboratories for various Continuing Education courses are available in the Mesa College Area Vocational School facilities and on a rental basis, as needed, from the local school district and from private owners.

Three 200-student residence halls, occupied in 1965 and 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 to provide maximum comfort and flexibility. The design of these residence halls emphasizes an environment conducive to study.

The Physical Education Center, completed in Fall 1968, provides facilities for a variety of physical education and recreation activities. Major features include all-purpose gymnasium areas for both men's and women's physical education and inter varsity basketball and wrestling, swimming and diving pools, locker and shower rooms, classrooms, and office space for the Division of Physical Education.

The College Services Center 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.

The Walter Walker Fine Arts Center, occupied in September 1969, is the new cultural center of the campus. The beautiful structure includes facilities for art, music, and drama. The building features a multipurpose Little Theatre, with seating capacity of approximately 700 when opened to include the alcoves, which at other times serve as smaller lecture rooms.

The first phases of the Mesa College Area Vocational School were completed in 1969. The two-section building houses modern shops and classrooms for auto mechanics, auto body and fender, welding, electronics, and audio-visual and graphic-communications departments. The school serves both youth and adults of the region as a training center for various technological and vocational occupations.

LOCATION

Mesa College's main academic campus is bordered by North Avenue, Elm Avenue, Twelfth Street, and College Place, about one and one-half miles north and east of Grand Junction's nationally famous Downtown Shopping Park. Other campus developments extend northward to Orchard Avenue and thence westward to Canwell Avenue. The residential section in the vicinity of Mesa College is attractive and modern. Several stores and other conveniences are located within walking distance of the campus, and many others, including a large new shopping center, are located along North Avenue.

Grand Junction's location in a scenic part of the Rocky Mountain West provides unlimited opportunity for the outdoorsman. Many Mesa College activities involve the physical advantages of the region. Among these activities is the College's physical education program in skiing, which is conducted at the new Powderhorn-on-Grand Mesa Ski Area. Qualified instructors, a variety of lifts, and miles of excellent trails combine to make the ski area a valuable adjunct to the College's Winter Quarter program. Students also take advantage of the city's parks,
GENERAL INFORMATION

ACCREDITATION
Mesa College is fully accredited by the North Central Association of Colleges and Secondary Schools. Such accreditation places academic credit earned at Mesa College on a par with those earned at other accredited colleges and universities throughout the United States and assures their acceptance by these institutions. Students are reminded, however, that acceptance of transfer credits by any accredited college depends upon the individual student's presentation of a satisfactory academic grade average and certification by the Director of Admissions and Records of the former college that the student is "in good standing."

BUILDINGS AND EQUIPMENT
Mesa College is developing its campus according to a master plan designed in 1966, revised in 1966, and currently being updated to provide for the College's needs through the 1970's. Facilities include Houston Hall, Horace Wubben Science Building, Library-Administration Building, Mary Raitt Hall, College Center, Child Development Center, Physical Education Center, College Service Center, Walter Walker Fine Arts Center, Area Vocational School, and Aspen, Elmo, Juniper, and Pinon Residence Halls.

Houston Hall, the first permanent building on the present campus, provides classrooms for Business, Data Processing, Home Economics, Humanities, and Social Science. In the future this building will undergo major remodeling to improve and increase its academic facilities.

The new Library Building, completed in Fall 1967, is a three-level building incorporating the latest concepts in library design, with a wide variety of study facilities. With open stacks available for up to 80,000 volumes, the college's book collection of 40,000 volumes is being increased at an accelerated rate. About 370 periodicals are currently received by the library. As the center of the academic program, the library provides facilities for a variety of learning experiences, including reading, viewing, listening, research, and group discussions. The first level of the building, intended ultimately for library expansion, is the college Administrative Office center, including the President's Office, Admissions and Records Office, Student Personnel Services, Business Office, and Public Information Office.

Mary Raitt Hall, extensively remodeled during Summer 1967, includes classrooms, a radio-visual and duplicating departments, and other facilities on the first floor. The upper two floors provide office space for sixty faculty members and facilities for related secretarial and receptionist staffs.

The College Center Building, occupied in January 1962, contains a modern, fully equipped cafeteria, bookstore, study and recreational lounges for students and faculty, office and conference facilities for student government and activity leaders, a snack bar, game rooms, and listening rooms for recorded music.

The Child Development Center, located at Elm Avenue and College Place, provides facilities for Mesa College's vocational-technical program designed to train directors and personnel for child-care cen-

Summer Session

Mesa College offers a summer program based primarily upon needs and wishes expressed by regularly enrolled students and residents of the community.

Typical offerings in previous summers have included courses in the areas of Business, Social Science, Mathematics and Engineering, Physical Science, Humanities, Fine Arts, Data Processing, and Vocational Education.

A prescribed minimum of students is required to justify offering any particular course.

This program operates on an eight-week schedule with classes being held in the evenings only. The 1971 Summer Session will begin Monday, June 14. (See calendar on page 3.)

Tentative bulletin on Summer School offerings are usually available from the Director of Summer Session or from the Director of Admissions during Spring Quarter.

The following courses were taught during the 1970 Summer Session and probably will be offered, along with others, during Summer 1971:

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Title</th>
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<th>Title</th>
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<tbody>
<tr>
<td>Hist 11</td>
<td>Beginning Typewriting</td>
<td>Hist 10</td>
<td>College Algebra</td>
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<tr>
<td>Psy 21</td>
<td>Biology and Lab</td>
<td>Math 26</td>
<td>College Algebra and Trig.</td>
</tr>
<tr>
<td>Psy 22</td>
<td>General Psychology</td>
<td>CEED 11</td>
<td>Driver's Education</td>
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<tr>
<td>Psy 23</td>
<td>General Psychology</td>
<td>General Psychology</td>
<td>Principles of Accounting</td>
</tr>
<tr>
<td>Psy 71</td>
<td>Human Growth and Development</td>
<td>Soc 46</td>
<td>Marriage and Family</td>
</tr>
<tr>
<td>Chem 11</td>
<td>Educ. Psychology</td>
<td>Soc 60</td>
<td>General Sociology</td>
</tr>
<tr>
<td>Chem 21</td>
<td>Eng. Graphics and Design</td>
<td>VTDP 11</td>
<td>Intro. to Data Processing</td>
</tr>
<tr>
<td>Chem 22</td>
<td>General Chemistry</td>
<td>VTDP 12</td>
<td>Keyboard</td>
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<tr>
<td>Eng 4</td>
<td>Intro. to Organic Chemistry</td>
<td>VTEX 41</td>
<td>Small Engine Repair</td>
</tr>
<tr>
<td>Eng 21</td>
<td>Pre-Freshman English</td>
<td>SPH 13</td>
<td>Fundamentals of Speech</td>
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<tr>
<td>Eng 12</td>
<td>English Composition</td>
<td>SPH 19</td>
<td>Sewing for Teens</td>
</tr>
<tr>
<td>Eng 13</td>
<td>English Composition</td>
<td>SPH 49</td>
<td>Judo</td>
</tr>
<tr>
<td>Eng 21</td>
<td>English Composition</td>
<td>PE 14</td>
<td>Golf</td>
</tr>
<tr>
<td>Eng 22</td>
<td>Spelling</td>
<td>SS 10.11</td>
<td>Beg. and Int. Typewriting</td>
</tr>
<tr>
<td>Lit 21</td>
<td>Word Study</td>
<td>Psy 21</td>
<td>General Psychology</td>
</tr>
<tr>
<td>Lit 32</td>
<td>World Literature</td>
<td>Psy 22</td>
<td>General Psychology</td>
</tr>
<tr>
<td>Lit 33</td>
<td>World Literature</td>
<td>Psy 23</td>
<td>General Psychology</td>
</tr>
<tr>
<td>Lit 51</td>
<td>World Literature</td>
<td>Bus 213</td>
<td>Business Machines</td>
</tr>
<tr>
<td>Lit 61</td>
<td>English Literature</td>
<td>Bus 21</td>
<td>Intro. to Business</td>
</tr>
<tr>
<td>Bus 12</td>
<td>U. S. Literature</td>
<td>Hist 22</td>
<td>U. S. History</td>
</tr>
<tr>
<td>Bus 21</td>
<td>Business Machines</td>
<td>Hist 23</td>
<td>History of Colorado</td>
</tr>
<tr>
<td>Bus 27</td>
<td>Business Machines</td>
<td>Hist 24</td>
<td>World Civilizations</td>
</tr>
<tr>
<td>Bus 36</td>
<td>Advertising</td>
<td>VTDP 12</td>
<td>Keyboard</td>
</tr>
<tr>
<td>Bus 41</td>
<td>Pers. Fin. and Money Mgmt</td>
<td>CEEP 11</td>
<td>Production Keyboard</td>
</tr>
<tr>
<td>Econ 31</td>
<td>Principles of Economics</td>
<td>Econ 52</td>
<td>Principles of Economics</td>
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<tr>
<td>Hist 31</td>
<td>World Civilizations</td>
<td>Soc 31</td>
<td>Fundamentals of Speech</td>
</tr>
<tr>
<td>Hist 31</td>
<td>History of the U.S.</td>
<td>Soc 62</td>
<td>Social Problems</td>
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</tbody>
</table>

Summer Session
MESA COLLEGE

Purpose

1. For all students. To supply education for citizenship and enriched personal living for all students regardless of classification, by providing:

   General courses and group activities through which they are enabled to gain for themselves personal, social, civic, and vocational competencies;

   A well-rounded education that develops within them a sound emotional and social balance and personal resources for continued intellectual growth;

   Assistance toward better understanding and appreciation of the values of art, music, literature and other cultural activities;

   Help in increasing their knowledge of economic principles, political institutions and historical trends and developments.

2. For occupational training for employment. To provide an appropriate variety of vocational and technical training for specific occupations and to offer opportunity to students desiring basic or extension training in a number of skilled trades.

3. For those who plan four-year degrees. To provide two-year courses of study leading to entrance into the third-year class for those who are to continue their formal education in a senior college or university, in liberal arts or the professions.

4. For adults. To provide opportunities for adults to participate in academic, cultural, recreational and vocational activities according to their needs, interests or desire to learn.

5. For the community. To stimulate and lead the intellectual and cultural life of the community; to furnish programs for information and entertainment; to provide a center for participation in recreational activities; and to foster activities leading to civic, social, health, moral and educational improvement of the community.

Curriculum

The curriculum of Mesa College is designed to meet the needs of the students of the area which the college serves. It contains courses in arts and sciences that are the same as those offered during the first two years at the senior colleges and universities of the state, and it also offers many specialized courses to meet local needs and demands. It is flexible so that continuous revision is possible. A curriculum committee of the faculty reviews suggestions for revision and makes recommendations for changes that it considers desirable. Courses are added or dropped according to the changing needs of the clientele of the college and to the social and industrial development of the community.
Foreword...

There is today throughout the land an increasing awareness of the importance of the community college. Under the pressure of rapidly increasing enrollment demands on all types of colleges and universities, the nation's educators are looking to the expansion of the two-year community college as a means of ensuring educational opportunities for all college-age youth and also for adults. These opportunities include comprehensive college programs embracing traditional liberal arts, general education, and a rapidly growing number of vocational-technical curricula designed to provide job training in pace with today's world of work.

Mesa College is a democratic community institution founded upon the principle that the community should provide education for all its members. It is organized to serve all who are eligible to attend and who can profit from its offerings, regardless of age or experience. It provides a cultural center for the community and recognizes its moral and social responsibility toward the students and adult population while it makes provisions for meeting educational and vocational demands made upon it.

FACILITIES, FACULTY, CLIENTELE

From a modest beginning in 1925 in a renovated former elementary school building, Mesa College's physical facilities have been developed steadily to accommodate a rapidly increasing enrollment. The growth in both enrollment and physical plant has been especially pronounced during the past ten years. The first permanent structure on the present campus, a large classroom building occupied in 1940, continues to serve an important function as an educational facility. Throughout the years, many other buildings have been added to the campus. The most recent additions are the beautiful new Walter Walker Fine Arts Center and the Mesa College Area Vocational School. Other campus structures include Mary Rank Hall, Horace Wubben Hall, the College Center, four Residence Halls, the Child Care Center, the fine new Library Building, the College Services Building, and a spacious new Physical Education Center. (See General Information section for additional details.)

The well-qualified faculty, broad curriculum, and excellent plant facilities make Mesa College an intellectual, artistic, musical, and educational center for the western third of Colorado. It is the ambition of the college to participate in and to stimulate all types of advanced and continuation education and to assist in furthering cultural standards in this region.

Thousands of students have entered the college since its inception in 1925. Many have gone on successfully to complete their advanced degrees in colleges and universities of the United States. Many have terminated their formal education with graduation from Mesa College and have taken their places in the business, commercial, industrial, family, and community life—all much better equipped for having shared in college opportunities.

Mesa College is open to high school graduates and all others of sufficient maturity, experience and seriousness of purpose to enable them to benefit from its offerings.

LIBRARIANS

MARTIN A. WENGER .................................. Head Librarian
B.A., University of Idaho; M.L.S., University of Oklahoma
MARTY ANN BASSINGER .......................... Assistant Librarian
B.A., University of Missouri; M.A., University of Denver
ELIZABETH GOFF .................................. Assistant Librarian
B.A., University of Colorado; M.A., University of Denver
PAULINE MESSENGER ..................... Assistant Librarian
B.A., Bethany College; M.S., Kansas State Teachers College

RESIDENCE HALL DIRECTORS

MARGARET CALKINS .................................. Jupiter Hall
NORMA DAVIS .................................... Kim Hall
STEVE EDMONDS .................................... Pines Hall
FRANCES MARK .................................... Jumper Hall
HAROLD R. RALSTAFF .......................... Aspen Hall

INSTRUCTIONAL PERSONNEL

ROBERT ACKERMAN .................................. Graphic Arts
B.F., West Virginia Tech
HERMAN C. ALLARAS .................................. Science, Mathematics
B.S., University of Wisconsin; M.S., Highlands University
CHARLES W. BURTON .................................. Mathematics
B.S., University of Wisconsin; M.S., Highlands University
JAMES C. BENNET .................................. Auto Mechanics and Technology
B.S., University of Northern Colorado; Certificate, Holley Field School; Chrysler Master Technician
WALTER F. BESCH .................................. Physical Education
B.S., M.E., University of Colorado
RICHARD BYRNE .................................. English
B.A., Fort Lewis College; M.A., Eastern New Mexico University
FRANCES BICKERTON .................................. English
B.A., Willamette College; Certificate, Kansas City Business College; M.A., Adams State College
LILLIOTT M. BUCKNER .................................. Nursing
B.S., Fairleigh-Dickinson University
WALTER J. BURKHAL .................................. Music
B.A., M.E.S., M.M.Ed.; University of Colorado
DAVID I. BARNHOUSE .................................. Head, Department of Music
B.M., M.M.E., University of Colorado
ORVILLE I. BOGET .................................. Chemistry
B.A., M.A., Colorado State College
HAROLD BOLLAN .................................. Auto Body and Fender
B.S., Southern Utah State College
LORRAINE BOSCH .................................. English, Philosophy
B.A., Ohio State University; M.A., Ohio University
WILLIAM BRAGT .................................. Welding
B.S., University of Northern Colorado
CLIFFORD C. BRITTON .................................. Mathematics
B.A., Adams State College; M.A., San Diego State College
ANTHONY BRUNELLY .................................. Physical Education
B.S., University of Northern Colorado
THERESA A. CAPPELL .................................. Business
B.S., B.S.Ed., M.B.Ed.; University of Oklahoma
PERCY H. CARMICHAEL .................................. Speech and Drama
B.A., M.A., Western State College
JAMES CARSTENSE .................................. Business
B.A., M.A., Western State College
JOHN V. CASSIDY .................................. Business, Travel and Recreation Management
B.A., Colorado State College; M.Ed., Colorado State University
JOHN D. CHARLESWORTH .................................. Auto Mechanics
B.A., M.A., Western State College
J. LEON DAILY .................................. Social Science
B.A., University of Maryland; M.A., Western State College
College Calendar

1971-72

SUMMER SESSION, 1971
June 14 Registration for First Four-Week Term and
Eight-Week Term
June 15 First Four-Week Term Begins
July 9 Registration for Second Four-Week Term
July 13 Second Term Begins
August 6 Summer Session Ends

FALL QUARTER, 1971
August 15 New Student Credentials Due
September 13, 14, 15 Faculty Workshop
September 15, 8:00 a.m. Residual ACT Testing
September 16, 17, 18 Orientation and Registration Counseling
For New and Transfer Students
September 20, 8:00 a.m. - 12:00 noon Sophomore Advising
September 20, 21 Registration
September 22, 8:00 a.m. Classes Begin
September 29 Last Day to Change Schedule
October 25, 26, 27 Midterm Examinations
November 24, 12:00 noon Thanksgiving Vacation Begins
November 29 Classes Resume
December 6 Final Examinations Begin
December 10 Fall Quarter Ends

WINTER QUARTER, 1972
January 3 Residual ACT Testing
January 3, 8:00 a.m. - 6:00 p.m. Registration
January 4 Classes Begin
January 12 Last Day to Change Schedule
January 31, February 1, 2 Midterm Examinations
March 14 Final Examinations Begin
March 17 Winter Quarter Ends

SPRING QUARTER, 1972
March 23, 8:00 a.m. Residual ACT Testing
March 27, 8:00 a.m. - 5:00 p.m. Registration
March 28 Last Day to Change Schedule
April 5 Classes Begin
April 25, 26 Midterm Examinations
May 29 Memorial Day
June 5 Final Examinations Begin
June 8 Commencement
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Students Attending College for the First Time

1. Secure an Application for Admission form from your high school principal or from the Admissions Office at Mesa College.

2. Complete Part I of the Application for Admission; have your high school office complete Part II and forward the form 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 our hands by August 15 for Fall Quarter and two weeks in advance of registration for Winter and Spring Quarters. (See bottom of page 2.)

3. Upon receipt of your application and the $10 application fee (see page 21) the College will inform you of your admission status. (Admission status will be tentative until the record of the final semester of the senior year has been received.)

4. Physical Examination and Residence Affidavit must be on file in the Records Office before final acceptance is granted. These forms are sent to the student from the college after the application has been received.

5. A.C.T. scores must be in the Admissions and Records Office before final acceptance is granted. See your high school counselor for dates.

6. Students who must live away from home must make arrangements for and secure approval of their housing from the office of the Dean of Students.

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, Part I (A $10 application fee must accompany the application. See page 17).
   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. Test scores. (Transfer students 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.
   e. Physical examination and residence affidavit.

REGISTRATION AND COUNSELING TESTS

The college admission tests of the American College Testing (A.C.T.) Program are required of all new students prior to registration at Mesa College. It is recommended that prospective students take these tests during their senior year. The tests are available at designated centers throughout the state and region on five different dates.

A $10 fee must be submitted with a registration form to the Registration Department, American College Testing Program, P.O. Box 444, Iowa City, Iowa 52240, four weeks prior to the test date on which the student elects to take the test. A special residual test administration date will be arranged as a part of Fall and Winter Quarter registration periods for those who, for good reason, have not been able to take the test during one of the regularly scheduled national test dates. (A $10 test fee is charged on the residual testing date.) Detailed information regarding testing centers, dates, and registration supplies will be available through high school principals and counselors or from the Director of Admissions at Mesa College. College Board Scholastic Aptitude Test Scores (S.A.T.) are not required by Mesa College and will not excuse the student from the A.C.T. requirement. (See pages 23, 24 for further information.)
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Mesa College
CATALOG

1971-72

GRAND JUNCTION, COLORADO
81501