

*UNDERGRADUATE*

*19*  *CATALOG*

*ONE*

*TWO*

**UNIVERSITY  
of NORTHERN  
COLORADO**

**GREELEY**

**BULLETIN**

# UNIVERSITY CALENDAR

## 1971-1972

**SEPTEMBER**

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**OCTOBER**

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**NOVEMBER**

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**DECEMBER**

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**JANUARY**

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**FEBRUARY**

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**MARCH**

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**APRIL**

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**JUNE**

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**JULY**

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**AUGUST**

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### Summer Quarter—1971

June 14-15—Registration

June 16—Classes begin

July 4—Independence Day

July 5—Independence Day vacation—No classes

July 19-23—Mid-term Week

August 17—Commencement, 10:00 a.m.—No classes

August 18-19-20—Final Examinations

Summer Orientation/Pre-Registration for Fall Quarter, 1971: June 29, July 1, 13, 15, 20, and 22.

### Fall Quarter—1971

September 13—Laboratory School Opens

September 24—New Students Report

September 27-28—Registration

September 29—Classes begin

October 30—Homecoming

November 1-5—Mid-term Week

November 13—Parent's Day

November 24—Thanksgiving Vacation (begins at noon)

December 11—Commencement—10:00 a.m.

December 14—No Classes

December 15-16-17—Final Examinations

December 17—Laboratory School closes

Pre-Registration for Winter Quarter, 1972: November 19-20.

### Winter Quarter—1972

January 3—Registration

January 4—Classes begin

January 28-29—Mid-Year Education Conference

February 7-11—Mid-term Week

March 9—No classes

March 11—Commencement—10:00 a.m.

March 10-13-14—Final Examinations

Pre-Registration for Spring Quarter, 1972: February 18-19.

### Spring Quarter—1972

March 20—Registration

March 21—Classes begin

April 24-28—Mid-Term Week

May 27—Commencement—10:00 a.m.

May 30—Memorial Day—Holiday

May 31-June 1-2—Final Examinations

Pre-Registration for Fall Quarter, 1972: May 5-6.

### Summer Quarter—1972

June 12-13—Registration

June 14—Classes begin

July 4—Independence Day—Holiday

July 17-21—Mid-term Week

August 15—Commencement—10:00 a.m.

August 16-17-18—Final Examinations



BULLETIN

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NORTHERN COLORADO

*1971-72 UNDERGRADUATE CATALOG*

**Bulletin Series LXXI •**

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## Freshman Admissions Timetable

**Applications**—Applications may be filed any time after the beginning of the senior year in high school and not later than 30 days prior to registration day. Individuals are encouraged to submit applications as early as possible, since freshman enrollments may be curtailed because of limited facilities. The application must be accompanied by a \$10.00 transcript and evaluation fee. This fee is non-refundable.

**Test Scores**—The American College Test (ACT) should be taken early enough so that the test results may be considered at the time the application is filed. An October or December test date is recommended. Junior year test scores will be accepted.

**Scholarship and Financial Aid Applications:** The Colorado Preliminary Application for Financial Aid (available through local High School Counselors) should be submitted through the High School Counselor to the Director of Financial Aid by March 1. This form is used for consideration for Scholarships, Student Loans and Grants. A student must have been officially admitted to the University before the offer of scholarships or a financial aid package becomes final.

**PLEASE NOTE**—All applicants for Financial Aid must submit the Family Financial Statement of the American College Testing Program in order to be considered for Financial Aid.

## Transfer Student Admissions Timetable

**Applications**—All applications and two official transcripts from each college or university attended must be filed 30 days prior to the quarter for which the transfer student wishes to enroll. The application must be accompanied by a \$10.00 transcript and evaluation fee. This fee is non-refundable.

**IMPORTANT**—All undergraduate students, whether full or part-time, must make application for admission and be officially admitted in order to take course work. There is no “unclassified” or “special student” status for undergraduate students.

This catalog is a reservoir of programs and courses approved for offering at UNC. The listing of a program or course in the catalog does not constitute a guarantee or a contract that the program will be offered or that the courses listed will be taught during the period of time covered by this catalog. Consult the schedule of classes for a listing of specific courses to be offered, in case of question consult your advisor or Department Chairman.

Course descriptions in back of Catalog marked with asterisks (\*) may be used to meet the 18 hours of electives in general education.

# GENERAL INFORMATION

**Functions of the University**—The University of Northern Colorado provides balanced curricula so a student may develop into an effective citizen, to increase his capacity to use the processes of critical, reflective and creative thinking, and to increase his level of personal maturity. Within this framework, professional and pre-professional courses are provided to enable each student to become a useful and productive member of society.

The University of Northern Colorado has a long tradition and national reputation in the preparation of teachers. It offers strong, in-depth programs to prepare students for many professions, including nursing, business, and industry. Through a variety of majors in many academic disciplines, the university is dedicated to the continuing advancement of knowledge.

**Accreditation**—The University of Northern Colorado is accredited by the North Central Association of Colleges and Secondary Schools (1916).

Academic programs within the university are accredited by the following: American Chemical Society (1968); Colorado State Board of Accountancy (1967); Colorado State Board of Nursing (1965); National Association of Schools of Music (1967); National Council for Accreditation for Teacher Education (1960); and National League of Nursing (1966).

The university is a member of the American Association of Colleges for Teacher Education, the American Council on Education; the Council of Graduate Schools in the United States; the Midwest Conference on Graduate Study and Research; the Western Association of Graduate Schools; and the American Association of State Colleges and Universities.

**Graduate School**—University of Northern Colorado offers advanced programs of professional work leading to the Master of Arts degree, Specialist in Education degree, Doctor of Arts degree, Doctor of Education degree, and Doctor of Philosophy degree. Graduate study was first offered during the Summer Session of 1913, and the first master's degree was conferred in June, 1914. In 1929 the Board of Trustees authorized the offering of a program leading to the doctoral degree, and in 1952 the specialist's degree was approved. The first Doctor of Philosophy degree was granted in 1934, the first Doctor of Education degree was granted in 1939, and the first Doctor of Arts degree was granted in 1970.

To secure a Graduate School Catalog, write to the Dean of the Graduate School, University of Northern Colorado, Greeley, Colorado 80631.

**History**—The history of the University of Northern Colorado closely parallels much of the growth and development of the Greeley Union Colony. The Colony was organized in 1870 by Nathan C. Meeker, traveler and newspaper correspondent, and was named after Horace Greeley.

When the Colony was eighteen years old, a movement was started to establish a normal school to supply teachers for the community and state. The law creating the State Normal School was signed on April 1, 1889, and the cornerstone of the first building was laid on June 13, 1890. Classes were started October 6, 1890, with a staff of the principal, four instructors, and 96 students. Certificates were granted upon the completion of the two-year course.

In 1911 the name was changed to Colorado State Teachers College by the state legislature. The university was then offering four years of undergraduate work and granting the Bachelor of Arts degree. In 1935 the name of Colorado State College of Education was adopted to recognize the fully developed graduate program which was started in 1913. Early in 1957 the state legislature approved shortening the name to Colorado State College, effective October, 1957. In recognition of its broadened functions and expanded undergraduate and graduate programs, the name was changed to the University of Northern Colorado in May, 1970.

**Government**—The university is under the jurisdiction of the Trustees of the State Colleges in Colorado, a governing board consisting of seven members appointed by the Governor of the State. Funds for the operations of the university come from general appropriations of the legislature, student tuition and fees, and special federal and philanthropic grants.

**Location**—The University of Northern Colorado is in Greeley, a city of approximately 40,000. Greeley is 52 miles north of Denver and 52 miles south of Cheyenne, Wyoming. Estes Park is 51 miles west. The front range of the Rocky Mountains is 30 miles west of the campus. The elevation of Greeley is 4,648 feet, and the climate is invigorating and conducive to study.

**Laboratory Schools**—The university maintains a Laboratory School which includes Ernest Horn Elementary School and University High School with grades seven through twelve. For information on tuition and fees, consult the Director of the Laboratory School.

The campus Special Education School, a cooperative project of School District No. 6 (Greeley, Evans and Ashton) and the university, is a laboratory school enrolling physically and mentally handicapped and emotionally disturbed children. University students observe and do student teaching in this school. For information, consult the Chairman of Special Education.

A Pre-School is maintained under the direction of the Department of Home Economics. Please consult the department chairman for further information.

**Campus**—The 243-acre university campus is in a beautiful residential area in the southern part of Greeley. The campus is south of the main business district and is in three parts—East, Greeley, and University Park. Residence halls for men and women are located on the East and University Park campuses and residences for women on the Greeley Campus. Permanent university-owned apartments for married students and families are on the East Campus.

Athletic fields for major outdoor sports are on the East Campus, while recreational activity areas extend over all three campuses.

The \$3,175,000 University Center lies between the Greeley and University Park campus areas. Future plans of the university are to have the majority of single student residences and academic buildings on the 156-acre University Park Campus. Presently Ross Hall, the science complex; Bishop-Lehr, the laboratory school; and the new \$2,900,000 education-classroom building, McKee Hall, are on the University Park Campus. Three coeducational residence halls on the University Park Campus—McCowen Hall, Harrison Hall and 13-story Turner Hall—can house 1,660. Capacity for housing in apartments, dormitories, and university-owned houses is 3,320.

A new \$5,000,000 library-classroom building on the University Park campus will be ready for occupancy Summer Quarter 1971.

Architectural plans are now being completed for a new physical education building and a new general classroom building for the arts and sciences, both to be located on the University Park campus. A new apartment style coeducational dormitory is being planned which would ultimately house an additional 500 students, and it is hoped initial construction will take place in 1971.

The total physical plant of the campus includes 70 buildings, exclusive of university-owned fraternity and sorority houses.

The university also owns a mountain campus of 80 acres and five buildings adjacent to the city of Estes Park. This area, used for field trips by university classes, includes some of the most spectacular scenery in the Rockies.

**Alumni Association**—The Alumni Association of the University of Northern Colorado was reestablished February 11, 1965. A non-profit corporation organization independent of the university, the Association is governed by a 21-man Board of Directors and has as its purpose the creation and encouragement of activities which are mutually beneficial to the university and its alumni. Local clubs are established in areas where 10 or more alumni indicate an interest. Regular Membership is available to any person who has enrolled in the university. Friends of the university may apply for an Associate Membership. For additional information, please contact the Alumni Office, University of Northern Colorado.

**Insurance Institute**—The function of the Insurance Institute is to formulate insurance courses and other insurance programs in cooperation with the School of Business and insurance industry and to act as coordinator of these courses and programs. Special emphasis is placed on undergraduate work in insurance and on in-service training for insurance industry personnel in academic work leading to advanced professional designations.

**Public Services**—Coordinated through the Department of Public Services and Development, the university provides several types of services for students, schools, and communities. The services include information, publications, radio, printed media, alumni and many types of public relations activities. The University has a foundation—The University of Northern Colorado Foundation. Gifts to the university may be made to the foundation.

**Student Academic and Co-curricular Achievement**—University expectations of student academic and co-curricular achievement and conduct are outlined in several publications including: Student handbook, Academic Rights and Responsibilities of Students Document, and the Department Chairman's Handbook.

**Off-Campus Instruction**—One of the many services the university provides for Colorado throughout the state is an extensive program of off-campus instruction. Three types of programs are offered to help non-resident students and to help certify and upgrade teachers for the public schools. These three programs are (1) off-campus classes, (2) tele-lecture courses, and (3) correspondence study.

Off-campus classes are offered in various sections of the state primarily as in-service courses to the teachers and the school systems.

Tele-Lecture is a means of providing off-campus instruction in a number of sites widely separated and distant from the campus. Through the use of tape recorded lectures the professor is able to teach classes in several communities simultaneously. Visual materials and textbooks are used to supplement the taped lectures. Two-way communication is achieved through the use of amplified telephone conference calls which connect all class groups with the professor on the campus and with other class groups. The conference calls permit interaction between the individual student, other students, and the professor. All Tele-Lecture courses are offered for three quarter hours credit with approximately two hours per week devoted to taped lecture material and one hour per week to amplified telephone lecture and interaction with class groups.

The university provides correspondence courses for the convenience of students who want to earn undergraduate university credit but cannot do so through classes on or off the campus.

Complete information on off-campus classes, tele-lecture courses, and correspondence study may be obtained from the Department of Special Studies and Continuing Education, University of Northern Colorado.

**Placement Services**—The Placement Center of the University of Northern Colorado offers its services to all persons who have completed course work at the University of Northern Colorado and who enroll for the service. The placement season extends from July 1 through June 30. Credentials will be filed for a period of five years from the end of the placement season during which an enrollment was completed. Unless materials are updated within a five-year span, they will be destroyed. This policy permits better service and provides current information which employers request.

Employment is not guaranteed but the Placement Center acts as an effective liaison with all educational institutions, business, and governmental agencies. An opportunity is provided for the prospective employer and the prospective employee to get together; a continuing service for the student to gain information and experience pertaining to career objectives; broad knowledge of the types of jobs available; experience in interviewing and in the writing of letters of application; and acceptance of a position as a part of the student's overall general education.

More than 70,000 vacancy notices are received throughout the year, with the largest number coming in January to June for positions in September. Personal interview schedules are publicized in advance in academic departments, residence halls, the *Mirror*, student center, and on the Placement Center's bulletin board. Many employers are unable to make a personal visit but list their vacancies throughout the year. Students and alumni are recommended to these employers who advise us of their needs, and credentials are furnished.



The office carries on numerous activities which include automated nominations, processing vacancy notices, mailing out credentials, conferring with prospective employers and applicants for positions. Vacancy lists are published and mailed to off-campus enrollees, and listings are placed in the Placement Center library for use by enrollees on campus. Personal interviews are conducted in six modern and private interview rooms. One of the main functions is the counseling of candidates whenever assistance is needed in regard to placement. The office attempts to maintain close relationship with former graduates who may desire to change positions or to make professional advancements in the field of education.

# ACADEMIC SERVICES

There is a variety of academic services available to faculty and students and educators in the field which assist them in their academic endeavors. These services include Library Services, Instructional Materials Center and KUNC-FM, the Educational Planning Service, the Bureau of Research, the Computer and Data Processing Center, and the Office of Special Programs.

**The Libraries**—The main collection in the new library building on the University Park campus contains over 312,000 volumes, including periodicals, government documents, pamphlets, reference materials and over 65,200 microforms. The stacks are open to all students and other patrons. Individual and group study facilities are located near all stack areas.

A special reserve book facility, photo-duplication services, microfilm reading and storage, and a rare books room are included in the building. A center for independent study and a multipurpose room which seats 300 are also provided.

The new library, encompassing 225,000 square feet on four levels, incorporates the latest equipment and techniques known to library science to provide for the users' convenience and comfort. Seating capacity has been planned for 2,700 persons.

The music library is located in Frasier Hall 249. Selected volumes, including music reference materials, together with music recordings, scores, and listening equipment are available.

A Science Reading Room is located in Ross Hall 113. Certain current periodicals and selected science and math materials are available, together with study facilities in a well-lighted room.

The Educational Resources Center is located in McKee Hall. Certain educational materials, textbooks (K-12), curriculum guides, and testing materials are available for the student who is preparing to teach. The surroundings are new, comfortable and colorful.

The University Laboratory School libraries (K-6 and 7-12) are located in Bishop-Lehr Hall. The best of children's and young adult literature has been gathered in approximately 22,000 volumes for the laboratory school student and faculty use. College students preparing to teach should find this facility and its outstanding collection worth examining.

**Instructional Materials Center**—Services provided by the Instructional Materials Center cover the range of educational media. The Center provides a media consulting service for faculty and others.

Faculty film requests and orders are processed by this department. A library of 2,000 films, 900 filmstrips, several hundred audio recordings and numerous video tapes is available. All audio-visual equipment and films for the university and community are centrally located, supplied, and maintained in the Center. Student projectionists are provided for faculty members who desire this help.

Audio production studios provide disc and tape recording services, as well as a campus public address system. A graphics production staff is also available in the Center, for the creation and reproduction of visual and photographic instructional materials. Through the facilities of the Instructional Television (ITV) division, a complete production studio is available. A three channel distribution system allows for playback of videotapes or distribution of locally originated live telecasts to most buildings on campus. Portable video units utilizing ½" video tape are also available on loan from the IMC.

**KUNC-FM**—The radio voice of the University of Northern Colorado. This educational radio station is licensed to the Associated Students and managed by the Instructional Materials Center. Emphasis is given to the broadcasting of programs dealing with student life, programs of general cultural and educational interest, and selected athletic events, plus quality music. KUNC broadcasts at 91.5 megahertz on the FM band and, with 3,000 watts of power, is Colorado's largest University-owned educational station. A quarterly program guide describes the program offerings and is available free of charge.

**Educational Planning Service**—Consultant services for school districts and educational institutions are provided through the Educational Planning Service, which is organized to utilize the experience and specialized knowledge of the entire University faculty. Services to schools and colleges include curriculum planning, administration and organization problems, planning educational facilities and planning for higher education. The Educational Planning Service is a self-supporting non-profit activity with the fees for services set on a cost basis.

**Bureau of Research**—Consultative services are provided to the university, individual faculty members, doctoral students, public schools and other educational organizations. Services include aid in preparing statistical designs, drafting of proposals for research funds and grants, dissemination of research reports, and aid in other phases of research and development. University and public school organizations are assisted in planning test programs, large scale research projects, innovative projects, and program evaluation.

**Computer and Data Processing Center**—The facilities are used to support academic programs at all levels. The center is available to all students, faculty, and staff for course work and/or research projects. In addition, the administrative data processing facet of the University is processed by the center. The Center Staff provide consulting service and assistance to all users.

**Office of Special Programs**—The Office of Special Programs serves as liaison between the university and all federal offices, as well as private foundations, which provide financial support to education programs. This office serves as an information clearing house in that it receives and disseminates information about special programs to interested faculty and students. The Dean reviews and processes all proposals for projects, receives all grants and loans, and administers them through the various project directors.

**Rocky Mountain Special Education Instructional Materials Center**—An integral part of the special education program at the University of Northern Colorado is the new Rocky Mountain Special Education Instructional Materials Center. This facility is one of 12 such centers in the United States which grew out of two applications submitted to the U.S. Office of Education in 1964. The Centers' chief function is to provide for acquisition and lending services of special education instructional materials to educators in a five-state area. The states within this area include Montana, Wyoming, Colorado, Utah and New Mexico.

Special education students at the Greeley campus will find the Center's storage of materials and data processing of annotated bibliographical listings most helpful in their studies and research. The Center is most anxious to put within the reach of students and educators alike an ever-expanding wealth of the latest in instructional materials.

# STUDENT PERSONNEL SERVICES

All out-of-class activities and services for students are administered by the Department of Student Personnel under the direction of the Dean of Students. These include pre-university counseling, application for admission, veterans counseling, matriculation and guidance examinations, registration for courses, record keeping, application for graduation, transcription of records, student health services, testing, counseling of a personal nature as well as academic guidance, remedial programs, living accommodations, recreational and social events, foreign student advisement, student employment, student loans and scholarships, and placement services.

**Counseling Center**—Counseling Services are available free of charge for all students of the University at The Counseling Center. A staff of well-qualified counseling psychologists provides assistance to students in dealing with a wide variety of problems.

In our complex society, students are beset by many situations which may require the thoughtful and understanding consideration of a counselor. Problems which are commonly discussed by students who come to The Counseling Center include:

- (1) *Choice of a major.* Although most students declare a major at the beginning of their University career, they may want to explore the possibility of changing majors.
- (2) *Academic success.* Many students have been benefited by discussing study habits and study skills.
- (3) *Personal problems.* Situations may arise in which one needs greater understanding of self and/or others. This may include dating problems, misunderstandings with roommates, marital discord or other such interpersonal problems.
- (4) *Interpretation of Edwards Personal Preference Schedule.* All undergraduate students take this test upon entrance to the University. Other tests of aptitude, vocational interest, and ability may be taken at The Counseling Center and their results interpreted.

All Counseling Center files are confidential.

Students in need of immediate assistance can usually see a counselor within a few minutes, but making an appointment assures the student of being seen at a particular time. Appointments can be made in person at The Counseling Center, Cranford 112, or by calling 351-2483 or 351-2497.

**Student Employment**—a large number of the students of the University have part-time employment on-campus to help defray their expenses. Other jobs are available in Greeley business places and homes. Each student employed on the University campus must maintain a satisfactory grade average. Inquiries concerning employment should be addressed to the Director of Financial Aids, University of Northern Colorado.

**Transcripts**—Students may obtain official transcripts of their University of Northern Colorado academic records on payment of \$1.00 per copy, payable in advance. Requests should be addressed to Records, University of Northern Colorado. Transcripts will not be available until two weeks after Summer Quarter ends.

**Education of War Service Personnel**—All ex-service personnel entering under the veterans' education and training program must present a Certificate of Eligibility valid for use at the University of Northern Colorado. This certificate must be presented to the Veterans Counselor in the Office of Financial Aids at the time of registration. Further information concerning Veterans' Affairs may be obtained from the Director of Financial Aid, University of Northern Colorado.

**Photographs**—A University photographer will take pictures of all new students on registration day. These pictures are for official files.

## Health Services

**The Student Health Center** offers examination, treatment, and limited dispensary facilities with registered nurses in attendance at all time during the college day and with physicians available at specific office hours and for emergencies.

**Off-Campus Services** are available to all full-time students through a contract with the Medical Staff of the Weld County General Hospital. A student may go to the office of any physician included in the contract or, if necessary, the physician may make a home call. No hospital benefits are included. To obtain service, the student must show his current I.D. card. A list of physicians, their telephone numbers, and the services provided are listed in a yellow pamphlet distributed at registration. Doctor's charges are paid at the end of each quarter within the limits provided in the contracts. Students who are on off-campus assignments, outside the boundaries of Weld County, are provided comparable services in the county of their assignment. Instructions for this service are explained in the pamphlet.

**A Student Group Hospitalization and Accident Insurance Policy** which provides medical and surgical care at a low cost per student per quarter for all full-time students is contracted for by the college. Dependent coverage is available on an optional basis the first quarter of enrollment each school year, full annual premium required.

**A Student Health Services Brochure** is provided which may be consulted for further details regarding all services described above.

**Copies of Medical Records** will be sent to another institution for a \$2.00 fee.

## Housing

In order that students may take full advantage of the active academic community, the University provides an excellent residence hall program. All single students are encouraged to live in these facilities as far as accommodations allow. The University provides 13 residence halls, and 188 furnished apartments for married students during the academic year. Summer Quarter usage of residence hall facilities provides for an additional 280 units for families.

**Residency Requirement in Brief**—Any undergraduate student enrolled in seven or more credits for a term, summer term included, at UNC is considered a student and is subject to the University housing regulations.

All first year freshmen students must live in University residence halls for at least one year with the following exceptions: (1) students 21 years of age or over; (2) students who have completed more than 45 credit hours; (3) students whose parents or guardians live in the Greeley vicinity; (4) married students; (5) veterans. A veteran must have served at least 18 months in active status in one of the United States military services.

**Residence Halls**—The primary aim of the residence hall program at UNC is to provide students with the most comfortable living situation possible in a large group. Most rooms are designed for two students. They are fully furnished including blankets, drapes and bed linens. Students may add to their room furnishings with small belongings from home. All residence halls have recreation rooms, lounges, study areas, cleaning equipment and personal laundry facilities and ironing boards. (Students provide their own personal linens and towels, and irons.)

Meals are prepared in each residence hall and served cafeteria style. Trained university food supervisors work closely in planning menus which give proper emphasis on nutrition, quality and quantity. At least two choices of main courses, salads and desserts are offered in every hall at noon and evening meals, but special diets or menus are not provided. Three meals a day are served daily except Sunday when evening supper is omitted. No refunds are made for meals missed. Additional servings are available at all meals on most items.

A professionally-trained staff is provided in each hall to assist the students, and an increasingly active student council is elected to give leadership to the activities and programs. The intramural athletic program, a scholastic-cultural program, and most of the social life on campus originates from the residence unit. The activities, programs, and counseling services are designed to supplement and enrich student education. Hall activities are financed by a small dues assessment on each resident. Each hall also has student representation on the coordinating body of Inter-Residence Halls Association.

**Residence Hall Regulations**—The University of Northern Colorado does not require women to maintain hours in their place of residence, except for first quarter freshman. All other women who are in good social and academic standing may arrange for after-hours access to their residences. All residence halls normally close by 11:00 p.m. on Sunday through Thursday and by 1:00 a.m. on Friday and Saturday nights.

Turner Hall is operated as an apartment type living unit.

Desirable study conditions are to be maintained by all students at all times in residence halls and other university-owned housing.

Students are involved to a large measure in determining the local regulations by which residents will live. The housing contract and student handbooks contain other applicable regulations.

**Contracts**—Each reservation and assignment in all residence halls is available only on a contract basis for the school year (Fall, Winter and Spring Quarters), or for the remaining portions of the school year for students entering after the Fall Quarter. Separate contracts for Summer Quarter housing only are available. Room reservations for the next school year are made at the end of spring term for students already on campus who wish to return to the residence halls.

In all halls except Turner Hall, both room and meals are included. Turner Hall residents and non-resident students may contract individually for meals at adjacent dining facilities on either a full or partial board plan. Separate meal contracts are for one quarter and may be renewed each quarter.

Generally, STUDENTS ARE NOT PERMITTED TO TERMINATE A CONTRACT UNLESS THEY WITHDRAW FROM THE UNIVERSITY OR BECOME MARRIED after entering the contractual agreement. The contract is binding throughout the full academic year, whether or not a student is continuously enrolled. In exceptional cases, where a student's circumstances have radically changed after entering the contract, he may petition the University for release. OBLIGATIONS TO THE TERMS AND CONDITIONS OF THE CONTRACT DO NOT TERMINATE UNTIL THE UNIVERSITY HAS OFFICIALLY APPROVED A PETITION FOR RELEASE FROM CONTRACT.

**Application for Housing**—Application blanks may be obtained from the Housing Office. The completed application for housing, with \$50.00 deposit, must be returned to the Director of Housing, the University of Northern Colorado, Greeley, Colorado, 80631. If you decide not to attend the University of Northern Colorado, and a written statement is received by the Housing Office, the policy in regard to refunds will be as follows: FALL QUARTER ENROLLMENT: Cancellations received prior to August 15, \$25.00 will be refunded. Cancellations received on or after August 15, NO REFUND OF DEPOSIT. WINTER QUARTER ENROLLMENT: Cancellations received prior to November 15, \$25.00 will be refunded. Cancellations received on or after November 15, NO REFUND OF DEPOSIT. SPRING QUARTER ENROLLMENT: Cancellations received prior to February 15, \$25.00 will be refunded. Cancellations received on or after February 15, NO REFUND OF DEPOSIT. SUMMER QUARTER ENROLLMENT: Cancellations received before May 15, \$25.00 will be refunded. Cancellations received on or after May 15, NO REFUND OF DEPOSIT. THERE ARE NO REFUNDS FOR APPLICATIONS MADE AND THEN CANCELLED AFTER AUGUST 15; NOVEMBER 15; FEBRUARY 15; and MAY 15 respectively. If a student living in a residence hall should withdraw from the University in any quarter, he forfeits his room deposit of \$50.00, is charged for the room rent for the balance of the quarter, and is allowed a refund only on the dining hall charges on a pro-rata basis.

If all provisions of the contract have been compiled with and no damage charges have been assessed, the \$50.00 deposit will be refunded at the end of the school year. If the resident elects to re-apply for a room in the residence halls for the following year, his deposit will not be refunded but will be transferred to the renewal application.

**Rates**—Rates are established on a room and board basis. These rates may vary slightly depending upon location and size of the room as well as upon any marked fluctuations in food costs. Such changes are authorized by the Board of Trustees. Notification of changes in rates is given at least 30 days in advance of any school quarter.

**Married Student Housing Facilities**—There are 90 temporary apartment units in the Jackson Field Housing Project for students with families. These furnished apartments are provided with heat, electricity and water.

There are an additional 98 permanent two-bedroom furnished apartments available for students and their immediate families. These apartments are located on college-owned property near the residence halls on the east campus between 17th and 18 Streets. Applications for rentals are made to the Director of Housing, University of Northern Colorado, Greeley, Colorado, 80631. A \$50.00 deposit must accompany an application for all married housing units.

**Off-Campus Housing**—The Director of Housing will assist students who are not required to live in residence halls to obtain housing in the city of Greeley. Board is available in the residence halls on a contract basis for students living off campus.

The Housing Office assists students who cannot find university housing by maintaining current lists of private rooms, apartments and houses that are available in the Greeley area. Students seeking off-campus residence are advised to arrive on campus early.

Only those persons who agree to the Colorado Fair Housing Act of 1959 are eligible to be listed with the University of Northern Colorado. The University of Northern Colorado does not inspect nor approve off-campus housing.

## Loan Funds

Loan funds available to students are administered by a Committee on Loans which determines the policies and regulations under which loans may be made to students and approves all loans. All applications for loan funds are to be addressed to the Director of Financial Aid, the University of Northern Colorado.

The University of Northern Colorado participates in the American College Testing Program for the determination of financial need. All students seeking financial assistance are required to submit a copy of the Family Financial Statement (FFS) to the Iowa office of ACT by February 15, designating the University of Northern Colorado as one of the recipients. The FFS forms may be obtained by contacting the local High School Counselor or the Director of Financial Aid at the University of Northern Colorado.

**National Defense Education Act Student Loan Program**—The University of Northern Colorado has been approved as a participant in the National Defense Student Loan Program authorized by the Federal Government. Loans are available to high school seniors and college students in need of financial assistance to be able to attend college. Repayment provisions are especially favorable to graduates in teacher education who enter the teaching profession. Address inquiries to the Director of Financial Aid, University of Northern Colorado.

**Nursing Student Loan Program**—The University of Northern Colorado has been approved as a participant in the Nursing Student Loan Program authorized by the Bureau of Health Professions. Loans are available to high school seniors and college students in need of financial assistance and are or will be enrolled as a full-time student in the Nursing Program. All inquiries concerning this program should be made to the Director of Financial Aid, University of Northern Colorado.

**College Loan Fund**—Sixteen college loan funds with aggregate resources of more than \$131,000 are available to help worthy students. Applications for loans may be made through the Director of Financial Aid, University of Northern Colorado.

All loans are completed on personal, unsecured notes bearing a low rate of interest. Over-all living costs, job prospects, potential earning power, and the credit experience of the student are carefully considered by the committee. More than 6,000 students have utilized the loan funds since 1911.

The funds are William Porter Herrick Memorial, Sarah Platt Decker Memorial, Rotary, WTK, Fortnightly Music Club, Kendel Music, Altrusa, Shyn, Sigma Upsilon Graduate, Panhellenic, High School Loan Fund, Merriman Memorial Fund, Andrew P. Bengston and Gertrude Bengston Memorial, Phi Delta Kappa, Associated Students, and Alfred L. and Carena L. Jex Fund.

**Federal Low-Interest Bank Loans**—The University of Northern Colorado also participates in the Federal Low-Interest Bank Loan Program. The maximum is \$1,500.00 for undergraduate and graduate students. In the State of Colorado, the program is administered by the Regional Office of Education in Denver for the State and Federal Government. Outside the State of Colorado, students should contact their State Department of Education to find out whether they are cooperating with United Student Aid Fund, Inc. or have their own administering agency. In the latter case, it will be necessary to obtain an application form used by the local administering unit designated by their state of residence. Additional information is available at the Office of the Director of Financial Aid, University of Northern Colorado.

## Scholarships and Awards

Several scholarships and awards have been established for students of the University. To keep scholarships in force, the recipient must maintain a minimum cumulative grade average as follows: freshmen, 2.5; sophomores, juniors and seniors, 2.75. Unless otherwise noted, applications for scholarships should be made to the Director of Financial Aid, the University of Northern Colorado.

**University of Northern Colorado Awards**—The University of Northern Colorado awards a limited number of scholarships to graduates of Colorado high schools and junior colleges who deserve such recognition and are especially interested in becoming teachers. These scholarships are awarded on the basis of academic achievement, but the amount of the award is based on need as determined from the Family Financial Statement of the American College Testing Program and can be used only as a credit toward the cost of tuition.

To keep these scholarships in force, the recipient must maintain a grade average meeting the standards established by the Scholarship Committee and must uphold all requirements of good citizenship.

Applications for these awards must be received by the Director of Financial Aid, University of Northern Colorado, not later than March 15.

**Air Force ROTC College Scholarship Program**—The Air Force ROTC offers a number of scholarships to selected students. These scholarships are available to well-qualified students in the four year program only. Benefits include full tuition, laboratory expenses, incidental fees, and an allowance for books. In addition, the scholarship provides \$50 each month in non-taxable subsistence allowance.

Applicants are selected on the basis of qualifying test scores, quality of their academic work, extracurricular activities, a medical evaluation, and a rating by a board of Air Force officers.

Air Force ROTC is now awarding scholarships at the freshman, sophomore, junior and senior levels. Once awarded a scholarship, a cadet continues on scholarship status until graduation and commissioning unless he falls below qualifying standards (i.e., a freshman awarded a grant would normally remain on grant status for the full four years of his undergraduate college work).

A scholarship recipient incurs no additional active duty obligation.

**The Pearl Beaver Gleason Scholarship Fund**—This fund was established by the wills of Mr. and Mrs. Halton H. Friend in memory of Mrs. Friend's mother, to assist each year a deserving and distinguished young undergraduate woman in teacher education. The scholarship may provide a stipend up to \$1,000 to be used for tuition, fees, books and materials, room and board, and/or personal expenses while attending the University of Northern Colorado. Applications must be directed to the Director of Financial Aid, University of Northern Colorado, prior to March 15 for the following academic year. This scholarship is awarded to a Colorado resident whose father is deceased.



**The Eleanor S. and Alma J. Dickerson Scholarship**—This fund was established by Dr. Oliver M. Dickerson, Professor Emeritus of History and Political Science and former Chairman of the Division of Social Studies at the University of Northern Colorado, to assist worthy students during their senior year in the field of social sciences. Two scholarships will be awarded each year and may provide a stipend of \$500 each. Qualified recipients of the scholarships will be chosen by the Scholarship Committee on the basis of scholastic achievement, personality and promise of future growth.

**The Jule Statton Doubenmier Scholarship Fund**—This fund was established by his many friends as a memorial to J. S. "Dobby" Doubenmier, former professor of physical education at the University of Northern Colorado and the director of intramural athletics. The Scholarship Committee of the University selects the man or woman to receive the scholarship for each school year. The scholarship is normally awarded to an upperclassman who have been enrolled in the University for at least one year.

**The Agnes Wood Garnsey Memorial Scholarship**—The American Association of University Women, Greeley Branch, has established a memorial to Agnes Wood Garnsey in the form of an annual scholarship. The scholarship in the amount of \$150 a year is granted to a worthy junior woman for use during her senior year. The recipient is chosen by the University of Northern Colorado Scholarship Committee on the basis of scholarship, leadership, and service to the University.

**The Marvin E. George Memorial Fund**—This Memorial Fund has been established by the Greeley Elks Chorus and friends of Marvin E. George, former professor of music at the University of Northern Colorado. This fund provides financial aid to a meritorious upperclassman enrolled as a music education major at the University of Northern Colorado. The money can be used for tuition, fees, books, materials, room and board, and/or personal expenses while attending the University of Northern Colorado. Applications should be made to the Dean, School of Music, the University of Northern Colorado.

**The Lyman B. Graybeal Student Teaching Scholarship Fund**—This fund has been established by Lyman B. Graybeal, the University of Northern Colorado Professor Emeritus of Education, former head of Secondary Education and Director of Student Teaching, and the late Grace Graybeal, to assist student teachers. Officials of the University will select one or more student teachers each year.

**The Kenneth J. Hansen Memorial Scholarship**—A fund has been established by his friends and family in memory of Kenneth J. Hansen, former professor and head of the Department of Business Education at the University of Northern Colorado. The Scholarship Committee selects annually a deserving upperclassman who has been enrolled in the college for at least a year. The award is to be used at the University of Northern Colorado and preference is given to a student majoring in business education.

**The House of Neighborly Service Scholarship**—The House of Neighborly Service Fund has been established as a trust fund, the income of which is to be used to assist a Spanish-American student at the University of Northern Colorado who is a resident of Weld County. The scholarship will be granted on an annual basis as income from the trust fund is available.

**Walter D. Humphrey Memorial Scholarship**—Friends of the late Walter D. Humphrey, a graduate of the University of Northern Colorado and for many years a teacher and principal in the Denver Public Schools, have established a scholarship in his honor. Income from funds will be used for the scholarship for a student interested in entering the teaching profession. Preference will be given to students who are Denver residents.

**Martin Luther King Memorial Scholarship**—This scholarship was established as a memorial to Dr. Martin Luthern King by the University of Northern Colorado. The scholarship will be awarded annually to perpetuate the ideals and goals of the Negro leader. The scholarship will go to any high school graduate on the basis of ability and leadership potential and an interest in furthering human relations.

**The Helen MacCracken Scholarship**—A fund has been established by Mrs. Helen MacCracken, a former professor of science at the University of Northern Colorado, to provide financial aid to a meritorious student enrolled at the University of Northern Colorado studying elementary science education. Inquiries should be made of the Associate Dean, Arts and Sciences, the University of Northern Colorado.

**The Della B. McDonald Memorial Scholarship**—This fund was established by the will of Della B. McDonald, a long time resident of the city of Greeley. It provides that the income from the Trust Fund be used as scholarships to assist deserving students attending the University of Northern Colorado.

**The Miriam Mitchell Memorial Scholarship Fund**—The Miriam Mitchell Memorial Scholarship Fund was established by the will of Miriam Mitchell to assist deserving young women who are resident citizens of the State of Colorado to defray the expenses of attending the University of Northern Colorado. A number of scholarships are awarded annually from this fund, and a recipient may qualify for each year she is attending college as a full-time undergraduate student. Normally, a scholarship is not awarded before the sophomore year.

**The Carl G. Melander Vocal Scholarship Award**—A fund was established as a memorial to Carl G. Melander, former professor of music at the University of Northern Colorado. The fund provides for private instruction in singing for deserving and talented young singers. Recipients are chosen by the voice faculty of the School of Music, and the instruction is given by a member of the School of Music faculty.

**The Emily C. Newman Scholarship Fund**—This fund was established by the will of Emily C. Newman, pioneer homesteader and teacher in northern Colorado. It provides financial assistance to well-qualified and deserving freshmen applicants from Weld and Morgan counties, Colorado.

**Nursing Scholarship Program**—The University of Northern Colorado has been approved as a participant in the Nursing Scholarship Program. These scholarships are awarded on the basis of financial need and a recipient may receive a maximum of \$1,500 for a school year.

**Edward M. and Agnes S. Nusbaum Memorial Scholarship**—This fund was established by Dr. Jesse L. Nusbaum in the name of his parents to serve the institution's need in connection with students who especially merit some financial assistance for their educational needs.

**The Roof Memorial Scholarship**—The Roof Memorial Scholarship assists deserving men and women students to defray expenses of attending the University of Northern Colorado. A number of scholarships are awarded annually from the income of this fund. The recipients must be full-time undergraduate students. Normally awards are not made before the sophomore year.

**The Edith M. Selberg Science Scholarship**—A fund has been instituted by Lambda Sigma Tau, honorary science fraternity, in honor of Professor Emeritus Edith M. Selberg, to provide financial aid to a meritorious member of Lambda Sigma Tau. The scholarship is tenable for one year.

**The Soroptomist Club of Greeley Scholarship**—An annual scholarship of \$150 has been established by the Soroptomist Club of Greeley to be awarded to a young woman enrolled at the University of Northern Colorado in a teacher certification program with a major in special education. The scholarship is good for one year and will normally be granted to a junior or senior student.

**The John S. Welling Scholarship**—A fund was established by his friends and family in memory of John S. Welling, former professor of social sciences at the University of Northern Colorado. The Scholarship Committee annually selects a deserving sophomore student who is majoring in social science. The award is to be used for college expenses at the University of Northern Colorado.

# STUDENT ACTIVITIES

All campus organizations must apply each year through the Student Congress to the Department of Student Personnel for charter approval. When organizations are recognized by the Student Congress and the Department of Student Personnel, facilities of the campus set aside for such purposes may be used by the groups. The Activities Manager in the University Center is in charge of student activities.

**University Center**—All student activities are housed in the University Center. Located on 19th Street between 10th and 11th Avenues, the Center is designed to be the hub of campus community life. Most University Center facilities are open to all faculty, staff, students and visitors on a regular weekly schedule. The Center staff is coordinated by a Director, assisted by the Activities Manager, Food Services Manager, Book Store Manager, Recreation Supervisor and the Building Services Supervisor.

**Eligibility for Student Activities and Athletics**—Students who do not maintain acceptable grade averages will not be permitted to participate in varsity athletics, dramatics, debate, and other extracurricular activities of the university, nor are they eligible to be employed on the campus.

**Student Government**—Student government and activities on the campus are administered by the members of the Associated Students under the sponsorship of the Department of Student Personnel. The Associated Students elect in the Spring Quarter a student governing body, the Student Congress. The Student Congress serves in the succeeding school year.

Students registered for seven or more quarter hours of credit on the campus are entitled to all regular college services and privileges accorded to this group.

Membership in the Associated Students permits students to attend most cultural, social, dramatic and athletic events without additional charge. Three student publications, the *Mirror*, a tri-weekly newspaper, the *Cache La Poudre* annual yearbook, and *Nova*, the literary magazine, are provided without charge to members. Facilities of the University Center are also available to members.

**Associated Women Students**—All women students are members of the Associated Women Students. This organization supports the many projects which further the growth and betterment of women's activities at the university. The organization is very active in assuring a friendly welcome to each new woman student.

**Athletics**—The intercollegiate athletic activities of the university are governed by a Board of Athletic Control on which both students and faculty are represented. Intercollegiate athletic programs are scheduled in football, basketball, baseball, field and track, wrestling, swimming, gymnastics, tennis, and golf. Gunter Hall, Jackson Field, and the West Campus fields afford the facilities for the major indoor and outdoor sports.

University of Northern Colorado is a member of the Rocky Mountain Athletic Conference, and is bound by the rules of that body in governing eligibility of athletics and the conduct of students at or in connection with athletic events.

The intramural programs for men and women are important offerings of the School of Health, Physical Education and Recreation. These programs are open to all students, with a wide variety of team, individual, and dual sports on a competitive yet informal and voluntary basis. It is hoped that all students will take advantage of the opportunity to actively participate in these programs. In addition, a co-recreational program is offered in several activities, and physical education indoor and outdoor facilities are made available for weekend recreational use by students.

The competitive athletic program for women offers many values beyond those of the intramural program. Competition is afforded with women from other colleges in basketball, volleyball, field hockey, softball, tennis, badminton, gymnastics, swimming, and track and field.

**Forensics**—Students have an opportunity to participate in a comprehensive program of intercollegiate debate and public discussion. The university is a member of the Colorado-Wyoming Intercollegiate Forensic League and has the Colorado Beta chapter of Pi Kappa Delta, national forensic society. Under faculty supervision, students participate in regional and national programs.

**Publications**—Students interested in journalism have an opportunity for expression in three campus publications owned and published by the students. The *Mirror* is a tri-weekly newspaper, the *Cache La Poudre* is the student annual, and the *Nova* is a literary magazine.

**Little Theatre of the Rockies**—The Little Theatre of the Rockies presents several outstanding plays during the school year. Students may try out for parts in the plays or work as stage carpenters, electricians, property managers, etc.

**Clubs and Honorary Fraternities**—Each School or college of the university sponsors honorary fraternities and clubs of various types which are of special interest to students majoring or minoring in the School or college. These organizations provide an opportunity for students and faculty members to become better acquainted.

Qualified students are eligible to become members of numerous honorary and service fraternities. Organizations open to both men and women include:

- Alpha Phi Gamma, national journalism fraternity;
- Alpha Psi Omega, national drama fraternity;
- \*Delta Phi Delta, national art fraternity;
- Gamma Theta Upsilon, national geography honorary;
- Lambda Sigma Tau, national science fraternity;
- Orchesis, modern dance organization;
- \*Phi Sigma Iota, national foreign language fraternity;
- \*Phi Alpha Theta, national history fraternity;
- Phi Mu Alpha Sinfonia, national music fraternity;
- Pi Kappa Delta, national forensic fraternity;
- \*Pi Omega Pi, national business education fraternity;
- Kappa Delta Pi, national education fraternity.

The following honorary and service fraternities are for men:

- Alpha Phi Omega, national service fraternity;
- Arnold Air Society, honorary AFROTC society;
- Blue Key, national service fraternity;
- Kappa Kappa Psi, national band fraternity;
- Phi Delta Kappa, national professional education fraternity;
- Intercollegiate Knights, national service organization.

Women's honorary and service organizations include:

- Angel Flight, National Service Auxiliary of Arnold Air Society;
- Chandelle, junior women's honorary;
- Delta Omicron, national music fraternity;
- Gold Key, senior women's honor society;
- Pi Lambda Theta, national education fraternity;
- Spur, national service fraternity;
- Tau Beta Sigma, national band fraternity;
- Theta Pi Theta, Home Economics Honorary.

\*Members of the Assoc. of College Honor Societies.

**Social Organizations**—At the University of Northern Colorado there are eight national social sororities and seven national social fraternities.

#### Sororities

- Alpha Delta Pi
- Alpha Gamma Delta
- Alpha Xi Delta
- Alpha Phi
- Alpha Sigma Alpha
- Delta Zeta
- Sigma Kappa
- Sigma Sigma Sigma

#### Fraternities

- Acacia
- Alpha Kappa Lambda
- Sigma Alpha Epsilon
- Sigma Chi
- Sigma Phi Epsilon
- Tau Kappa Epsilon
- Theta Xi

No student is eligible for pledging until he or she has been enrolled at the University of Northern Colorado for one quarter, except for male transfer students, who are eligible for pledging the first quarter of enrollment if they are not admitted on a probationary status.

Panhellenic Council, composed of two representatives from each sorority, and the Inter-Fraternity Council, composed of three representatives from each fraternity, function as coordinating agencies for their respective groups, governing pledging and initiation and maintaining a high plane of inter-sorority and inter-fraternity relations on the campus. The councils sponsor several awards to the member organizations including awards for high scholastic achievement.

**Religious Program**—The university emphasizes the values of a religious life and encourages students to attend churches of their choice. Greeley is noted as a city of churches. Most denominations are represented by an active church. There are several student religious groups on the campus.

**Music Organizations**—The music program is an important part of university life. Qualified students are eligible to participate in the choirs, the university bands, the university orchestra, and the Greeley Philharmonic Orchestra. During the academic year, the School of Music presents special programs.

# FINANCIAL INFORMATION

## Quarterly Tuition and Fees

Required Tuition and Student Services Fees are incurred and collected during each quarterly registration period. Charges are assessed for the total of partial or full programs whether arranged for credit or no credit.

### On-Campus Instruction

#### FALL, WINTER, OR SPRING QUARTERS

	Colorado Resident	Non-Resident
Six Credit Hours or less:		
Per Credit Hour of Enrollment.....	\$ 12.00	\$ 12.00
More than six credit hours:		
Tuition .....	85.00	235.00
Student Service Fees .....	45.00	45.00
Total .....	\$130.00	\$280.00

#### SUMMER QUARTER

	Colorado Resident	Non-Resident
Six Credit Hours or less:		
Per Credit Hour of Enrollment .....	\$ 12.00	\$ 12.00
More than six credit hours:		
Tuition .....	85.00	235.00
Student Services Fees .....	30.00	30.00
Total .....	\$115.00	\$265.00

### Off-Campus Instruction\* (Extension—Continuing Education Services)

	Tuition Per Credit Hour	
Group Instruction .....	\$ 12.00	(Multiply credit hour unit by number of credit hours of enrollment.)
Correspondence Study .....	12.00	
Research Study Credit*		
Doctoral Programs .....	12.00	

\*Residence status is not determined for or applied to these unit programs.

Payment of Tuition and Student Services Fees entitles the registrant to instruction and a number of campus services.

On campus in the academic year a student enrolled for six or fewer credit hours is entitled to the services of the Student Health Center, library privileges, normal course materials, the student newspaper and the use of University Center facilities.

On campus or on student teaching assignment in the academic year, a student enrolled for seven or more credit hours is entitled to obtain every regular university service accorded to full-time registrants. In addition to the services above listed, the student is issued an identification card or validation stamp which provides for admission to campus athletic events, performing arts plays and productions, selected lectures and other public events specified for admission under the I.D. card. The university annual, *Cache la Poudre*, will be issued also each spring quarter to a student in residence who has enrolled for seven or more credit hours in each of the three quarters of the academic year. Full-time students are also covered by a student health services program. Details of this coverage may be obtained from the Student Health Center.

During the Summer Quarter, the Student Services Fees do not provide for contractual medical treatment. They are committed for use in an expanded and varied program of campus social, recreational and instructional activities as well as carrying the cost of the campus health offices.

The right of a student to classification as a resident for tuition payment purposes in a state institution of higher education is determined under state policy—Colorado Revised Statutes 1966 and Session Laws of Colorado 1967 as amended. Administrative procedures which fix status before or at the time of registration have been approved by the Trustees of the State Colleges in Colorado. If, following a registration and payment of tuition, the status conferred on a student is questioned for revision, appeal may be made on a specific form and the case will be reviewed by the University Committee on Residence Status. The determination by the committee following the review is final. All matters concerning residency status rulings shall be filed with the Office of the Registrar, where referrals will appropriately be made to the University Committee on Residence Status.

In planning a full program of courses, the typical single student on campus should be prepared to meet costs of approximately the following amounts:

	<b>Resident of Colorado</b>	<b>Status Non-Resident of Colorado</b>
<b>FALL, WINTER, AND SPRING QUARTERS</b>		
Tuition and Student Services Fees* .....	\$ 390.00	\$ 840.00
Books and Supplies (estimated) .....	240.00	240.00
Board and Room (average) .....	860.00	860.00
**Personal Expenses .....	350.00	350.00
	<hr/>	<hr/>
Total Expenses Academic Year of Three Quarters .....	\$1,840.00	\$2,290.00
<b>SUMMER QUARTER, EXCLUSIVELY</b>		
Tuition and Student Services Fees* .....	\$ 115.00	\$ 265.00
Books and Supplies .....	80.00	80.00
Board and Room .....	290.00	290.00
**Personal Expenses .....	115.00	125.00
	<hr/>	<hr/>
Total, Full Quarter .....	\$ 600.00	\$ 760.00

### Incidental Extra Fees Applicable Under Specified Conditions

Certified Statement of Issuance of Teaching Certificate and/or diploma .....	\$ 1.00
Change of Program: Assessed for each add-drop slip processed .....	2.00
Extension of Credit: Assessed if and when a deferred payment program is concluded to be effective within a quarter .....	3.00

Assessed charges are due and payable at the time shown on the billing which is mailed to the student each quarter. Deferments are arranged only for sufficient cause and only for payments by installments within the quarter. Any action which has the effect of postponing a cash collection beyond the date on which a charge is due will automatically invoke the applicable extension of credit charge. No registration is permitted without a down payment of at least one-third of total charges. No deferment is issued for a limited course program or for a campus residence of one month or less.

\*Subject to periodic increases.

\*\*Amounts given for personal expenses are the estimated normal expenses incurred for clothing, sundries, entertainment, etc. Travel, unusual expenses of a wardrobe or auto maintenance should be added. Family expenses follow the regular family budget elsewhere maintained except for quoted university expenses. Graduate fees, music fees and certain incidental fees below must also be added to the above estimates where applicable.

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<b>Late Registration Fee:</b> Assessed for registration after scheduled registration time .....	5.00
Assessed for each added day of late registration .....	2.00
<b>Late Fee Payment:</b> Assessed for a fee payment completed on the first day following the days scheduled for regular fee payment .....	5.00
Assessed for each added day of late fee payment .....	2.00
<b>Late Application for Graduation</b> .....	10.00
<b>Meal ticket replacement</b> .....	5.00
<b>Official Transcript of University Records, per copy</b> .....	1.00
<b>Optional Student Health Insurance Coverage Summer Quarter Only</b> .....	14.50
(Full-time students for 1970-71 academic year have prepaid coverage for the Summer Quarter)	
<b>Proficiency Examination</b> .....	2.00
<b>Special Billing:</b> Assessed when an itemized invoice of an account is requested by the student or a supporting agency .....	1.00
<b>Special Program Fees</b> such as bowling, skiing, field trips, golf, etc. ....	At Cost
<b>Special tests by the Counseling Service</b> .....	5.00
<b>Student Identification Card Replacement</b> .....	5.00
<b>Transcript Evaluation Fee</b> for applications for the baccalaureate and masters' degrees and graduate student certification program .....	10.00

**Fees Added for Graduate Study**

**Doctoral Research Studies\*** (assessed to each doctoral applicant in successive quarters of enrollment up to six quarters) for a total (minimum-maximum) of \$300.00. This fee is assessed as follows:

First quarter .....	\$50.00
Second quarter .....	50.00
Third quarter .....	50.00
Fourth quarter .....	50.00
Fifth quarter .....	50.00
Sixth quarter .....	50.00
<b>Doctoral Research Abstract Publication</b> (assessed at the time when the study is accepted) .....	40.00
<b>Specialist in Education Research Studies*</b> (assessed to each applicant in successive quarters of enrollment up to three quarters) for a total (minimum-maximum) of \$75.00. This fee is assessed as follows:	
First quarter .....	25.00
Second quarter .....	25.00
Third quarter .....	25.00
<b>Binding and mailing Master's Thesis, Practicum or Doctoral Research Study</b> (4 copies required) .....	16.00
<b>Comprehensive Examination Retesting Fee</b> .....	10.00
<b>Foreign Language Examination</b> required for doctoral program .....	10.00
<b>Graduate Record Examinations: Advanced Test in Social Science, Natural Science, and Humanities</b> (for specialist and doctoral students).....	5.00

\*Enrollees in the doctoral or the specialist program pay all tuition and fees applicable to each regularly registered student in each quarter of attendance plus the applicable fees listed above. Any unclassified graduate student who possesses the Master of Arts degree and who subsequent to enrollment elects to enter the Specialist in Education degree program or a doctoral degree program will be charged Research Studies fees commensurate with the amount of unclassified credit earned.

**Fees for Music Instruction**

<b>Individual music lessons, per quarter</b> .....	\$15.00
<b>Non-music majors</b> .....	25.00
<b>Persons not enrolled in the university or affiliated schools</b> .....	25.00



## Placement Center Charges

(The placement year begins July 1 and ends June 30)

Initial enrollment .....	\$10.00
Re-enrollment (Teacher Education) .....	10.00
Re-enrollment (Liberal Arts or Industrial Placement) .....	5.00
First and subsequent copies of teacher placement credentials mailed when applicant has not re-enrolled, per copy .....	2.00
First and subsequent copies of industrial placement credentials mailed when applicant has not re-enrolled, per copy .....	1.00
Telephone calls, telegrams, postage for Air Mail and Special Delivery are billed at actual cost.	

## Policy on Reassessments, Refunds, Retentions on Withdrawal

By action of the trustees of The University of Northern Colorado, adjustments in tuition or fees are permitted after registration only under specified conditions. In most circumstances when allowed, changes in a course of study resulting in an increased or decreased registration for credit hours will not affect the charges initially assessed. When changes in a course of study within the first week result in registration of less than seven hours, applicable refund of tuition and fees will be made.

To be eligible for a refund of any kind upon withdrawal from school the student must present a formal, approved Notice of Withdrawal or an Add-Drop Slip at the Accounting Office. The Records Office and Housing Office will provide information on the application procedures required. Refunds are not prorated; rather, they are made in terms of the below policy statements and the Residence Halls Lease.

Refunds allowed against paid Tuition and Student Services Fees upon withdrawal are provided as follow:

- On programs of three credit hours or less, none.
- On programs of four through six credit hours, one-half if withdrawal occurs in the first two weeks following registration; thereafter none.
- On programs of seven or more credit hours, three-fourths if withdrawal is before the close of the second week, one-half if before the close of the third week, one-fourth if before the close of the fourth week, and thereafter none.

Refunds allowed against assessed quarterly board and room charges and annual apartment rentals are permitted under the terms of the Residence Halls Lease. The Housing Office, when consulted at withdrawal, will provide information on the computations applied. Deposit refunds are calculated separately and apart from board and room charges and are remitted or credited only after all requirements of a withdrawal in good standing are met.

Incidental fees are not refunded for any cause at any time.

## Residence Halls Charges

All rates quoted shall apply to the Summer and Fall Quarter of 1971 and the Winter and Spring Quarters of 1972, but are subject to a continuous provision of the Trustees that the university reserves the right to change Tuition, Fees and other charges on notice not later than thirty days prior to the beginning of any school quarter. All prices quoted include applicable taxes.

All Residence Halls	Quarterly	
	Minimum	Maximum
Single student occupancy, two persons per room.....	\$283.00	\$298.00
Occupancy, single person per room (available in summer quarter only) .....	333.00	333.00

## 24 / FINANCIAL INFORMATION

### Board Service Only

Is available at the Residence Halls on a contract basis for students living off-campus.

### Turner Hall, (apartment-style accommodations)

#### Room only

Per person per quarter ..... \$125.00

#### Board only (including tax)

Breakfast only ..... \$ 47.00

Lunch only ..... 78.00

Dinner only ..... 94.00

### Family facilities (limited to the student and three dependents; not available for single students) summer

only per family, 10 weeks ..... \$235.00      \$250.00

### Monthly

Minimum      Maximum

### Apartments, Student-Family Development, East Campus

(includes furnishings and utilities) ..... \$105.00      \$105.00

Apartments, Jackson Village ..... 42.00      50.00

All rentals are restricted to student families.

### Partial Session—Summer Session Only

#### Board and Room Men or Women's Residences

Per Week

Occupancy, single person per room ..... \$35.00

Occupancy, two persons to a room ..... 31.00

Occupancy, where permitted for an approved partial session of eight weeks or less, shall be at the above per week rates. Sessions of nine or more weeks shall be assessed at the full session (10 weeks) service rate quoted above.

Address the Housing Office when applying for any type of campus housing. A deposit of \$50.00 must be advanced to confirm a reservation. If it is decided not to attend The University of Northern Colorado, and a written statement is received by the Housing Office to that effect, the policy in regard to refunds will be as follows:

### Refund

#### Cancellation received prior to:

August 15 (for Fall Quarter) ..... \$25.00

November 15 (for Winter Quarter) ..... 25.00

February 15 (for Spring Quarter) ..... 25.00

May 15 (for Summer Quarter) ..... 25.00

Cancellations received after these dates in each quarter or no notice of attendance at the university result in a full forfeiture of the deposit. A housing deposit for a student who is in assigned university housing will be held during all consecutive reservation periods and the full period of residence. Penalties assessed for damages to property, when incurred, will be deducted from the housing deposit and any remaining balance returned by mail in approximately sixty days after campus residence terminates.

A residence halls lease (housing contract) cannot be terminated unless the student withdraws from the university or marries. When a student withdraws and vacates a university residence prior to the end of a school quarter, he forfeits the deposit and receives no credit on the rental for a room or apartment. Refunds on charges for board are provided by calculating all days remaining in the quarter and the account is then refunded from the balance assessed.

## Major Facilities Provided in University Housing

A resident of a university residence hall or fraternity-sorority residence is expected to provide for his own towels and personal linens. The university furnishes and launders university-owned sheets, pillowcases, mattress pads, blankets, certain couch covers and drapes. Residence halls contain all furniture required; the student is not encouraged to provide supplements to the pieces available. All residence hall rooms contain Centrex-connected telephones at no added cost.

Board service is provided cafeteria style and scheduled for twenty meals per week. Board and room during the academic year for single students is provided and priced with no deviations from the standard plan authorized.

A resident of a student-family apartment is offered a skeleton set of furnishings in the Temporary Housing Project (Pre-Fabs). Permanent apartments contain all furniture required. All utilities are provided for apartments except telephones. During Summer Quarters, married student and student-family apartments are available in designated, converted residence halls with all facilities adequate for housekeeping. Consult the Housing Office for added information when desired.

# ACADEMIC INFORMATION

**Undergraduate Program**—Two degree programs, the Bachelor of Arts and the Bachelor of Science, are offered. Undergraduate degree programs are organized under three basic areas: Arts and Sciences, Teaching Professions (Teacher Education), and Applied and Professional Studies. The Teaching Professions program prepares for teacher certification at the elementary or secondary levels in Colorado and other states.

**Second Baccalaureate Degree**—To qualify for a second baccalaureate degree, students must complete at least three additional quarters of academic work, with a minimum of 45 quarter hours taken after the first degree has been completed. Students must maintain an average of "C" (2.0) or better in the courses taken for the second baccalaureate in order to receive the degree. Students with questions concerning a second baccalaureate degree should confer with the Registrar, Director of Admissions, and/or the Chairman of the Department in which the degree will be taken.

**Undergraduate Course Load**—The normal undergraduate course load for a quarter is 15 hours of academic credit. This does not include the physical education activity courses required in the freshman and sophomore years. Upon approval a student may carry an overload which consists of more than 17 academic credit hours, if the student has a college scholastic average of "B" or better. Extra hours for other students who have good records, but below "B", will be considered individually. All requests for permission to carry more than the normal undergraduate course load must have the approval of the Assistant Dean of Students, or the Dean of Student Affairs. Graduation requirements and the academic standing of the student will be considered by the Assistant Dean of Students in making the decision.

Students are limited to a 18 hour maximum load when they are enrolled for 18 hours of student teaching.

**Graduate Study**—To secure a Graduate Catalog, write to the  
Dean of the Graduate School  
The University of Northern Colorado  
Greeley, Colorado 80631

**Effective Dates of this Catalog**—The effective dates of this catalog are from June 1, 1971, to May 31, 1972. Students enrolling for the first time at the university during these effective dates will follow the regulations and requirements in this catalog until their graduation, if such graduation is within six years. Any request to graduate under a different catalog other than the catalog in effect at the time a student enrolls must be approved by the Registrar.

## **Academic Standing**

The scholastic standing of all students is computed on the basis of courses attempted at this university only. For determining scholarship rank in the awarding of honors, the honor point system is used. The honor point average is a quotient obtained by dividing the total number of honor points earned by the total number of hours attempted (that is, those for which grades of "A," "B," "C," "D," or "F" are recorded). All grades earned by a student at the University of Northern Colorado become a permanent part of the student's academic record and are computed in the cumulative average. Courses in which a passing grade of "D" or above has been earned at the University of Northern Colorado may not be retaken for credit. If a course which was previously failed at the University of Northern Colorado is retaken, both the "F" and the second grade remain on the record and are computed in the cumulative average.

An undergraduate either currently or formerly enrolled is either:

1. In good standing
2. On probation
3. Suspended

"Good standing" signifies that the student is eligible to continue, return, or transfer elsewhere. It covers good standing in respect to both grades and conduct.

"Probation" is an intermediate status between good standing and suspension or dismissal and refers to any student whose college achievement does not meet scholastic conditions as set forth on the following pages.

Academic probation is meant to be a warning to the student and is not intended as a penalty.

"Suspended" represents an involuntary separation of the student from the university. It implies and may state a time limit when a student's return is acceptable.

**Regulations Governing Academic Probation and Dismissal**—A student will be placed on academic probation if he fails to attain the designated quarter or cumulative average within the following classifications:

For students with fewer than 90 quarter hours of credit (including transfer credit):

Freshmen students are required to maintain a cumulative grade point average of 1.5 during the freshman year and attain a 1.75 cumulative grade point average by the close of the freshman year. A freshman student achieving less than 1.75 in any quarter will be placed on academic probation for the succeeding quarter. Any freshman student attaining less than 1.5 in any quarter or less than 1.75 at the end of the freshman year may be suspended.

Sophomore students are required to maintain a minimum cumulative grade point average of 1.75 during the sophomore year and must attain a cumulative grade point of 2.0 by the close of their sophomore year. A sophomore achieving less than 2.0 in any quarter will be placed on academic probation for the succeeding quarter. Any sophomore attaining less than 1.75 in any quarter or less than 2.0 at the close of the sophomore year may be suspended.

For students with more than 90 quarter hours of credit (including transfer credit):

A junior or senior student will be placed on academic probation whenever his cumulative or quarterly average is less than 2.0 based on the courses he has taken at this university. Any junior or senior student attaining less than 1.75 in a quarter or less than 2.0 cumulative during the junior and senior year may be suspended.

*Academic Suspension.* Academic suspension may result in the failure to remove probationary status or in the failure to attain or maintain the minimum quarterly or cumulative grade average as listed in the preceding paragraphs.

A student placed on academic suspension may not enroll at the University of Northern Colorado without approval of the Committee on Scholastic Standing. He may not seek such approval until after the lapse of one academic quarter.

**Readmission of Students Who Have Been Dismissed for Academic Reasons**—A student who has been required to withdraw from the college for academic reasons and is petitioning for readmission must account definitely for the expenditure of his time in a profitable way since leaving the college and should give good reasons for believing that he will improve upon his previous record if readmitted. Such a student is not eligible to be considered for readmission until after the lapse of at least one quarter, not counting the summer quarter. Application for readmission must be made in writing to the Assistant Dean of Students, the University of Northern Colorado. This is a letter of petition, not a formal application for readmission.

**Academic Class Status**—A minimum cumulative grade point average of 2.0 is required for graduation.

A student is a freshman until he has completed and passed 45 quarter hours of course credit. He is a sophomore after completing and passing 45 quarter hours of credit until he has completed and passed 90 quarter hours of course credit. A student is a junior after passing 90 quarter hours of credit until he has completed and passed 135 quarter hours of credit. A senior is a student who has passed 135 quarter hours until he is graduated with a baccalaureate degree. A student must have a cumulative grade point average of 2.0 and a 2.0 average in the area in which he expects to student teach when he applies for a student teaching assignment.

**Grading System**—Alphabetical grades are used: "A" indicates superior work; "B" indicates work above average; "C" indicates average work; "D" indicates work below average, but passing; "F" indicates failure. Other marks used are "Inc." incomplete; "W" approved withdrawal; "TF" unapproved withdrawal. An "Inc" must be removed by the end of the succeeding quarter. If the Incomplete is not removed by the end of the succeeding quarter, it will remain as an Incomplete on the transcript. If the student wishes to receive credit for the course in which he has received an Incomplete after the lapse of one quarter, he must again enroll in that course. A grade of "S" or "U" indicates satisfactory or unsatisfactory work.

No student's grade can be changed after the first two weeks of the quarter following the receipt of the original grade by the Records Office.

**Computing Grade Averages**—Prior to September, 1966, the University computed grades on a five-point system. After the above date, grades are computed on a four-point system: Each of the letters of the marking system has a numerical value. The letter "A" has a value of four (4) points; "B" has a value of three (3) points; "C" has a value of two (2) points; "D" a value of one (1) point; and no points are given for an "F." If all the student's marks were "C's," he would have a grade average of 2.0. If one-half of his marks were "C's," and the other half "D's," the numerical value of his grade average would be 1.5. A grade of "S" does not carry any points nor is such a grade computed in the grade point average. However the credit hours do count toward credits earned.

**Quarter System**—The school year is divided into four quarters: Fall, Winter, Spring and Summer.

**Quarter Credit Hour**—All credit toward graduation is computed in "quarter credit hours." The term "quarter credit hour" means a subject given one day a week through a quarter of approximately eleven weeks.

**Program Planning**—Programs outlining specific courses must be planned with the student's adviser. The student is responsible for arranging the necessary meetings with his adviser and for getting course program approval from his adviser.

**Majors and Minors**—At the time of the first registration, a student must declare his major and minor fields of study and be assigned by the major school or department to a faculty adviser in his major school or department who helps him plan his program of studies. If a student wishes to change to another major or minor field at a later date, he must obtain the approval of all schools or departments concerned. Majors and minors which may be obtained at the university are listed within the appropriate area (Arts and Sciences, Teaching Professions or Applied and Professional Studies) of this catalog. Specific courses required for the majors and minors are listed by school and department in the course listing section of this catalog.

Students who major in teacher education programs may select a minor in either a teacher education or non-teaching area. Students who major in a non-teaching program, may pursue a minor only in non-teaching areas. Education methods courses and Student Field Experiences courses completed by non-teaching majors will not count toward credit for graduation requirements.

**Proficiency Examinations**—Proficiency examinations in certain required courses in a student's major or minor may be taken to determine whether or not the student may be excused from these courses and in some cases to provide evidence for teacher certification.

**Credit Offered**—Courses offered during Fall, Winter, Spring and Summer quarters will carry the credit designated in the catalog. A student may register for a class for no credit by paying appropriate tuition fees. No audit or visitors cards are issued.

**Course Numbers**—The course numbers are divided into three groups:

1. Lower Division: (a) 100 level courses are for freshmen students; (b) 200 level courses are for sophomore students.
2. Upper Division: 300-499 level courses are for junior and senior students.
3. Graduate Division: 500-700 level courses are for graduate students. (a) Qualified juniors and seniors may be admitted to 500 level courses by special

permission; (b) 600 level courses are for masters, specialists, and doctoral students; (c) 700 level courses are for specialists and doctoral candidates only.

**Course Descriptions**—Courses offered in each school or department are listed and described. The course description gives the course number and title, the quarter hours of credit offered, explanation of the content of the course, and other information needed for planning a program.

**Schedule of Classes**—The college publishes a Schedule of Classes Bulletin which lists courses being offered during Fall, Winter and Spring Quarters. Courses offered in the Summer Quarter are listed in the Summer Bulletin.

**Late Enrollment**—No student will be permitted to enroll in a course after the first week of the Fall, Winter, Spring and Summer quarters. This regulation applies to new registrations and to students wishing to change programs.

Attendance at the first day of every class is of utmost importance to the student, the faculty, and the staff; hence all students are expected to register at the designated time and attend the first meeting of each class.

If any student thinks that his late registration fee should be refunded, he should state his reasons either in writing or personally to the Assistant Dean of Students, the University of Northern Colorado. (See Financial Information section for late registration fee rate.)

**Attendance**—Regular attendance in all classes will be assumed and encouraged. The instructor will determine the relationship between class attendance and the objectives of his class and the way in which he will evaluate attendance as a factor in the achievement of the student.

The instructor has the responsibility to inform students of his policies as these policies relate to the students' grades. The student also has the responsibility of knowing the policies in each course.

**Schedule Changes**—A student may change his schedule by the drop-add procedure at the Records Office. No classes may be added to a student's schedule after the first full week of classes.

**Withdrawal from Class**—When a student registers for a class, he is considered to be a member of that class. If he should wish to withdraw from the class, he must first obtain a withdrawal form from the Records Office and obtain the signature of the faculty member teaching the class from which he desires to withdraw. If the faculty member refuses to sign the withdrawal form, the student should contact the Student Personnel Office. No withdrawals from class are permitted during the last two weeks of a quarter. Withdrawal deadlines for each quarter are posted in the Schedule of Classes.

**Final Examinations**—A final examination in each class is to be taken by the student on the dates officially announced. Special permission to take a final examination at times other than officially scheduled must be granted by the instructor.

The schedule of final examinations is printed in the Schedule of Classes published each year. Final examinations are usually scheduled during the last three days of the quarter.

## Citizenship Standards

Codes of conduct are listed in university publications and are communicated through groups and organizations of the university community by meetings, publications, and contracts. It is the student's obligation to conduct himself as a responsible citizen and to abide by the university's stated rules and regulations. In developing responsible student conduct, counseling, guidance, and admonition, as well as disciplinary proceedings are used. Student conduct involving minor infractions of university regulations will subject the student to disciplining probationary action by the university. Student conduct involving major infractions of university regulations will subject the student to suspension or expulsion from the institution.

## Advanced Placement

The University of Northern Colorado offers advanced placement and/or credit for graduating high school seniors who have participated in special college-level courses in the high school and who have satisfactorily passed the appropriate Advanced Placement Examinations conducted by the College Entrance Examination Board. Applications and advanced placement test results must be forwarded to the Office of Admission, the University of Northern Colorado.

## Admission Policy

**Admission and Retention**—Admission and retention policies at the University of Northern Colorado are based on the premise that academic ability and achievement, health and physical fitness, personal and social qualities, and speech skills are important factors in the preparation of teachers as well as students of the Arts and Sciences, and Applied and Professional Studies programs.

**Academic Ability and Achievement**—A high school graduate or a person holding a high school equivalency certificate may be admitted to the University of Northern Colorado for a Teaching Professions, Arts and Sciences or Applied and Professional Studies program if the transcript of his high school record accompanying his application indicates he has the academic ability to do college work successfully. All applications for admission must be received one month prior to registration.

Minimal requirements for admission of both resident and non-resident freshmen are:

1. Graduation from an accredited high school with a minimum of 15 secondary school units. Graduates from high schools not accredited will be examined for admission purposes.
2. Of the 15 units required, 10 must be chosen from the following academic fields: English (minimum of three units), foreign languages, mathematics, science, and social studies.
3. Rank in the upper one-half of the high school graduating class or scores above the national average on the American College Test.
4. All new students are required to submit scores from the American College Test (ACT). Entrance examination results should be submitted as early as possible so admission status can be determined without delay. Information regarding the ACT examination may be obtained from high school principals or counselors.

The Committee on Admissions uses additional information such as secondary school grades, trend in quality of high school performance, and principal—counselor recommendations, as well as recommendations from officials of reputable community agencies, in assessing the probability of satisfactory performance in the academic program of the university.

A person 18 years of age or over who is not a high school graduate may be admitted to a Teaching Professions, an Arts and Sciences or an Applied and Professional Studies program if the results of an examination taken at least one month prior to the day of registration show he has the academic ability to do college work successfully.

A student transferring from another college may be admitted if he has a "C" average academic record and is in good standing at the college from which he is transferring. His application must be received one month prior to registration.

**Health**—Prior to final admission and following a medical examination by a qualified medical practitioner, a student shall submit to the Student Health Service of the university a health report which is acceptable to the staff of the Student Health Service indicating the student is in good physical and mental health, has no communicable disease, and has no defects or deficiencies which would hinder satisfactory progress in his chosen curriculum.

**Personal and Social Qualities**—A student seeking admission to the University of Northern Colorado is expected to possess personal and social qualities befitting the curriculum he wishes to study, in keeping with the objectives and traditions of the



university, and desirable for the vocation he plans to enter. After admission to the university, he is expected to develop and express these qualities in the classroom, at social and athletic events, in residence, and in community affairs—both on and off campus.

**Speech Skills**—A student is expected to have such speech skills as will enable him to progress satisfactorily in his chosen curriculum and to perform adequately when in his later vocation.

**Transfer Credit**—Students graduating from a junior college or transferring two years of college work may have to spend more than two years at the University of Northern Colorado to complete the requirements for graduation in certain major fields. If the junior college program corresponds to the requirements of the first two years in the same plan of study at the University of Northern Colorado graduation in two additional years is possible in most cases. Credit earned at a junior college after completion of the sophomore year or beyond 90 quarter hours of credit will not be transferable. Not more than 45 quarter hours of credit may be transferred for one year's attendance at a junior college.

The University of Northern Colorado *does not* accept credit from other colleges and universities in which grades below "C" have been earned.

Since 1949 the University of Northern Colorado has accepted in transfer a maximum of 90 quarter hours of academic credit if and when a complete and official transcript shows that a prospective transfer student has been granted an Associate of Arts degree from an accredited college. (Credit for "D's" is accepted in this instance if such grades are an integral part of the Associate of Arts degree.)

Many specialized courses do not transfer to the University of Northern Colorado. College foreign language credit may be transferred provided a student has satisfactorily completed one full year in one language.

**Policy Pertaining to Acceptance of Undergraduate Transfer Credit from Nonaccredited Colleges**—The University of Northern Colorado allows no transfer of credit from non-accredited colleges and universities outside the State of Colorado.

Transfer of credit may be allowed transfer students from nonaccredited institutions of higher learning in Colorado if these institutions have been rated "C" or above in the Report of Credit Given by Educational Institutions, American Association of Collegiate Registrars and Admission Officers. This acceptance will be individually determined in accordance with existing policies of the University of Northern Colorado.

**Transfer Credit Deadline**—Transcripts from other colleges and universities that contain credit necessary for completion of degree requirements at the University of Northern Colorado must be received by the University prior to the quarter of graduation.

**Minimum Residence Requirements**—At least 45 quarter hours of credit must be earned in courses taken on the campus at Greeley to meet the minimum residence requirement for an undergraduate degree including some work in the major field to be determined by the College, School or department. Course work taken off the campus, both correspondence and off-campus courses, cannot be counted as residence credit in meeting the requirement of 45 quarter hours of credit which must be earned in classes on the University of Northern Colorado campus. In addition, 30 of the last 45 credit hours of a degree program must be earned while enrolled in on-campus courses at the University of Northern Colorado.

**Matriculation Requirements**—A new student, whether freshman or transfer, shall complete during the first quarter on campus certain prescribed tests and the photographic and identification procedures. Guidance in the choice of major and minor fields, selection of courses, need for study skills, and need for counseling stems from the testing program. Matriculation requirements include (1) filing an acceptable application for admission, including high school record and two transcripts from each previous college attended, (2) filing an acceptable health record, (3) completing the matriculation tests, and (4) clearing the photographic and identification procedures.

**Failure to Meet Admission or Retention Standards**—A student who fails to meet any of the above standards may be denied admission to the university and/or his chosen curriculum, or if already admitted he may (1) be asked to change his curriculum, (2) be asked to withdraw, (3) be suspended, or (4) be dismissed.

## Admissions Procedures

### New Freshman Students

1. Get an Application for Admission from your high school principal or counselor. Out-of-state students write to the Office of Admissions, the University of Northern Colorado.

2. Fill in Part I of the Application for Admission and have the high school office complete the form and send it to the Office of Admissions. Applications may be filed any time after the beginning of the senior year in high school and not later than 30 days prior to registration day. Individuals are encouraged to submit applications as early as possible, since freshman enrollments may be curtailed because of limited facilities.

The application must be accompanied by a \$10.00 transcript and evaluation fee. This fee is non-refundable.

3. Make arrangements to take the American College Test (ACT).

4. Upon receipt of the application, the university will inform you of your admission status and will send you a form for reserving a room in a university residence hall.

5. Additional information regarding the university orientation—Pre-Registration program will be mailed prior to the opening of the university to those applicants entering Fall Quarter.

### Transfer Students

1. File with the Office of Admissions, the University of Northern Colorado (a) An Application for Admission including high school record; (b) two official transcripts of all credits earned at other colleges or universities; (c) an application for transfer of credit; (d) a report of health examinations.

The application must be accompanied by a \$10.00 transcript and evaluation fee. This fee is non-refundable.

In order to insure an evaluation for admission, these materials must be sent to the Office of Admissions, the University of Northern Colorado, 30 days in advance of the quarter for which the transfer student wishes to enroll. Necessary forms may be obtained from the Office of Admissions, and the letter of inquiry should state specifically that the student is an undergraduate transfer student. (*Graduate Students: Please consult the Graduate catalog for details concerning graduate students.*)

### International Students

**English Proficiency:** The Test of English as a Foreign Language (TOEFL) is required by the University of Northern Colorado for all students with a native language other than English. The TOEFL test is given periodically at testing centers throughout the world. Arrangements to take this test can be made by writing to the following address:

Test of English as a Foreign Language  
Educational Testing Service  
Princeton, New Jersey, U.S.A. 08540

The application for admission and all credentials, including the TOEFL score, should be mailed in time to reach the University of Northern Colorado not later than 60 days prior to registration day. Students are advised to begin their studies at the University of Northern Colorado with the first quarter of the academic year which begins in September.

## Off-Campus Instruction

A total of 45 quarter hours of credit may be taken by correspondence or extension in courses numbered under 300 to be applied toward a bachelor's degree. This maximum of 45 hours of credit includes University of Northern Colorado correspondence work, University of Northern Colorado extension work taken prior to January 1, 1948, and correspondence and extension work transferred from other colleges and universities.

The number of hours of University of Northern Colorado off-campus credit is only limited by the 45 hours graduation residence requirements. Students not pursuing nor applying off-campus or correspondence credits toward a University of Northern Colorado degree are not limited in the number of these credits. University of Northern Colorado correspondence courses must be completed, graded and recorded the quarter before the student expects to graduate. Please refer to graduation requirements listed below.

A student pursuing an undergraduate degree program at the University of Northern Colorado who desires to earn credit which he expects to apply to that program by taking extension, off-campus, or correspondence courses from institutions other than the University of Northern Colorado must request written permission to take the specific courses before enrolling. The request for permission must be accompanied by a copy of the course description, an indication of where it is to be held, the number of sessions to be held, the length of each session, the hours of credit for the course, and the name, title, and position of the person offering the course. A course must be taught by a regular full-time faculty member on the staff of the college or university granting the credit and upon whose official transcript the course will appear. General education course requirements are subject to the approval of the Registrar, and major and minor requirements must have the additional approval of the school or department involved.

Students must obtain a current copy of the Correspondence Bulletin or the Off-Campus Bulletin for complete information and regulations concerning correspondence and off-campus courses. These bulletins are available from the Department of Special Studies and Continuing Education, University of Northern Colorado.

## Graduation Requirements

1. A student must meet the General Requirements, Professional Education (if applicable), major and minor requirements as required by the academic schools or departments of the university.

2. A student must have earned 186 quarter hours of credit; 180 quarter hours are "academic" credit. Six quarter hours must be in physical education activity courses. One quarter hour of the physical education activity credit is to be earned in each of six quarters. Physical education activity courses are those numbered from 101-190 in the School of Health, Physical Education and Recreation. (Men students should read the information in regard to the acceptance of University of Northern Colorado Air Force ROTC enrollment in lieu of physical education activity courses.)

3. A student must have a minimum residence of 45 quarter hours on the University of Northern Colorado campus. University of Northern Colorado off-campus work is unlimited, but cannot be counted as residence credit in meeting the 45 quarter hours on-campus requirements. In addition, 30 of the last 45 credit hours of a degree program must be earned while enrolled in on-campus courses at the University of Northern Colorado.

4. Forty-five quarter hours of correspondence and/or extension courses from the University of Northern Colorado and/or any other institution is the maximum that will be accepted toward graduation. All correspondence courses and/or transfer work must be completed, received, graded, and recorded prior to the quarter of graduation.

5. Transcripts from all colleges and universities that contain credit necessary for completion of degree requirements must be received by the Registrar prior to the quarter of graduation. Transcripts will not be available with current courses completed until two weeks after that quarter (Summer quarter included).

6. A student must have a University of Northern Colorado cumulative grade point average of at least 2.0.

7. A student must have completed the matriculation tests as required by the University of Northern Colorado.

8. Students who have had an Identification photograph taken at the University of Northern Colorado have met the photograph requirement. Other students must furnish a recent photograph (approximately 3" x 4") for the Records files.

9. The student must apply for graduation, and his application be processed and evaluated by the Registrar's Office and the major and minor schools or departments. Application for graduation must be made upon completion of 135

quarter hours of academic credit applicable to the degree from the University of Northern Colorado. No applications for graduation will be accepted after 4:00 p.m. Friday of the second week of the quarter in which the student expects to graduate.

10. The university catalog used on first classification may be used for a period of six years. After six years the student must re-apply for graduation, have his record re-evaluated and he must meet all requirements in the current catalog.

11. Requirements for graduation are checked in accordance with the requirements in one particular university catalog—that is, a student may not choose a major from one catalog and a minor from another catalog.

12. Participation in Graduation Exercises is the final requirement for graduation. It is compulsory for all graduating students to participate in Graduation Exercises unless formally excused. Graduating students may obtain forms in the Registrar's Office for requesting an excuse from Graduation Exercises.

13. Any college work earned more than 15 years prior to the time the baccalaureate degree is granted at the University of Northern Colorado may not be applicable toward a degree.

14. It is the student's obligation to keep the Registrar's Office informed at all times of any change in graduation plans, including; any change in the proposed quarter of graduation after the application was filed, any change of address, etc.

# UNDERGRADUATE PROGRAM REQUIREMENTS

Four-year undergraduate programs leading to the Bachelor of Arts, Bachelor of Science, or Bachelor of Music are offered by the following schools and colleges:

College of Arts and Sciences  
 College of Education  
 School of Arts  
 School of Business  
 School of Health, Physical Education and Recreation  
 School of Music  
 School of Nursing  
 School of Educational Change and Development

In addition, two-year and four-year programs leading to commissions in the U. S. Air Force reserve or active duty commissions are available through the Division of Aerospace Studies.

## Freshman and Sophomore Requirements

All students during the freshman and sophomore years must complete at least 60 quarter hours of General Education courses and six hours of physical education activity courses.

1. General Education—Communications, General Psychology, Humanities, Personal Living, Sciences, and Social Sciences (a minimum of 60 quarter hours).

2. Physical Education Activity—A series of one-hour courses to be taken for a total of six hours, one course per quarter. Male students may substitute Air Force ROTC training courses for physical education activity courses.

## General Education

The courses listed here are required of all students who are studying for a Bachelor of Arts degree. These courses will be taken in the freshman and sophomore years.

### Freshman Year

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
COM	101—Elementary Composition I .....	3
COM	102—Elementary Composition II .....	3
SP	110—Principles of Speech .....	3
PSY	120—General Psychology .....	3
HPER	191—Personal and Family Health .....	3
SCI	103—Physical Science .....	3
SCI	104—Biological Science .....	3
SCI	105—Earth Science .....	3

### Sophomore Year

HUM	201—Introduction—The Greek and Roman Periods .....	3
HUM	202—The Middle Ages and the Renaissance .....	3
HUM	203—The Eighteenth to the Twentieth Century .....	3
Two of the following six courses:		
GEOG	100—World Geography .....	5
ANT	100—General Anthropology .....	5
ECON	100—Introductory Economics .....	5
PSCI	100—National Government of the United States .....	5
SOC	100—Principles of Sociology .....	5

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HIST	175—Unit Survey of United States History .....	5
	or	
	The following three courses:	
HIST	125—Western Civilization I .....	3
HIST	126—Western Civilizations II .....	3
HIST	127—Western Civilization III .....	3
	Electives* .....	18
	Course descriptions in back of Catalog marked with asterisks (*) may be used to meet the 18 hours of electives in general education.	
HPER	—Physical Education Activity Course (6 quarters, numbers 101-190)** ..	6

64-66

\*To be sure that North Central Association accreditation standards are met, students must elect eighteen additional quarter hours in general education courses. (Consult your advisor.)

\*\*Male students may substitute Air Force ROTC Corps Training courses for physical education activity courses.

## Challenge System

Students may challenge by examination any or all Freshman and Sophomore general required courses. Examinations are scheduled for specific dates during the year. The dates are posted in the Schedule of Classes and in the Offices of the Registrar and the Director of Admissions. The special challenge examinations can be scheduled for individuals on dates other than those set by the Counseling Center.

Successful challenges provide exemption from courses, but they do not grant an award or credit.

No student may challenge by examination a course for which he is enrolled or registered. A student may only challenge an examination once unless approval is granted by the dean of the school or college in which the course is offered.

The student must be certain that he completes a minimum of 60 hours of General Education prior to graduation. It will be necessary to select liberal arts courses as the electives if a deficiency exists in this requirement.

## Physical Education Activity Courses

A total of six quarters of physical education activity courses is required. Courses meeting these requirements are numbered 101-190 inclusive. Courses may be repeated only with the approval of departmental faculty members. Credit may be earned in only one course each quarter.

All freshman students should enroll in HPER 110, Orientation to Physical Education Activities, their first quarter on campus. A high level of competency demonstrated in this class by the student may result in an exemption of two quarters of the physical education requirement. Advisement concerning the rest of the requirement will be given in this course.

Medical excuses for exemption from all or part of the physical education activity requirement of the General Education Program are issued only by the Student Health Service.

Students initiating their undergraduate program after reaching age 30 will be held for three quarters of physical education activity instead of the six quarters specified in the General Education requirements. Students reaching age 40 during any part of their undergraduate program will not be held for any remaining quarters of physical education activity. Majors and minors in physical education, health and safety education, and recreation are exceptions to the above and will be expected to complete all requirements listed in the major and minor programs.

## Majors and Minors

Every student selects one academic or professional field around which he plans his undergraduate program of courses. This field is known as his **major**. In

general, requirements for the major include at least 48 quarter hours of work specified by the department offering the major. This is in addition to the required General Education courses.

Some departments also require selection of a minor consisting of at least 27 quarter hours in a field other than the major. Descriptions of exact requirements for majors and minors will be found in the appropriate school or department section of the undergraduate catalog.

Majors and/or minors may be selected from the following areas of study:

Anthropology	Journalism
Biological Science	Mathematics
Business	Medical Technology
Business Education	Minority Studies:
Chemistry	Mexican-American Studies
Dance Education	Black Studies
Dietetics	Music
Earth Science	Music Education
Economics	Nursing
Educational Media	Outdoor Education
Elementary Education	Physical Education (Men)
Elementary Science	Physical Education (Women)
English	Physical Science
Family Life and Consumer Education	Physics
Fine Arts	Political Science
Food and Nutrition	Preschool Education
French	Psychology
Geography	Recreation
German	Science
History	Social Science
Home Economics Education	Sociology
Individually Planned Program (see School of Educational Change and Development be- low)	Spanish
Industrial Arts	Special Education
	Speech
	Theatre Arts
	Aerospace Studies (see special information p. 139)

## School of Educational Change and Development

An approved administrative unit of the university under the direction of the Provost of the University whose major purpose is to encourage innovation throughout the university and to be the unit of the university with which interdisciplinary programs identify.

See pages 112 through 114.

## Professional Teacher Education

University of Northern Colorado offers preparation at the baccalaureate level for pre-school, elementary, junior high, and senior high school teaching. The satisfactory completion of an approved program earns institutional recommendation for certification as a teacher. Such recommendation presupposes the successful completion of the three basic components of Teacher Education: 1. General Education; 2. Professional Education; and 3. Subject Matter Specialization.

### Certification

University of Northern Colorado offers numerous teacher preparation programs at the baccalaureate level. The satisfactory completion of any one of these programs earns institutional recommendation for certification as a teacher. Such

recommendation presupposes the successful completion of the three basic components of Teacher Education: 1. General Education; 2. Professional Education; and 3. Subject Matter Specialization.

### Professional Teacher Education Program

Only students of definite profession promise are admitted to the Professional Teacher Education (PTE) program and allowed to pursue teacher education curricula at an advanced level. Admission to and graduation from a teacher education program is based upon scholarship (2.3 gpa), personality, character and the physical characteristics requisite to successful teaching.

All students who entered as freshmen and have attended University of Northern Colorado for two years must have completed the specified General Education Program to obtain full admission to PTE Program.

As soon as a student has acquired no fewer than 70 quarter hours, he should make written application to the Professional Education Committee requesting formal admission to the PTE Program. The necessary application forms are available in the College of Education Office in McKee Hall. The application forms require a declaration of majors and minors to be pursued. Students who select a teacher education major and a liberal arts minor must not expect to be recommended for teaching in the liberal arts minor. Departmental endorsement for PTE Program admission must be sought for each major declared by the student. If the student changes or adds teaching areas he must make new application to the Professional Education Committee for permission to pursue curricula in the area(s).

Transfer students seeking PTE Program admission are required to possess a 2.3 gpa and must enroll in at least one course in the major and one course in education during the first quarter in residence. Final admission will be determined by the Professional Education Committee after the student's first quarter in residence. Transfer students possessing no fewer than 85 quarter hours should apply for the PTE Program in the College of Education Office during the registration period of their first quarter on campus.

The satisfactory completion of professional education courses which are listed below are open only to students who have been formally admitted to PTE Program. Transfer students may receive some exceptions on the basis of evaluation of transcripts from previously attended colleges or universities except as noted below:

### Professional Education:

Course No.	Course Title	Hours	Credit
EDF	365—Basic Concepts of Education .....	5	5
EDF	475—Philosophy of Education .....	3	3
*EDEL	310—Introduction to Student Field Work (for elementary certification) .....	2	2
*EDCI	340—Introduction to Student Field Work (for secondary certification) .....	2	2
*EDCI	341—Methods of Teaching (for secondary certification only) .....	3	3
PSY	341—Educational Psychology .....	5	5
(*)*EDFE	—Student Field Experience .....	18	18

\*These specific courses MUST be satisfactorily completed at the University of Northern Colorado.

(\*) No student shall be allowed to do Student Field Work while on PTE Program probation.

### Major(s) or Minor(s):

There must be satisfactory completion of courses designated by the school or department concerned to earn recommendation for student field work, graduation, and certification. For transfer students this may also be on the basis of the evaluation of transcripts from previously attended colleges and universities.

If at any time after admission to PTE Program, a department or school wishes to revoke its endorsement of a candidate, a statement of desire for removal of the candidate must be presented to the Professional Education Committee for its consideration.

When scholarship with respect to the major is considered by a department concerning progress in the major, attention is restricted to the required courses in that major.

Any student admitted to PTE Program who is placed on probation or suspended by the university is automatically afforded the same status with respect to the PTE Program. Students suspended and later readmitted to the university must reapply for admission to the PTE Program.



Any student who has had his admission to PTE Program revoked or who has been denied admission to PTE Program may request a hearing from the Chairman of the Professional Education Committee. The hearing shall be scheduled within ten days of the date the request is filed provided the university is in session at that time. The results of the hearing held by the Review Sub-Committee of the Professional Education Committee shall then be transmitted in writing to the student within 24 hours. If the results are not satisfactory to the student he may then submit his request for a hearing before the Professional Education Committee. The student shall be notified in writing within 24 hours of the next scheduled committee meeting and will be requested to appear in person for presentation of his case. The results of the hearing shall then be transmitted in writing to the student within 24 hours. If the student so desires he may continue his appeal to the Academic Appeals Board by contacting the Provost of the University.

Application forms and directions for admission to the Professional Teacher Education Program may be secured from the College of Education Office.

### **Student Field Experience**

Student field assignments are made in cooperating schools in the state. Assignments for student field work are made with the approval of the Coordinator of Student Field Experiences upon the recommendation by the student's major department and the Professional Education Committee.

Students applying for assignments should be prepared to finance one quarter's work outside commuting distance from the campus. Although consideration is given to each student's individual circumstances, students should be prepared to move to the areas of the assignment regardless of marital status, campus or community commitments.

The minimum field experience requirement for graduation with institutional recommendation for a teaching certificate is 18 quarter hours of student field work. A minimum of nine hours of student field work must be in a major field. Only a very limited amount of student field work is offered during the Summer Quarter.

If a student needs a required course which is scheduled only during the quarter in which the student will be doing full-time off-campus student field work, he will be exempted from that requirement. Exemption from a course does not reduce the number of hours required for graduation, however.

University policy does not allow students in the field to be salaried for the same experience for which he is receiving credit. Any payment to the student by the district in which he is assigned shall only be approved by the Coordinator of Student Field Experiences, if by refusing such payment it precludes the student from gaining meaningful educational experience and that the same assignment requires payment to the certified personnel in the district. Any payment(s) to the student in the field shall be approved in advance, by the Coordinator of Student Field Experiences.

There are prerequisites to a student field assignment. The following requirements must be completed before the beginning of student field work:

1. Completed at least two quarters as a full-time student on the university campus.
2. Completed the following courses or their equivalent: PSY 341 and EDF 365.
3. Completed a minimum of 18 quarter hours in Elementary Teacher Education courses including EDRD 310, EDEL 310 and 320 if applying for student field work at the elementary educational level. EDRD 310, EDEL 310 and 320 must be completed for student field work.
4. Completed EDCI 340 and 341 or equivalent experience in all subject matter areas, major and minor wherein secondary school student field work is contemplated. No student is permitted to do student field work in secondary areas without appropriate methods and observation.
5. A classification of Junior or Senior.
6. A gpa of 2.3 at the University of Northern Colorado in the required courses in the major and in the minor if the student plans field work in his minor, as well as having a cumulative gpa of 2.3 at the University of Northern Colorado. Students with minimally acceptable grades often have difficulty in gaining a departmental recommendation for student field work and/or securing a student field assignment. Many districts are reluctant to accept students for field work who do not possess at least an

above average grade point average in the prospective area of student field work as well as in cumulative grades.

7. Been admitted to the PTE program in the major(s) or minors in which he will be doing student field work. A student shall be prohibited from student field work while that student is on PTE program or academic probation.
8. Been approved by the Professional Education Committee for student field work upon the recommendation of the appropriate department or school.

**Application for Student Teaching**—Persons wishing to do student teaching must make application in the Student Field Experiences Office within the first two weeks of the quarter prior to the quarter in which they wish to do student teaching.

Students making application for student teaching must secure approval signatures from the PEC and departmental offices.

*Internship* students must meet all of the above-mentioned prerequisites and also complete certain other requirements as may be set by the Professional Education Committee before beginning the intern assignment.

## Pre-Professional Courses

Courses applicable to pre-law, pre-medicine, pre-dentistry, and pre-engineering are designed for students interested in beginning their course work at the University of Northern Colorado. Variations in course requirements for these areas are made to conform to the requirements of the college the student will attend to complete his academic work. Students interested in pre-law should consult with the Dean of Arts and Sciences. For guidance within the area of pre-medicine, pre-dentistry, and pre-engineering, students should see the Associate Dean.

## The Honors Program

**Eugene D. Koplitz, Associate Dean**

**Program Description**—The Honors Program at the University of Northern Colorado was created in 1957 as an experimental program for the purpose of enriching the lives of students who perform at high academic levels. In the fall of 1958 the first group of students were invited to participate. Continuous evaluations and revisions of the program are made each year for the improvement of its structure and organization.

**Admission Requirements**—A student who has completed 45 quarter hours of course work at the University of Northern Colorado and shows evidence of outstanding academic ability and possesses fine personal characteristics may be invited to participate on the basis of departmental recommendation. Sophomores, who in the selection process were overlooked for one reason or another, may apply directly to the Dean of the Honors Program by submitting a letter, placing a telephone call or by making an office appointment. Selection is limited to approximately the highest five percent of the freshman class. Other evidence of academic ability (such as scores made on standardized tests), and evidence of good character and personality will be considered. No student will be admitted who ranks below the 90th percentile in his standing in the class as measured by grades obtained in courses taken at the University of Northern Colorado. Students considered for admission to the Honors Program. A recommendation from two faculty members (ordinarily 45 credit hours) at the University of Northern Colorado.

A transfer student who has completed 45 quarter hours of work (Sophomore status) and wishes to participate in the Honors Program may apply for admission after his first, second, or third quarter of work at the University of Northern Colorado. He must be recommended by two faculty members in his field and possess a 3.25 accumulative grade point average or better.

A student who completed 45 quarter hours of work at the University of Northern Colorado and in either the first, second, or third quarter of his sophomore year and attains a 3.25 accumulative grade point average may apply for admission to the Honors Program. A recommendation from two faculty members in his field should accompany the request. All applications are reviewed by the Dean of the Honors Program.

**Program Enrichment**—The program of an Honors Student is individually planned in the light of the student's particular background, abilities and needs. An Honors Student, therefore, may be excused from certain specifically required general education courses except those which may be necessary for teacher certification. An Honors Student excused from a required course, however, must substitute another course offered by the same department. Such a substitution may be made upon the recommendation of the student's adviser, but only with the advice and consent of the department or school or college responsible for the course in question. Appropriate notice of such a substitution shall be forwarded to the Registrar's Office as soon as possible by the student's adviser.

**Sophomore Honors**—During the Sophomore year, the academic departments participating in the Honors Program offer a special course each quarter designated for honors students only. The course title for each department is: Honors 251: Sophomore Honors Seminar. The course carries one, two, or three hours credit. The content and activities of the course varies greatly from one department to another. Each academic department is responsible for providing the kind of activity which will enrich the educational experience of the honor student in his particular discipline. Basically, the course is structured in terms of the student's needs and interests. Class enrollment cards are distributed by the respective departments.

The time and place for the meetings of each section of Sophomore Honors is generally established during the first general meeting. In a number of instances the class meets at the home of the professor who is in charge of the course.

**Junior Honors**—In the junior year each Honors Student enrolls in Honors 351: Junior Honors Project. The aim of the course is to increase the student's familiarity with the literature of his field and/or the current issues in his field. The department, school, or college concerned may assign the student to an individual professor or to a seminar group conducted by one or more professors. The suggested guide for facilitating the objectives of the course are as follows: First Quarter, Define the problem; Second Quarter, Develop the research methods and procedures; Third Quarter, Gather the Data. This course carries regular university credit at the rate of one, two, or three hours per quarter. If the student wishes to spend a larger portion of his academic time on his project he may pick up enrollment cards for either one, two, or three hours credit per quarter. Generally a student does not enroll for more than three hours of credit per each quarter. Class enrollment cards are distributed by the respective departments.

**Senior Honors**—In the senior year each Honors Students enrolls in Honors 451: Senior Honors Research Project or Thesis. The course is generally offered at the rate of one, two, or three hours credit each quarter. Class enrollment cards are distributed by the respective departments. Each department has developed methods and procedures for conducting the course which best fits the unique characteristics of the particular discipline. During the senior year the student seeks assistance with his project or thesis from a professor of his own choosing or will gain assistance from a professor assigned to him by the department. Generally the professor is not responsible for more than three Honors Students at one time. The professor advises the student concerning different aspects of his subject or project for study, the result of which shall be an acceptable written report handed in at least three weeks before the Honors Student graduates. Juniors shall be invited to hear papers read which were completed by Senior Honors Students. The suggested guide for the Senior Honors Project is as follows: First Quarter, Analyze and interpret the data; Second Quarter, First Draft; Third Quarter, Final Draft. The course does not necessarily have to be taken in consecutive quarters.

For example, a student might concentrate on his project over a period of one quarter at the rate of three quarter hours of credit, or he may organize his time in other ways. It is preferred that the final draft be turned in three weeks before the graduation date.

**Study Abroad**—During the summer term of the junior year, Honors Students are offered the opportunity to study abroad. Fifteen hours of credit are given for this study in Europe, which may be substituted for certain courses in the Social Sciences and Humanities. A detailed description of the European Study is printed

and is available in brochure form by writing to: The Department of History, European Study Tour, College of the Arts and Sciences, the University of Northern Colorado, Greeley, Colorado, 80631. An Asiatic Study Tour is also offered and carries fifteen hours of credit. For further information write College of Education, University of Northern Colorado, Greeley, Colorado, 80631.

**Student Review**—Accumulative grade averages of Honors Students shall be reviewed at the end of each academic year by the Honors Council. In general, an Honors Student shall be expected to register for a full-time program and to maintain better than a 3.20 accumulative average as well as a comparable average in the major and minor fields. If the student drops below this standard he should consult the Dean regarding his status. Guidance and counsel will be given at that time.

**Graduation with Honors**—Students receiving an invitation to participate in the Honors Program, those applying directly for admission to the program, or those recommended to the program by faculty members of a particular department may graduate with Honors providing the student has completed courses designated as "honors courses" and has completed a thesis or a creative project. The level of distinction will also be indicated on the student's permanent transcript of credit and his diploma. The level of performance and description designations are as follows: 3.20-3.49 *Cum laude*; 3.50-3.79 *Magna cum laude*; 3.80-4.00 *Summa cum laude*.

## Interdisciplinary and Individual Studies

Interdisciplinary Studies are offered in appropriate areas and levels of instruction. These courses may be offered through the coordinated efforts of two or more disciplines or by one department offering courses that are appropriate to several courses of study. (see below)

Individual studies are available in most disciplines. This type study involves a great amount of self-directed study on the part of the individual student under the guidance of an instructor. The following policies concerning registration apply:

1. The study must be an original project that can be completed only by independent study.

2. The study must be limited to four hours per quarter.

3. The study must be approved in the quarter before enrollment for the course.

4. Application for enrollment in either IS 422 or IS 622 must be made in writing to the Dean of the School. The application must have the approval, evidenced by signature, of the instructor who will direct the study, the student's adviser, and the Dean of the School in which the study is to be done.

5. The application must consist of a letter to the Dean of the School concerned stating the reasons for requesting approval for enrollment and an outline of the study describing the problem, the method of solution, the relationship of the study to the student's major field of interest, and the expected date of completion. The letter must state the subject matter field and the course number (IS 422 or IS 622) and the local address. The student must also provide his student number and class (Freshman, Junior, Master's, Doctors', etc.) in the application letter.

6. No application forms will be used since one of the requirements for the successful completion of individual studies is the ability to express ideas in writing and to organize information. The letter and outline will provide some evidence of the student's ability to work independently and report his ideas clearly.

7. No application will be approved for the purpose of substitution for a regular course.

8. An individual study must be done on the campus under the constant supervision of the instructor.

9. The class card will be made by the department under which the interdisciplinary or individual study will be made.

10. The student's permanent record will indicate the subject matter field in which the study is made (Individual Studies-German).

## MINORITY STUDIES

The Minority Studies Program offers a minor in either Black Studies or Mexican American Studies. These minors may be used in conjunction with a Teacher Education major or an Arts and Sciences major. Students who contemplate using one of these minors should consult their major departments and the coordinator of Minority Studies.

### Black Studies Minor

#### Requirements:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
ENG	312—Afro-American Literature .....	4
HIST	277—History of the Black Man in America I .....	3
HIST	278—History of the Black Man in America II .....	3
HIST	279—History of the Black Man in America III .....	3
ID	350—Race, Poverty, and Change in Urban America .....	3
ID	375—Human and Race Relations .....	4
	Electives selected from the following list with the approval of the coordinator of Minority Studies .....	7
		27

In addition to these 27 hours, students majoring in the teaching professions are required to take EDCI 551, Problems in Teaching Minority Groups, 3 hours credit, and to have Student Field Experience with Black students.

#### Electives:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
ANT	420—Africa South of the Sahara I: East and South Africa .....	4
ANT	421—Africa South of the Sahara II: Niger-Congo Area .....	4
FA	221—Influence of African Sculpture on Modern Art .....	3
GEOG	326—Africa .....	5
HIST	340—History of Africa to 1899 .....	5
HIST	440—History of Africa from 1899 .....	5
PSCI	413—Political Systems of Sub-Saharan Africa .....	4
HIST	265—American Social and Industrial History .....	4
PSCI	401—Minority Politics .....	3
PSY	265—Psychology of Prejudice .....	3
SP	456—Rhetoric of Social Protest .....	3

### Mexican American Studies Minor

#### Requirements:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
ANT	325—Spanish and Mexican Cultures in American Southwest .....	3
HIST	258—The Hispano in the American Southwest .....	3
ID	350—Race, Poverty, and Change in Urban America .....	3
ID	375—Human and Race Relations .....	4
MAS	300—The Contemporary Mexican American I .....	3
MAS	301—The Contemporary Mexican American II .....	3
MAS	302—The Contemporary Mexican American III .....	3
	Electives selected from the following list with the approval of the coordinator of Minority Studies .....	5
		27

In addition to these 27 hours, students majoring in the teaching professions are required to take EDCI 551, Problems in Teaching Minority Groups, 3 hours credit, and to have Student Field Experience with Mexican American students.

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##### Electives:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
ANT	221—Folk Cultures .....	4
ANT	343—Archaeology of Mexico .....	4
GEOG	336—Geography of Mexico and the Caribbean .....	3
HIST	330—Colonial Latin American History .....	5
HIST	331—History of Latin America .....	5
HIST	430—Contemporary Mexico and the Caribbean .....	3
PSCI	411—Government and Politics of Latin America .....	4
•SPAN	315—Survey of Spanish-American Literature I .....	3
•SPAN	316—Survey of Spanish-American Literature II .....	3
•SPAN	317—Survey of Spanish-American Literature III .....	3
•SPAN	430—A Panorama of Mexican Literature .....	3
ANT	382—Acculturation .....	4
PSCI	401—Minority Politics .....	3
PSY	265—Psychology of Prejudice .....	3
SOC	245—Problems of Intergroup Relations .....	4
SP	456—Rhetoric of Social Protest .....	3

\*Prerequisite: 2 years of college Spanish.

Knowledge of the Spanish language is recommended for the minor in Mexican American Studies.

# COLLEGE OF ARTS AND SCIENCES

Thomas E. Boyle, Dean

Harley F. Glidden, Associate Dean

The College of Arts and Sciences includes a four-year offering of courses in various departments leading to the Bachelor of Arts degree. The offerings are designed to give broad, diversified educational opportunities and at the same time to provide the ground work for preparation in the professions such as law, medicine, teaching, etc.

Each student regularly admitted to the College of Arts and Sciences is required to complete a minimum of 60 quarter hours of study in the General Education subjects, plus six quarters of physical education activity. He must also select a major subject for concentration and must meet all the requirements of his major department. Those wishing to be recommended for certification to teach in secondary schools must also complete at least 31 quarter hours of Advanced Teacher Education courses as prescribed by the College of Education during their junior and senior years.

Majors may be selected from the following academic areas:

Anthropology	Mathematics
Biological Sciences	Medical Technology
Botany	Physical Science
Chemistry	Physics
Earth Sciences	Political Science
Economics	Science (elementary school teaching)
English	Science (junior high school teaching)
French	Social Science (secondary school teaching)
Geography	Sociology
German	Spanish
History	Speech
History and Social Science (junior high school teaching)	Theatre Arts
Journalism	Zoology

The requirements for each major are listed by departments, but a minimum of 48 quarter hours is required for a major and 27 quarter hours for a minor. The student must select a major and fulfill all requirements for the major as set forth in the catalog.

## Anthropology

John R. Mickey, Chairman

Associate Professors: Fay, B. Mickey

Assistant Professors: Adams, J. Mickey

Instructors: Coberly, Denning, Wanner

The Department of Anthropology offers a major and a minor.

Following are the requirements for the major:

1. Satisfactory completion of all General Education requirements. (Anthropology majors must take two of the following: GEOG 100, ECON 100, PSCI 100, SOC 100. The student should consult his assigned adviser.)

## 2. Courses selected from each of the following areas:

	<i>Hours Credit</i>
I. General Anthropology .....	5
ANT 100 .....	
II. Cultural Anthropology .....	7
Selected from ANT 120, 121, 122, 220, 221, 222, 281, 320, 321, 322, 323, 324, 325, 326, 327, 328, 420, 421 .....	
III. Archaeology .....	7
Selected from ANT 240, 241, 242, 340, 341, 342, 343, 344, 440, 441 .....	
IV. Linguistics & Physical Anthropology .....	4
Selected from ANT 260, 270, 360, 370, 372, 470 .....	
V. Theory .....	7
Selected from ANT 280, 380, 381, 382, 383, 480, 481 .....	
VI. Electives .....	18
	48

3. In addition, a minor of 27 quarter hours within the College of Arts and Sciences. Courses in the selected minor that are preceded by an asterisk (\*) may be counted toward fulfillment of the General Education requirements.

4. Electives sufficient to complete requirements for the Bachelor of Arts degree.

Following are the requirements for the minor:

1. Two of the following courses: GEOG 100, ECON 100, PSCI 100, SOC 100. The student should consult his assigned adviser.

2. Courses selected from each of the following areas:

	<i>Hours Credit</i>
I. General Anthropology .....	5
ANT 100 .....	
II. Cultural Anthropology .....	4
Selected from ANT 120, 121, 122, 220, 221, 222, 281, 320, 321, 322, 323, 324, 325, 326, 327, 328, 420, 421 .....	
III. Archaeology .....	4
Selected from ANT 240, 241, 242, 340, 342, 343, 344, 440, 441 .....	
IV. Linguistics & Physical Anthropology .....	4
Selected from ANT 260, 270, 360, 370, 372, 470 .....	
V. Theory .....	7
Selected from ANT 280, 380, 381, 382, 383, 480, 481 .....	
VI. Advanced Electives .....	3
	27

For students interested in being certified for teaching of the social sciences, the Department of Anthropology recommends a major in Social Science (see page 71).

## Biological Sciences (Biology, Botany, Zoology)

**Bert O. Thomas, Chairman**

**Professors:** Stamper, Thomas, Winchester

**Associate Professors:** Gapter, Plakke, Rich, Richards, Schmidt, Thorpe

**Assistant Professors:** Buss, Lindauer, Roe

The Department of Biological Sciences offers majors in Botany or Zoology for students interested in becoming professional botanists or zoologists. In addition, a major in Biological Science for students interested in teaching biology in secondary schools is offered. Two minors are offered, one in Biological Sciences and one in Human Ecology.

### Biological Sciences Majors

#### Botany Major

Following are the requirements for the major:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.



## 2. Courses in the major

Course No.	Course Title	Hours	Credit
BIO	101—Principles of Biology .....	5	
BIO	102—Principles of Botany .....	5	
BIO	103—Principles of Zoology .....	5	
BIO	231—Genetics .....	5	
BIO	260—Microbiology .....	5	
BIO	391—Seminar in Research I .....	1	
BIO	392—Seminar in Research II .....	1	
BOT	310—Plant Taxonomy .....	5	
BOT	323—Morphogenesis of the Nonvascular Plants .....	4	
BOT	324—Morphogenesis of the Vascular Plants .....	4	
BOT	340—Plant Ecology .....	5	
BOT	350—General Plant Physiology .....	5	
	Electives to be selected with approval of major adviser .....	10	
		<hr/>	60

3. One minor of 27 or more quarter hours in chemistry, physics, or mathematics. Courses in the selected minor that are asterisked (\*) may be counted toward fulfillment of the General Education requirements.

4. A minimum of 15 quarter hours in *each* of the above fields (chemistry, physics, or mathematics) not selected as a minor.

5. It is recommended that a foreign language be included.

6. Botany majors should substitute equivalent hours in biology or botany for SCI 103 and 104. They may substitute equivalent hours in earth sciences for SCI 105.

7. Electives to complete requirements for graduation.

## Zoology Major

Following are the requirements for the major:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.

2. Courses in the major

Course No.	Course Title	Hours	Credit
BIO	101—Principles of Biology .....	5	
BIO	102—Principles of Botany .....	5	
BIO	103—Principles of Zoology .....	5	
BIO	231—Genetics .....	5	
BIO	260—Microbiology .....	5	
BIO	391—Seminar in Research I .....	1	
BIO	392—Seminar in Research II .....	1	
ZOO	250—Human Physiology .....	5	
ZOO	316—Entomology .....	5	
ZOO	325—Comparative Morphogenesis of the Veterbrates I .....	4	
ZOO	326—Comparative Morphogenesis of the Veterbrates II .....	4	
ZOO	340—Animal Ecology .....	5	
	Electives to be selected with approval of major adviser .....	10	
		<hr/>	60

3. One minor of 27 or more quarter hours in chemistry, physics, or mathematics. Courses in the selected minor that are asterisked (\*) may be counted toward fulfillment of the General Education requirements.

4. A minimum of 15 quarter hours in *each* of the above fields (chemistry, physics, or mathematics) not selected as a minor.

5. It is recommended that a foreign language be included.

6. Zoology majors should substitute equivalent hours in biology or zoology for SCI 103 and 104. They may substitute equivalent hours in earth sciences for SCI 105.

7. Electives to complete requirements for graduation.

Following are the requirements for students planning to teach biological science in the secondary school:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.

2. Professional Teacher Education (PTE) 31 hours, plus SCED 440, two hours credit, SCED 441, three hours credit, and BIO 371, one hour credit.

3. Courses in the major

Course No.	Course Title	Hours	Credit
BIO	101—Principles of Biology .....	5	5
BIO	102—Principles of Botany .....	5	5
BIO	103—Principles of Zoology .....	5	5
BIO	231—Genetics .....	5	5
BIO	260—Microbiology .....	5	5
BIO	391—Seminar in Research I .....	1	1
BIO	392—Seminar in Research II .....	1	1
BOT	350—General Plant Physiology .....	5	
	or		
ZOO	250—Human Physiology .....	5	5
BOT	323—Morphogenesis of the Nonvascular Plants .....	4	
	and		
BOT	324—Morphogenesis of the Vascular Plants .....	4	
	or		
ZOO	325—Comparative Morphogenesis of the Vertebrates I .....	4	
	and		
ZOO	326—Comparative Morphogenesis of the Vertebrates II .....	4	8
BOT	310—Plant Taxonomy .....	5	
	or		
ZOO	316—Entomology .....	5	5
BOT	340—Plant Ecology .....	5	
	or		
ZOO	340—Animal Ecology .....	5	5
	Electives in biology, botany, or zoology to be selected with approval of student's minor adviser .....		10
			<hr/> 60

4. To fill the options listed above and the electives, courses must be chosen to include a minimum of 15 quarter hours in courses with the prefix BOT and 15 quarter hours in courses with the prefix ZOO.

5. A minor of 27 or more quarter hours is required. Chemistry or physics is recommended. If a chemistry minor is chosen, the student may substitute courses in biology, botany, or zoology for the chemistry requirements. Courses in the selected minor that are asterisked (\*) may be used as part of the 60 hours of required General Education.

6. CHEM 104 or 106, 105 or 107, 130 or 332.

7. Biological science majors may substitute PHYS 150 for SCI 103. For SCI 104 they should substitute equivalent hours in biology, botany, or zoology. For SCI 105 they may substitute equivalent hours in earth science.

8. Additional hours of electives to complete 180 quarter hours of academic credit required for graduation.

## Biological Sciences Minors

Following are the requirements for the arts and sciences minor:

Course No.	Course Title	Hours	Credit
BIO	101—Principles of Biology .....	5	5
BIO	102—Principles of Botany .....	5	5
BIO	103—Principles of Zoology .....	5	5
BIO	231—Genetics .....	5	5
	Electives to be selected with approval of student's minor adviser .....		7
			<hr/> 27

1. Biological sciences minors should substitute equivalent hours in biology, botany, or zoology for SCI 104. It is recommended that CHEM 104 or PHYS 150 be substituted for SCI 103 and equivalent hours in earth science for SCI 105.

## Human Ecology Minor

Following are the requirements for the minor:

Course No.	Course Title	Hours	Credit
BIO	101—Principles of Biology .....		5
BIO	102—Principles of Botany .....	5	
	or		
BIO	103—Principles of Zoology .....	5	5
BIO	234—Population Genetics .....		3
BIO	240—General Ecology .....		3
BIO	241—Modification of the Human Environment .....		2
BIO	242—Environmental Pollution .....		3
BIO	401—Conservation of Natural Resources .....		4
	Electives to be selected with approval of minor adviser .....		2
			27

1. Human ecology minors should substitute equivalent hours in biology, botany or zoology for SCI 104. It is recommended that CHEM 104 or PHYS 150 be substituted for SCI 103 and equivalent hours in earth science for SCI 105.

Biological science minors interested in being certified for teaching in the secondary school must complete the minor listed above.

**HONORS**—The Department of Biological Sciences participates in the Honors Program. See page No. 40.

## Chemistry

**John A. Beel, Chairman**

**Professors:** Beel, Koch, Tomasi, Woerner

**Associate Professors:** Fields, James, Schreck

**Assistant Professors:** Kovar, Meilahn, Pringle

The Department of Chemistry offers three majors, one of which is American Chemical Society accredited, and three minors, including one for Medical Technology majors and one for Home Economics majors. In addition, a Physical Science major is offered jointly with the Physics Department.

## Chemistry Majors

Following are the requirements for the arts and sciences majors in chemistry:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.

2. Courses in the major

Course No.	Course Title	Hours	Credit
CHEM	104—Principles of Chemistry I .....	5	
	or		
CHEM	106—Principles of Chemistry IA .....	5	5
CHEM	105—Principles of Chemistry II .....	5	
	or		
CHEM	107—Principles of Chemistry IIA .....	5	5
CHEM	111—Qualitative Analysis .....		5
CHEM	301—Inorganic Chemistry I .....		3
CHEM	311—Quantitative Analysis I .....		5
CHEM	332—Organic Chemistry I .....		5
CHEM	333—Organic Chemistry II .....		5
CHEM	334—Organic Chemistry III .....		5
CHEM	335—Advanced Laboratory in Organic Chemistry .....		1
CHEM	390—Chemical Literature .....		1
CHEM	401—Inorganic Chemistry II .....		3
CHEM	411—Instrumental Methods of Analysis .....		5
CHEM	431—Organic Qualitative Analysis .....		3
CHEM	451—Physical Chemistry I .....		5
CHEM	452—Physical Chemistry II .....		5
CHEM	453—Physical Chemistry III .....		5
			66

3. Mathematics including 131, 132, 133, and 234.

Courses in mathematics that are asterisked\* may be used as part of the 60 hours of required General Education.

4. Physics 265, 266, 267.
5. One year of foreign language (preferably German) is recommended.
6. Electives to complete requirements for graduation.

Those students planning a career in chemistry must familiarize themselves with the professional training requirements of the American Chemical Society. These requirements will be met by completing the above program in the proper sequence in addition to six quarter hours of senior research or six quarter hours of advanced courses in chemistry listing CHEM 453 as prerequisite. A reading knowledge of German is also required. Students completing this program will be certified to the American Chemical Society as meeting its Minimum Standards.

Following are the requirements for students planning to teach chemistry in the secondary school:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.
2. Professional Teacher Education, 31 hours, plus SCED 440, two hours credit, and SCED 441, three hours credit.
3. Courses in the major

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
CHEM	104—Principles of Chemistry I .....	5	
	<i>or</i>		
CHEM	106—Principles of Chemistry IA .....	5	5
CHEM	105—Principles of Chemistry II .....	5	
	<i>or</i>		
CHEM	107—Principles of Chemistry IIA .....	5	5
CHEM	111—Qualitative Analysis .....	5	5
CHEM	301—Inorganic Chemistry I .....	5	3
CHEM	311—Quantitative Analysis I .....	5	5
CHEM	332—Organic Chemistry I .....	5	5
CHEM	333—Organic Chemistry II .....	5	5
CHEM	334—Organic Chemistry III .....	5	5
PHYS	260—Introductory Physics—Mechanics .....	4	
PHYS	261—Introductory Physics—Heat, Sound, and Light .....	4	
PHYS	262—Introductory Physics—Electricity and Magnetism .....	4	
	<i>or</i>		
PHYS	265—General Physics—Mechanics .....	5	
PHYS	266—General Physics—Electricity .....	5	
PHYS	267—General Physics—Sound, Light, and Heat .....	5	12-15
	Chemistry electives to be selected with approval of student's adviser	5-8	
		58	

4. One minor of 27 or more quarter hours. It is recommended that this minor be in Mathematics.

Courses in the selected minor that are asterisked (\*) may be used as part of the 60 hours of required General Education.

5. Additional hours of electives to complete 180 quarter hours of academic credit required for graduation.

## Chemistry Minors

Following are the requirements for the arts and sciences minor:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
CHEM	104—Principles of Chemistry I .....	5	
	<i>or</i>		
CHEM	106—Principles of Chemistry IA .....	5	5
CHEM	105—Principles of Chemistry II .....	5	
	<i>or</i>		
CHEM	107—Principles of Chemistry IIA .....	5	5
CHEM	111—Qualitative Analysis .....	5	5
	<i>and</i>		
CHEM	130—Introductory Organic Chemistry .....	5	
	<i>and</i>		
CHEM	311—Quantitative Analysis I .....	5	
	<i>or</i>		
CHEM	332—Organic Chemistry I .....	5	
	<i>and</i>		
CHEM	333—Organic Chemistry II .....	5	
	<i>and</i>		

CHEM	334—Organic Chemistry III .....	5	15
	Chemistry electives to be selected with approval of student's minor adviser .....		2
			<hr/> 27

Following are the requirements for persons planning to teach in the secondary school:

Course No.	Course Title	Hours	Credit
CHEM	104—Principles of Chemistry I .....	5	
	<i>or</i>		
CHEM	106—Principles of Chemistry IA .....	5	5
CHEM	105—Principles of Chemistry II .....	5	
	<i>or</i>		
CHEM	107—Principles of Chemistry IIA .....	5	5
CHEM	111—Qualitative Analysis .....		5
CHEM	130—Introductory Organic Chemistry .....	5	
	<i>or</i>		
CHEM	332—Organic Chemistry I .....	5	5
	Chemistry electives to be selected with approval of student's minor adviser .....		7
			<hr/> 27

## Science Minor for Home Economics Majors

This minor consists of three or four quarters of chemistry and microbiology (BIO 260) and electives with approval of the minor adviser to complete 27 hours.

## Medical Technology

This major is administered by the Department of Chemistry.

The four-year program leading to the Bachelor of Arts degree in Medical Technology requires the student to earn a total of 180 academic quarter hours, plus six quarter hours of physical education activity courses. A minimum of 138 quarter hours will be earned on the campus of the University of Northern Colorado during the first three years and 48 quarter hours of Medical Technology will be earned during the senior year (July to June) at the Weld County General Hospital under the supervision of the clinical staff. The courses in Medical Technology are open only to majors in Medical Technology. The general college policies regarding registration and grading will be followed.

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.

2. Courses in the major

Course No.	Course Title	Hours	Credit
MTEC	450—Urinalysis and Clinical Microscopy .....		3
MTEC	451—Basal Metabolism and Electrocardiography .....		1
MTEC	452—Hematology .....		9
MTEC	453—Pretransfusion Tests and Blood Bank Procedures .....		5
MTEC	454—Clinical Chemistry .....		13
MTEC	455—Serology .....		3
MTEC	456—Medical Microbiology .....		12
MTEC	457—Histologic Technique .....		2
			<hr/> 48

3. One minor of 27 or more quarter hours is required. The minor is a Medical Technology Chemistry Minor.

Courses in the selected minor that are asterisked\* may be used as part of the 60 hours of required General Education.

4. Thirty-eight quarter hours are required by the American Society of Clinical Pathologists and the staff of the Weld County General Hospital in the following courses: BIO 250, BIO 260, CHEM 281, PHYS 261, 262, BIO 101, 103, ZOO 250.

5. Five hours of college mathematics.

6. Twenty-three quarter hours of free electives to complete 180 quarter hours of academic credit required for graduation.

## Chemistry Minor for Medical Technology

Course No.	Course Title	Hours	Credit
CHEM	104—Principles of Chemistry I .....	5	
	or		
CHEM	106—Principles of Chemistry IA .....	5	5
CHEM	105—Principles of Chemistry II .....	5	
	or		
CHEM	107—Principles of Chemistry IIA .....	5	5
CHEM	111—Qualitative Analysis .....		5
CHEM	311—Quantitative Analysis I .....		5
CHEM	332—Organic Chemistry I .....		5
CHEM	333—Organic Chemistry II .....		5
			<hr/> 30

**HONORS**—The Department of Chemistry participates in the Honors Program. See page No. 40.

## Earth Sciences (Astronomy, Geology, Meteorology, Oceanography)

**K. Lee Shropshire, Acting Chairman**

**Assistant Professors:** Cobb, Dietz, Hopkins, Shropshire

The Department of Earth Sciences offers major programs for students interested in becoming professional astronomers, geologists, meteorologists, or oceanographers. In addition, a major in Earth Sciences is offered for students who plan to teach in secondary schools. Two minors are offered—one for students in arts and sciences programs and one for prospective teachers.

### Earth Sciences Majors

Students wishing to pursue an arts and sciences degree in earth science must select astronomy, geology, or meteorology as a field of concentration. Requirements for the major in each of these fields of concentration follow.

#### A. Concentration in Astronomy

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.
2. Courses in the major

Course No.	Course Title	Hours	Credit
AST	301—Principles of Astronomy I .....		4
AST	302—Principles of Astronomy II .....		3
GEOL	201—Principles of Geology I .....		5
GEOL	202—Principles of Geology II .....		5
MET	201—Principles of Meteorology I .....		4
MET	202—Principles of Meteorology II .....		4
PHYS	265—General Physics—Mechanics .....		5
PHYS	266—General Physics—Electricity .....		5
PHYS	267—General Physics—Sound, Light, and Heat .....		5
PHYS	268—Modern Physics .....		4
PHYS	365—Mechanics I .....		4
PHYS	366—Electricity and Magnetism I .....		4
PHYS	367—Optics I .....		4
	Astronomy, physics, and/or mathematics electives to be selected with approval of student's major adviser .....		24
			<hr/> 80

3. The following courses in supporting areas (these requirements may vary somewhat, depending on the background and needs of the individual student): BIO 101, mathematics including MATH 234.

4. Completion of the above outlined program will satisfy the General Education requirement in science. Earth sciences major should not take SCI 103, 104, or 105.

5. Additional electives to complete the 180 quarter hours of academic credit required for graduation.

### B. Concentration in Geology

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.

2. Courses in the major

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
AST	301—Principles of Astronomy I .....		4
AST	302—Principles of Astronomy II .....		3
GEOL	201—Principles of Geology I .....		5
GEOL	202—Principles of Geology II .....		5
GEOL	203—Principles of Geology III .....		5
MET	201—Principles of Meteorology I .....		4
MET	202—Principles of Meteorology II .....		4
OCN	201—Principles of Oceanography .....		3
	Geology electives to be selected with approval of student's major adviser .....		27
			<u>60</u>

3. The following courses in supporting areas (these requirements may vary somewhat, depending on the background and needs of the individual student): BIO 101, 103, CHEM 104 or 106, 105 or 107, PHYS 260, 261, 262 or PHYS 265, 266, 267, mathematics including MATH 133.

4. Completion of the above outlined program will satisfy the general education requirement in science. Earth Sciences majors should not take SCI 103, 104, or 105.

5. Additional electives to complete the 180 quarter hours of academic credit required for graduation.

### C. Concentration in Meteorology

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.

2. Courses in the major

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
AST	301—Principles of Astronomy I .....		4
AST	302—Principles of Astronomy II .....		3
GEOL	201—Principles of Geology I .....		5
GEOL	202—Principles of Geology II .....		5
MET	201—Principles of Meteorology I .....		4
MET	202—Principles of Meteorology II .....		4
OCN	201—Principles of Oceanography .....		3
PHYS	265—General Physics—Mechanics .....		5
PHYS	266—General Physics—Electricity .....		5
PHYS	267—General Physics—Sound, Light, and Heat .....		5
PHYS	268—Modern Physics .....		4
PHYS	365—Mechanics I .....		4
PHYS	366—Electricity and Magnetism I .....		4
PHYS	367—Optics I .....		4
	Meteorology, physics, and/or mathematics electives to be selected with approval of student's major adviser .....		24
			<u>83</u>

3. The following courses in supporting areas (these requirements may vary somewhat depending on the background and needs of the individual student): BIO 101, CHEM 104 or 106, 105 or 107, mathematics including MATH 234.

4. Completion of the above outlined program will satisfy the General Education requirement in science. Earth Sciences majors should not take SCI 103, 104 or 105.

5. Additional electives to complete the 180 quarter hours of academic credit required for graduation.

Following are the requirements for students planning to teach earth sciences in the secondary school:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.
2. Professional Teacher Education, 31 hours, plus SCED 440, two hours credit, and SCED 441, three hours credit.
3. Courses in the major

Course No.	Course Title	Hours	Credit
ESCI	100—Introduction to Earth Science .....	3	
AST	301—Principles of Astronomy I .....	4	
AST	302—Principles of Astronomy II .....	3	
GEOL	201—Principles of Geology I .....	5	
GEOL	202—Principles of Geology II .....	5	
GEOL	203—Principles of Geology III .....	5	
MET	201—Principles of Meteorology I .....	4	
MET	202—Principles of Meteorology II .....	4	
OCN	201—Principles of Oceanography .....	3	
ESCI	499—Seminar in Earth Science Teaching .....	2	
	Earth Science electives to be selected with approval of student's major adviser .....	10	
			48

4. The following courses in supporting areas (these requirements may vary somewhat depending on the background and needs of the individual student): BIO 101, 102, CHEM 104 or 106, 105 or 107, PHYS 260, 261, 262, mathematics including MATH 125.

5. Completion of the above outlined program will satisfy the General Education requirement in science. Earth Sciences majors should not take SCI 103, 104, or 105.

6. Additional electives to complete the 180 quarter hours of academic credit required for graduation.

## Earth Sciences Minors

Following are the requirements for the arts and sciences minor:

Course No.	Course Title	Hours	Credit
AST	100—General Astronomy .....	4	
GEOL	100—General Geology .....	4	
MET	100—General Meteorology .....	4	
OCN	100—General Oceanography .....	3	
	Earth Science electives to be selected with approval of student's minor adviser .....	12	
			27

Following are the requirements for persons planning to teach in the secondary school:

Course No.	Course Title	Hours	Credit
AST	100—General Astronomy .....	4	
ESCI	100—Introduction to Earth Science .....	3	
GEOL	100—General Geology .....	4	
MET	100—General Meteorology .....	4	
OCN	100—General Oceanography .....	3	
	Earth Science electives to be selected with approval of student's minor adviser .....	9	
			27

**HONORS**—The Department of Earth Science participates in the Honors Program. See page No. 40.



# Economics

**Orvel L. Trainer, Chairman**

**Professor:** Trainer.

**Assistant Professor:** Anderson

**Instructors:** Garrison, Mahanty, Palmer, St. Aubyn.

## Economics Major

The following is the required program:

1. General Education totaling 60 quarter hours, plus six quarters of physical education activities courses.

2. The following required courses in the major (49 quarter hours).

Course No.	Course Title	Hours	Credit
ECON	100—Introductory Economics .....	5	
ECON	102—Contemporary Economic Problems .....	3	
ECON	470—History of Economic Thought .....	3	
ECON	480—Seminar in Economic Thought .....	3	
ECON	200—Intermediate Economic Theory .....	3	
ECON	202—Money and Banking .....	5	
ECON	241—Public Finance .....	5	
RSM	403—Descriptive Statistics .....	4	
		<hr/>	<b>31</b>

3. Electives in advanced courses in economics.

4. Minor in Mathematics.

5. Electives to complete the 180 hours of academic credit required for graduation. Economics majors will take two of the following: Geography 100, Anthropology 100, Political Science 100 or Sociology 100. Consult your adviser.

## Economics Minor

1. Twenty-seven quarter hours in Economics.

2. The following is the required program:

Course No.	Course Title	Hours	Credit
ECON	100—Introductory Economics .....	5	
ECON	102—Contemporary Economic Problems .....	3	
ECON	470—History of Economic Thought .....	3	
ECON	200—Intermediate Economic Theory .....	3	
	Advanced Electives .....	13	
		<hr/>	<b>27</b>

Economics minors will take two of the following: Geography 100, Anthropology 100, Political Science 100 or Sociology 100. Consult your adviser.

For students interested in being certified for teaching Social Science in the public schools, the Department of Economics recommends the Social Science Major.

## English

**Chester C. Huff, Jr., Chairman**

**Professors:** Boyle, Carriar, Cross, F. Frease, Freeman, Harrison, Starr

**Associate Professors:** C. Frease, D. Jones

**Assistant Professors:** Agan, Applegate, Brand, Brewer, Finnegan, Huff, E. Kearns, Luere, C. Meyer, D. Myers, Princic, Thompson, N. Wilson, Witwer

**Instructors:** Bowles, Chapman, Doyle, Hanselmann, Havill, Heiser, Kiefer, Lackie, Loftis, Mackey, Peercy, Quantic, Rea, Stallings, Varner, S. Wilson

## English Major

The following is the required program:

1. General Education totaling 60 quarter hours, plus six quarters of physical education activity.

2. Course requirements listed below.\*

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
ENG	111—Introduction to Poetry .....	3	3
ENG	112—Introduction to Prose .....	3	3
ENG	206—Survey of English Literature from the Beginnings to 1660 .....	4	4
ENG	207—Survey of English Literature from 1660 to 1832 .....	4	4
ENG	208—Survey of English Literature from 1832 to the Present .....	4	4
ENG	209—American Literature to the Civil War .....	4	4
ENG	210—American Literature Since the Civil War .....	4	4
ENG	301—Shakespeare: Early Plays .....	3	3
ENG	302—Shakespeare: Later Plays .....	3	3
ENG	313—Advanced Expository Writing .....	3	3
ENG	314—The English Language .....	5	5
Electives chosen from the following courses .....			22
a.	ENG 303, 304, or 305—Creative Writing .....	2	2
b.	ENG 306—English Literature from the Beginnings to 1500 .....	3	3
c.	ENG 307—English Literature from 1500 to 1660 .....	3	3
d.	ENG 308—The Restoration and Eighteenth Century .....	3	3
e.	ENG 309—The Romantic Movement .....	3	3
f.	ENG 310—Victorian Prose and Poetry .....	3	3
g.	ENG 311—Contemporary English and American Literature .....	4	4
h.	ENG 312—Afro-American Literature .....	4	4
i.	ENG 417—Generative-Transformational Grammar .....	4	4
j.	ENG 401—Greek and Comparative Mythology .....	4	4
	<i>or</i>		
	ENG 415—Literature of the Old Testament .....	3	3
	<i>or</i>		
	ENG 416—Literature of the New Testament .....	3	3
k.	ENG 402—The Short Story .....	3	3
	<i>or</i>		
	ENG 403—Techniques of the Novel .....	5	5
l.	ENG 405—Contemporary American Drama .....	3	3
	<i>or</i>		
	ENG 406—Modern Drama Since Ibsen .....	3	3
m.	ENG 407—Forms and Meanings of Poetry .....	4	4
n.	ENG 408—Elizabethan Drama Exclusive of Shakespeare .....	4	4
o.	ENG 409—Literary Criticism .....	3	3
p.	ENG 410—History of Ideas in Literature .....	3	3
			62

3. One minor of 27 quarter hours.

4. Electives to complete the 180 hours of academic credit required for graduation.

5. Students who intend to enter the teaching profession are required to take ENG 417—Generative-Transformational Grammar, 4 hours and EED 402—Literature and Materials in the Secondary Schools, 5 hours. For such students, the English elective requirement is reduced to 13 hours. Further, such students are required to complete at least two English courses with a minimum of C before being admitted to the PTE program. Thirty-one hours in Professional Teacher Education are required, plus EDCI 340, 2 hours credit, and EDCI 341, 4 hours credit. Students should also allow one intervening quarter between the completion of EED 402, EDCI 340, EDCI 341 and the beginning of student teaching.

## English Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
ENG	111—Introduction to Poetry .....	3	3
ENG	112—Introduction to Prose .....	3	3
ENG	206—Survey of English Literature from the Beginnings to 1660 .....	4	4
ENG	207—Survey of English Literature from 1660 to 1832 .....	4	4
ENG	208—Survey of English Literature from 1832 to the Present .....	4	4
ENG	209—American Literature to the Civil War .....	4	4
ENG	210—American Literature Since the Civil War .....	4	4
			62

One of the following courses:

ENG	313—Advanced Expository Writing .....	3
ENG	314—The English Language .....	5
ENG	417—Generative-Transformational Grammar .....	4
		29-31

Student who intend to enter the teaching profession are required to take EED 402—Literature and Materials in the Secondary Schools—5 hours in place of either ENG 313, ENG 314, or ENG 417.

English minors who have begun their program before 1969 should consult the head of the department for substitutions.

**HONORS**—The Department of English participates in the Honors Program. See page No. 40.

## Foreign Languages

**Frank E. Keppeler, Chairman**

**Professor:** Graham.

**Assistant Professors:** Baer, Brown, Colby, Freyschlag.

**Instructors:** Bethoux, Ensz, Freyre, Keppeler, Owechko

The Department of Foreign Language offers majors and minors in French, German, and Spanish, and a minor in Russian.

### French Major

Requirements for a French Major are as follows:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity. (Foreign Language majors are urged to take ANT 100 or SOC 100 or HIST 130, 131, and 132). Student should consult his assigned adviser.

2. All work in French must be beyond the first-year level. The following courses or their equivalents are required for the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
FR	201—Intermediate French I .....	4
FR	202—Intermediate French II .....	4
FR	203—Intermediate French III .....	4
FR	305—Survey of French Literature I .....	4
FR	306—Survey of French Literature II .....	4
FR	307—Survey of French Literature III .....	4
	Electives in French to be chosen with the consent of the adviser .....	24
		48

3. In addition, a minor of at least 27 quarter hours within the College of Arts and Sciences. Courses in the selected minor that are preceded by an asterisk (\*) may be counted toward fulfillment of the General Education requirements.

4. Electives sufficient to complete requirements for the Bachelor of Arts degree.

5. Students who wish to become certified for teaching are to take nine hours of electives in French (to be chosen with the consent of the adviser), plus the following courses:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
FR	310—Intermediate French Conversation .....	3
FR	311—Intermediate French Composition .....	3
FR	312—Intermediate French Syntax and Stylistics .....	3
FR	410—French Civilization .....	3
FR	400—Problems in Oral French .....	3

Students who desire teaching certification will also take 31 credit hours in Professional Teacher Education, plus EDCI 304 (2 hours credit) and EDCI 341 (3 hours credit). Before being permitted to apply for student teaching, a Foreign Language major must have successfully passed the department proficiency examination in the language where application is made.

## French Minor

Requirements for a French Minor are as follows:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
FR	201-Intermediate French I .....	4
FR	202-Intermediate French II .....	4
FR	203-Intermediate French III .....	4
Courses selected from the following: (Choose one and/or both of the following series)		
FR	310-Intermediate French Conversation .....	3
FR	311-Intermediate French Composition .....	3
FR	312-Intermediate French Syntax and Stylistics .....	3
	OR	9
FR	305-Survey of French Literature I .....	4
FR	306-Survey of French Literature II .....	4
FR	307-Survey of French Literature III .....	4
		12
FR	400-Problems in Oral French .....	3
	Electives to be chosen with permission of minor adviser .....	3-6
		30

Students who desire to be certified for teaching are required to take the first series.

## German Major

Requirements for a German Major are as follows:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity. (Foreign Language majors are urged to take ANT 100 or SOC 100 or HIST 130, 131, and 132. Student should consult his assigned adviser.)

2. All work in German must be beyond the first-year level. The following courses or their equivalents are required for the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
GER	201-Intermediate German I .....	4
GER	202-Intermediate German II .....	4
GER	203-Intermediate German III .....	4
GER	305-Survey of German Literature I .....	3
GER	306-Survey of German Literature II .....	3
GER	307-Survey of German Literature III .....	3
GER	335-Intermediate German Conversation .....	4
GER	341-Goethe .....	3
	Electives in German to be chosen with the consent of the adviser.....	20
		48

3. In addition, a minor of at least 27 quarter hours within the College of Arts and Sciences. Courses in the selected minor that are preceded by an asterisk (\*) may be counted toward fulfillment of the General Education requirements.

4. Electives sufficient to complete requirements for the Bachelor of Arts degree.

5. Students who desire to become certified for teaching are required to take nine hours of electives in German (to be chosen with the consent of the adviser), plus the following courses:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
GER	335—Intermediate German Conversation .....	4	
GER	336—Advanced German Composition .....	4	
GER	337—Advanced German Grammar .....	4	
GER	400—Problems in Oral German .....	3	
			15

Students who desire teaching certification will also take 31 credit hours in Professional Teacher Education, plus EDCI 340 (2 hours credit) and EDCI 341 (3 hours credit). Before being permitted to apply for student teaching, a Foreign Language major must have successfully passed the department proficiency examination in the language where application is made.

## German Minor

Requirements for a German Minor are as follows:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
GER	201—Intermediate German I .....	4	
GER	202—Intermediate German II .....	4	
GER	203—Intermediate German III .....	4	
GER	335—Intermediate German Conversation .....	4	
GER	336—Advanced German Composition .....	4	

Ten hours selected from the following:

GER	305—Survey of German Literature I .....	3	
GER	306—Survey of German Literature II .....	3	
GER	307—Survey of German Literature III .....	3	
GER	341—Goethe .....	3	
GER	343—Faust .....	3	
GER	426—Nineteenth Century German Literature .....	3	
GER	427—Twentieth Century German Literature .....	3	
			30

Students interested in becoming certified for teaching will take GER \*201, \*202, \*203, \*335, and 336 plus the following courses:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
GER	337—Advanced German Grammar .....	4	
GER	341—Goethe .....	3	
GER	400—Problems in Oral German .....	3	
			10

\*Students who have the equivalent of these courses may choose substitutes with consent of their adviser.

## Russian Minor

Requirements for a Russian Minor are as follows:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
RUS	101—Elementary Russian I .....	5	
RUS	102—Elementary Russian II .....	5	
RUS	103—Elementary Russian III .....	5	
RUS	201—Intermediate Russian .....	4	
RUS	202—Intermediate Russian Composition and Conversation I .....	4	
RUS	203—Intermediate Russian Composition and Conversation II .....	4	
RUS	335—Russian Conversation .....	3	
			30

## Spanish Major

Requirements for a Spanish Major are as follows:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity. (Foreign Language majors are urged to take ANT 100 or SOC 100 or HIST 130, 131, and 132. Student should consult his assigned adviser.)

2. All work in Spanish must be beyond the first-year level. The following courses or their equivalents are required for the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
SPAN 201	Intermediate Spanish I	4	4
SPAN 202	Intermediate Spanish II	4	4
SPAN 203	Intermediate Spanish III	4	4
SPAN 315	Survey of Spanish-American Literature I	3	3
SPAN 316	Survey of Spanish-American Literature II	3	3
SPAN 317	Survey of Spanish American Literature III	3	3
SPAN 355	Survey of Spanish Literature I	3	3
SPAN 356	Survey of Spanish Literature II	3	3
SPAN 357	Survey of Spanish Literature III	3	3
SPAN 410	Spanish Civilization	3	3
Electives in Spanish (to be chosen with the consent of the adviser)		15	15
			48

3. In addition, a minor of at least 27 quarter hours within the College of Arts and Sciences. Courses in the selected minor that are preceded by an asterisk (\*) may be counted toward fulfillment of the General Education requirements.

4. Electives sufficient to complete requirements for the Bachelor of Arts degree.

5. Students who desire to become certified for teaching are not required to take SPAN 315, 316, 317, 355, 356, 357. Instead, they will substitute the following:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
SPAN 310	Advanced Spanish Grammar	4	4
SPAN 325	Advanced Spanish Composition	3	3
SPAN 335	Spanish Conversation	4	4
SPAN 345	Spanish Pronunciation	4	4
SPAN 400	Problems in Oral Spanish	3	3
			18

Students who desire teaching certification will also take 31 credit hours in Professional Teacher Education, plus EDCI 340 (2 hours credit) and EDCI 341 (3 hours credit). Before being permitted to apply for student teaching, a Foreign Language major must have successfully passed the department proficiency examination in the language where application is made.

## Spanish Minor

Requirements for a Spanish Minor are as follows:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
SPAN 201	Intermediate Spanish I	4	4
SPAN 202	Intermediate Spanish II	4	4
SPAN 203	Intermediate Spanish III	4	4
Electives to be chosen with permission of minor adviser			30
			30

Students interested in becoming certified for teaching are required to take the following:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
SPAN 310	Advanced Spanish Grammar	4	4
SPAN 325	Advanced Spanish Composition	3	3
SPAN 335	Spanish Conversation	4	4
SPAN 345	Spanish Pronunciation	4	4
			14

Such students will take three hours of electives in Spanish to be chosen with permission of minor adviser.

**HONORS**—The Department of Foreign Language participates in the Honors Program. See page No. 40.

## Geography

**Kevin C. Kearns, Chairman**

**Professor:** Lehrer

**Associate Professor:** Kearns

**Assistant Professors:** Collins, Dietz

**Instructors:** Barton, Howard, Krimbill, Scott.

### Geography Major

The following is the required program:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity. (Students majoring or minoring in geography will take two of the following courses: ANT 100, ECON 100, PSCI 100, or SOC 100).

2. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
GEOG 120	Physical Geography I .....	3	
GEOG 121	Physical Geography II .....	3	
GEOG 122	Cultural Geography I .....	3	
GEOG 123	Cultural Geography II .....	3	
GEOG 148	Anglo-America .....	5	
GEOG 364	Maps and Their Uses .....	2	
	Electives in Advanced Regional Courses.....	14	
	Electives in Advanced Systematic Courses.....	15	
		<b>48</b>	

3. At least one minor of 27 quarter hours. Courses in the selected minor that are asterisked (\*) may be used as part of the 60 hours of required General Education.

4. Electives to complete the 180 hours of academic credit required for graduation.

### Geography Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
GEOG 100	World Geography .....	5	
GEOG 148	Anglo-America .....	5	
GEOG 364	Maps and Their Uses .....	2	
	Electives in Advanced Regional Geography.....	5	
	Electives in Advanced Systematic Geography.....	5	
	Electives in Advanced Regional or Systematic Geography.....	5	
		<b>27</b>	

For concentration in the teaching of Geography, see the course requirements listed under Social Science Major.

## History

**Barry Rothaus, Chairman**

**Professors:** Arnold, Boeck, Larson, Reynolds  
**Associate Professors:** Byerly, Powers, Rothaus.  
**Assistant Professors:** Cornebise, Kergham, Knott, Lonsdale, Rowe.  
**Instructors:** Bowser, Hamerly, Stroup, M. Willcoxon.

## History Major

The following is the required program:

1. Satisfactory completion of all General Education requirements. (History majors must take two of the following: ANT 100, ECON 100, GEOG 100, PSCI 100, SOC 100.)

2. The following courses in the major:

	<i>Hours Credit</i>
I. World History I, II, III .....	12
HIST 130, 131, 132	
II. United States History I, II, III .....	9
HIST 170, 171, 172	
III. The Far East .....	4
HIST 240	
IV. Introduction to Historical Research .....	3
HIST 499	
V. Advanced Electives in History .....	36
	64

3. In addition, a minor of 27 quarter hours preferably within the College of Arts and Sciences. Courses in the selected minor that are preceded by an asterisk (\*) may be counted toward fulfillment of the General Education requirements.

4. The Department of History recommends that prospective history majors take a foreign language.

5. Electives sufficient to complete the 180 quarter hours for the Bachelor of Arts Degree, plus six quarters of physical education activity.

6. Students who wish to be certified for teaching will take 28 quarter hours of advanced electives in History instead of 36, and 25 quarter hours in the five introductory Social Science areas: ANT 100, ECON 100, GEOG 100, PSCI 100, and SOC 100. Sixteen of these 25 hours will be applied to the History major, and nine quarter hours will be applied to the general education requirement. Students will also take 31 quarter hours in the Professional Teacher Education Program (requirements and prerequisites for admission listed below) plus EDCI 340, two quarter hours credit, and EDCI 341, three quarter hours credit.

a. The faculty of the History Department will not consider any student's application for the PTE program until he has passed at least 21 hours in history, and has passed at least eight hours of history at the University of Northern Colorado. General Education courses are not counted for the major.

b. To be admitted to PTE one must have a grade point average of at least 2.3 in the major. In figuring the grade point average in the major, only courses taken at the University of Northern Colorado are counted excluding the general education courses or their substitutes.

c. Before registering for EDCI 340 and EDCI 341 one must have completed EDF 365 and PSY 340, and the following courses or their equivalents:

	<i>Hours Credit</i>
I. World History I, II, III .....	12
HIST 130, 131, 132	
II. United States History I, II, III .....	9
HIST 170, 171, 172	
III. Two of the introductory courses in the social sciences .....	10
IV. Advanced Electives in History .....	3
	34

The above requirements (6a, b, c) also apply for the History minor.

d. Before registering for EDFE 451, Student Teaching, all majors in History must have completed at least 40 hours in the major.



## History Minor

The following is the required program:

	<i>Hours Credit</i>
I. World History I, II, III .....	12
HIST 130, 131, 132	
II. United States History I, II, III .....	9
HIST 170, 171, 172	
III. The Far East .....	4
HIST 240	
IV. Advanced Electives in History .....	11
	36

Students minoring in History will take two of the following basic courses to fulfill the 9 quarter hour General Education requirement: ANT 100, ECON 100, GEOG 100, PSCI 100 and SOC 100.

**HONORS**—The Department of History participates in the Honors Program. See page No. 40.

## Mathematics

**Donald D. Elliott, Chairman**

**Professors:** Fisch, Popejoy, D. Schmidt

**Associate Professors:** Cavanagh, Elliott, Johnson

**Assistant Professors:** Anders, Bosch, Fuelberth, Heiny, Kuzmanovich, McNerney, Richardson, Rumford, Schweers, Tolar

The Department of Mathematics offers a major and a minor.

## Mathematics Majors

Following are the requirements for the arts and sciences major in mathematics:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.
2. Courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
MATH 131*	—Calculus with Analytic Geometry I .....	5
MATH 132*	—Calculus with Analytic Geometry II .....	4
MATH 133*	—Calculus with Analytic Geometry III .....	4
MATH 234*	—Calculus with Analytic Geometry IV .....	4
MATH 322	—Introduction to Modern Algebra I .....	4
MATH 323	—Introduction to Modern Algebra II .....	4
	<i>or</i>	
MATH 521	—Modern Algebra I .....	3
MATH 522	—Modern Algebra II .....	3
MATH 523	—Modern Algebra III .....	3
MATH 432	—Advanced Calculus I .....	4
MATH 433	—Advanced Calculus II .....	4
	<i>or</i>	
MATH 535	—Introductory Analysis I .....	4
MATH 536	—Introductory Analysis II .....	4
	Electives in mathematics numbered 250 or above selected with approval of the Mathematics Department .....	14-15

48

\*Qualified students may be exempted by examination.

3. One minor of 27 quarter hours preferably in physics. Courses in the selected minor that are asterisked (\*) may be used as part of the 60 hours of required General Education.

4. Electives to complete requirements for graduation.

Following are the requirements for students planning to teach mathematics in the secondary school:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.
2. Professional Teacher Education 31 hours, plus EDCI 340, two hours credit, and EDCI 341, three hours credit.
3. Courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
MATH 131*	—Calculus with Analytic Geometry I .....	5
MATH 132*	—Calculus with Analytic Geometry II .....	4
MATH 133*	—Calculus with Analytic Geometry III .....	4
MATH 201	—Basic Mathematical Logic .....	3
MATH 202	—Theory of Sets .....	3
MATH 234*	—Calculus with Analytic Geometry IV .....	4
MATH 250	—Elementary Probability Theory .....	4
MATH 322	—Introduction to Modern Algebra I .....	4
MATH 323	—Introduction to Modern Algebra II .....	4
MATH 341	—Introduction to Modern Geometry I .....	4
MATH 342	—Introduction to Modern Geometry II .....	4
	Electives: Courses numbered 300 or higher in mathematics or mathematics education selected with approval of the Department of Mathematics .....	5
		48

\*Qualified students may be exempted by examination.

4. One minor of at least 27 quarter hours. Courses in the selected minor that are asterisked (\*) may be used as part of the 60 hours of required General Education program.

5. Electives to complete requirements for graduation.

Following are the requirements for students planning to teach mathematics in the elementary school:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.
2. Professional Teacher Education 31 hours.
3. Courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
MATH 131*	—Calculus with Analytic Geometry I .....	5
MATH 132*	—Calculus with Analytic Geometry II .....	4
MATH 133*	—Calculus with Analytic Geometry III .....	4
MATH 201	—Basic Mathematical Logic .....	3
MATH 202	—Theory of Sets .....	3
MATH 250	—Elementary Probability Theory .....	4
MATH 322	—Introduction to Modern Algebra I .....	4
MATH 323	—Introduction to Modern Algebra II .....	4
MATH 341	—Introduction to Modern Geometry I .....	4
	Electives: MATH 103, 124, 125, or any MATH or MED courses numbered 300 or higher. (Elementary Education majors cannot count MATH 101 or 102 in this major.) .....	13
		48

4. Complete the additional requirements as stated elsewhere in this catalog for certification as an elementary school teacher.

Students not taking it otherwise must take EDEL 320 in addition to the 48-hour major. In no case will the Department of Mathematics recommend persons completing the Elementary Emphasis for teaching at the secondary level until they have met the requirements for the Secondary Emphasis.

## Mathematics Minors

Following are the requirements for the arts and sciences minor:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
MATH 131*	—Calculus with Analytic Geometry I .....	5
MATH 132*	—Calculus with Analytic Geometry II .....	4

MATH	133*	—Calculus with Analytic Geometry III .....	4
MATH	234*	—Calculus with Analytic Geometry IV .....	4
		Electives in mathematics numbered 124 or higher, at least eight of which must be in courses numbered 250 or higher .....	13
			30

\*Qualified students may be exempted by examination.

Following are the requirements for the minor for persons planning to teach:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
MATH	131*—Calculus with Analytic Geometry I .....	5
MATH	132*—Calculus with Analytic Geometry II .....	4
MATH	201 —Basic Mathematical Logic .....	3
MATH	202 —Theory of Sets .....	3
MATH	322 —Introduction to Modern Algebra I .....	4
MATH	341 —Introduction to Modern Geometry I .....	4
	Electives in mathematics or mathematics education courses num- bered 124 or higher# .....	7
		30

\*Qualified students may be exempted by examination.

#It is recommended that a course be selected from among MATH 323, 342, 250, 403, 380, MED 464.

The Mathematics Department adheres to the policy that a student who applies for student teaching in mathematics or who seeks the recommendation of the Department as a prospective teacher of mathematics shall be required to take the methods course in the Mathematics Department.

**HONORS**—The Department of Mathematics participates in the Honors Program. See page No. 40.

## Physics

**Wallace Aas, Chairman**

**Associate Professors.** Aas, Fry, Hamerly.

**Assistant Professor:** Ellingson

The Department of Physics offers a major and a minor. In addition, a Physical Science major is offered jointly with the Chemistry Department.

## Physics Majors

Following are the requirements for the arts and sciences major in physics:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.
2. Courses in the major

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
PHYS	265—General Physics—Mechanics .....	5
PHYS	266—General Physics—Electricity .....	5
PHYS	267—General Physics—Sound, Light, and Heat.....	5
PHYS	365—Mechanics I .....	4
PHYS	366—Electricity and Magnetism I .....	4
PHYS	367—Optics I .....	4
PHYS	465—Mechanics II .....	3
PHYS	466—Electricity and Magnetism II .....	3
PHYS	468—Atomic Physics .....	5
PHYS	469—Nuclear Physics I .....	5
PHYS	564—Thermodynamics .....	4
PHYS	567—Optics II .....	4
	Electives to be selected with approval of student's adviser.....	4
		55

3. A mathematics minor of 27 or more quarter hours (through calculus). Courses in the selected minor that are asterisked (\*) may be used as part of the 60 hours of required General Education.

4. Substitute PHYS 268, Modern Physics, for SCI 103 requirement.
5. CHEM 104 or 106 and CHEM 105 or 107.
6. Electives to complete requirements for graduation.

Following are the requirements for students planning to teach physics in the school:  
 General Education totaling 60 academic quarter hours, plus six quarters of education activity courses.  
 Professional Teacher Education, 31 hours, plus SCED 440, two hours credit and SCED 441, three hours credit.

### 3. Courses in the major

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
PHYS	265—General Physics—Mechanics .....	5
PHYS	266—General Physics—Electricity .....	5
PHYS	267—General Physics—Sound, Light, and Heat .....	5
PHYS	361—Electrical Measurements .....	5
PHYS	365—Mechanics I .....	4
PHYS	366—Electricity and Magnetism I .....	4
PHYS	468—Atomic Physics .....	5
	<i>or</i>	
PHYS	469—Nuclear Physics I .....	5 5
	Physics electives of 300 number or higher to be selected with approval of student's adviser .....	15
		48

4. A minimum of 27 quarter hours of mathematics to include calculus through MATH 234. Courses in mathematics that are asterisked (\*) may be used as part of the 60 hours of required General Education.

5. CHEM 104 or 106, 105 or 107, and 111.
6. Additional hours of electives to complete 180 quarter hours of academic credit required for graduation.
7. Substitute PHYS 268, Modern Physics, for SCI 103 requirement.

## Physics Minor

Following are the requirements for the arts and sciences minor:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
PHYS	265—General Physics—Mechanics .....	5
PHYS	266—General Physics—Electricity .....	5
PHYS	267—General Physics—Sound, Light, and Heat.....	5
PHYS	365—Mechanics I .....	
	<i>or</i>	
PHYS	366—Electricity and Magnetism I .....	4
	Physics electives to be selected with approval of student's minor adviser....	8
		27

Substitute PHYS 268, Modern Physics, for SCI 103 requirement.

Physics minors interested in being certified for teaching in the secondary school must complete the minor listed above.

**HONORS**—The Department of Physics participates in the Honors Program. See page No. 40.

## Physical Science

The Departments of Chemistry and Physics cooperate in offering an interdepartmental major in physical science.

## Physical Science Majors

Following are the requirements for the arts and sciences major in physical science:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.
2. Courses in the major

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
PHYS	265—General Physics—Mechanics .....		5
PHYS	266—General Physics—Electricity .....		5
PHYS	267—General Physics—Sound, Light, and Heat .....		5
PHYS	365—Mechanics I .....		4
CHEM	104—Principles of Chemistry I .....		5
	<i>or</i>		
CHEM	106—Principles of Chemistry IA .....	5	5
CHEM	105—Principles of Chemistry II .....	5	
	<i>or</i>		
CHEM	107—Principles of Chemistry IIA .....	5	5
CHEM	111—Qualitative Analysis .....	5	
CHEM	332—Organic Chemistry I .....	5	
	<i>and</i>		
CHEM	333—Organic Chemistry II .....	5	
	<i>and</i>		
CHEM	334—Organic Chemistry III .....	5	
		<u>15</u>	
	<i>or</i>		
CHEM	130—Introductory Organic Chemistry .....	5	
	<i>and</i>		
CHEM	311—Quantitative Analysis I .....	5	
	<i>and</i>		
CHEM	451—Physical Chemistry I .....	5	
		<u>15</u>	15
	Physics Electives (400 course) .....		5
			<u>58</u>

3. One minor of 27 or more quarter hours, preferably in mathematics. Courses in the selected minor that are asterisked (\*) may be used as part of the 60 hours of required General Education.

4. Substitute PHYS 268, Modern Physics, for SCI 103 requirement.
5. Electives to complete requirements for graduation.

Following are the requirements for students planning to teach physical science in the secondary school:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.
2. Advanced Teacher Education, 31 hours, plus SCED 440, two hours credit, and SCED 441, three hours credit.
3. Courses in the major

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
PHYS	265—General Physics—Mechanics .....		5
PHYS	266—General Physics—Electricity .....		5
PHYS	267—General Physics—Sound, Light, and Heat .....		5
PHYS	365—Mechanics I .....		4
PHYS	366—Electricity and Magnetism I .....		4
CHEM	104—Principles of Chemistry I .....	5	
	<i>or</i>		
CHEM	106—Principles of Chemistry IA .....	5	5
CHEM	105—Principles of Chemistry II .....	5	
	<i>or</i>		
CHEM	107—Principles of Chemistry IIA .....	5	5
CHEM	111—Qualitative Analysis .....	5	
CHEM	332—Organic Chemistry I .....	5	
	<i>and</i>		
CHEM	333—Organic Chemistry II .....	5	
	<i>and</i>		
CHEM	334—Organic Chemistry III .....	5	
		<u>15</u>	

CHEM	130—Introductory Organic Chemistry .....	5
	<i>or</i>	
CHEM	311—Quantitative Analysis I .....	5
	<i>and</i>	
CHEM	451—Physical Chemistry I .....	5
		<hr/>
	Physics Electives (400 course) .....	15 15
		<hr/>
		58

4. Twenty-seven or more quarter hours Mathematics Minor required. Courses in the selected minor that are asterisked (\*) may be used as part of the 60 hours of required General Education.

5. Substitute PHYS 268, Modern Physics, for SCI 103 requirement.

6. Additional hours of electives to complete 180 quarter hours of academic credit required for graduation.

## Political Science

**Richard Perchlik, Chairman**

**Professors:** Christensen, Perchlik

**Assistant Professors:** Bookman, Klein, Knapp, Mazurana

### Political Science Major

The following is the required program:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity. (Students majoring or minoring in political science will take two of the following courses: GEOG 100, ANT 100, ECON 100, or SOC 100.)

2. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
a.	PSCI 101—United States Government I .....	3	3
	PSCI 102—United States Government II .....	3	3
	PSCI 103—United States Government III .....	3	3
b.	Electives in political science to include at least one course from each of the following groups.....		36
	Group A.—United States Government		
	PSCI 200—Legislative Processes .....	3	
	PSCI 201—State and Local Government .....	5	
	PSCI 300—Public Opinion and Pressure Groups.....	4	
	PSCI 301—Problems in United States Government.....	3	
	PSCI 302—The President and the Bureaucracy .....	3	
	PSCI 401—Minority Politics .....	3	
	PSCI 400—Political Parties .....	3	
	PSCI 500—Constitutional Law .....	5	
	Group B—International Relations		
	PSCI 220—International Relations .....	4	
	PSCI 320—American Foreign Policy .....	3	
	PSCI 420—Foundations of International Politics .....	4	
	PSCI 421—The United Nations .....	3	
	PSCI 422—Soviet Foreign Policy .....	3	
	PSCI 423—Regional and Supranational Political Organizations.....	4	
	Group C—Political Theory		
	PSCI 330—Political Belief-Systems I .....	3	
	PSCI 331—Political Belief-Systems II .....	3	
	PSCI 332—Political Belief-Systems III .....	3	
	PSCI 430—American Political Belief-Systems .....	3	
	Group D—Comparative Government		
	PSCI 210—European Political Systems .....	4	
	PSCI 410—Government and Politics of Asia .....	4	
	PSCI 411—Government and Politics of Latin America.....	4	

PSCI	412—The Politics of the Developing Areas .....	4
PSCI	413—Political Systems of Sub-Saharan Africa .....	4
PSCI	414—Government and Politics of the Soviet Union.....	4
c. PSCI	450—Research and Inquiry in Political Science.....	3
		48

3. One minor of at least 27 quarter hours. Courses in the selected minor that are asterisked (\*) may be used as part of the 60 hours of required General Education program.

4. Electives to complete 180 quarter hours of academic credit.

## Political Science Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
PSCI	101—United States Government I .....	3	3
PSCI	102—United States Government II .....	3	3
PSCI	103—United States Government III .....	3	3
	Electives in political science selected with the approval of the Department of Political Science.....	18	
		27	

For students interested in being certified for teaching Social Science in the public schools, the Department of Political Science recommends the Social Science Major.

## Science Education

**Leslie W. Trowbridge, Chairman**

**Professors:** Decker, Glidden, Neal, Sund, Trowbridge

**Associate Professors:** Crockett, Olson

**Assistant Professor:** McClurg

The Science Education Department administers an interdepartmental major and minor in Elementary Science and an interdepartmental major in Junior High School Science.

## Elementary Science Major

Following are the requirements for the major:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.

2. Advanced Teacher Education, 31 hours, including EDFE 451, Elementary Intern, four hours credit, plus SCED 350, Observation and Participation in Elementary School Science, three hours credit.

3. Courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
AST	100—General Astronomy .....	4	4
BIO	101—Principles of Biology .....	5	5
BIO	102—Principles of Botany .....	5	5
BIO	103—Principles of Zoology .....	5	5
CHEM	104—Principles of Chemistry I .....	5	
	<i>and</i>		
CHEM	105—Principles of Chemistry II .....	5	
	<i>or</i>		
PHYS	260—Introductory Physics—Mechanics .....	4	
	<i>and</i>		
PHYS	261—Introductory Physics—Heat, Sound, and Light.....	4	8-10
GEOL	100—General Geology .....	4	4
MET	100—General Meteorology .....	4	4

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ZOO	340-Animal Ecology .....	5	
	<i>or</i>		
BIO	401-Conservation of Natural Resources .....	4	4-5
BIO	231-Genetics .....		5
SCI	309-Science for Elementary Teachers .....	3	
	<i>or</i>		
SCI	303-Elementary Biological Science .....	3	3
SCED	470-Teaching Science in the Elementary School .....		3
	Electives to be selected with approval of student's adviser .....		0-3
			<hr/> 58

**Recommended Electives:**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BIO	250-Cell Physiology .....	5	
BIO	260-Microbiology .....	5	
BIO	336-Evolution .....	3	
BIO	346-Aquatic Biology .....	5	
BIO	360-Biology of Microorganisms .....	3	
BIO	401-Conservation of Natural Resources .....	4	
CHEM	130-Introductory Organic Chemistry .....	5	
GEOL	201-Principles of Geology I .....	5	
MET	320-Climatology .....	3	
OCN	100-General Oceanography .....	3	
OCN	201-Principles of Oceanography .....	3	
PHYS	262-Introductory Physics-Electricity and Magnetism .....	4	
SCI	303-Elementary Biological Science .....	3	
SCI	309-Science for Elementary Teachers .....	3	
SCI	509-Aviation and Space Flight .....	4	
SCI	605-Physical Science Concepts .....	4	
SCI	610-Earth Science for Elementary Teachers .....	3	
ZOO	250-Human Physiology .....	5	
ZOO	340-Animal Ecology .....	5	

4. One minor of 27 or more quarter hours. It is recommended that this minor be in Elementary Education. Courses in the selected minor that are asterisked (\*) may be used as part of the 60 hours of required General Education.

5. Additional hours of electives to complete 180 quarter hours of academic credit required for graduation.

**Elementary Science Minor**

Following are the requirements for the minor:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BIO	401-Conservation of Natural Resources .....	4	
SCED	470-Teaching Science in the Elementary School .....	3	
SCI	303-Elementary Biological Science .....	3	
SCI	309-Science for Elementary Teachers .....	3	
SCI	605-Physical Science Concepts .....	4	
	Electives to be selected with approval of student's minor adviser .....	10-19	
			<hr/> 27-36

Note: If a student's major is Arts and Sciences in Elementary Education, substitute a subject matter course for SCED 470.

**Recommended Electives:**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
AST	100-General Astronomy .....	4	
BIO	101-Principles of Biology .....	5	
BIO	102-Principles of Botany .....	5	
BIO	103-Principles of Zoology .....	5	
BIO	336-Evolution .....	3	
GEOL	100-General Geology .....	4	
MET	100-General Meteorology .....	4	
SCI	608-Elementary Science Workshop .....	3	
ZOO	304-Ornithology .....	3	



## Junior High School Science Major

Following are the requirements for the major:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.

2. Professional Teacher Education, 31 hours, plus SCED 440, two hours credit, and SCED 441, three hours credit.

3. Courses in the major

Course No.	Course Title	Hours	Credit
BIO	101—Principles of Biology .....		5
BIO	102—Principles of Botany .....		5
BIO	103—Principles of Zoology .....		5
CHEM	104—Principles of Chemistry I .....	5	
	or		
CHEM	106—Principles of Chemistry IA .....	5	5
CHEM	105—Principles of Chemistry II .....	5	
	or		
CHEM	107—Principles of Chemistry IIA .....	5	5
PHYS	260—Introductory Physics—Mechanics .....		4
PHYS	261—Introductory Physics—Heat, Sound, and Light .....		4
GEOL	100—General Geology (If an Earth Sciences Minor is elected, replace GEOL 100 with four hours of additional electives.) .....		4
	Electives* .....		14
			<hr/> 56

4. One minor of at least 27 quarter hours. Courses in the selected minor that are asterisked (\*) may be used as part of the 60 hours of required General Education program.

5. Sufficient electives to complete 180 quarter hours of academic credit required for graduation.

\*Other courses are recommended for adequate preparation in the junior high school science area:

Course No.	Course Title	Hours	Credit
AST	100—General Astronomy .....		4
BIO	231—Genetics .....		5
BIO	250—Cell Physiology .....		5
BIO	260—Microbiology .....		5
BIO	336—Evolution .....		3
BIO	360—Biology of Microorganisms .....		3
BIO	401—Conservation of Natural Resources .....		4
CHEM	130—Introductory Organic Chemistry .....		5
GEOL	201—Principles of Geology I .....		5
MET	100—General Meteorology .....		4
MET	320—Climatology .....		3
MET	330—Physical Meteorology .....		3
PHYS	262—Introductory Physics—Electricity and Magnetism .....		4
ZOO	250—Human Physiology .....		5

## Social Science

The Departments of Anthropology, Economics, Geography, History, Political Science, and Sociology cooperate in offering an interdepartmental major in Social Science.

Requirements for the major are as follows:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.

2. Courses in the major as specified below:

	Hours	Credit
a. Introductory courses in five social science fields (GEOG 100, ANT 100, ECON 100, PSCI 100, SOC 100). Since two of these courses are counted toward the General Education requirements, only 16 hours of credit from this group will apply toward the major .....		16

b. Advanced electives in one, two, or three social science areas. For the areas selected, the following courses must be taken: ANT 381 or 382, ECON 200, GEOG 148, PSCI 220 or 421, SOC 450 or 291 .....	35
c. HIST 170, 171, 172 (U. S. History) .....	9
d. HIST 130, 131, 132 (World History) .....	12
	<hr/> 72

3. In addition, a minor of 27 quarter hours within the College of Arts and Sciences. Courses in the selected minor that are preceded by an asterisk (\*) may be counted toward fulfillment of the General Education requirements.

4. Electives sufficient to complete requirements for the Bachelor of Arts degree.

Students interested in being certified for teaching the social sciences in secondary schools must complete all the requirements for the Social Science major and also the following:

1. Professional Teacher Education, 31 hours, plus EDCI 340 (2 hours) and EDCI 341 (3 hours) in the College of Education.

2. No Social Science major may apply for admission to Professional Teacher Education until he has passed at least 21 quarter hours of social science and/or history courses, at least eight hours of which must have been taken at the University of Northern Colorado.

3. To be admitted to PTE, the student must have at least a 2.3 average in those courses counting toward his major which were taken at the University of Northern Colorado.

4. Before taking EDCI 340 and EDCI 341, the student must have completed EDF 365, PSY 340, and the following courses or their equivalents:

	<i>Hours Credit</i>
All five introductory social science courses .....	25
HIST 170, 171, 172 (United States History) .....	9
	<hr/> 34

5. Before being permitted to apply for student teaching, a Social Science major must have completed successfully at least 40 hours in the major.

6. A minor may be selected from the College of Arts and Sciences or from the School of Health, Physical Education and Recreation, Business, Fine Arts, or Special Education.

Students interested in being certified for teaching history and social sciences in the junior high school must complete all the requirements for the major and those for Professional Teacher Education as outlined above. To assist in preparation for junior high school teaching, the following courses are prescribed:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
GEOG	148—Anglo-America .....	5
GEOG	350—Geography of Colorado .....	2
PSCI	201—State and Local Government .....	5
PSCI	421—The United Nations .....	3
SOC	145—Social Problems .....	3
SOC	120—Marriage and the Family .....	4
HIST	130, 131, 132—World History .....	12
HIST	170, 171, 172—United States History .....	9
HIST	256—History of Colorado .....	3
HIST	413—Great Men in American History .....	3
SSED	431—Instructional Materials for the Social Studies in the Junior High Schools .....	2
	Other advanced electives in the social sciences .....	6

**HONORS**—Social Science majors may participate in the Honors Program. See page No. 40.

## Sociology

**Zahi S. Kamal, Chairman**

**Associate Professor:** Quammen

**Assistant Professors:** Gillings, Kamal, Willoughby

**Instructors:** Barasch, Bartell, Cleere, Jones, Spencer

The Department of Sociology offers a major and a minor.

Following are the requirements for the major:

1. Satisfactory completion of all General Education requirements. (Sociology majors must take two of the following: GEOG 100, ANT 100, ECON 100, PSCI 100. The student should consult his assigned adviser.)

2. Courses selected from each of the following areas:

	<i>Hours Credit</i>
I. Principles of Sociology ..... SOC 100	5
II. Social Theory ..... SOC 450, 451	8
III. Methodology and Research ..... SOC 460, 461	8
One course from each of the following areas: .....	12
IV. Social Psychology ..... Selected from SOC 210, 310, 510, 515	.....
V. Social Institutions ..... Selected from SOC 120, 221, 223, 321, 325, 551, 527	.....
VI. Social Organization and Process ..... Selected from SOC 230, 232, 333, 337, 433, 435	.....
VII. Social Disorganization ..... Selected from SOC 145, 240, 245, 340, 345, 445, 447, 540, 541	.....
VIII. Advanced Electives .....	15
	48

3. In addition, a minor of 27 quarter hours within the College of Arts and Sciences. Courses in the selected minor that are preceded by an asterisk (\*) may be counted toward fulfillment of the General Education requirements.

4. Electives sufficient to complete requirements for the Bachelor of Arts degree.

Following are the requirements for the minor:

1. Two of the following courses: GEOG 100, ANT 100, ECON 100, PSCI 100.

The student should consult his assigned adviser.

2. Courses selected from each of the following areas:

	<i>Hours Credit</i>
I. Principles of Sociology ..... SOC 100	5
One course from each of the following areas: .....	12
IV. Social Psychology ..... Selected from SOC 210, 310, 510, 515	.....
V. Social Institutions ..... Selected from SOC 120, 221, 223, 321, 325, 551, 527	.....
VI. Social Organization and Process ..... Selected from SOC 230, 232, 333, 337, 433, 435	.....
VII. Social Disorganization ..... Selected from SOC 145, 240, 245, 340, 345, 445, 447, 540, 541	.....
VIII. Advanced Electives .....	10
	27

For students interested in being certified for teaching of the social sciences, the Department of Sociology recommends a major in Social Science (see page 71).

## Speech Communication and Journalism

**Donald L. Holley, Chairman**

**Professors:** Ray DeBoer, Hartman, Holley.

**Associate Professors:** Crawford.

**Assistant Professors:** Ehrlich, Krupar, Longwell, Stewart, Warnemunde.

**Instructors:** Camp, Ruth DeBoer, Harkai, Leonard, Smith.

The Department of Speech Communication and Journalism offers majors in Speech Communication and in Journalism.

## Speech Communication Major

The following are the requirements for the Speech Communication major:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.
2. **Speech Communication core** totaling 50 quarter hours.

	<i>Hours Credit</i>
<b>a. Required courses</b>	
1. Communication Theory .....	10
SP 140, 420, 460	
2. Public Discussion .....	9
SP 150, 212, 302	
3. Voice Science .....	3
SP 130	
4. Survey of Speech Communication .....	3
SP 120	
5. Public Address .....	6
Selected from SP 452, 454, 456	
<b>b. Speech communication electives</b> .....	<b>19</b>
	<b>50</b>

3. One cognate area totaling at least 25 quarter hours.

4. Electives to complete 180 quarter hours of academic credit.

Students majoring in Speech Communication are expected to participate in Speech Communication activities such as oral interpretation, radio, television, debate, discussion, persuasive speaking (oratory), judging, etc.

Select one of the following cognate areas:

### 1. English Cognate

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
ENG	111—Introduction to Poetry .....	3
ENG	112—Introduction to Prose .....	3

Three of the following five courses: one must be either ENG 209 or ENG 210.

ENG	206—Survey of English Literature from the Beginning to 1660 .....	4
ENG	207—Survey of English Literature from 1660 to 1832 .....	4
ENG	208—Survey of English Literature from 1832 to the Present .....	4
ENG	209—American Literature to the Civil War .....	4
ENG	210—American Literature Since the Civil War .....	4
ENG	313—Advanced Expository Writing .....	3
ENG	314—History of the English Language .....	5
EED	402—Literature and Materials in the Secondary School .....	5
		<b>31</b>

### 2. Mass Communications Cognate

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
SP	240—Radio Production and Practices .....	3
SP	440—Introduction to Television Production .....	4
THEA	411—Stage Lighting .....	2
JOUR	100—Introduction to Journalism .....	2
JOUR	105—Newsriting .....	3
JOUR	499—The Press and Current Affairs .....	3
EDEM	460—Television in Education .....	3
PSCI	300—Public Opinion and Pressure Groups .....	4
SOC	310—Social Psychology .....	3
		<b>27</b>

### 3. Psychology-Sociology Cognate

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
SP	400—Theories of Group Process .....	3
SP	456—Rhetoric of Social Protest .....	3
PSY	350—Psychology of the Healthy Personality .....	3
PSY	355—Mental Hygiene and Emotional Adjustment .....	3
SOC	245—Problems in Inter-Group Relations .....	4
SOC	310—Social Psychology .....	3
	*Electives in Psychology and Sociology .....	7
		26

\*Electives in Psychology and Sociology must be selected from PSY 201, PSY 266, PSY 363, PSY 364, PSY 521.

### 4. Social Science Cognate\*

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
SP	452—American Public Address (to 1890) .....	3
SP	454—**American Public Address (1890 to Present) .....	3
PSCI 101, 102, 103	—United States Government (I, II, or III) .....	3
PSCI	300—Public Opinion and Pressure Groups .....	4
HIST 170, 171, 172	—History of the United States (I, II, or III) .....	3
	Electives in Social Science .....	10
		26

\*Students seeking certification should elect courses to meet specific requirements imposed by Accrediting Agency of respective region.

\*\*Student may substitute SP 456.

### 5. Theatre Arts Cognate

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
THEA	110—Introduction to Stagecraft .....	3
THEA	160—Acting I (Internals) .....	4
THEA	240—Beginning Play Direction .....	4
THEA	260—Acting II (Externals) .....	3
THEA	310—Beginning Scene Design .....	3
	*Electives in Theatre Arts .....	8
		25

\*THEA 280 is required for student in the Professional Teacher Education Program.

## Speech Communication Minors

### 1. Speech Communication minor for elementary education majors

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
SP	130—Voice and Speech Improvement .....	3
SP	150—Public Speaking .....	3
	<i>or</i>	
SP	302—Group Discussion .....	3
THEA	280—Creative Dramatics .....	3
	<i>or</i>	
JOUR	105—News writing .....	3
SP	170—Oral Interpretation .....	3
SP	230—Introduction to Phonetics .....	3
SP	420—General Semantics .....	4
EDSE	160—Introduction to Speech Correction .....	3
	Theatre Arts Electives .....	6
	<i>or</i>	
	Speech Communication-Jour. Electives .....	6
		28

2. **Speech Communication minor for majors in disciplines other than elementary education** includes the 31 quarter hours listed in the Speech Communication core plus 4 quarter hours of Speech Communication electives for a total of 35 quarter hours.

Students interested in being certified for teaching Speech Communication in secondary schools must complete all the requirements for the Speech Communication major plus the following:

1. Complete the professional education courses as listed under Professional Teacher Education Program in this catalog.

2. After completing no fewer than 70 quarter hours, make application to the Teacher Education Committee and receive notification of acceptance into the Professional Teacher Education Program. Forms are available in the School of Education office. A grade point average of 2.3 is required in courses counting toward the major. Only courses taken at the University of Northern Colorado will be used in computing the grade point average.

3. Students who desire to teach Speech Communication exclusively need not take English courses beyond the 15 quarter hours of English (ENG 101, 102, 201, 202, 203) required in the general education program.

4. To enhance your job opportunities it is strongly recommended that a student certify in a second area of study. Consult with your adviser.

5. Theatre 160, Acting I (4 hours) and Theatre 240, Beginning Play Direction (4 hours) must be taken as part of the 19 hours of electives listed in the Speech Communication core.

6. Students must complete 6 quarter hours of work in the area of argumentation and debate. In addition to Speech 212, Argumentation Theory (3 hours) take Speech 310, Academic Debate (3 hours) or Speech 210, Laboratory Forensics (3 hours).

7. Special Education 160 (EDSE 160), Introduction to Speech Correction (3 hours) is required.

**HONORS**—The Department of Speech Communication participates in the Honors Program. See page No. 40.

## Journalism Major

The following are the requirements for the journalism major:

1. General Education totaling 60 academic hours, plus six quarters of physical education activity, as specified for all undergraduate programs.

2. Journalism courses totaling 50 quarter hours.

Course No.	Course Title	Hours	Credit
JOUR	100—Introduction to Journalism .....	2	2
JOUR	105—Newsriting .....	3	3
JOUR	110—Advanced Newsriting .....	3	3
JOUR	200—Journalism Internship (Three quarters practical work on UNC publications) .....	3	3
JOUR	250—Editing and Layout .....	4	4
JOUR	284—Techniques of Advertising .....	3	3
JOUR	297—Feature and Depth Writing for Newspapers .....	2	2
JOUR	395—Fundamentals of Public Relations .....	3	3
JOUR	396—Opinion Formation, Propaganda and the Media .....	3	3
JOUR	397—Master Journalists and Their Times .....	3	3
JOUR	498—Ethics and Libel .....	3	3
JOUR	499—The Press and Current Affairs .....	3	3
IA	345—Publication Production .....	5	5
SP	420—Introduction to General Semantics .....	4	4
	Electives in journalism or related liberal arts courses .....	6	6
			50

3. Select one minor from among English, business education, history, political science, physical education; or select one cognate from among radio-television, social science, the arts, or business; to total 27 quarter hours.

The cognate areas are:

### Radio-Television Cognate

Course No.	Course Title	Hours	Credit
JOUR	200—Journalism Internship-Radio .....	3	3
SP	130—Voice and Speech Improvement .....	3	3
SP	150—Public Speaking .....	3	3
SP	240—Radio Production and Practices .....	3	3
SP	440—Introduction to Television Production .....	4	4
THEA	411—Stage Lighting .....	2	2
	Electives in Speech or Journalism .....	9	9

**Social Science Cognate\***

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
HIST	171—United States History II .....	3
HIST	172—United States History III .....	3
GEOG	312—Economic Geography .....	5
PSCI	201—State and Local Government .....	5
SOC	145—Social Problems .....	3
	Electives in one of these areas: diplomatic history, contemporary history, economic history and problems, sociology, government or foreign policy .....	8
		<hr/> 27

\*If selecting this cognate, student takes the General Education requirements of ECON 100, PSCI 100 and SOC 100.

**The Arts Cognate**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
IA	540—Graphic Arts Design and Layout .....	3
	Electives recommended for the student interested in home economics are HEC 101, 191, 192, 211, 221, 271, 340, 351. Electives recommended for the student interested in industrial arts are IA 342, 443, 541, 542, plus twelve additional hours .....	24
		<hr/> 27

**Business Cognate**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
BUS	220—Principles of Accounting I .....	4
BUS	260—Marketing .....	3
BUS	261—Salesmanship .....	3
BUS	460—Advertising Strategy .....	3
	Electives to fit student interest taken in one or more fields from marketing, shorthand, accounting, management, or data processing.....	14
		<hr/> 27

4. Electives to complete 180 quarter hours. Among these electives must be at least nine hours in one liberal arts study area, beyond requirements in that area specified for General Education and for the journalism major.

Students interested in being certified for teaching journalism in the secondary schools must complete the requirements for the journalism major listed above, with these changes:

1. Gain admittance to Professional Teacher Education with a minimum of 2.3 grade point average in courses taken here in the major and after having taken about one-half or more of the courses in the major.

2. Complete or be enrolled for 34 quarter hours in professional education courses, including EDHP 365, PSY 340, EDCI 340, JOUR 301, and EDSF 460.

3. Substitute for electives allowed in the major field this course: EM 420, Design and Construction of Audio-Visual Materials, 3 quarter hours.

4. Complete, along with the journalism major, one minor in English, social science, business education, or other closely related field to journalism, as that minor is described by that department.

Requirements for a student taking a major in one field and electing journalism as a minor are:

**Journalism Minor**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
JOUR	100—Introduction to Journalism .....	2
JOUR	105—Newsriting .....	3
JOUR	110—Advanced Newsriting .....	3
JOUR	284—Techniques of Advertising .....	3

•JOUR	301—Methods of Teaching Journalism in the Secondary School .....	3
IA	345—Publication Production .....	5
SP	420—General Semantics .....	4
	Electives in journalism, English, speech, or social science .....	4
		<hr/> 27

JOUR 250 recommended as elective credit.

\*This course taken only if going into teacher education.

## Theatre Arts

**Welby B. Wolfe, Chairman**

**Professors:** J. Willcoxon, W. Wolfe

**Assistant Professors:** Girault, Layne, Norton

**Instructor:** P. Mikkelson

The Department of Theatre Arts offers a major and a minor.

Following are the requirements for the major:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.
2. One of the following sequences of courses in the major.

### ACTING SEQUENCE

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
THEA	110—Introduction to Stagecraft .....	3	3
SP	130—Speech and Voice Improvement .....	3	3
THEA	160—Acting I (Internals) .....	4	4
THEA	170—Stage Movement I .....	1	1
THEA	171—Stage Movement II .....	1	1
THEA	172—Stage Movement III .....	1	1
THEA	240—Beginning Play Direction .....	4	4
THEA	260—Acting II (Externals) .....	3	3
THEA	261—Stage Make-up .....	2	2
THEA	430—History of the Theatre I .....	3	3
THEA	431—History of the Theatre II .....	3	3
THEA	432—History of the Theatre III .....	3	3
THEA	460—Serious Styles of Acting .....	2	2
THEA	461—Comic Styles of Acting .....	2	2
THEA	462—Problems in Acting Conventions .....	2	2
	Electives in Theatre Arts or dramatic literature .....	11	11
		<hr/>	48

or

### PLAY DIRECTION SEQUENCE

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
THEA	110—Introduction to Stagecraft .....	3	3
SP	130—Speech and Voice Improvement .....	3	3
THEA	160—Acting I (Internals) .....	4	4
THEA	210—Stagecraft .....	3	3
THEA	240—Beginning Play Direction .....	4	4
THEA	260—Creative Dramatics .....	3	3
THEA	310—Beginning Scene Design .....	3	3
THEA	340—Techniques of Play Direction .....	3	3
THEA	380—Children's Theatre Production .....	3	3
THEA	411—Stage Lighting .....	2	2
THEA	430—History of the Theatre I .....	3	3
THEA	431—History of the Theatre II .....	3	3
THEA	432—History of the Theatre III .....	3	3
THEA	440—Practicum in Play Direction .....	2	2
THEA	441—Individual Practicum in Advanced Play Direction .....	4	4
	Electives in Theatre Arts or dramatic literature .....	2	2
		<hr/>	48



or

**TECHNICAL THEATRE SEQUENCE**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
THEA	110—Introduction to Stagecraft .....	3
THEA	160—Acting I (Internals) .....	4
THEA	210—Stagecraft .....	3
THEA	220—Beginning Stage Costuming .....	3
THEA	240—Beginning Play Direction .....	4
THEA	310—Beginning Scene Design .....	3
THEA	320—Stage Costuming .....	4
THEA	410—Advanced Scene Design .....	3
THEA	411—Stage Lighting .....	2
THEA	412—Advanced Staging Techniques .....	4
THEA	430—History of the Theatre I .....	3
THEA	431—History of the Theatre II .....	3
THEA	432—History of the Theatre III .....	3
	Electives in Theatre Arts or dramatic literature .....	6
		<b>48</b>

or

**GENERAL THEATRE SEQUENCE**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
	A major sequence in Theatre Arts to be individually arranged with adviser .....	48

3. In addition, at least one minor of 27 quarter hours. Courses in the selected minor that are preceded by an asterisk (\*) may be counted toward fulfillment of the General Education requirements.

4. Electives sufficient to complete the requirements for the Bachelor of Arts degree.

5. Students majoring in Theatre Arts are required to participate in departmental theatre productions for a minimum of eleven quarters, or a departmentally approved equivalent.

Students contemplating graduate work in Theatre Arts are encouraged to take elective courses in dramatic literature and two years of a foreign language.

For students interested in being certified for teaching Drama, the Department of Theatre Arts requires the following sequence in the major:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.

2. Professional Teacher Education, 29 hours, plus EDCI 340, two hours credit, and EDCI 341, three hours credit.

3. The following sequence of courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
THEA	110—Introduction to Stagecraft .....	3
SP	130—Speech and Voice Improvement .....	3
THEA	160—Acting I (Internals) .....	4
THEA	210—Stagecraft .....	3
THEA	220—Beginning Stage Costuming .....	3
THEA	240—Beginning Play Direction .....	4
THEA	260—Acting II (Externals) .....	3
THEA	280—Creative Dramatics .....	3
THEA	310—Beginning Scene Design .....	3
THEA	340—Techniques of Play Direction .....	3
THEA	380—Children's Theatre Production .....	3
THEA	411—Stage Lighting .....	2
THEA	430—History of the Theatre I .....	3
THEA	431—History of the Theatre II .....	3
THEA	432—History of the Theatre III .....	3
THEA	440—Practicum in Play Direction .....	2
THEA	480—Senior Seminar in Dramatic Production .....	2
	Electives in dramatic literature .....	7
		<b>57</b>

4. In addition, at least one minor of 27 quarter hours. Courses in the selected minor that are preceded by an asterisk (\*) may be counted toward fulfillment of the General Education requirements.

5. Meet the minimum requirements set up by the North Central Association for teachers of Drama. Consult your adviser.

6. Electives sufficient to complete the requirements for the Bachelor of Arts degree.

7. Students majoring in the Teaching Profession sequence of Theatre Arts are required to participate in departmental theatre productions for a minimum of ten quarters, or a departmentally approved equivalent.

Following are the requirements for the minor:

## Theatre Arts Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
THEA	110—Introduction to Stagecraft .....		3
THEA	160—Acting I (Internals) .....		4
THEA	230—Introduction to the Theatre .....		3
	Electives in Theatre Arts .....		17
			<hr/> 27

For students interested in being certified for teaching Drama, the Department of Theatre Arts requires the following sequence in the minor:

## Theatre Arts Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
THEA	110—Introduction to Stagecraft .....		3
THEA	160—Acting I (Internals) .....		4
THEA	210—Stagecraft .....		3
THEA	230—Introduction to the Theatre .....		3
THEA	240—Beginning Play Direction .....		4
THEA	260—Acting II (Externals) .....		3
THEA	310—Beginning Scene Design .....		3
	Electives in Theatre Arts .....		4
			<hr/> 27

In addition, students minoring in the Teaching Profession sequence are required to complete EDCI 341, three hours credit, in the minor field.

All students minoring in Theatre Arts are required to participate in departmental theatre productions for a minimum of two quarters.

**HONORS**—The Department of Theatre Arts participates in the Honors Program. See page No. 40.

# SCHOOL OF THE ARTS

William R. Erwin, Jr., Dean

The School of the Arts offers a four-year program of studies for the Bachelor of Arts degree in the areas of Fine Arts, Home Economics, and Industrial Arts. All the departments offer majors which lead to preparation for the teaching profession and also for non-teaching pursuits.

The school gives interested individuals an opportunity to acquire professional competence (specialized and general culture) in the following majors for the Bachelor of Arts degree:

- Dietetic
- Family Life and Consumer Education
- Fine Arts
- Fine Arts (with teacher preparation)
- Food and Nutrition
- Food and Nutrition (with teacher preparation)
- Home Economics Education (with teacher preparation)
- Industrial Arts
- Industrial Arts (with teacher preparation)
- Preschool Education (with teacher preparation)

## Fine Arts

John I. Mariani, Chairman

Professors: Ball, Mariani

Associate Professor: D. Johnson

Assistant Professors: Barucchieri, Blubaugh, Cordiner, Moody, Schumacher

Instructors: Durr, Haas, B. Johnson, Luster, MacFarlane, Myers, Naumer, Welsh

THE DEPARTMENT OF FINE ARTS OFFERS THE FOLLOWING MAJORS AND MINORS:

The following is the required major:

1. General Education totaling 60 academic quarter hours, plus six quarter hours of physical education activity courses. (One quarter hour each in six quarters.)

2. The following required courses in the major:

Course No.	Course Title	Hours	Credit
FA	100—Drawing .....	3	3
FA	102—Figure Drawing .....	3	3
FA	105—Design Fundamentals .....	3	3
FA	106—Design and Color .....	3	3
FA	107—Design in Three Dimensions .....	3	3
FA	111—Survey of Art History .....	3	3
FA	112—Contemporary Art History .....	3	3
FA	200—Art and Aesthetics .....	2	2
FA	203—Introduction to Watercolor Painting .....	2	2
FA	215—Crafts: Design on Fabrics .....	5	5
	either/or		
FA	216—Crafts: Design with Materials .....	5	5
FA	217—Introduction to Pottery .....	3	3
FA	258—Introduction to Sculpture .....	3	3
FA	259—Printmaking .....	3	3
FA	320—Introduction to Oil Painting .....	3	3

3. Complete two of the following areas of emphasis and additional electives for a minimum of 84 quarter hours in the major:

### Ceramics

FA	317-Pottery .....	3
FA	417-Pottery: Advanced Throwing .....	3
FA	527-Glaze Formulation .....	3

### Crafts

FA	215-Crafts: Design on Fabrics .....	5
FA	216-Crafts: Design with Materials .....	5
FA	270-Introduction to Silversmithing .....	4
FA	271-Cast Jewelry Designing and Techniques .....	4
FA	300-Weaving .....	3
FA	316-Creative Jewelry .....	4
FA	419-The Silk Screen Printing Process .....	3
FA	500-Techniques of Creative Weaving .....	3
FA	570-Advanced Jewelry and Silversmithing .....	4

### Commercial Art

FA	113-Lettering .....	2
FA	123-Poster Design and Production .....	2
FA	153-Display and Exhibition Techniques .....	2
FA	154-Drawing and Painting Techniques .....	3
FA	204-Commercial Design and Poster .....	2

### History

FA	221-Influence of African Sculpture On Modern Art .....	3
FA	321-Art History I .....	3
FA	322-Art History II .....	5
FA	323-Art History III .....	5
FA	553-Medieval Art History .....	3
FA	558-The Arts of the United States .....	3

### Painting

FA	403-Watercolor Painting .....	5
FA	420-Oil Painting .....	5
FA	525-Figure Painting .....	5
FA	532-Contemporary Oil Painting .....	5

### Printmaking

FA	210-Lithography .....	3
FA	305-Monoprints .....	2
FA	309-Intermediate Printmaking .....	3
FA	509-Advanced Printmaking .....	3

### Sculpture

FA	307-Sculpture I .....	5
FA	308-Sculpture II .....	5
FA	407-Functional Sculpture .....	3
FA	508-Sculpture in Metal and Plastics .....	3

4. Electives to complete requirements for graduation.

## Fine Arts Minor

Course No.	Course Title	Hours	Credit
FA	100-Drawing .....	3	3
FA	102-Figure Drawing .....	3	3
FA	105-Design Fundamentals .....	3	3
FA	106-Design and Color .....	3	3
FA	107-Design in Three Dimensions .....	3	3
FA	111-Survey of Art History .....	3	3
FA	112-Contemporary Art History .....	3	3
FA	200-Art and Aesthetics .....	2	2

Elect 13 additional quarter hours to complete 36 quarter hours required for a minor from the following courses:

FA	203-Introduction to Watercolor Painting .....	2
FA	215-Crafts: Design on Fabrics .....	5
	either/or	
FA	216-Crafts: Design with Materials .....	5
FA	217-Introduction to Pottery .....	3
FA	258-Introduction to Sculpture .....	3
FA	259-Printmaking .....	3
FA	320-Introduction to Oil Painting .....	3

In both majors and minors students must complete FA 100, 102, 105, 106, 107, 111, 200 (or equivalents) before continuing in other Fine Arts courses.

## Fine Arts Major (With Teacher Preparation)

The following is the required major:

1. General Education totaling 60 academic quarter hours, plus six quarter hours of physical education activity courses. (One quarter hour each in six quarters.)

2. Professional Teacher education, 36 quarter hours, including EDCI 340, Introduction to Student Teaching, two hours credit, EDCI 341, Methods of Teaching in the Secondary School (Fine Arts) three hours credit, and SFE 460, Student Teaching, 18 hours credit, and EDF 485.

3. The following required courses in the major:

Course No.	Course Title	Hours Credit
FA	100-Drawing .....	3
FA	102-Figure Drawing .....	3
FA	105-Design Fundamentals .....	3
FA	106-Design and Color .....	3
FA	107-Design in Three Dimensions .....	3
FA	111-Survey of Art History .....	3
FA	112-Contemporary Art History .....	3
FA	200-Art and Aesthetics .....	2
FA	203-Introduction to Watercolor Painting .....	2
FA	215-Crafts: Design on Fabrics .....	5
	either/or	
FA	216-Crafts: Design with Materials .....	5
FA	217-Introduction to Pottery .....	3
FA	258-Introduction to Sculpture .....	3
FA	259-Printmaking .....	3
EDFE	270-Teacher Aid, FA Elementary .....	1
EDFE	270-Teacher Aid, FA Secondary .....	1
FA	320-Introduction to Oil Painting .....	3
*FA	339-Philosophy of Art Education .....	2
	Prerequisites: EDFE-270-Teacher Aid, FA Elementary	
	Prerequisites: EDFE-270-Teacher Aid, FA Secondary	

\*Must be completed prior to EDCI 340 and EDCI 341.

Complete electives from the following areas of emphasis for a minimum of 56 total hours in the major.

### Ceramics

FA	317-Pottery .....	3
FA	417-Pottery: Advanced Throwing .....	3
FA	527-Glaze Formulation .....	3

### Crafts

FA	215-Crafts: Design on Fabrics .....	5
FA	216-Crafts: Design with Materials .....	5
FA	270-Introduction to Silversmithing .....	4
FA	271-Cast Jewelry Designing and Techniques .....	4
FA	300-Weaving .....	3
FA	316-Creative Jewelry .....	4
FA	419-The Silk Screen Printing Process .....	3
FA	500-Techniques of Creative Weaving .....	3
FA	570-Advanced Jewelry and Silversmithing .....	4

**Commercial Art**

FA	113—Lettering .....	2
FA	123—Poster Design and Production .....	2
FA	153—Display and Exhibition Techniques .....	2
FA	154—Drawing and Painting Techniques .....	3
FA	204—Commercial Design and Poster .....	2

**History**

FA	221—Influence of African Sculpture on Modern Art .....	3
FA	321—Art History I .....	3
FA	322—Art History II .....	5
FA	323—Art History III .....	5
FA	553—Medieval Art History .....	3
FA	558—The Arts of the United States .....	3

**Painting**

FA	403—Watercolor Painting .....	5
FA	420—Oil Painting .....	5
FA	525—Figure Painting .....	5
FA	532—Contemporary Oil Painting .....	5

**Printmaking**

FA	210—Lithography .....	3
FA	305—Monoprints .....	2
FA	309—Intermediate Printmaking .....	3
FA	509—Advanced Printmaking .....	3

**Sculpture**

FA	307—Sculpture I .....	5
FA	308—Sculpture II .....	5
FA	407—Functional Sculpture .....	3
FA	508—Sculpture In Metal and Plastics .....	3

## 4. Electives to complete requirements for graduation.

**Endorsement for teaching K through Twelfth grades**

In order to be recommended for endorsement to teach K through Twelfth grades, Fine Arts majors should complete the following minimum requirements in Elementary Art Education:

FA	114—Elementary Crafts Design .....	2
FA	115—Elementary Earthenware .....	2
FA	224—Elementary Art .....	3
FA	225—Methods of Teaching Art in the Elementary School .....	2
FA	227—Art for Exceptional Children .....	3
FA	530—Seminar in Elementary Art .....	2

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**HONORS**—The Department of Fine Arts participates in the Honors Program. See page No. 40.

## Home Economics

**Martha A. Poolton, Chairman**

**Associate Professor:** Poolton

**Assistant Professors:** Burns, Funderburk, Reeves, Taylor, Walters.

**Instructors:** Egeness, Jones, Jorgenson, Krosky, Montgomery, Oslund, Sorensen.

The Department of Home Economics offers the following majors: Dietetic, Family Life and Consumer Education, Food and Nutrition, Home Economics Education, and Preschool Education.

**General Requirements for all Home Economics Majors:**

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity (one quarter hour per quarter) .

2. HEC 108. The Home Economics Profession. To be taken fall quarter of the first year the student is enrolled as a major in the Department of Home Economics. A transfer student that has taken a comparable course may be exempted.

3. Recommended selections in the Sophomore year:

- A. Dietetic major:
  - ANT 100
  - SOC 100
  - ECON 100
- B. Food and Nutrition Major:
  - ANT 100
  - SOC 100
  - ECON 100
- C. Family Life and Consumer Education Major:
  - ANT 100
  - SOC 100
  - ECON 100
- D. Preschool major:
  - ANT 100
  - SOC 100
- E. Home Economics Education major: (Required for Vocational Homemaking Credential Option)
  - ECON 100
  - SOC 100

4. Courses as specified in the major selected plus electives to complete 180 quarter hours of academic credit.

NOTE: Students with sufficient background in clothing construction may be exempted from HEC 192, Elementary Clothing Construction and students with sufficient background in food preparation may be exempted from HEC 141, Food selection and Preparation, by passing a challenge test. Check with the Department for date these tests will be given.

**Dietetic Major**

Completion of a 12-month dietetic internship following graduation in an approved hospital or institution management program qualifies an individual for membership in the American Dietetic Association. Typical positions for dietitians are found in the areas of hospital dietetics, commercial or college food service management, school lunch program supervision and public health nutrition.

NOTE: With additional study at the graduate level a wider range of administrative positions in dietetics, research or teaching at the college level in food or nutrition courses and research in industrial laboratories are available.

The following courses are required in the major listed according to recommended sequence.

**Freshman Year**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
HEC	108—The Home Economics Profession .....	1
HEC	141—Food Selection and Preparation I .....	4
HEC	171—Art in Home Living .....	2
HEC	181—Textile Fundamentals .....	5
HEC	191—Clothing Selection .....	2
HEC	192—Fundamentals of Clothing Construction .....	3
CHEM	104—Principles of Chemistry I .....	5
CHEM	105—Principles of Chemistry II .....	5
CHEM	130—Introductory Organic Chemistry .....	5
		<b>32</b>

**Sophomore Year**

HEC	211—Management in Family Living .....	3
HEC	242—Principles of Food Preparation II .....	4
HEC	251—Nutrition I .....	3
CHEM	281—General Biochemistry .....	5
ZOO	105—General Zoology .....	5
ZOO	156—Elements of Human Physiology—Anatomy .....	5
ZOO	250—Human Physiology .....	5
PSY	266—Industrial Psychology .....	3
BUS	220—Principles of Accounting I .....	4
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**Junior Year**

HEC	331—Development of the Infant and Toddler .....	3
HEC	333—Development and Guidance of the Preschool Child .....	4
HEC	343—Meal Planning and Service .....	4
HEC	353—Diet Therapy .....	3
HEC	362—Demonstration Techniques .....	2
HEC	374—Equipment Selection and Maintenance .....	4
PSY	340—*Psychology of Perception and Learning .....	5

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**Senior Year**

HEC	445—Experimental Food Studies .....	4
HEC	446—Food Service Administration .....	3
HEC	447—Quantity Food Purchasing and Preparation .....	4
HEC	448—Organization and Management of Food Service .....	3
HEC	453—Nutrition II .....	3
BIO	260—Microbiology .....	5
BUS	180—Introduction to Data Processing .....	3
BUS	205—Business Communications .....	3
RSM	403—Introductory Statistical Methods .....	3
BUS	453—Personnel Management .....	5
ECON	305—Labor-Management Relations .....	3
JOUR	105—Newsriting .....	3

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\*Not required if teaching option is selected.

**Food and Nutrition Option**

A student with a concentration in foods and the science minor which is included as part of the dietetic major may wish to seek a position in industry with a food or equipment firm in research or consumer education for which an internship is not essential.

**Teaching Option**

Students may elect to include the 31 hours required in Professional Teacher Education Program plus EDCI 340 and EDCI 341 to obtain a teaching certificate in conjunction with the dietetic major. With this option a student will be qualified to teach in certain types of secondary home economics programs.

Additional courses in the home economics area are required as follows:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
HEC	221—Family Relationships .....	3
HEC	271—The Home and Its Furnishings .....	5
HEC	419—Home Management Practicum .....	3

**Family Life and Consumer Education Major**

This major provides professional opportunities in the areas of social and youth services, or public utility companies and commercial firms which provide information to consumers concerning products and services for the home.

The following courses are required for the major:

**Freshman Year**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
HEC	108—The Home Economics Profession .....	1
HEC	141—Food Selection and Preparation I .....	4
HEC	171—Art in Home Living .....	2
HEC	181—Textile Fundamentals .....	5
HEC	192—Fundamentals of Clothing Construction .....	3

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**Sophomore Year**

HEC	211—Management in Family Living .....	3
HEC	221—Family Relationships .....	3
HEC	242—Principles of Food Preparation II .....	4
HEC	251—Nutrition I .....	3
HEC	271—The Home and Its Furnishings .....	5
		<hr/>
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**Junior and Senior Year**

HEC	331—Development of the Infant and Toddler .....	3
HEC	333—Development and Guidance of the Preschool Child .....	4
HEC	343—Meal Planning and Service .....	4
HEC	362—Demonstration Techniques .....	2
HEC	374—Equipment Selection and Maintenance .....	4
HEC	415—Consumer Problems of the Family .....	3
HEC	465—Home Economics Programs for Special Needs .....	3
		<hr/>
		23
CHEM	104—Principles of Chemistry I .....	5
CHEM	—Plus five hours of Organic Chemistry .....	5
PHYS	150—Principles of Physics .....	5
		<hr/>
		15

**One or more courses from the following groups:**

EDEM	310—Introduction to Educational Resources .....	5
EDEM	320—Design and Construction of Audio-visual Materials .....	3
EDEM	460—Television in Education .....	4
SOC	145—Social Problems .....	3
SOC	245—Problems of Intergroup Relations .....	4
SP	150—Public Speaking .....	3
SP	140—Principles of Mass Communications .....	3
BUS	205—Business Communication .....	3
ECON	102—Contemporary Economics Problems .....	3
BUS	260—Marketing .....	4
JOUR	105—Newswriting .....	3
IA	342—Photography .....	3
IA	345—Publication Production .....	5

Elective courses in the following fields are recommended: Anthropology, Biology, Health, Physical Education and Recreation, Psychology, Sociology, Speech Communication-Journalism, and Theater Arts.

**Textiles and Clothing Option**

By electing the textiles and clothing courses offered in the department a student may obtain preparation toward work in apparel merchandising, costume design or textile design, and promotion with pattern or textile firms. Additional electives should be chosen in the related fields of Business, Economics, Fine Arts, Sociology and Psychology.

Recommended Courses: CHEM 105 and CHEM 130 to provide background in textile chemistry.

**Food and Nutrition Major**

This major prepares students for positions in commercial test kitchens and technical work in quality control and product development laboratories in the food processing industry or nutrition work in government agencies or industry.

The following courses are required for the major:

**Freshman Year**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
HEC	108—The Home Economics Profession .....	1
HEC	141—Food Selection and Preparation I .....	4
JOUR	105—Newsriting .....	3
CHEM	104—Principles of Chemistry I .....	5
CHEM	105—Principles of Chemistry II .....	5
CHEM	130—Introductory Organic Chemistry .....	5
		<hr/>
		23

**Sophomore Year**

HEC	211—Management in Family Living .....	3
HEC	221—Family Relationships .....	3
HEC	242—Principles of Food Preparation II .....	4
HEC	251—Nutrition I .....	3
BUS	205—Business Communications .....	3
CHEM	281—General Biochemistry .....	5
BIO	280—Microbiology .....	5
		<hr/>
		26

**Junior Year**

HEC	331—Development of the Infant and Toddler .....	3
HEC	333—Development and Guidance of the Preschool Child .....	4
HEC	343—Meal Planning and Service .....	4
HEC	362—Demonstration Techniques .....	2
IA	342—Photography .....	3
IA	345—Publication Production .....	5
		<hr/>
		21

**Senior Year**

HEC	419—Home Management Practicum .....	3
HEC	445—Experimental Food Studies .....	4
HEC	446—Food Service Administration .....	3
HEC	447—Quantity Food Purchasing and Preparation .....	4
HEC	448—Organization and Management of Food Service .....	3
HEC	453—Nutrition II .....	3
HEC	456—Infant and Child Nutrition .....	3
		<hr/>
		23

Recommended Elective: CHEM 315, Food Analysis (5)

**Home Economics Education Major**

With fulfillment of specified requirements under alternate options a student becomes prepared to teach in one or more types of home economics programs in the junior and senior high schools.

**1. Education Courses Required:**

- A. Professional Teacher Education courses, 31 hours. Department requirement of a 2.3 cumulative G.P.A. for admission into P.T.É.
- B. EDCI 340 Introduction to Student Teaching in the Secondary School. Two hours credit.\*
- C. EDCI 341 Methods of Teaching in the Secondary School, (HEC). Three hours credit.\*

\*See course description under Educational Curriculum and Instruction.

2. The following courses are required of all students in this major; listed in recommended sequence:

### Freshman Year

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
HEC	108—The Home Economics Profession .....	1	
HEC	141—Food Selection and Preparation I .....	4	
HEC	171—Art in Home Living .....	2	
HEC	181—Textile Fundamentals .....	2	
HEC	191—Clothing Selection .....	2	
HEC	192—Fundamentals of Clothing Construction .....	3	
CHEM	104—Principles of Chemistry I .....	5	
CHEM	—Plus five hours of Organic Chemistry .....	5	
			27

### Sophomore Year

HEC	211—Management in Family Living .....	3	
HEC	221—Family Relationships .....	3	
HEC	242—Principles of Food Preparation II .....	4	
HEC	251—Nutrition I .....	3	
HEC	271—The Home and Its Furnishings .....	5	
HEC	293—Intermediate Clothing Construction .....	4	
			22

### Junior Year

HEC	331—Development of the Infant and Toddler .....	3	
HEC	333—Development and Guidance of the Preschool Child .....	4	
HEC	343—Meal Planning and Service .....	4	
HEC	362—Demonstration Techniques .....	2	
HEC	374—Equipment Selection and Maintenance .....	4	
			17

### Senior Year

HEC	415—Consumer Problems of the Family .....	3	
HEC	419—Home Management Practicum .....	3	
HEC	494—Tailoring .....	4	
			10

#### Recommended elective:

IA	256—Upholstery .....	2	
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## Vocational Homemaking Credential Option

In order to qualify for a Vocational Homemaking Credential under the State Board for Community Colleges and Occupational Education, the following courses are required. If these are successfully completed another minor is not required but strongly recommended for the Bachelor of Arts degree.

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
SOC	100—Principles of Sociology .....	5	
ECON	100—Introductory Economics .....	5	
HEC	260—Occupational Home Economics Education .....	2	
HEC	325—Home Nursing .....	2	
HEC	363—Intro. to Curriculum in Home Economics Education .....	3	
HEC	367—Principles and Practices of Evaluations in Home Economics Education .....	3	
HEC	395—Costume Design—Flat Pattern .....	3	
HEC	465—Home Economic Programs for Special Needs .....	3	
HEC	468—Senior Seminar in Home Economics Education .....	2	
VE	310—Foundations of Vocational Education .....	2	
VE	311—History of Vocational Education .....	1	
			21

For students who desire to develop occupational programs in vocational home economics, the following courses are recommended:

VE	412—Cooperative Education and Coordination Techniques .....	3
VE	414—Vocational Youth Organizations .....	2
VE	416—Adult Vocational Education .....	3
VE	424—Occupational Analysis .....	2
VE	425—Program Development .....	3
VE	430—Vocational Education for Learners with Special Needs .....	3

## Preschool Education Major

This major prepares students for positions as Head Start teachers; director and head teacher in preschool or day care centers; for child welfare and social work; and pre-kindergarten instruction in the public schools.

1. Education courses required: Professional Teacher Education, 31 hours.

2. No minor is required.

3. The following courses are required for the major, listed according to recommended sequence:

### Freshman Year

Course No.	Course Title	Hours	Credit
HEC	108—The Home Economics Profession .....	1	
HEC	136—Introduction to Preschool .....	2	
SP	130—Voice and Diction .....	3	
EDSE	160—Introduction to Speech Correction .....	3	
PSY	121—General Psychology and Human Performance .....	3	
			12

### Sophomore Year

HEC	141—Food Selection and Preparation I (Preschool section) .....	4	
HEC	221—Family Relationships .....	3	
HEC	251—Nutrition I .....	3	
BIO	131—Heredity and Your Life .....	3	
HPER	262—First Aid .....	2	
HPER	291—Rhythms for the Elementary School .....	2	
			17

### Junior Year

HEC	331—Development of the Infant and Toddler .....	3	
HEC	333—Development and Guidance of the Preschool Child .....	4	
HEC	334—Preschool Curriculum and Methods .....	3	
HEC	335—Observation and Participation in Preschool .....	3	
PSY	355—Mental Hygiene and Emotional Adjustment .....	3	
HPER	301—Health Education in the Elementary School .....	2	
			18

### Senior Year

HEC	437—Administration of Programs for Young Children .....	3	
HEC	438—Preschool Practicum .....	3	
HEC	439—Parent Education .....	3	
HEC	456—Infant and Child Nutrition .....	3	
EDEL	460—Kindergarten Education .....	3	
SOC	415—The Sociology of Child Development .....	3	
			18

### Recommended Electives:

ANT	381—Enculturation .....	4	
MUS	160—Beginning Class Piano I .....	1	
MUS	204—Music Fundamentals .....	2	
THEA	280—Creative Dramatics .....	3	
ZOO	156—Elements of Human Physiology—Anatomy .....	5	
FA	227—Art for the Exceptional Child .....	3	
IA	454—Elementary School Industrial Arts .....	3	

**HONORS**—The Department of Home Economics participates in the Honors Program. See page No. 40.

## MINORS IN HOME ECONOMICS

All students who wish to minor in Home Economics must register with the Department prior to enrollment in either of the two programs listed below.

### General Home Economics Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
HEC	141—Basic Food Preparation and Service .....	4	
HEC	171—Art in Home Living .....	2	
HEC	191—Clothing Selection .....	2	
HEC	192—Fundamentals of Clothing Construction .....	3	
HEC	211—Management in Family Living .....	3	
HEC	221—Family Relationships .....	3	
HEC	251—Nutrition I .....	3	
HEC	271—The Home and Its Furnishings .....	5	
HEC	333—Development and Guidance of the Preschool Child .....	4	
			29

### Preschool Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
HEC	136—Introduction to Preschool .....	2	
HEC	251—Nutrition I .....	3	
HEC	331—Development of the Infant and Toddler .....	3	
HEC	333—Development and Guidance of the Preschool Child .....	4	
HEC	334—Preschool Curriculum and Methods .....	3	
HEC	335—Observation and Participation in Preschool .....	3	
HEC	438—Practicum in Preschool Teaching .....	3	
	Electives .....	6	
			27

#### Recommended Electives for Preschool Minor:

HEC	221—Family Relationships .....	3	
HEC	437—Administration of Programs for Young Children .....	3	
HEC	439—Parent Education .....	3	
EDEL	460—Kindergarten Education .....	3	
SP	130—Voice and Diction .....	4	
			15

## Industrial Arts

### Robert G. Hammond, Chairman

**Professors:** Erwin, Hammond, Jelden, Johnson, Olson.

**Associate Professors:** Lubbers, Roy.

**Instructors:** Broughton, Kruger, Morimoto (on leave), Smith.

### Industrial Arts Major (With Teacher Preparation)

The following is the required program:

1. General education totaling 60 academic quarter hours (42 quarter hours in core plus 18 quarter hours of electives), plus six quarter hours of physical education activity (one quarter hour per quarter).

2. Professional Teacher Education, 31 hours, plus EDCI 340, two hours credit, and EDCI 341, three hours credit.

3. Required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
IA	118—General Plastics .....	3	
IA	141—Graphic Arts Fundamentals .....	3	
IA	150—Bench Woodwork .....	3	
IA	161—Principles of Drafting .....	3	
IA	170—Introduction to General Metal .....	3	
IA	180—General Electricity .....	3	
IA	190—Introduction to Power .....	2	
IA	219—Plastics .....	2	
IA	241—Graphic Arts .....	2	
IA	261—Pictorial Drafting .....	2	
IA	272—Gas and Electric Welding .....	3	
IA	281—Electro-Mechanical Equipment .....	2	
IA	291—Internal Combustion and Reciprocating Engines .....	3	
IA	320—Course Organization in Industrial Arts .....	3	
IA	335—History and Philosophy of Industrial Arts .....	3	
IA	336—Principles of General Shop Organization .....	5	
IA	350—Woodworking Technology .....	5	
IA	362—Working Drawings .....	3	
IA	374—Machine Tool Operation .....	2	
		—	
		55	

4. Elect 10 additional hours from the following areas of industrial arts: Wood, Metal, Crafts, Drafting, Power, Graphic Arts and Electricity-Electronics (Total IA Major is 65 hours).

5. Free electives to complete 180 quarter hours of academic credit for graduation.

## Industrial Arts Minor

Required courses in the minor:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
IA	161—Principles of Drafting .....	3	
IA	261—Pictorial Drafting .....	2	
IA	320—Course Organization in Industrial Arts .....	3	
IA	336—Principles of General Shop Organization .....	5	

Elect 17 quarter hours in industrial arts to meet the minor requirement of 30 hours. Suggested courses as follows:

### Crafts

IA	118—General Plastics .....	3
IA	216—General Leathercraft .....	3
IA	219—Plastics .....	2
IA	315—General Crafts .....	5
IA	371—Art Metal and Metal Spinning .....	3
IA	373—Jewelry Design and Construction .....	3
IA	417—Industrial Plastics .....	3

### Drafting

IA	164—Industrial Design .....	3
IA	362—Working Drawings .....	3
IA	363—Graphic Solutions .....	2
IA	461—Architectural Drawing .....	3
IA	462—Machine Drawing .....	3

### Electricity and Electronics

IA	180—General Electricity .....	3
IA	281—Electro-Mechanical Equipment .....	2
IA	383—Electronic Hardware and Components .....	2
IA	384—Electronic Circuitry .....	3
IA	485—Radio Communication .....	3

**Graphic Arts**

IA	141—Graphic Arts Fundamentals .....	3
IA	210—Bookbinding .....	3
IA	241—Graphic Arts .....	2
IA	342—Photography .....	3
IA	443—Theory and Practice of Offset Lithography .....	3

**Metal**

IA	170—Introduction to General Metal .....	3
IA	272—Gas and Electric Welding .....	3
IA	374—Machine Tool Operation .....	2
IA	471—Advanced Art Metal .....	3
IA	473—Advanced Jewelry and Lapidary Work .....	3

**Power**

IA	190—Introduction To Power .....	2
IA	291—Internal Combustion and Reciprocating Engines .....	3
IA	391—External Combustion Engines and Nuclear Power .....	3
IA	392—Reaction Engines .....	2
IA	493—Direct Energy Conversion .....	2
IA	494—Transmission of Power .....	3

**Wood**

IA	150—Bench Woodwork .....	3
IA	256—Upholstery .....	2
IA	257—Woodturning .....	2
IA	350—Woodworking Technology .....	5
IA	353—Furniture and Cabinet Making .....	3
IA	354—Woodfinishing .....	2
IA	355—Equipment and Maintenance Problems in Wood .....	3

**INDUSTRIAL ARTS MAJOR (Non-Teaching)**

The following is the required program:

1. General education totaling 65 quarter hours as listed below, plus six quarter hours of physical education activity (one quarter hour per quarter).

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
ENG	101—Composition .....	3
ENG	102—Advanced Composition .....	3
SP	110—Speech .....	3
ENG	201—Greek & Roman Periods .....	3
ENG	202—Middle Ages & Renaissance .....	3
ENG	203—18th to 20th Centuries .....	3
ECON	100—Introductory Economics .....	5
*ANT	100—General Anthropology	
*PSCI	100—National Government of U.S.	
*SOC	100—Principles of Sociology .....	5
*HIST	175—Unit Survey of United States History	
SCI	104—Biological Science .....	3
SCI	105—Earth Science .....	3
MATH	123—Intermediate Algebra .....	5
MATH	124—College Algebra .....	5
CHEM	104—Principles of Chemistry I .....	5
CHEM	105—Principles of Chemistry II .....	5
PHYS	260—Mechanics .....	4
PHYS	261—Sound, Light, & Heat .....	4
PSY	120—General Psychology .....	3

\*Elect one of four courses marked to complete general education requirement.

2. Industrial Arts core which consists of 61 academic quarter hours as follows:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
IA	150—Bench Woodwork .....	3
IA	350—Woodworking Technology .....	5

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IA	161—Principles of Drafting .....	3
IA	261—Pictorial Drafting .....	2
IA	362—Working Drawings .....	3
IA	170—General Metals .....	3
IA	272—Gas and Electric Welding .....	3
IA	374—Machine Tool Operation .....	2
IA	141—Graphic Arts Fundamentals .....	3
IA	241—Graphic Arts .....	2
IA	180—General Electricity .....	3
IA	281—Electro-Mechanical Equipment .....	2
IA	383—Electronic Hardware and Components .....	2
IA	384—Electronic Circuitry .....	3
IA	190—Introduction to Power .....	2
IA	291—Internal Combustion and Reciprocating Engines .....	3
IA	118—General Plastics .....	3
IA	219—Plastics .....	2
IA	433—Industrial Materials .....	3
BUS	457—Production Management .....	3
	Business and/or Economics Electives .....	6

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3. Twenty academic quarter hour electives in industrial arts.

4. Thirty-four academic quarter hours of electives. Suggested areas as follows:

Air Science  
 Biology  
 Botany  
 Business  
 Chemistry  
 Earth Science  
 Economics  
 Education  
 Fine Arts

Mathematics  
 Philosophy  
 Physics  
 Psychology, Counseling &  
     Guidance  
 Special Education  
 Statistics  
 Zoology



# SCHOOL OF BUSINESS

Ramon P. Heimerl, Dean

The School of Business has two primary objectives: (1) to develop professional competence in functional areas of business administration for those students who will assume responsibilities for leadership in business and (2) to develop professional competence in subject matter areas for those students who will assume responsibilities for leadership in the teaching profession.

To accomplish these objectives, the School of Business offers a four-year program of studies leading to the Bachelor of Science degree in business administration and a four-year program of studies leading to a Bachelor of Arts degree in business teacher education.

## Bachelor of Arts Degree:

Business Teacher Education—Specializations in Accounting, Basic Business and Economics, Distributive Education, and Secretarial.

## Bachelor of Science Degree:

Business Administration—Specializations in Accounting, Finance, General Business, Management, Marketing, Office Administration, and Secretarial (two-year non-degree).

**Professors:** Heimerl, Hillestad, Waterman.

**Associate Professors:** Damgaard, Kennedy, Teglovic, Yetka.

**Assistant Professors:** Anderson, Clithero, Corey, Cullor, Duff, Halldorson, Hansen, Harris, McConnell, Robins, Schoonover.

**Instructors:** Abell, Brown, Deboer, Unger.

## Bachelor of Arts Degree

### Business Teacher Education Major

The following is the required program:

1. General Education totaling 60 academic quarter hours plus six quarters of physical education activity. Majors in this area must take BUS 100 and ECON 100 as part of the requirement in general education

2. Teacher Education Program courses as listed on page 38 plus BUED 340 and three hours credit selected from BUED 341, 342, 343, 344, 346, 348. (The specific methods courses required in each of the specializations listed below is indicated for each specialization.)

3. The required courses listed in the Business Core plus the required courses in one of the areas of specialization plus business teacher education electives for a total of 75 quarter hours.

4. Nine hours of electives to complete the 180 quarter hours of academic credit required for graduation.

5. A minor is not required.

### Business Teacher Education Core

Course No.	Course Title	Hours	Credit
BUS 010*	—Typewriting I .....	0	0
BUS 130	—Introduction to Business Law .....	3	3
BUS 150	—Principles of Management .....	3	3
BUS 180	—Introduction to Business Data Processing .....	3	3
BUS 205	—Business Communications .....	3	3
BUS 220	—Principles of Accounting I .....	4	4
BUS 221	—Principles of Accounting II .....	4	4
BUS 260	—Marketing .....	4	4

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BUS 370**	—Business Finance .....	3
BUED 371	—Evaluation in Business Subjects .....	3
ECON 102	—Contemporary Economic Problems .....	3
		<hr/> 33

\*One years of typewriting in high school may be substituted.

\*\*BUS 170 may be substituted for BUS 370 with consent of student's adviser.

### Specialization in Accounting

Note: Business Teacher Education majors electing this specialization must complete both BUED 341, Methods and Materials of Teaching Typewriting, one hours credit, and BUED 343, Methods and Materials of Teaching Bookkeeping, one hour credit, in partial fulfillment of requirement two listed above. Approved business experience of at least 2,000 hours is required. An affidavit must be approved by your adviser no later than the end of the second week of the quarter in which you plan to graduate and filed in the school office.

Course No.	Course Title	Hours Credit
BUS 111	—Typewriting II .....	4
BUS 112	—Typewriting III .....	4
BUS 181	—Data Processing—Unit Record .....	3
BUS 281	—Electronic Data Processing—Fortran .....	3
BUS 320	—Intermediate Accounting I .....	4
BUS 321	—Intermediate Accounting II .....	4
BUS 323	—Cost and Managerial Accounting I .....	4
BUS 428	—Income Tax Accounting I .....	3
VE 310	—Foundations of Vocational and Technical Education .....	2
VE 311	—History of Vocational Education—A Laboratory Approach .....	1
VE 416	—Adult Vocational Education .....	3
	Electives in Business, Economics, or Business Teacher Education .....	7
		<hr/> 42

### Specialization in Basic Business and Economics

Note: Business Teacher Education majors electing this specialization must complete both BUED 341, Methods and Materials of Teaching Typewriting, one hour credit, and BUED 344, Methods and Materials of Teaching Basic Business Subjects, one hour credit, in partial fulfillment of required two listed above.

Course No.	Course Title	Hours Credit
BUS 111	—Typewriting II .....	4
BUS 112	—Typewriting III .....	4
BUS 230	—Principles of Business Law .....	5
BUS 340	—Introduction to Insurance .....	3
BUS 471	—Investments .....	3
BUED 430	—Economic Education Seminar .....	3
ECON 250	—History of Economic Systems .....	5
ECON 377	—Government and Business .....	3
	Electives in Business, Economics, or Business Teacher Education .....	12
		<hr/> 42

### Specialization in Distributive Education

Note: Business Teacher Education majors electing this specialization must complete BUED 346, Methods and Materials of Teaching Distributive Classes, two hours credit, in partial fulfillment of requirement two listed above. Approved business experience of at least 4,000 hours is required. An affidavit must be approved by your adviser no later than the end of the second week of the quarter in which you plan to graduate and filed in the school office.

Course No.	Course Title	Hours Credit
BUS 251	—Job Analysis .....	2
BUS 281	—Salesmanship .....	3
BUS 360	—Retailing Promotions .....	4
BUS 361	—Retail Management .....	4
BUS 362	—Marketing Strategy .....	4

BUED	245—Introduction to Distributive Education .....	3
VE	310—Foundations of Vocational and Technical Education .....	2
VE	311—History of Vocational Education—A Laboratory Approach .....	1
VE	412—Cooperative Education and Coordination Techniques .....	3
VE	416—Adult Vocational Education .....	3
	Electives in Marketing planned by major adviser .....	3
	Electives in Business, Economics, or Business Teacher Education planned by major adviser .....	10
		<hr/> 42

## Specialization in Secretarial

Note: Business Teacher Education majors electing this specialization must complete both BUED 341, Methods and Materials of Teaching Typewriting, one hour credit, BUED 342, Methods and Materials of Teaching Shorthand, one hour credit, and BUED 348, Methods and Materials of Teaching Office Practice, one hour credit. Approved business experience of at least 2,000 hours is required. An affidavit must be approved by your adviser no later than the end of the second week of the quarter in which you plan to graduate and filed in the school office.

Course No.	Course Title	Hours Credit
BUS	111—Typewriting II .....	
BUS	112—Typewriting III .....	4 -8
BUS	113—Secretarial Machines .....	2
BUS	117—Intermediate Gregg Shorthand .....	
BUS	118—Advanced Shorthand .....	4 -8
BUS	181—Data Processing—Unit Record .....	3
BUS	210—Secretarial Procedures .....	3
BUS	214—Records Management .....	2
BUS	219—Shorthand Transcription .....	4
BUS	452—Office Management .....	3
VE	310—Foundations of Vocational and Technical Education .....	2
VE	311—History of Vocational Education—A Laboratory Approach .....	1
	Electives in Business, Economics, or Business Teacher Education .....	6
		<hr/> 24-42

## Business Teacher Education Minor

Course No.	Course Title	Hours Credit
BUS	010—Typewriting I .....	0
BUS	100—The American Business System .....	5
BUS	111—Typewriting II .....	(4)
BUS	112—Typewriting III .....	(4)
BUS 116, 117, 118, 219	Beginning, Intermediate, Advanced, Gregg Short- hand Transcription	4-8
	or	
BUS	220, 221—Principles of Accounting I, II .....	17-25
	Electives to complete 36 hours	
		<hr/> 36

Most states require courses in methods and materials of teaching specific subjects for certification. Students minoring in Business Teacher Education should take BUED 340, 341, and 342 or 343.

## Economic Education Minor

Course No.	Course Title	Hours Credit
BUS	100—The American Business System .....	5
BUS	405—The Consumer in Our Economy .....	3
BUED	430—Economic Education Seminar .....	3
ECON	100—Introductory Economics .....	5
ECON	102—Contemporary Economic Problems .....	3
	Electives in Business or Economics .....	17
		<hr/> 36

The electives must be planned in cooperation with the minor adviser. Elective course may be chosen from the economic courses listed on pages 161, 162, 163, and from the following list: GEOG 312, Economic Geography, five hours credit; BUS 260, Marketing, four hours credit; BUS 340, Introduction to Insurance, three hours credit; or HEC 211, Management in Family Living, three hours credit.

## Business Administration Major Bachelor of Science Degree

The following is the required program:

1. General Education totaling 60 academic quarter hours plus six quarters of physical education activity. Majors in this area also must have BUS 100 and ECON 100 as part of the requirement in general education.
2. The required courses listed in the Business Core plus the required courses in one of the areas of specialization plus business electives for a total of 75 quarter hours.
3. Forty-five hours additional course work, of which at least 30 hours must be in courses offered in the School of Arts, the College of Arts and Sciences, the School of Music, and the Department of Psychology, Counseling, and Guidance.
4. A minor is not required.

### Business Core

Course No.	Course Title	Hours	Credit
BUS 010*	Typewriting I	.....	0
BUS 130	Introduction to Business Law	.....	3
BUS 150	Principles of Management	.....	3
BUS 180	Introduction to Business Data Processing	.....	3
BUS 205	Business Communications	.....	3
BUS 220	Principles of Accounting I	.....	4
BUS 221	Principles of Accounting II	.....	4
BUS 260	Marketing	.....	4
BUS 291	Business Statistics I	.....	3
BUS 295	Introduction to Operations Research	.....	3
BUS 370	Business Finance	.....	3
ECON 102	Contemporary Economic Problems	.....	3
			<b>36</b>

\*One year of typewriting in high school may be substituted.

### Specialization in Accounting

The specialization in accounting and the accounting department are approved under the State Accountancy Law of Colorado. Students who complete all requirements for a degree with this specialization meet the academic requirements for taking the Certified Public Accountant examination in Colorado.

Course No.	Course Title	Hours	Credit
BUS 230	Principles of Business Law	.....	5
BUS 320	Intermediate Accounting I	.....	4
BUS 321	Intermediate Accounting II	.....	4
BUS 323	Cost and Managerial Accounting I	.....	4
BUS 324	Cost and Managerial Accounting II	.....	4
BUS 420	Advanced Accounting	.....	4
BUS 428	Income Tax Accounting I	.....	3

At least seven hours of additional accounting chosen from among the following:

BUS 423	Governmental and Institutional Accounting	.....	(4)
BUS 427	Auditing	.....	(4)
BUS 429	Income Tax Accounting II	.....	(3)
Electives in Business and Economics			<b>7</b>
			<b>4</b>

**Specialization in Finance**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
BUS	170—Principles of Finance .....	3
BUS	320—Intermediate Accounting I .....	4
BUS	340—Introduction to Insurance .....	3
BUS	456—Business Policies and Management .....	3
BUS	470—Financial Management .....	3
BUS	471—Investments .....	3
ECON	202—Money and Banking .....	5
ECON	241—Public Finance .....	5
	Electives in Business and Economics .....	10
		<hr/>
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**Specialization in General Business**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
BUS	292—Business Statistics II .....	3
BUS	323—Cost and Managerial Accounting I .....	4
BUS	365—Marketing Strategy .....	4
BUS	453—Personnel Management .....	5
BUS	456—Business Policies and Management .....	3
BUS	471—Investments .....	3
ECON	200—Intermediate Economic Theory .....	3
	Electives in Business, Economics, and the Behavioral Science areas .....	14
		<hr/>
		39

**Specialization in Management—Administration Option**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
BUS	292—Business Statistics II .....	3
BUS	323—Cost and Managerial Accounting I .....	4
BUS	395—Management Science I .....	3
BUS	453—Personnel Management .....	5
BUS	456—Business Policies and Management .....	3
PSY	266—Industrial Psychology .....	3
SOC	421—Formal Organizations .....	3
ECON	305—Labor-Management Relations .....	3
ECON	350—National Income Analysis .....	3
	Electives (in Business, Economics, Political Science, Psychology, or Sociology with approval of advisor) .....	9
		<hr/>
		39

**Specialization in Management—Information Science Option\***

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
BUS	181—Data Processing—Unit Record .....	3
BUS	281—Electronic Data Processing—FORTRAN .....	3
BUS	285—Electronic Data Processing—Advanced FORTRAN .....	3
BUS	292—Business Statistics II .....	3
BUS	323—Cost and Managerial Accounting I .....	4
BUS	324—Cost and Managerial Accounting II .....	4
BUS	383—Electronic Data Processing—COBOL .....	3
BUS	388—Systems and Procedures .....	3
BUS	453—Personnel Management .....	5
BUS	489—Advanced Systems Analysis .....	3
	Business Electives (from other management courses) .....	5
		<hr/>
		39

\*The following course is recommended as an elective:

SP	212—Argumentation Theory .....	3
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**Specialization in Management—Management Science Option**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
BUS	281—Electronic Data Processing—FORTRAN .....	3
BUS	292—Business Statistics II .....	3

## 100 / SCHOOL OF BUSINESS

BUS	323—Cost and Managerial Accounting I .....	4
BUS	395—Management Science I .....	3
BUS	396—Management Science II .....	3
BUS	397—Management Science III .....	3
BUS	456—Business Policies and Management .....	3
ECON	200—Intermediate Economic Theory .....	3
ECON	350—National Income Analysis .....	3
	Business Electives (From other management courses) .....	11
		<hr/> 39

### Specialization in Marketing

Course No.	Course Title	Hours Credit
BUS	261—Salesmanship .....	3
BUS	292—Business Statistics II .....	3
BUS	323—Cost and Managerial Accounting I .....	4
BUS	361—Retail Management .....	4
BUS	362—Advertising .....	3
BUS	365—Marketing Strategy .....	4
BUS	456—Business Policies and Management .....	3
BUS	460—Marketing Analysis and Research .....	4
BUS	462—Marketing Problems .....	4

Student will elect two of the following courses:

BUS	363—Sales Management (3) .....	
BUS	364—Physical Distribution (3) .....	
BUS	376—Credit Management (3) .....	
BUS	461—Advertising Strategy (3) .....	
BUS	463—Industrial Marketing (3) .....	
BUS	464—International Marketing (3) .....	6
	Electives in Marketing area courses .....	1
		<hr/> 39

### Specialization in Office Administration

Course No.	Course Title	Hours Credit
BUS	112—Typewriting III .....	4
BUS	113—Secretarial Machines .....	2
BUS	118*—Advanced Shorthand .....	4
BUS	190—Calculating Machines and Business Arithmetic .....	4
BUS	210—Secretarial Procedures .....	3
BUS	214—Records Management .....	2
BUS	219—Shorthand Transcription .....	4
BUS	281—Electronic Data Processing — <i>Fortran</i>	
	or	
BUS	383—Electronic Data Processing — <i>Cobol</i> .....	3
BUS	452—Office Management .....	3
BUS	453—Personnel Management .....	5
SP	420—Introduction to General Semantics .....	4
	Business Electives (at 300 and 400 level) .....	1
		<hr/> 39

The following course is recommended as an elective:

SP	108—Parliamentary Leadership Training .....	2
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\*Prerequisites to these courses cannot be taken as part of the specialization.

### Secretarial Major (Two-Year Non-Degree Program)

The following is required:

Course No.	Course Title	Hours Credit
BUS	100—The American Business System .....	5
BUS	111—Typewriting II .....	4

BUS	112—Typewriting III .....	4
BUS	113—Secretarial Machines .....	2
BUS	116—Beginning Gregg Shorthand .....	4
BUS	117—Intermediate Gregg Shorthand .....	4
BUS	118—Advanced Shorthand .....	4
BUS	130—Introduction to Business Law .....	3
BUS	150—Principles of Management .....	3
BUS	180—Introduction to Business Data Processing .....	3
BUS	181—Data Processing—Unit Record .....	3
BUS	190—Calculating Machines and Business Arithmetic .....	4
BUS	205—Business Communications .....	3
BUS	210—Secretarial Procedures .....	3
BUS	214—Records Management .....	2
BUS	219—Shorthand Transcription .....	4
BUS	220—Principles of Accounting I .....	4
BUS	221—Principles of Accounting II .....	4
ENG	101—Elementary Composition I .....	3
ENG	102—Elementary Composition II .....	3
SP	110—Principles of Speech .....	3
PSY	120—General Psychology .....	3
	Business Electives .....	14
		—
		Minimum 90

## Business Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
BUS	100—The American Business System .....	5
BUS	130—Introduction to Business Law .....	3
BUS	150—Principles of Management .....	3
BUS	205—Business Communications .....	3
BUS	220—Principles of Accounting I .....	4
BUS	221—Principles of Accounting II .....	4
ECON	100—Introductory Economics .....	5
	Electives in Business or Economics .....	9
		—
		Minimum 36

**HONORS**—The School of Business participates in the Honors Program. See page No. 40.

# COLLEGE OF EDUCATION

**Edward J. Kelly, Dean**

**Bruce W. Broderius, Associate Dean**

The College of Education is a professional college offering specialized degree programs in education for the preparation of elementary and secondary school teachers, educational media personnel, and other education specialists for the schooling processes. These programs include offerings on the undergraduate level leading to the Bachelor of Arts and Bachelor of Science degrees.

## **Bachelor of Arts Degree**

Elementary Education

Psychology

Special Education: Teaching the Acoustically Handicapped

Special Education: Mental Retardation

Special Education: Speech Pathology

Special Education: Audiology

## **Bachelor of Science Degree**

Special Education: Rehabilitation and Related Services

Psychology

The College of Education provides all prospective teachers accepted in the Professional Teacher Education Program with the professional core of subjects and experiences for the development of professional competencies requisite to successful teaching. Additionally, it provides selected components of the general education program.

## **Curriculum and Instruction**

**Joe Nichols, Chairman**

**Professor:** Morrison.

**Associate Professors:** Broderius, Nichols, Stoffler.

**Assistant Professor:** Garcia.

GRADUATE DEGREE PROGRAM ONLY

## **Educational Administration**

**Arthur R. Partridge, Chairman**

**Professors:** Jardine, Partridge.

**Associate Professors:** Luketich, Ritter.

**Assistant Professor:** Montgomery.

GRADUATE DEGREE PROGRAM ONLY

## **College Student Personnel Work**

**Bernard C. Kinnick, Chairman**



**Professors:** Hause, T. Nelson, Oppelt, J. Shaw.

**Associate Professors:** Best, J. K. Bowen, H. Collins, Kinnick.

**Assistant Professors:** Giebler, Henderson, McCary, Miller, Smart, Stutler, Thomas.

**Instructors:** Anderson, Foote, Graham, Holst, Washington.

### GRADUATE DEGREE PROGRAM ONLY

## Educational Media

**D. Harold Bowman, Chairman**

**Professors:** Bowman, Cyphers.

**Associate Professor:** Hall.

**Assistant Professors:** D. Seager, Perry.

**Instructor:** Griggs.

## PROGRAMS IN THE TEACHING PROFESSIONS

### Undergraduate Minor: Educational Media

The purpose of this program is to prepare teachers to work in what has been variously called the comprehensive library, educational media center, instructional materials center or learning resource center. While the title is not significant the concept of teachers trained to handle both print and non-print materials is becoming increasingly important. This is particularly true of the person who works alone in a given building.

#### Required Courses:

		<i>Hours Credit</i>
EDEM	210—Introduction to Educational Resources .....	5
EDEM	320—Design and Construction of Audio-Visual Materials .....	3
EDEM	330—Introduction to Classification and Cataloging .....	3
EDEM	531—Cataloging and Classification II .....	3
EDEM	534—Reference Materials for Educational Resource Center .....	3
EDEM	536—Evaluation and Selection of Educational Materials .....	3
EDEM	575—Organization and Administration of Educational Resource Center .....	5

#### Electives:

EDEM	516—Utilization of Educational Resources .....	3
EDRD	314—Improvement of Instruction in Literature in the Elementary School .....	2

**Outdoor education** affords students the opportunity to actively participate in learning experiences conducted beyond the classroom. Natural and community resources (including human) are utilized in providing direct, firsthand learning experiences. Undergraduate students are provided an opportunity to participate in the outdoor school programs conducted in the Laboratory School and in Special Education. Course offerings, which have significance for this broad area, are offered in every area of the college. Listed below are two specific courses which are introductory courses in this area:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
EDEM	250—Introduction to Outdoor Education .....	3
EDEM	508—Workshop: Outdoor Education .....	3

## Elementary Education and Reading

**Alvin O. Mosbo, Chairman**

**Professors:** D. Brown, Claybaugh, Harkness, Kelly, Lewis, Lowry, Mosbo, Neal.

**Associate Professors:** Glaser, Hunn, Nebel.

**Assistant Professors:** Arnold, Burrton, Gunning, Heimgartner, Henry, Trigg, E. Wolfe.  
**Instructors:** Krafft, H. Logan.

## Elementary Education Major

The following are required:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity courses.
2. The following subject matter courses.

Course No.	Course Title	Hours	Credit
FA	224-Elementary Art .....		3
GEOG	100-World Geography .....		
	or		
GEOG	148-Anglo-America .....		5
HIST	175-Unit Survey of United States History .....		5
MATH	101-Basic Mathematics I .....		3
MATH	102-Basic Mathematics II .....		3
MUS	204-Music Fundamentals .....		2
PSCI	100-National Government of the United States .....		5
	Electives in history or social science .....		4

Credit in the above courses will satisfy the social science requirements and the electives in the 60 quarter hour General Education requirement.

3. The following requirements in the Elementary Education Major.

### Professional Core

Course No.	Course Title	Hours	Credit
EDF	365-Basic Concepts of Education .....		5
PSY	341-Educational Psychology .....		5
•EDFE	450-Elementary Student Teaching .....		18
EDF	485-Philosophy of Education .....		3
			31

\*Student Teaching must be in elementary education in the kindergarten or in grades one through six. Internships are available.

### Elementary Teacher Education

Course No.	Course Title	Hours	Credit
EDEL	310-Introduction to Student Field Work .....		2
EDEL	320-Improvement of Instruction in Mathematics in the Elementary School .....		3
EDEL	330-Teaching Handwriting and Spelling in the Elementary School .....		2
EDEL	340-Improvement of Instruction in English in the Elementary School .....		3
EDEL	350-Improvement of Instruction in Social Studies in the Elementary School .....		3
EDRD	310-Improvement of Instruction in Reading in the Elementary School .....		3
EDRD	314-Improvement of Instruction in Literature in the Elementary School .....		2
EDRD	411-Approaches to Reading Instruction .....		3
FA	225-Methods of Teaching Art in the Elementary School .....		2
HPER	288-Physical Education Activities for the Elementary School .....		2
HPER	301-Health Education in the Elementary School .....		2
MUS	316-Music Methods and Materials for Elementary Teachers .....		2
SCED	470-Teaching Science in the Elementary School .....		3
			32

4. An arts and sciences minor (non-teaching minor) in one of the following fields. Anthropology, biological science, Black studies, chemistry, earth science, English, fine arts, foreign language, geography, Hispano studies, history, mathematics, music, physics, political science, social science, sociology, speech.

5. EDEL 320, 330, 340, 350, and EDRD 411 taken at University of Northern Colorado.

6. Completion of EDF 365, PSY 341, and a minimum of eighteen quarter hours in Elementary Teacher Education courses including EDEL 310, 320, and EDRD 310 before student teaching. EDEL 310, EDEL 320, and EDRD 310 must be completed before applying for student teaching.

7. Sufficient electives to complete 180 quarter hours of academic credit.

**HONORS**—The Department of Elementary Education and Reading participates in the Honors Program. See page No. 40.

## **Foundations of Education**

**Franklin D. Cordell, Chairman**

**Associate Professor:** Turner.

**Assistant Professors:** Cordell, Glassman, Jacobs, Krosky, Roat, Williams.

GRADUATE DEGREE PROGRAM ONLY.

## **Higher Education**

**Kenneth Hogan, Chairman**

**Professors:** Hillway, Hogan, Holmes.

**Assistant Professor:** Leach.

GRADUATE DEGREE PROGRAM ONLY.

## **Psychology, Counseling and Guidance**

**Arno H. Luker, Chairman**

**Professors:** D. Anderson, Blanchard, Clevenger, Fulbright, Koplitz, Luker, Lutey.

**Associate Professors:** Bear, L. Montgomery, Usher.

**Assistant Professors:** Blake, Browne, Goff, Howard, Logan, Praul, Palmer, Phillips, Rave, Schenkman, Welch.

**Instructor:** Kramer.

Psychology, Counseling and Guidance offers an undergraduate major and minor in psychology. The minor provides preparation in the general areas of psychology and makes course and program adaptations for needs of students majoring in such areas as Arts and Sciences and Education.

\*Students are admitted to the psychology program at the beginning of the sophomore year. Since only a limited number can be accepted at this time, application for admission should be submitted to the Psychology Department for screening during the last quarter of the freshman year.

## **PROGRAMS IN ARTS AND SCIENCES**

### **\*Bachelor of Arts Degree**

#### **Psychology Major**

The following is the required program:

1. General Education totaling 60 academic hours, plus six quarter hours of physical education activities courses. The Psychology major or minor will take two of the following: GEOG 100, ANT 100, ECON 100, PSCI 100, or SOC 100. (Consult your adviser.)

2. Second major is highly recommended.

3. The following required courses in the major (60 hours.)

**Freshman Year**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>	
PSY 121	General Psychology and Human Performance .....	3	
PSY 161	Group Processes in Human Relations .....	3	
PSY 122	Exploration Seminar in Psychology I .....		Max. 3

**Sophomore Year**

PSY 122	Exploration Seminar in Psychology I .....		Max. 3
PSY 270	Introduction to Measurement and Evaluation .....	3	
PSY 275	Introduction to Experimentation in Psychology .....	5	

**Junior Year**

PSY 322	Exploration Seminar in Psychology II .....		Max. 3
PSY 424	Psychology: Field Experiences .....	15	

**Senior Year**

PSY 322	Exploration Seminar in Psychology II .....		Max. 3
PSY 425	Seminar: Psychological Issues .....	3	

Minimum total credit hours 60

**PROGRAMS IN THE TEACHING PROFESSIONS****\*Bachelor of Arts Degree****Psychology Major (Teaching)**

The following is the required program:

1. General Education totaling 60 academic quarter hours, plus six quarter hours of physical education activity courses. (The Psychology major or minor will take two of the following: ANT 100, GEOG 100, ECON 100, or PSCI 100 or SOC 100. (Consult your adviser).
2. Professional Teacher Education 31 hours.
3. Second teaching major required. Consult your adviser.
4. The following required courses in the major:

**Freshman Year**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>	
		<i>PCG</i>	<i>PTE</i>
PSY 121	General Psychology and Human Performance .....	3	
PSY 122	Exploration Seminar in Psychology I .....	3	(Max.)
PSY 161	Group Process and Human Relations .....	3	

**Sophomore Year**

PSY 122	Exploration Seminar in Psychology I .....	3	(Max.)
PSY 270	Introduction to Measurement and Evaluation .....	3	
PSY 275	Introduction to Experimentation in Psychology .....	5	

**Junior Year**

PSY 322	Exploration Seminar in Psychology II .....	3	(Max.)
PSY 341	Educational Psychology .....	5	
PSY 424	Psychology: Field Experience .....	5	
EDCI 340 (PTE)	Introduction to Student Field Work in the Secondary School .....		2
EDCI 341 (PTE)	Methods of Teaching in the Secondary School .....		3
EDF 365 (PTE)	Basic Concepts of Education .....		5
	PSY Electives .....	9	

**Senior Year**

PSY	322	—Exploration Seminar in Psychology II .....	3 (Max.)
PSY	425	—Seminar: Psychological Issues .....	3
EDFE	451 (PTE)	—Student Field Work .....	18
EDHP	485 (PTE)	—Philosophy of Education .....	3
		PSY Electives .....	5
		<b>Total</b>	<b>48 36</b>

**PROGRAMS IN ARTS AND SCIENCES****Bachelor of Arts Degree****Psychology Minor**

Required courses for the undergraduate minor in psychology are:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
PSY	121—General Psychology and Human Performance .....		3
PSY	330—Child and Adolescent Psychology .....		3
PSY	340—Psychology of Perception and Learning .....		5
PSY	350—Psychology of the Healthy Personality .....		3
PSY	355—Mental Hygiene and Emotional Adjustment .....		3
PSY	425—Seminar: Psychological Issues .....		3
	Electives (see list in office of Psychology, Counseling and Guidance) .....		6
			<b>26</b>

**PROGRAMS IN THE TEACHING PROFESSIONS****Bachelor of Arts Degree****Psychology Minor**

Required courses for the undergraduate minor in psychology are:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
PSY	121—General Psychology .....		3
PSY	201—Principles and Philosophies of Guidance .....		3
PSY	271—Introduction to Measurement and Evaluation .....		3
PSY	355—Mental Hygiene and Emotional Adjustment .....		3
PSY	425—Seminar: Psychological Issues .....		3
SPED	100—Education of Exceptional Children .....		3
	Electives (see list in office of Psychology, Counseling and Guidance) .....		9
			<b>27</b>

**Research and Statistical Methodology**

**Beatrice B. Heimerl, Chairman**

**Professor:** Schmid.

**Associate Professors:** B. Heimerl, Houston.

**Assistant Professor:** Connett.

GRADUATE DEGREE PROGRAM ONLY.

# School of Special Education and Rehabilitation

**Daniel C. McAlees, Dean**

**Alfred E. McWilliams, Jr. Assistant Dean for Administration**

**Professors:** Gearheart, Kolstoe, Lundeen, McAlees.

**Associate Professors:** Bitter, Eldridge, Jones, Napier, Owens, Wolfe.

**Assistant Professors:** Bowen, Campain, Cronin, Gay, Green, Hull, McWilliams, Reinert, Weishahn.

**Instructors:** Adams, Blier, Crouse, English, Johnson, Lane, Millslage, Naylor, Schmidt, Uhrig.

The School of Special Education and Rehabilitation offers several majors at the undergraduate level and affords students the opportunity to qualify for a Colorado Teacher Certificate in the area of the acoustically handicapped or mental retardation. A pre-professional program leading to the Bachelor of Arts degree in speech pathology and audiology is offered, as well as a program leading to the Bachelor of Science degree in Rehabilitation and Related Services. Junior and senior students may take course work in the areas of teaching the visually handicapped, physically handicapped, emotionally disturbed, and in speech correction. This course work may be used for certification in the special areas of teaching when all requirements for certification are met.

The campus Special Education school, a cooperative project of the Greeley Public Schools and University of Northern Colorado, provides a laboratory for observation and student teaching. At the present time, this laboratory school enrolls mentally retarded, physically handicapped, acoustically handicapped, emotionally disturbed, and visually handicapped children. The Special Education facility also includes a speech and hearing clinic, which provides speech correction services and complete audiometric evaluations; an apartment classroom; and provides for testing and measuring exceptional children.

## Special Education Major

The following is the required program:

1. General Education totaling 60 academic quarter hours, plus six quarters of physical education activity.
2. Professional Teacher Education, 31 hours, plus methods and observation courses. Exceptions are the programs in (a) Rehabilitation and Related Services, (b) Audiology, and (c) Speech Pathology. In Speech Pathology the student has an option of choosing a program with or without these education courses.
3. The majors as listed.
4. Except for Speech Pathology and Audiology, an area of concentration of 27 hours outside the field of Special Education.
5. Electives to complete the 180 quarter hours of academic credit required for graduation.

## Concentration in Mental Retardation

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
EDSE 100	—Education of Exceptional Children .....	3	3
EDSE 160	—Introduction to Speech Correction .....	3	3
EDSE 210	—Introduction to Mental Retardation .....	4	4
EDSE 211	—Education of Severely Mentally Retarded Children .....	3	3
EDSE 302	—Counseling Parents of Exceptional Children .....	3	3
EDSE 304	—Introduction to Measurement of the Handicapped .....	3	3
EDSE 412	—Curriculum Development and Methodology for Mentally Retarded: Elementary level .....	4	4
EDSE 413	—Curriculum Development and Methodology for Mentally Retarded: Secondary level .....	4	4
EDSE 530	—Care and Pathology of the Physically Handicapped .....	3	3

FA	227	—Craft Techniques .....	3
HPER	301	—Health Education in the Elementary School .....	2
MUS	204	—Music Fundamentals .....	2
PSY	330*	—Psychology of Childhood and Adolescence .....	3
		Electives in Special Education .....	8
			<hr/> 48

\*If PSY 131 has been taken in the last five years, a Special Education elective may be substituted for PSY 330.

## Concentration in Acoustically Handicapped

Required courses in the major:

Course No.	Course Title	Hours	Credit
EDSE	100 —Education of Exceptional Children .....	3	
EDSE	150 —The Structure of Language .....	3	
EDSE	250 —Pathology and Introduction to Education of the Deaf and Hard of Hearing .....	3	
EDSE	251 —Speech Foundations for the Deaf and Hard of Hearing .....	3	
EDSE	267 —The Auditory and Speech Mechanisms .....	4	
EDSE	304 —Introduction to the Measurement of the Handicapped .....	3	
EDSE	357 —Speech Reading .....	3	
EDSE	358 —Auditory Training and Hearing Aids .....	2	
EDSE	363 —Introduction to Organic Disorders .....	3	
EDSE	370 —Basic Audiology .....	3	
EDSE	451 —Speech Development for Deaf and Hard of Hearing .....	6	
EDSE	452 —Language Development for Deaf and Hard of Hearing .....	6	
EDSE	453 —Methods of Teaching Content Subjects to the Deaf .....	3	
EDSE	455 —Methods of Teaching Reading to the Deaf and Hard of Hearing .....	3	
EDSE	459 —Undergraduate Seminar in Education of the Deaf and Hard of Hearing....	3	
PSY	330 <sup>2</sup> —Psychology of Childhood and Adolescence .....	3	
			<hr/> 54

\*If PSY 131 has been taken in the last five years, a Special Education elective may be substituted for PSY 330.

Recommended electives to complete the 180 quarter hours of academic credit required for graduation are EDEL 330, 340, 350, EDRD 310, FA 227, MATH 101, HPER 288, 301 and EDSE 302 and 475.

## Concentration in Speech Pathology

The Bachelor of Arts degree is pre-professional and does not lead to certification of any type. The Master of Arts degree is the professional degree and enables the student to meet the academic and practicum requirements for certification by the American Speech and Hearing Association (ASHA).

If the student desires future educational certification in addition to the certification of ASHA, he must take Professional Teacher Education (PTE) and methods courses. These above requirements are not necessary if the student wishes only to qualify for future ASHA certification, without educational certification.

A minor is not required but the student must elect a minimum of 14 hours in courses dealing with the normal use, growth, and development of speech, hearing and language.

Course requirements:

Course No.	Course Title	Hours	Credit
EDSE	100—Education of Exceptional Children .....	3	
EDSE	160—Introduction to Speech Correction .....	3	
EDSE	265—Acoustics of Speech .....	3	
EDSE	266—Speech and Language Development .....	3	
EDSE	267—The Auditory and Speech Mechanisms .....	4	
EDSE	360—Articulation Disorders I .....	4	
EDSE	361—Voice Disorders I .....	3	
EDSE	362—Stuttering I .....	3	
EDSE	363—Introduction to Organic Disorders .....	3	
EDSE	364—Clinical Principles .....	3	

EDSE	370-Basic Audiology .....	3
EDSE	371-Speech Audiometry I .....	3
EDSE	372-Advanced Audiometry .....	3
EDSE	464-Clinical Practice in Speech Pathology .....	6
EDSE	467-Diagnosis in Speech Pathology .....	3
SP	230-Phonetics .....	3
		<b>53</b>

Recommended electives are PSY 121, PSY 330, PSY 341, PSY 550, PSY 555, PSY 558, SP 420, EDSE 374, EDSE 475, EDSE 357, EDSE 563.

## Concentration in Audiology

The Bachelor of Arts degree is pre-professional and does not lead to certification of any type. The Master of Arts degree is the professional degree and enables the student to meet the academic and practicum requirements for certification in Audiology by the American Speech and Hearing Association. No educational certification is granted.

A minor is not required but the student must elect a minimum of 14 hours in courses dealing with the normal use, growth, and development of speech, hearing and language.

The following is the required program:

Course No.	Course Title	Hours Credit
EDSE	100-Education of Exceptional Children .....	3
EDSE	160-Introduction to Speech Correction .....	3
EDSE	265-Acoustics of Speech .....	3
EDSE	266-Speech and Language Development .....	3
EDSE	267-Auditory and Speech Mechanisms .....	4
EDSE	358-Auditory Training and Hearing Aids .....	2
EDSE	360-Articulation Disorders I .....	4
EDSE	370-Basic Audiology .....	3
EDSE	371-Speech Audiometry I .....	3
EDSE	372-Advanced Audiometry .....	3
EDSE	474-Practicum in Audiology .....	6
SP	230-Phonetics .....	3
ZOO	100-Elements of Human Physiology and Anatomy .....	5
		<b>45</b>

Recommended electives are IA 180, IA 383, IA 384, ZOO 121, ZOO 250, PSY 341, PHYS 460, EDSE 150, EDSE 304, EDSE 251, EDSE 250, EDSE 451, EDSE 456, EDSE 357, EDSE 563, PSY 330.

## Rehabilitation and Related Services Major (Bachelor of Science Degree)

Required courses in the major:

Course No.	Course Title	Hours Credit
EDSE	100-Education of Exceptional Children .....	3
EDSE	290-Orientation to Rehabilitation and Related Services .....	3
EDSE	302-Counseling Parents of Exceptional Children .....	3
EDSE	494-Supervised Field Practice in Rehabilitation and Related Services .....	15
EDSE	590-Introduction to Rehabilitation Counseling .....	3
EDSE	591-Community Resources in Rehabilitation, Guidance and Counseling .....	3
ANT	326-Indians of the Southwest (or other suitable course in cultural anthropology) .....	3
ANT	382-Acculturation .....	4
SOC	245-Problems of Intergroup Relations .....	4
SOC	310-Social Psychology .....	3
SOC	340-Delinquency .....	4
SOC	510-Collective Behavior .....	3
PSCI	100-National Government .....	5
PSCI	300-Public Opinion and Pressure Groups .....	4
PSY	350-Psychology of the Healthy Personality .....	3
		<b>63</b>



One minor of 27 quarter hours outside the field of Special Education (preferably Psychology).

Electives—Sufficient electives to complete the requirement for graduation.

**HONORS**—The School of Special Education and Rehabilitation participates in the Honors Program. See page No. 40.

## Student Field Experiences

**Robert C. Richardson, Coordinator**

**Professor:** Van Maanen.

**Associate Professors:** Damgaard, Fielder.

**Assistant Professors:** Black, Bruce, Erickson, Febinger, Johnson, King, Richardson, Warner, Weltner.

**Instructor:** Herbster.

It is the responsibility of this office to coordinate all types of student field experiences for all departments of the university. This includes observations, teacher aide work, student teaching, internships, and graduate residencies that take place in the cooperating school districts of Colorado.

Course No.	Course Title	Hours	Credit
EDFE	260—Observation In Cooperating Schools .....	1-4	1-4
EDFE	270—Teaching Aide .....	1-4	1-4
EDFE	380—Simulation of Teaching .....	4	4
EDFE	420—Special Education Student Teaching: Elementary .....	18	18
EDFE	430—Special Education Student Teaching: Secondary .....	18	18
EDFE	440—Preschool Student Teaching .....	18	18
EDFE	450—Elementary Student Teaching .....	18	18
EDFE	451—Half-Day Internship: Elementary .....	18	18
EDFE	452—Full-Day Internship: Elementary .....	18	18
EDFE	553—Advanced Student Teaching: Elementary .....	18	18
EDFE	460—Secondary Student Teaching .....	18	18
EDFE	461—Half-Day Internship: Secondary .....	18	18
EDFE	462—Full-Day Internship: Secondary .....	18	18
EDFE	563—Advanced Student Teaching: Secondary .....	18	18

### Important Note

All undergraduate EDFE Courses are evaluated on an S-U (Satisfactory-Unsatisfactory) basis rather than the usual A-F scale. No GPA is figured but credit hours of "S" will count toward graduation.

## Vocational Education

**Louise J. Keller, Chairman**

**Associate Professor:** Keller.

**Assistant Professors:** Bennett, Sutton, Ward.

**Instructors:** Johnson, Welch.

**Career Development Center:** Chandler.

### Interdisciplinary Studies in Vocational Education

**General Information**—University of Northern Colorado is recognized as an approved state institution for the training of vocational teachers, counselors, and administrators, as well as for the training of vocational para-professional personnel. The department provides a series of interdisciplinary courses which are integrated into degree programs—business education, distributive education, home economics, health occupations education, etc. These courses are based on the requirements for vocational credentials as outlined in the Colorado State Plan for occupational education.

The Career Development Center is open daily to serve students preparing for teaching careers in vocational education. Examples of some of these services are (1) assistance in gaining related work experience; (2) assistance in completing the state vocational credential application and A-2 forms; (3) guidance information and counseling services regarding opportunities in vocational education; and, (4) a resource center which provides current curriculum and research materials. The Department of Vocational Education is also responsible for the first-year graduate follow-up of all vocational teachers employed in the State of Colorado.

**Credential Requirements**—The requirements for vocational teaching credentials include approved work experience, a bachelor's degree in a recognized vocational program and from an approved institution, and *at least nine quarter university credit hours in vocational education*. The courses VE 310 and 311 "Foundations of Vocational Education" and "History of Vocational Education" which are taken concurrently are required for all majors seeking vocational credentials.

Vocational teaching *credentials* are issued by the State Board for Community Colleges and Occupational Education. The applications may be secured from the Vocational Education offices located in the Career Development Center in Cranford #12. Teaching *certificates* are issued by the State Department of Education and the applications are obtained in the College of Education.

### State Approved Interdisciplinary Courses in Vocational Education

Course No.	Course Title	Hours Credit
VE 210	Career Opportunities Seminar in Vocational Education	1
VE 290	Directed Occupational Experiences	Max. 8
VE 296	Directed Occupational Internship	Max. 12
VE 310	Foundations of Vocational and Technical Education (PTE)	2
VE 311	History of Vocational Education—A Laboratory Approach (PTE)	1
VE 412	Cooperative Education and Coordination Techniques	3
VE 414	Vocational Youth Organizations	2
VE 416	Adult Vocational Education	3
VE 424	Occupational Analysis	2
VE 425	Program Development—A Laboratory Experience	3
VE 430	Vocational Education for Learners with Special Needs	3
VE 480	Seminar in Vocational Education	Max. 4
VE 485	Laboratory Experiences in Vocational Education	Max. 12

# SCHOOL OF EDUCATIONAL CHANGE AND DEVELOPMENT

**Dr. Donald G. Decker, Director, Provost**

Bachelor of Arts Degree  
Bachelor of Science Degree

Educational change and development are essential for the improvement and growth of the University of Northern Colorado. Changes and development occur within the departments, schools, and colleges of the University. New academic programs are conceived, existing programs are improved, and experiments are conducted within the normal academic disciplines of the University. In addition to these kinds of changes, there are, in the academic community, individuals with ideas, programs in existence, and avenues of educational exploration that are broader in scope than any one single academic discipline. Many of these programs and ideas are interdisciplinary in nature and do not belong in any one academic department. The Minority Studies program is an example. Much of the time individuals interested in change must engage in those interests in addition to their regular teaching and/or administrative responsibilities. Therefore, change and improvement become secondary to the contracted responsibilities of the position. Many suggested changes in education suggest the replacement of existing programs with new programs. Replacement may, at times, be worthy of consideration, but the construction of parallel programs that do not threaten one another with the single existence concept are more likely to offer faculty and students

choices that are important for them to have. For these reasons, the School of Educational Change and Development was conceived.

**Purpose:**

An approved administrative unit of the university under the direction of the Provost of the University whose major purpose is to encourage innovation throughout the university and to be the unit of the university with which interdisciplinary programs identify.

**Structure:**

The School of Educational Change and Development has no permanent administrative personnel, with the exception of the Provost of the University, no permanent faculty, students, or programs. Those associated with the school become its faculty and students for a period of time. Permanent departments may be created within the School of Educational Change and Development, such as a Department of Minority Studies, as entities within themselves reporting to the Provost as a communication process with the rest of the school administration.

**Student Programs:**

1. The college does not have the facilities, offerings, or staff to support all the areas that might be suggested by the applicant. Programs may cut across departmental lines.
2. Student who wish to pursue innovative ideas and programs may request admission to the School of Educational Change and Development.
3. Admission will be by invitation and based on the program the student presents. In general, the programs will be of an interdisciplinary nature and will use the total resources of the university, and may use the resources of the community, state, and nation.
4. Students will request the faculty with whom they wish to work.
5. The requirements for the program will be the requirements identified by the student as essential for the completion of his program. The program and the requirements must have the approval of those who have accepted the invitation of the student to assist him in completing his program.
6. Test cases will be explored during the 1970-1971 school year to determine the procedures and policies that should operate and govern the school.

**Advisory Board:**

Dr. Donald G. Decker, Provost, Chairman

The Advisory Board is composed of six faculty members and students representing the student association.

The Advisory Board has reviewed proposals. It has also developed procedures for submitting proposals to the Board.

Mature students who have well defined programs and can assume the responsibility for directing them may submit a proposal to the School. The proposal may or may not culminate in a degree.

The School of Educational Change and Development offers undergraduate and graduate students the opportunity to develop their own innovative programs for their professional development. Any of the resources of the entire University may be used for the completion of the program with the approval of the Advisory Board and the acceptance of the invitation to participate by the professionals on the faculty. The student may use resources other than the University.

The requirements for the completion of the program are those described by the student in his program and accepted by the Advisory Board and the Resource Board for his program. The standard requirements of the University for other existing programs are not applicable in the School of Educational Change and Development.

**Procedures:**

1. The student submits a proposal to the School of Educational Change and Development.
2. The proposal is reviewed by members of the Advisory Board.

3. The reviews are discussed with the student and the proposal is revised.
4. The student invites faculty member and lay people if he wishes them to become resource personnel for his proposal. He reports the acceptance to the Advisory Board. The revised proposal and the comments of his resource personnel are reviewed by the Advisory Board.
5. The proposal and the review is presented to the Graduate Council as an information item.
6. The student and faculty receive a letter of invitation to become temporary members of the School of Educational Change and Development.
7. When invitations have been accepted, the student convenes his university resources and submits a detailed program (including a proposed Graduation Check List of experiences and activities for his professional development.
8. The Resource Board has the authority to make all final decisions in reference to the student's proposal and program. The Resource Board and the student will make sure that the requirements for the degree for the student are comparable to the high standards of the University of Northern Colorado.
9. Members of the faculty who accept the student's invitation to work with him will be known as his Resource Board. Persons not members of the faculty of the University of Northern Colorado will be known as Consultants. The number of members of the Resource Board will be determined by the nature of the proposal. The number of Consultants will be determined by the student.

Questions for the author of the proposal to answer. Please submit the answers with a typewritten copy of your proposal.

1. Why are you interested in a program in the School of Educational Change and Development?
2. What are your career goals?
3. What do you want to be able to do when you have completed your program?
4. What is innovative about your proposed program?
5. Briefly, what experiences are you requesting?
6. What university resources do you wish to use (facilities and people)?
7. What other resources do you wish to use (facilities and people)?
8. What professional project (dissertation, book, articles, program) do you propose to produce?
9. What are the implications of your program for the improvement of society?
10. How will the completion of this program change you as a person?
11. What are your reactions to the questions you have answered?

# SCHOOL OF HEALTH, PHYSICAL EDUCATION AND RECREATION

L. C. Butler, Dean

**Professors:** Behling, Cyphers, Everett, Lindahl, R. Montgomery, Shirley, Steffy, Van Anne.

**Associate Professors:** Barham, Blasi, Hardy, Heiss, Rossi, Sage, Wright.

**Assistant Professors:** Benich, Cooke, Fri, LaBonde, Malumphy, McKain McMillen, Molnar, Mosser, Parkos, Petroff, Phillips, Van Dinter.

**Instructors:** Abbott, Aylward, Cody, DoBell, Hedberg, Hildreth, James, Kelly, Neff, Nell, Nowlin, Oyster, Rodriguez, Rollins, Zimmer.

The School of Health, Physical Education and Recreation performs two primary functions as follow:

1. The professional preparation of teachers, coaches, supervisors, and administrators of Health and Physical Education.
2. The professional preparation of recreation leaders and administrators.

The following specific areas of professional preparation are offered:

Health Education Major

Health Education Minor

Men's Physical Education Major — Secondary Level

Men's Physical Education Major — Elementary Level

Men's Physical Education Minor — Secondary Level

Men's Physical Education Minor — Elementary Level

Men's Coaching Minor

Women's Physical Education Major — Secondary Level

Women's Physical Education Major — Elementary Level

Women's Physical Education Minor — Secondary Level

Women's Physical Education Minor — Elementary Level

Dance Minor

Recreation Major for Men

Recreation Major for Women

## Health Education

Bryan E. M. Cooke, Chairman

The Department of Health Education offers a major and a minor.

Following are the requirements for the major:

1. General Education totaling 60 academic quarter hours plus six quarters of physical education activity.
2. Professional Teacher Education, 31 hours.
3. The following required courses in the major:

Course No.	Course Title	Hours	Credit
HPER	222—Physiological Kinesiology .....	3	3
	or		
ZOO	250—Human Physiology .....	5	5
HPER	224—Maturational Kinesiology .....	3	3
	or		
PSY	330—Child and Adolescent Psychology .....	3	3

HPER	262—First Aid .....	2
HPER	299—Community Health .....	4
HPER	301—Health Education in the Elementary School .....	2
	<i>or</i>	
HPER	302—Health Education in the Secondary School .....	4
HPER	342—Modern Concepts of Health and Disease .....	3
HPER	343—Methods and Observation of Health Education .....	5
HPER	405—Issues in Health .....	3
HPER	471—Safety Education .....	3
BIO	231—Genetics .....	5
BIO	360—Biology of Microorganisms .....	3
HEC	251—Nutrition I .....	3
PSY	355—Mental Hygiene and Emotional Adjustment .....	3
	Electives as needed to complete a total of 48 hours	

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4. A teaching minor of 27 quarter hours or more. This minor may be selected outside the School of Health, Physical Education and Recreation, or from within the School of Health, Physical Education and Recreation in either Physical Education or in Dance Education. Courses in the selected minor that are preceded by an asterisk (\*) may be counted toward fulfillment of the General Education requirements.

5. Electives sufficient to complete requirements for the Bachelor of Arts degree.

## Health Education Minor

Course No.	Course Title	Hours Credit
HPER	262—First Aid .....	2
HPER	299—Community Health .....	4
HPER	301—Health Education in the Elementary School* .....	2
	<i>or</i>	
HPER	302—Health Education in the Secondary School .....	4
HPER	342—Modern Concepts in Health and Disease .....	3
HPER	343—Methods and Observation of Health Education .....	5
HPER	405—Issues in Health .....	3
HPER	471—Safety Education .....	3
PSY	355—Mental Hygiene and Emotional Adjustment .....	3
	*Elementary School Emphasis (HPER 301) must have 2 hours electives to be approved by major adviser	

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## Physical Education (Men)

George H. Sage, Chairman

### Physical Education Major for Men

Following are the requirements for the major:

1. General Education totaling 60 academic quarter hours.
2. The following courses *must be substituted* for the six quarters of physical education activity required as part of General Education:

Course No.	Course Title	Hours Credit
HPER	271—Analysis and Movements of Soccer .....	1
HPER	274—Analysis and Movements of Volleyball .....	1
HPER	280—Analysis and Movements of Badminton .....	1
HPER	284—Analysis and Movements of Tennis .....	1
HPER	285—Analysis and Movements of Tumbling and Gymnastics .....	2

3. Professional Teacher Education, 31 hours, plus HPER 344, three hours credit, and HPER 345, two hours credit.

4. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
HPER	220—Anatomical Kinesiology .....	3
HPER	221—Mechanical Kinesiology .....	3
HPER	222—Physiological Kinesiology .....	3
HPER	223—Psychological Kinesiology .....	3
HPER	262—First Aid .....	2
HPER	273—Analysis and Movements of Basketball .....	2
HPER	275—Analysis and Movements of Wrestling .....	1
HPER	276—Analysis and Movements of Football .....	2
HPER	277—Analysis and Movements of Track .....	1
HPER	278—Analysis and Movements of Baseball .....	1
HPER	283—Analysis and Movements of Swimming .....	1
HPER	290—Analysis and Movements of Folk Dance .....	2
HPER	292—Analysis and Movements of American Square and Social Dance .....	2
HPER	302—Health Education in the Secondary School .....	4
HPER	361—Coaching of Football .....	2
HPER	362—Coaching of Basketball .....	2
HPER	363—Coaching of Track and Field .....	2
HPER	364—Coaching of Baseball .....	2
HPER	426—Tests and Measurement in Physical Education .....	3
HPER	435—Educational Interpretations of Health, Physical Education, and Recreation .....	3
HPER	450—Administration of Physical Education .....	3
HPER	472—Recreation Leadership .....	3
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5. HPER 345 and at least 14 hours of the HPER Analysis and Movement classes must be completed before a student may student teach in this field.

6. A teaching minor of 27 quarter hours or more. This minor may be selected outside the School of Health, Physical Education and Recreation, or from within the School of Health, Physical Education, and Recreation, in either Health Education or in Dance Education. Courses in the selected minor that are preceded by an asterisk (\*) may be counted toward fulfillment of the General Education requirements.

7. Most states require courses in methods and observation of teaching specific subjects for certification. Students majoring in this field are encouraged to take Introduction to Student Teaching and Methods of Teaching in their minor.

8. Electives sufficient to complete requirements for the Bachelor of Arts degree.

9. Electives may be used at the students' option and under advisement to complete teaching competencies in Health Education and Driver Education.

## Physical Education Minor for Men (Coaching Emphasis—Secondary Level)

Entry to this minor requires athletic participation at this University and approval by the athletic department. Before enrolling in courses in this minor, secure applications from the School office.

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
A minimum of 5 hours elected from: .....		5
HPER	273—Analysis and Movements of Basketball .....	
HPER	275—Analysis and Movements of Wrestling .....	
HPER	276—Analysis and Movements of Football .....	
HPER	277—Analysis and Movements of Track .....	
HPER	278—Analysis and Movements of Baseball .....	
HPER	283—Analysis and Movements of Swimming .....	
HPER	285—Analysis and Movements of Tumbling and Gymnastics .....	
A minimum of 4 hours elected from: .....		4
HPER	361—Coaching of Football .....	
HPER	362—Coaching of Basketball .....	
HPER	363—Coaching of Track and Field .....	
HPER	364—Coaching of Baseball .....	
And the following:		
HPER	220—Anatomical Kinesiology .....	3
HPER	221—Mechanical Kinesiology .....	3

HPER	222—Physiological Kinesiology .....	3
HPER	435—Educational Interpretations of Health, Physical Education, and Recreation .....	3
HPER	470—Administration of Athletics .....	3
HPER	480—Care of Sports Injuries .....	3
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## Physical Education Minor for Men (Teaching Emphasis—Secondary Level)

1. The following courses *must be substituted* for the six quarters of physical education activity required as a part of General Education:

Course No.	Course Title	Hours Credit
HPER	276—Analysis and Movements of Football .....	2
HPER	277—Analysis and Movements of Track .....	1
HPER	278—Analysis and Movements of Baseball .....	1
HPER	290—Analysis and Movements of Folk Dance .....	2

2. Following are the requirements for the minor:

Course No.	Course Title	Hours Credit
HPER	220—Anatomical Kinesiology .....	3
HPER	221—Mechanical Kinesiology .....	3
HPER	222—Physiological Kinesiology .....	3
HPER	262—First Aid .....	2
HPER	271—Analysis and Movements of Soccer .....	1
HPER	273—Analysis and Movements of Basketball .....	2
HPER	274—Analysis and Movements of Volleyball .....	1
HPER	275—Analysis and Movements of Wrestling .....	1
HPER	280—Analysis and Movements of Badminton .....	1
HPER	283—Analysis and Movements of Swimming .....	1
HPER	284—Analysis and Movements of Tennis .....	1
HPER	285—Analysis and Movements of Tumbling and Gymnastics .....	2
HPER	292—Analysis and Movements of American Square and Social Dance .....	2
HPER	345—Methods and Observations of Teaching Physical Education in the Secondary School .....	2
HPER	426—Tests and Measurement in Physical Education or	
HPER	435—Educational Interpretations of Health, Physical Education, and Recreation .....	3
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3. HPER 345 and at least 14 hours of the HPER Analysis and Movement classes must be completed before a student may student teach in this field.

## Physical Education Major for Men (Elementary School Emphasis)

Following are the requirements for the major:

1. General Education totaling 60 academic quarter hours.

2. The following courses *must be substituted* for the six quarters of physical education activity required as part of General Education:

Course No.	Course Title	Hours Credit
HPER	290—Analysis and Movements of Folk Dance .....	2
HPER	291—Rhythms for the Elementary School .....	2
HPER	292—Analysis and Movements of American Square and Social Dance .....	2

3. Professional Teacher Education, 31 hours.

4. The following required courses in the major:

Course No.	Course Title	Hours Credit
HPER	220—Anatomical Kinesiology .....	3
HPER	221—Mechanical Kinesiology .....	3
HPER	222—Physiological Kinesiology .....	3
HPER	223—Psychological Kinesiology .....	3



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HPER	224—Maturational Kinesiology .....	3
HPER	262—First Aid .....	2
HPER	271—Analysis and Movements of Soccer .....	1
HPER	273—Analysis and Movements of Basketball .....	2
HPER	274—Analysis and Movements of Volleyball .....	1
HPER	275—Analysis and Movements of Wrestling .....	1
HPER	277—Analysis and Movements of Track .....	1
HPER	278—Analysis and Movements of Baseball .....	1
HPER	283—Analysis and Movements of Swimming .....	1
HPER	285—Analysis and Movements of Tumbling and Gymnastics .....	2
HPER	301—Health Education in the Elementary School .....	2
HPER	344—Methods and Observation of Teaching Physical Education in the Elementary School .....	3
HPER	426—Tests and Measurement in Physical Education .....	3
HPER	432—Adapted Physical Education .....	3
HPER	435—Educational Interpretations of Health, Physical Education, and Recreation .....	3
HPER	472—Recreation Leadership .....	3
EDEM	250—Introduction to Outdoor Education .....	3
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5. HPER 344 and at least 10 hours of the HPER Analysis and Movement classes must be completed before a student may student teach in this field.

6. A teaching minor of 27 quarter hours or more. This minor may be selected outside the School of Health, Physical Education and Recreation, or from within the School of Health, Physical Education and Recreation, in either Health Education or in Dance Education. Courses in the selected minor that are preceded by an asterisk (\*) may be counted toward fulfillment of the General Education requirements.

7. Most states require courses in methods and observation of teaching specific subjects for certification. Students majoring in this field are encouraged to take Introduction to Student Teaching and Methods of Teaching in their minor.

8. Electives sufficient to complete requirements for the Bachelor of Arts degree.

## Physical Education Minor for Men (Elementary Level)

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
HPER	220—Anatomical Kinesiology .....	3
HPER	221—Mechanical Kinesiology .....	3
HPER	262—First Aid .....	2
HPER	271—Analysis and Movements of Soccer .....	1
HPER	273—Analysis and Movements of Basketball .....	2
HPER	274—Analysis and Movements of Volleyball .....	1
HPER	277—Analysis and Movements of Track .....	1
HPER	278—Analysis and Movements of Baseball .....	1
HPER	285—Analysis and Movements of Tumbling and Gymnastics .....	2
HPER	290—Analysis and Movements of Folk Dance .....	2
HPER	291—Rhythms for the Elementary School .....	2
HPER	301—Health Education in the Elementary School .....	2
HPER	344—Methods and Observation of Teaching Physical Education in the Elementary School .....	3
HPER	435—Educational Interpretations of Health, Physical Education, and Recreation .....	3
<i>or</i>		
HPER	472—Recreation Leadership .....	3
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1. HPER 344 and at least 8 hours of the HPER Analysis and Movement classes must be completed before a student may student teach in this field.

## Physical Education (Women)

Margaret E. Everett, Chairman

## Physical Education Major for Women

Following are the requirements for the major:

1. General Education totaling 60 academic quarter hours.
2. The following courses must be substituted for the six quarters of physical education activity required as part of General Education:

Course No.	Course Title	Hours	Credit
HPER	273—Analysis and Movements of Basketball .....	1	1
HPER	274—Analysis and Movements of Volleyball .....	1	1
HPER	277—Analysis and Movements of Track .....	1	1
HPER	280—Analysis and Movements of Badminton .....	1	1
HPER	295—Analysis of Movement Fundamentals .....	1	1
HPER	298—Analysis of Swimming Techniques .....	1	1

3. Professional Teacher Education, 31 hours, plus HPER 344, three hours credit, and HPER 345, two hours credit.

4. The following required courses in the major:

Course No.	Course Title	Hours	Credit
HPER	220—Anatomical Kinesiology .....	3	3
HPER	221—Mechanical Kinesiology .....	3	3
HPER	222—Physiological Kinesiology .....	3	3
HPER	223—Psychological Kinesiology .....	3	3
HPER	262—First Aid .....	2	2
HPER	271—Analysis and Movements of Soccer .....	1	1
HPER	272—Analysis and Movements of Hockey .....	1	1
HPER	278—Analysis and Movements of Softball .....	1	1
HPER	284—Analysis and Movements of Tennis .....	1	1
HPER	285—Analysis and Movements of Tumbling and Gymnastics .....	2	2
HPER	290—Analysis and Movements of Folk Dance .....	2	2
HPER	292—Analysis and Movements of American Square and Social Dance .....	2	2
HPER	293—Analysis and Movements of Modern Dance .....	2	2
HPER	294—Problems in Dance Composition .....	2	2
HPER	302—Health Education in the Secondary School .....	4	4
HPER	325—Teaching of Sports .....	2	2
HPER	326—Teaching of Dance .....	2	2
HPER	426—Tests and Measurement in Physical Education .....	3	3
HPER	432—Adapted Physical Education .....	3	3
HPER	435—Educational Interpretations of Health, Physical Education, and Recreation .....	3	3
HPER	472—Recreation Leadership .....	3	3
	Electives chosen from the following .....	4	4
HPER	227—Coaching and Officiating of Gymnastics .....		
HPER	228—Coaching and Officiating of Track and Field .....		
HPER	229—Coaching and Officiating of Field Sports .....		
HPER	230—Coaching and Officiating of Volleyball .....		
HPER	231—Coaching and Officiating of Basketball .....		
HPER	232—Coaching and Officiating of Tennis .....		
HPER	233—Coaching and Officiating of Swimming .....		

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5. HPER 344 and 345 and at least 14 hours of the HPER Analysis and Movement classes must be completed before a student may student teach in this field.

6. A teaching minor of 27 quarter hours or more. This minor may be selected outside the School of Health, Physical Education and Recreation, or from within the School of Health, Physical Education and Recreation in either Health Education or in Dance Education. Courses in the selected minor that are preceded by an asterisk (\*) may be counted toward fulfillment of the General Education requirements.

7. Electives sufficient to complete requirements for the Bachelor of Arts degree.

## Physical Education Minor for Women (Secondary Level)

1. The following courses must be substituted for the six quarters of physical education activity required as part of General Education:

Course No.	Course Title	Hours	Credit
HPER	277—Analysis and Movements of Track .....	1	1
HPER	278—Analysis and Movements of Softball .....	1	1
HPER	284—Analysis and Movements of Tennis .....	1	1
HPER	290—Analysis and Movements of Folk Dance .....	2	2
HPER	295—Analysis of Movement Fundamentals .....	1	1

2. The following required courses in the minor:

Course No.	Course Title	Hours	Credit
HPER	220—Anatomical Kinesiology .....	3	3
HPER	221—Mechanical Kinesiology .....	3	3
HPER	222—Physiological Kinesiology .....	3	3
HPER	262—First Aid .....	2	2
HPER	271—Analysis and Movements of Soccer .....	1	1
HPER	272—Analysis and Movements of Hockey .....	1	1
HPER	273—Analysis and Movements of Basketball .....	1	1
HPER	274—Analysis and Movements of Volleyball .....	1	1
HPER	285—Analysis and Movements of Tumbling and Gymnastics .....	2	2
HPER	292—Analysis and Movements of American Square and Social Dance .....	2	2
HPER	302—Health Education in the Secondary School .....	4	4
HPER	345—Methods and Observation of Teaching Physical Education in the Secondary School (Women) .....	2	2
HPER	426—Tests and Measurement in Physical Education.....	3	3
	or		
HPER	435—Educational Interpretations of Health, Physical Education, and Recreation .....	3	3
		<hr/>	28

3. HPER 345 and at least 14 hours of the HPER Analysis and Movement classes must be completed before a student may student teach in this field.

## Physical Education Major for Women (Elementary School Emphasis)

Following are the requirements for the major:

1. General Education totaling 60 academic quarter hours.

2. The following courses must be substituted for the six quarters of physical education activity required as part of General Education:

Course No.	Course Title	Hours	Credit
HPER	290—Analysis and Movements of Folk Dance .....	2	2
HPER	291—Rhythms for the Elementary School .....	2	2
HPER	292—Analysis and Movements of American Square and Social Dance .....	2	2

3. Professional Teacher Education, 31 hours.

4. The following required courses in the major:

Course No.	Course Title	Hours	Credit
HPER	220—Anatomical Kinesiology .....	3	3
HPER	221—Mechanical Kinesiology .....	3	3
HPER	222—Physiological Kinesiology .....	3	3
HPER	223—Psychological Kinesiology .....	3	3
HPER	224—Maturational Kinesiology .....	3	3
HPER	262—First Aid .....	2	2
HPER	271—Analysis and Movements of Soccer .....	1	1
HPER	272—Analysis and Movements of Hockey .....	1	1
HPER	273—Analysis and Movements of Basketball .....	1	1
HPER	274—Analysis and Movements of Volleyball .....	1	1
HPER	277—Analysis and Movements of Track .....	1	1
HPER	283—Analysis and Movements of Swimming .....	2	2
HPER	285—Analysis and Movements of Tumbling and Gymnastics .....	2	2
HPER	295—Analysis of Movement Fundamentals .....	1	1
HPER	301—Health Education in the Elementary School .....	2	2
HPER	344—Methods and Observation of Teaching Physical Education in the Elementary School .....	3	3

HPER	426—Tests and Measurement in Physical Education.....	3
HPER	432—Adapted Physical Education .....	3
HPER	435—Educational Interpretations of Health, Physical Education, and Recreation .....	3
HPER	472—Recreation Leadership .....	3
EDEM	250—Introduction to Outdoor Education .....	3

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5. HPER 344 and at least 10 hours of the HPER Analysis and Movement classes must be completed before a student may student teach in this field.

6. A teaching minor of 27 quarter hours or more. This minor may be selected outside the School of Health, Physical Education and Recreation, or from within the School of Health, Physical Education and Recreation, in either Health Education or in Dance Education. Courses in the selected minor that are preceded by an asterisk (\*) may be counted toward fulfillment of the General Education requirements.

7. Electives sufficient to complete requirements for the Bachelor of Arts degree.

## Physical Education Minor for Women (Elementary Level)

1. Students in this minor must complete the six quarters of physical education activity required as part of General Education.

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
HPER	220—Anatomical Kinesiology .....	3
HPER	221—Mechanical Kinesiology .....	3
HPER	262—First Aid .....	2
HPER	271—Analysis and Movements of Soccer .....	1
HPER	272—Analysis and Movements of Hockey .....	1
HPER	273—Analysis and Movements of Basketball .....	1
HPER	274—Analysis and Movements of Volleyball .....	1
HPER	277—Analysis and Movements of Track .....	1
HPER	285—Analysis and Movements of Tumbling and Gymnastics .....	2
HPER	290—Analysis and Movements of Folk Dance .....	2
HPER	291—Rhythms for the Elementary School .....	2
HPER	295—Analysis of Movement Fundamentals .....	1
HPER	301—Health Education in the Elementary School .....	2
HPER	344—Methods and Observation of Teaching Physical Education in the Elementary School .....	3
HPER	435—Educational Interpretations of Health, Physical Education, and Recreation .....	3

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## Dance Education Minor (Men and Women)

1. For non-physical education majors, the following must be substituted for the six quarters of physical education activity required as part of General Education.

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
HPER	290—Analysis and Movements of Folk Dance .....	2
HPER	292—Analysis and Movements of American Square and Social Dance .....	2
HPER	293—Analysis and Movements of Modern Dance .....	2

2. Women majoring in physical education and electing this minor must complete four hours of electives under advisement.

3. Men majoring in physical education and electing this minor must complete HPER 293 in addition to the major and minor requirements.

4. The following required courses in the minor:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
HPER	255—Modern Dance Techniques .....	4
HPER	256—Improvisation and Composition Forms .....	2
HPER	291—Rhythms for the Elementary School .....	2
HPER	294—Problems in Dance Composition .....	2

HPER	296—Rhythmic Analysis and Dance Accompaniment .....	2
HPER	326—Teaching of Dance .....	2
HPER	456—Workshop in Modern Dance .....	4
HPER	457—Dance History and Philosophy .....	4
HPER	459—Dance Production in High School and College .....	3
MUS	206—Music Fundamentals for Dancers .....	2

# Recreation

**J. Max Shirley, Chairman**

## Recreation Major

Following are the requirements for the major:

1. General Education totaling 60 academic quarter hours.
2. For either men or women, courses from HPER 271-287 must be substituted for the six quarters of physical education activity required as part of General Education (the selection must be made with the counsel of the major adviser).
3. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
HPER	197—Introduction to Health, Physical Education, and Recreation .....	2
HPER	252—Social Recreation .....	2
HPER	253—Camp Counseling .....	3
HPER	262—First Aid .....	2
HPER	277—Analysis and Movements of Track .....	1
HPER	278—Analysis and Movements of Softball .....	1
HPER	283—Analysis and Movements of Swimming .....	1
HPER	284—Analysis and Movements of Tennis .....	1
HPER	288—Physical Education Activities for the Elementary School .....	2
HPER	290—Analysis and Movements of Folk Dance .....	2
HPER	292—Analysis and Movements of American Square and Social Dance .....	2
HPER	368—Programs in Recreation .....	4
HPER	369—Therapeutic Recreation .....	3
HPER	435—Educational Interpretations of Health, Physical Education, and Recreation .....	3
HPER	451—Administration of Community Recreation .....	4
HPER	471—Safety Education .....	3
HPER	472—Recreation Leadership .....	3
FA	227—Art for the Exceptional Child .....	3
MUS	315—Music and Recreation .....	2
PSY	330—Child and Adolescent Psychology .....	3
THEA	280—Creative Dramatics .....	3

4. One minor of 27 quarter hours, or 27 quarter hours of supporting courses selected with the approval of the major adviser. Courses in the selected minor that are preceded by an asterisk (\*) may be counted toward fulfillment of the General Education requirements.

5. Senior recreation majors will complete HPER 452, Internship in Recreation, 15 hours. Courses HPER 368, 369, 451, and 472 are prerequisites for HPER 452.

6. Electives sufficient to complete requirements for the Bachelor of Science degree.

**HONORS**—The School of Health, Physical Education, and Recreation participates in the Honors Program. See page No. 40.

# SCHOOL OF MUSIC

James E. Miller, Dean

Robert S. James, Administrative Assistant to the Dean

The School of Music is a professional school offering preparation both for the vocal and instrumental performer and for the teacher of music. It also provides courses for the student interested in music as part of his general and cultural education. Faculty and students in the School of Music take a leading part in the cultural activities on the campus. The School of Music is an associate member of the National Association of Schools of Music.

**Bachelor of Arts (non-Teaching)**

Music Major  
Music Minor

**Bachelor of Music (non-teaching) Major**

Music (vocal, instrumental or piano) Major  
Music (combined with Bachelor of Arts Degree in music education) Major

**Bachelor of Arts (teaching)**

Music Education Major (instrumental or vocal, piano and general emphasis)  
Music Education and Elementary Education Majors (a double major)  
Music Education and Music Majors (combined with Bachelor of Music Degree)

**Brass and Percussion Department:** Edwin Baker, Chairman.

**History and Literature Department:** Don Garlick, Chairman.

**Music Education Department:** John Fluke, Chairman

**Piano and Organ Department:** Rupert Goodbrod, Chairman.

**String Department:** Howard Mickens, Chairman.

**Theory and Composition Department:** Dale Dykins, Chairman.

**Voice Department:** Claude Schmitz, Chairman.

**Woodwind Department:** Kenneth Evans, Chairman.

**Professors:** Dykins, Garlick, Goodbrod, Hutcherson, King, J. Miller, Schenkman.

**Associate Professors:** Baker, Bartlett, Evans, Fluke, Himmel, James Mickens, K. Miller, Nofziger, Schmitz, Skinner, Walker.

**Assistant Professors:** Copley, Garcia, Ginsburg, Goes, Hickling, Linscome, Menk, D. Robinson, Taylor, Upton.

**Instructors:** Bourassa, Haight, Jamieson, Lowrey, Maurice, J. Robinson, W. Smith.

## Bachelor of Arts Degree

### Music Major

1. General Education totaling 60 quarter hours, plus six quarters of physical education activity.

2. A 51-hour major in music as outlined below:

Course No.	Course Title	Hours	Credit
MUS 101, 102, 103	Sight Singing and Theory I, II, III	.....	12
*MUS 141, 142, 143	Music Literature and Styles I, II, III	.....	6
MUS 201, 202, 203	Advanced Sight Singing and Theory I, II, III	.....	9
MUS 240, 241, 242	History of Music I, II, III	.....	9
MUS	301—Counterpoint	.....	3
MUS	302—Homophonic Forms	.....	3
	Electives in Music	.....	9

\*May be used as part of the 60 hours of required General Education.

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3. One academic minor of 27 quarter hours outside the School of Music.
4. Two years of French or German.
5. One quarter hour of applied music credit must be earned each quarter in residence in the student's major performance area. One quarter hour of credit must be earned each quarter in residence in a musical organization such as Band, Orchestra or Choir.
6. Meet all music performance and recital attendance requirements as listed on page 132.
7. Electives to meet requirements for graduation.

## Music Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
*MUS	140—Music Appreciation .....	2
*MUS 141, 142,	143—Music Literature and Styles I, II, III .....	6
*MUS	204—Music Fundamentals I .....	2
*MUS	205—Music Fundamentals II .....	3
	**Music Performance (Applied) .....	3
	***Music Performance (Major Ensemble) .....	3
	***Music Electives .....	8
		27

\*Courses 140, 204, 205, 141, 142, 143, applied and ensemble may be used as part of the 60 hours of required General Education.

\*\*At least three hours of applied music credit must be earned by taking three continuous quarters of individual instruction in a single musical medium.

\*\*\*At least three hours of ensemble credit must be earned by performance in a major musical organization (Concert Band, Varsity Band, Symphonic Wind Band, Laboratory Orchestra, Orchestra, Concert Choir, Oratorio Chorus, Women's Concert Choir, or Varsity Men's Glee Club).

\*\*\*\*To be selected upon consultation with minor adviser.

## Bachelor of Music Degree

### Requirements:

1. General Education totaling 60 quarter hours, which includes six hours of Music 141, 142, 143, Music Literature and Styles I, II, III plus six quarters of physical education activity courses.

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
*MUS 141, 142,	143—Music Literature and Styles I, II, III .....	6
ENG	101—Elementary Composition I .....	3
ENG	102—Elementary Composition II .....	3
SP	110—Elementary Composition III .....	3
PSY	120—General Psychology .....	3
HPER	191—Personal and Family Health .....	3
SCI	103—Physical Science .....	3
SCI	104—Biological Science .....	3
SCI	105—Earth Science .....	3
ENG	201—Introduction—The Greek and Roman Periods .....	3
ENG	202—The Middle Ages and the Renaissance .....	3
ENG	203—The Eighteenth to the Twentieth Century .....	3
<i>Two of the five following courses :</i>		
GEOG	100—World Geography .....	5
ANT	100—General Anthropology .....	5
ECON	100—Introductory Economics .....	5
PSCI	100—National Government of the US .....	5
SOC	100—Principles of Sociology .....	5
<i>or The following three courses :</i>		
HIST	125—Western Civilization I .....	3
HIST	126—Western Civilization II .....	3
HIST	127—Western Civilization III .....	3

\*May be used as part of the 60 hours of required General Education.

	••Electives .....	11
HPER	191-Physical Education Activity Course (101-190) .....	(6)
		59-60

••To be sure that North Central Association accreditation standards are met, students must elect eleven additional quarter hours in general education courses outside the area of music (consult your adviser).

2. Complete the required courses listed below for the Instrumental, Voice, or Piano Major.

3. Meet all recital attendance requirements as listed on page 124.

4. Two or three credit hours (where applicable) of applied music study shall be carried on during each quarter of residence and culminate in a senior recital.

5. Electives to meet requirements for graduation.

## Instrumental Major

Course No.	Course Title	Hours	Credit
MUS 101, 102, 103	Sight Singing and Elementary Theory I, II, III .....	12	
*MUS 141, 142, 143	Music Literature and Styles I, II, III .....	6	
MUS 160, 161, 62	Beginning Class Piano I, II, III .....	6	
	or		
MUS 260, 261, 262	Intermediate Class Piano I, II, III .....		
	or		
MUS 171, 271, 371, 471	Individual Instruction in Piano .....	6	
MUS 177, 277, 377, 477	Individual Instruction in Composition .....	3	
MUS 201, 202, 203	Advanced Sight Singing and Theory I, II, III .....	9	
MUS 240, 241, 242	History of Music I, II, III .....	9	
MUS	301-Counterpoint .....	3	
MUS	302-Homophonic Forms .....	3	
MUS	303-Instrumentation .....	3	
MUS 320, 321, 322	Instrumental Techniques and Conducting I, II, III .....	3	
MUS	402-Polyphonic Forms .....	3	
MUS	403-Acoustics of Music .....	3	
MUS	423-Practicum in Band Conducting and Performance .....	3	
	or		
MUS	425-Practicum in Orchestral Conducting and Performance .....	3	
MUS	449-History of Musical Instruments .....	3	
	Applied Music .....	36	
	Major Musical Organizations .....	12	
	Small Ensembles .....	12	
			126

\*May be used as part of the 60 hours of required General Education.

## Voice Major

Course No.	Course Title	Hours	Credit
MUS 101, 102, 103	Sight Singing and Theory I, II, III .....	12	
*MUS 141, 142, 143	Music Literature and Styles I, II, III .....	(6)	
MUS 160, 161, 162	Beginning Class Piano I, II, III .....		
	or		
MUS 260, 261, 262	Intermediate Class Piano I, II, III .....		
	or		
MUS 171, 271, 371, 471	Individual Instruction in Piano .....	6	
MUS 185, 285, 385, 485	Opera Workshop .....	6	
MUS 201, 202, 203	Advanced Sight Singing and Theory I, II, III .....	9	
MUS 240, 241, 242	History of Music I, II, III .....	9	
MUS	301-Counterpoint .....	3	
MUS	302-Homophonic Forms .....	3	
MUS	303-Instrumentation .....	3	
MUS	323, 324-Choral Techniques and Conducting I, II .....	(2)	
	or		
MUS	424-Practicum in Choral Conducting and Performance .....	3	
MUS	325-Stage and Opera Techniques .....	2	
MUS	402-Polyphonic Forms .....	3	
MUS	441-Choral Literature to 1750 .....	3	



MUS	442—Choral Literature from 1750 .....	3
MUS	445—Vocal Repertoire: German Art Song .....	2
MUS	446—Vocal Repertoire: French Art Song .....	2
MUS	447—Vocal Repertoire: Italian Art Song .....	2
	*Applied Music .....	24
	*Major Musical Organizations .....	12
	Languages .....	42
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\*May be used as part of the 60 hours of required General Education.

## Piano Major

Course No.	Course Title	Hours Credit
MUS 101, 102, 103	—Sight Singing and Theory I, II, III .....	12
MUS 134, 234, 334, 434	—Piano Ensemble .....	1
*MUS 141, 142, 143	—Music Literature and Styles I, II, III .....	(6)
MUS 170, 270, 370, 470	—Individual Instruction in Voice .....	6
MUS 171, 271, 371, 471	—Individual Instruction in Piano .....	36
MUS 201, 202, 203	—Advanced Sight Singing and Theory I, II, III .....	9
MUS 240, 241, 242	—History of Music I, II, III .....	9
MUS	301—Counterpoint .....	3
MUS	302—Homophonic Forms .....	3
MUS 323, 324	—Choral Techniques and Conducting I, II .....	2
MUS	401—Improvisation .....	2
MUS	402—Polyphonic Forms .....	3
MUS	403—Acoustics of Music .....	3
MUS	424—Practicum in Choral Conducting and Performance .....	3
MUS	440—Literature of the Piano .....	3
MUS	445—Vocal Repertoire: German Art Song .....	2
MUS	446—Vocal Repertoire: French Art Song .....	2
MUS	447—Vocal Repertoire: Italian Song .....	2
MUS 461, 462, 463	—Principle of Piano Teaching I, II, III .....	6
	Major Musical Organizations .....	12
		<hr/> 122

Combination Program—It is possible to combine the Bachelor of Arts (Teacher Preparation) in a five-year program. For information, please consult page 122.

\*May be used as part of the 60 hours of required General Education.

## Bachelor of Arts Degree (With Teacher Preparation)

### Music Education Major

#### Requirements:

1. General Education totaling 60 quarter hours, which includes six hours of Music 141, 142, 143, Music Literature and Styles I, II, III, plus six quarters of physical education activity courses.

Course No.	Course Title	Hours Credit
*MUS 141, 142, 143	—Music Literature and Styles I, II, III .....	6
ENG 101, 102	—Elementary Composition I, II .....	6
SP	110—Principles of Speech .....	3
PSY	120—General Psychology .....	3
HPER	191—Personal and Family Health .....	3
SCI	103—Physical Science .....	3
SCI	104—Biological Science .....	3
SCI	105—Earth Science .....	3
ENG	201—Introduction—The Greek and Roman Periods .....	3
ENG	202—The Middle Ages and The Renaissance .....	3
ENG	203—The Eighteenth to the Twentieth Century .....	3

\*May be used as part of the 60 hours of required General Education.

*Two of the five following courses:*

GEOG	100—World Geography .....	5
ANT	100—General Anthropology .....	5
ECON	100—Introductory Economics .....	5
PSCI	100—National Government of the U.S. ....	5
SOC	100—Principles of Sociology .....	5

*OR the following three courses:*

HIST 125, 126, 127	—Western Civilization I, II, III .....	9
	**Electives .....	11
HPER	—Physical Education Activity Courses (101-190) .....	(6)

59-60

\*\*To be sure that North Central Association accreditation standards are met, students must elect eleven additional quarter hours in general education courses outside the area of music (consult your adviser).

**2. Professional Teacher Education, 31 hours.**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
EDF	365—Basic Concepts of Education .....	5
PSY	341—Educational Psychology .....	5
EDFE	450—Elementary Student Teaching	
	<i>or</i>	
EDFE	460—Secondary Student Teaching	
	<i>or</i>	
EDFE	451—½ day Internship	
	<i>or</i>	
EDFE	461—Full day Internship .....	18
EDF	485—Philosophy of Education .....	3
		<b>31</b>

3. The required courses listed for the Instrumental Emphasis or the Vocal, Piano and General Emphasis.

4. One hour of applied music credit to be earned each quarter in residence in the student's major performance area and one hour of credit to be earned each quarter in residence in a major musical organization (Concert Band, Varsity Band, Symphonic Wind Band, Laboratory Orchestra, Orchestra, Concert Choir, Oratorio Chorus, Women's Concert Choir, or Varsity Men's Glee Club).

5. Meet all music performance and recital attendance requirements as listed on page 132.

6. Electives to meet requirements for graduation.

7. Meet requirements for Admission to the Professional Teacher Education Program on page 130.

**Instrumental Emphasis**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
MUS 101, 102, 103	—Sight Singing and Theory I, II, III .....	12
*MUS 141, 142, 143	—Music Literature and Styles I, II, III .....	(6)
MUS 160, 161, 162	—Beginning Class Piano I, II, III	
	<i>or</i>	
MUS 260, 261, 262	—Intermediate Class Piano I, II, III	
	<i>or</i>	
	Electives in music (upon evidence of piano proficiency) .....	6
MUS 163, 164, 165	—Beginning Strings I, II, III .....	3
MUS 201, 202, 203	—Advanced Sight Singing and Theory I, II, III .....	9
MUS	210—Introduction to Music Education .....	2
MUS 240, 241, 242	—Music History I, II, III .....	9
MUS	301—Counterpoint .....	3
MUS	302—Homophonic Forms .....	3
MUS	303—Instrumentation .....	3
MUS	312—Introduction to Teaching General Music in The Elementary and Secondary Schools (PTE) .....	3
MUS	313—Teaching Instrumental Music (PTE) .....	3

\*May be used as part of the 60 hours of required General Education.

MUS 320, 321, 322	—Instrumental Techniques and Conducting I, II, III .....	3
MUS	360—Voice Class .....	1
MUS	361—Flute Class .....	1
MUS	362—Clarinet and Saxophone Class .....	1
MUS	363—Double Reed Class .....	1
MUS	364—Trumpet and French Horn Class .....	1
MUS	365—Low Brass Class .....	1
MUS	366—Percussion Class .....	1
MUS	412—Instrument Repair and Care .....	2
MUS	443—Instrumental Literature .....	3
	Applied Music .....	11
	Major Musical Organizations .....	11
	*Music Electives (to be selected from courses below) .....	8

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**\*\*Music Electives**

MUS	314—Senior High School Vocal Methods and Materials .....	1
MUS	316—Music Methods and Materials for Elementary Teachers (PTE) ..	2
MUS	317—Music Literature for Elementary Grades .....	3
MUS	319—Music Activities for Classroom Teachers .....	3
MUS	323—Teaching Music Appreciation .....	3
MUS	326—The School Music Program For the Handicapped .....	3
MUS	340—A Survey of the History and Literature of Jazz .....	3
MUS	401—Improvisation .....	2
MUS	410—Methods and Materials for Class Voice .....	2
MUS	411—Methods and Materials for Class Instrumental Instruction .....	3
MUS	444—Marching Band Techniques .....	2
MUS	449—History of Musical Instruments .....	3

**Vocal, Piano and General Emphasis**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
MUS 101, 102, 103	—Sight Singing and Theory I, II, III .....	12	
*MUS 141, 142, 143	—Music Literature and Styles I, II, III .....	(6)	
MUS 160, 161, 162	—Beginning Class Piano I, II, III .....	(3)	
	<i>and/or</i>		
MUS 260, 261, 262	—Intermediate Class Piano I, II, III .....	(3)	
	<i>or</i>		
MUS 170, 270, 370, 470	—Individual Instruction in Voice (For piano majors) .....	(3)	
	<i>or</i>		
MUS 171, 271, 371, 471	—Individual Instruction in Piano (for voice majors) .....	(6)	
MUS 201, 202, 203	—Advanced Sight Singing and Theory I, II, III .....	9	
MUS	210—Introduction to Music Education .....	2	
MUS 240, 241, 242	—Music History I, II, III .....	9	
MUS	301—Counterpoint .....	3	
MUS	302—Homophonic Forms .....	3	
MUS	303—Instrumentation .....	3	
MUS	310—Introduction to Teaching Elementary General Music (PTE) .....	2	
MUS	311—Teaching Junior High School Music (PTE) .....	2	
MUS	313—Teaching Instrumental Music (PTE) .....	3	
MUS	314—Senior High School Vocal Methods and Materials .....	1	
MUS 323, 324	—Vocal Techniques and Conducting I, II .....	2	
MUS	367—Brass and Percussion Class .....	1	
MUS	368—String Class .....	1	
MUS	369—Woodwind Class .....	1	
	Applied Music .....	11	
	Major Musical Organizations .....	11	
	*Music Electives (to be selected from courses below) .....	16	

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**\*\*Music Electives**

MUS 185, 285, 385, 485	—Opera Workshop .....	1-3
MUS	316—Music Methods and materials for Elementary Teachers (PTE) ..	2
MUS	317—Music Literature for Elementary Grades .....	3
MUS	319—Music Activities for Classroom Teachers .....	3
MUS	323—Teaching Music Appreciation .....	3
MUS	325—Stage and Opera Techniques .....	2
MUS	326—The School Music Program for the Handicapped .....	3

\*May be used as part of the 60 hours of required General Education.

MUS	401—Improvisation .....	2
MUS	410—Methods and Materials for Class Voice .....	2
MUS	441—Choral Literature to 1750 .....	3
MUS	442—Choral Literature from 1750 .....	3
MUS	***445—Vocal Repertoire: German Art Song .....	2
MUS	***446—Vocal Repertoire: French Art Song .....	2
MUS	***447—Vocal Repertoire: Italian Song .....	2
MUS 461, 462, 463	—Principles of Piano Teaching I, II, III .....	6

\*\*\*Proficiency level II in piano or voice is required as prerequisite for these courses.

## Admission to the Professional Education Program

In addition to meeting the general requirements for formal admission to the teacher education program at the close of the sophomore year the student majoring in music must:

1. Demonstrate an acceptable level of performance on his major instrument or voice. Such ability will be evaluated by a jury examination conducted by the music faculty, and through the scheduled performances of the student in the weekly recital series.
2. Pass a proficiency examination in functional piano in which he will demonstrate his ability to play, at sight, piano accompaniments suitable for community and classroom singing.
3. Demonstrate to a jury of the music faculty his ability to read music vocally at sight with the use of solfege.
4. Show acceptable aptitude for music study as demonstrated by his record in the required freshman and sophomore music courses—Sight-singing and Theory, Harmony, and Literature and Styles.
5. Demonstrate to the satisfaction of a reviewing music education committee, professional promise as a teacher.
6. Submit transcript with PTE Admission Application.
7. Meet all music performance and recital attendance requirements as listed on page 132.

## Music Education (B.A.) and Music (B.M.) Degree

### Combined Degrees

Admission to candidacy for the combined Bachelor of Arts and Bachelor of Music degrees is based upon the recommendation of a School of Music faculty reviewing committee. The student who desires to complete the combined degrees must demonstrate outstanding musical talent. Application for admission to the combined degree program must take place prior to the close of the student's second year in college.

#### Requirements:

1. Complete the requirements for the Bachelor of Arts Degree (Teaching).
2. Present a complete graduation recital.
3. Meet all music performance and recital attendance requirements as listed on page 132.

### Instrumental Major

1. Complete a minimum of an additional 24 hours in applied music and 12 hours in large and small ensembles.
2. Complete the following courses:

Course No.	Course Title	Hours	Credit
MUS 177, 277, 377, 477	—Individual Instruction in Composition .....	3	
MUS	402—Ployphonic Forms .....	3	
MUS	403—Acoustics of Music .....	3	

MUS	423—Practicum in Band Conducting and Performance .....	3
	<i>or</i>	
MUS	425—Practicum in Orchestra Conducting and Performance .....	3
MUS	449—History of Musical Instruments .....	3

## Voice Major

1. Complete a minimum of an additional 12 hours in applied music.
2. Complete two years of French or German and one additional year of a second language.
3. Complete the following courses:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
MUS 285, 385, 485	—Opera Workshop .....	3
MUS	325—Stage and Opera Techniques .....	2
MUS	402—Polyphonic Forms .....	3
MUS	424—Practicum in Choral Conducting and Performance .....	3
MUS	441—Choral Literature to 1750 .....	3
MUS	442—Choral Literature from 1750 .....	3
MUS	445—Vocal Repertoire: German Art Song .....	2
MUS	446—Vocal Repertoire: French Art Song .....	2
MUS	447—Vocal Repertoire: Italian Song .....	2

## Music Education and Elementary Education Major

### Double Major Program

The following is the required program:

1. General Education totaling 60 academic quarter hours, plus six quarter hours of physical education activity courses.
2. A 51-hour major in music as outlined below:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
MUS 101, 102, 103	—Sight Singing Theory I, II, III .....	12
MUS 160, 161, 162	—Beginning Class Piano I, II, III .....	
	<i>or</i>	
MUS 260, 261, 262	—Intermediate Class Piano I, II, III .....	
	<i>or</i>	
MUS	Music Performance (Piano) .....	3
MUS	Music Performance (Individual Instruction) .....	6
MUS	Music Performance (Major Ensemble) .....	3
MUS 201, 202, 203	—Advanced Sight Singing and Theory I, II, III .....	6
MUS	316—Music Methods and Materials for Elementary Teachers (PTE) ....	2
MUS	320—Instrumental Techniques and Conducting I .....	
	<i>or</i>	
MUS	323—Choral Techniques and Conducting I .....	1
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3. Conditions for admission to the program: (1) Current registration as a major in Elementary Education or Special Education; (2) Proficiency in music: (a) successful completion of Music 101, 102, 103 (an average grade of "C" or above); (b) successful completion of a proficiency examination in music skills administered by the music faculty.

4. The student teaching assignment shall include nine hours experience in music teaching in the elementary classroom under an approved music supervisor.

5. Meet all music performance and recital attendance requirements as listed on page 132.

6. One hour of applied music credit to be earned each quarter in residence in the student's major performance area and one hour of credit to be earned each quarter in residence in a musical organization such as Band, Orchestra or Choir.

7. The following courses in the major:

### Music History and Literature

(Elect 5-6 hours from the following courses)

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<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
•MUS	140—Music Appreciation .....		2
•MUS 141, 142, 143	—Music Literature and Styles I, II, III .....		6
			<hr/>
			(5-6)

\*May be used as part of the 60 hours of required General Education.

### Music Theory

(Elect 5-6 hours from the following courses)

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
MUS	203—Advanced Sight Singing and Theory III .....		3
MUS	301—Counterpoint .....		3
MUS	302—Homophonic Forms .....		3
MUS	303—Instrumentation .....		3
MUS	401—Improvisation .....		2
			<hr/>
			(5-6)

### Music Education

(Elect 6-7 hours from the following courses)

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
MUS	210—Introduction to Music Education I .....		2
MUS	317—Music Literature for Elementary Grades .....		3
MUS	318—Improvement of Instruction in Music Reading .....		3
MUS	319—Music Activities for Classroom Teachers .....		3
MUS	323—Teaching Music Appreciation .....		3
	(Required of Special Education Double Major) .....		3
MUS	326—The School of Music Program for the Handicapped .....		
MUS	360—Voice Class .....		1
			<hr/>
			(6-7)

## Recital and Performance Requirements

All undergraduate students enrolling in the School of Music as majors are required to participate in the following areas: Recital Attendance; Applied Music; and Major Ensemble Performance. Details of these programs are listed below:

### Recital Attendance

All undergraduate music majors are required to attend all Studio and Department recitals offered by their respective departments.

All undergraduate music majors are required to attend all of the All-School-of-Music convocations and recitals.

All undergraduate music education majors are required to attend at least 8 major concerts and recitals each quarter for 10 quarters (Bachelor of Music major, 11 quarters). Deficiencies in any one quarter may be made up in any other quarter. The last quarter in residence may be used to make up any deficiencies that have occurred during the previous quarters. Graduate and Honor recitals may be used for makeup recitals at any time.

Outside concerts may be approved by the applied instructor IF:

- (1) the student gets his approval PRIOR to the concert,
- (2) brings a copy of the program to the instructor,
- (3) has him sign the program and submits it to the Music Office.

## Applied Music

The music major must demonstrate continuous growth in his ability to perform on his major instrument. Each student will be expected to appear frequently as a soloist in the weekly student recital series. During the senior year he will be presented in joint recital with other graduating seniors. Such proficiency in performance requires continuous study of the major instrument, or voice, under the tutorship of a private teacher.

Credit for all individual music instruction will be entered in the student's registration under the title and course number appearing below:

In each course-level listed, for Individual Performance in Applied Music, there shall be three levels of evaluation of a student's performance, depending upon the degree being sought: 1. Music performance major (B.M.), 2. Music Education Major (B.A.) or 3. the Non-music major.

Refer to the "Blue-Book" for specific references.

100-200 series—Introductory work in the fundamentals of the chosen performance medium—technical studies and repertoire will be selected according to the student's need. FOR FRESHMEN AND SOPHOMORES.

300-400 series—Continuation of technical studies for further development of performance competency. Repertoire from the standard literature will be selected. Voice majors will begin to draw from Italian, German and French sources in the art song, opera and oratorio. FOR JUNIORS AND SENIORS.

- \*170, 270, 370, 470. INDIVIDUAL PERFORMANCE IN VOICE. *One-three hours credit.*
- \*171, 271, 371, 471. INDIVIDUAL PERFORMANCE IN PIANO. *One-three hours credit.*
- \*172, 272, 372, 472. INDIVIDUAL PERFORMANCE IN ORGAN. *One-three hours credit.*
- \*173, 273, 373, 473. INDIVIDUAL PERFORMANCE IN STRINGS. *One-three hours credit.*
- \*174, 274, 374, 474. INDIVIDUAL PERFORMANCE IN WOODWINDS. *One-three hours credit.*
- \*175, 275, 375, 475. INDIVIDUAL PERFORMANCE IN BRASS. *One-three hours credit.*
- \*176, 276, 376, 476. INDIVIDUAL PERFORMANCE IN PERCUSSION. *One-three hours credit.*
- \*177, 277, 377, 477. INDIVIDUAL INSTRUCTION IN COMPOSITION. *One-three hours credit.*
- \*178, 278, 378, 478. INDIVIDUAL PERFORMANCE IN HARP. *One-three hours credit.*
- \*179, 279, 379, 479. INDIVIDUAL PERFORMANCE IN GUITAR. *One-three hours credit.*

\*May be used by non-music majors as part of the 60 hours of required General Education.

## Performance Organizations

The music major must participate each quarter in the music organization in which his instrument normally belongs—band, orchestra, or choir. Piano and organ majors may select either a vocal or an instrumental organization for a minimum of eight hours. The remaining three quarter hours will be in a piano ensemble.

Credit for all music performance organizations will be entered on the student's registration under the title and course number appearing below:

- 100 series—Freshmen
- 200 series—Sophomores
- 300 series—Juniors
- 400 series—Seniors

- \*130, 230, 330, 430. STRING ENSEMBLE. *One hour credit.*  
 \*131, 231, 331, 431. BRASS ENSEMBLE. *One hour credit.*  
 \*132, 232, 332, 432. WOODWIND ENSEMBLE. *One hour credit.*  
 \*133, 233, 333, 433. PERCUSSION ENSEMBLE. *One-hour credit.*  
 \*134, 234, 334, 434. PIANO ENSEMBLE. *One hour credit.*  
 \*180, 280, 380, 480. MIXED CONCERT CHOIR. *One hour credit.*  
 \*181, 281, 381, 481. ORATORIO CHORUS. *One hour credit.*  
 \*182, 282, 382, 482. UNIVERSITY SINGERS. *One hour credit.*  
 \*183, 283, 383, 483. WOMEN'S CONCERT CHOIR. *One hour credit.*  
 \*184, 284, 384, 484. VARSITY MEN'S GLEE CLUB. *One hour credit.*  
 \*185, 285, 385, 485. OPERA WORKSHOP. *One-three hours credit.*  
 \*186, 286, 386, 486. CHORUS AND ORCHESTRA WORKSHOP. *One hour credit.*  
 \*190, 290, 390, 490. SYMPHONIC WIND BAND. *One hour credit.*  
 \*191, 291, 391, 491. CONCERT BAND. *One hour credit.*  
 \*192, 292, 392, 492. MARCHING BAND. *One hour credit.*  
 \*193, 293, 393, 493. VARSITY BAND. *One hour credit.*  
 \*194, 294, 394, 494. JAZZ ENSEMBLE. *One hour credit.*  
 \*195, 295, 395, 495. CHAMBER BRASS CONSORT. *One hour credit.*  
 \*196, 296, 396, 496. UNIVERSITY SYMPHONY ORCHESTRA. *One hour credit.*  
 \*197, 297, 397, 497. CHAMBER ORCHESTRA. *One hour credit.*  
 \*198, 298, 398, 498. LABORATORY ORCHESTRA. *One hour credit.*

\*May be used by non-music majors as part of the 60 hours of required General Education.

**HONORS**—The School of Music participates in the Honors Program. See page No. 40.



# SCHOOL OF NURSING

L. Elaine McMinn, Dean

**Professor:** McMinn.

**Associate Professors:** Huber, O'Neil, Sawatzky, Thiele.

**Assistant Professors:** Babich, Biegel, Hallan, Heckman, Hurlock, Payton, Ruybal, Swingle.

**Instructors:** Bossart, Koch, Taylor, Yelton.

**General Information:** The School of Nursing offers a thirteen-quarter program leading to the degree Bachelor of Science in Nursing. The purpose of the program is to prepare qualified college students for beginning practice as professional nurses and to provide the foundation for graduate study in nursing.

The School is accredited by the National League for Nursing and by the Colorado State Board of Nursing. Graduates are eligible to write the Colorado State Board of Nursing examination for licensure as registered nurses.

The following is required for the major:

1. General education totaling 60 academic quarter hours plus six quarters of physical education activity.
2. Nursing courses totaling 85 academic quarter hours.
3. Contributory courses and electives to complete the 180 quarter hours of academic credit required for graduation.
4. A minor is not required.

## A TYPICAL PROGRAM

### Freshman Year

Course No.	Course Title	Hours	Credit
ENG 101	—Elementary Composition I .....	3	
ENG 102	—Elementary Composition II .....	3	
SP 110	—Principles of Speech .....	3	
PSY 120	—General Psychology .....	3	
NURS 100	—History of Nursing .....	2	
*SS	—Social Science Electives .....	5	
SOC 100	—Principles of Sociology .....	5	
CHEM 104	—Principles of Chemistry I .....	5	
CHEM 105	—Principles of Chemistry II .....	5	
CHEM 130	—Introductory Organic Chemistry .....	5	
PHYS 150	—Principles of Physics .....	5	
HPER	—Physical Education Activity Course .....	3	

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\*Students may elect ANT 100, GEOG 100, ECON 100, USH 175, or PSCI 100.

### Sophomore Year

Course No.	Course Title	Hours	Credit
ENG 201	—Introduction. The Greek and Roman Periods .....	3	
ENG 202	—The Middle Ages and the Renaissance .....	3	
ENG 203	—The Eighteenth to the Twentieth Century .....	3	
CHEM 281	—Biochemistry .....	5	
ZOO 105	—Vertebrate Zoology .....	5	
ZOO 121	—Mammalian Anatomy .....	5	
ZOO 250	—Human Physiology .....	5	
BIO 261	—Medical and Public Health Microbiology .....	5	
HEC 251	—Nutrition I .....	3	
PSY 121	—General Psychology and Human Performances .....	3	
PSY 130	—Human Growth Processes and Developmental Tasks .....	5	
HPER	—Physical Education Activity Courses .....	3	

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**Junior Year**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
NURS 300	Basic Principles of Nursing (summer only)	16	
NURS 301	Pharmacology (summer only)	3	
NURS 302	Maternity Nursing	10	
NURS 303	Medical-Surgical Nursing	10	
NURS 304	Community Mental Health Nursing	10	
NURS 305	Human Relations in Nursing	3	
HEC 353	Diet Therapy	3	
PSY 342	Teaching Learning Process	3	
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**Senior Year**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
NURS 400	Community Nursing	10	
NURS 401	Public Health Sciences	3	
NURS 402	Nursing of Children	10	
NURS 403	Advanced Medical-Surgical Nursing	11	
NURS 404	Trends in Nursing	3	
		<hr/>	37

Electives sufficient to complete requirements for graduation.

**Policy for Admission of Students to the Nursing Major**

**Lower Division**—Applicants seeking admission to the School of Nursing must meet the general admission requirements of the University. It is highly recommended that students planning for a career in nursing include chemistry, physics, and mathematics in the required 15 secondary school units. Studies indicate that students with high grades in mathematics, science and English are most likely to succeed in nursing.

Applicants who have had chemistry in high school may challenge Chemistry 104 and Chemistry 105. Applicants wishing to challenge these courses should do so during the summer preceding fall registration. See challenge system on page 36 of this catalog for further details.

In addition to the general health requirements, applicants to the nursing program must bring the following immunizations up to date before entering college: smallpox, diphtheria, tetanus, typhoid, and polio.

Application is made to the University of Northern Colorado Office of Admissions. Upon admission students planning to major in nursing are enrolled in the required pre-nursing program.

**Upper Division**—After completing 75 hours of the required program students must make application to the School of Nursing to continue the nursing major program. A personal interview with a School of Nursing faculty member is required.

Only those applicants who have met the academic requirements of the University will be considered. Students must have a cumulative grade point average of 2.25. In addition, They must have demonstrated personal and social qualities appropriate for professional nursing. These include: desire and ability to master the knowledge and skills required to practice nursing; strong sense of responsibility; emotional stability; ability to work well with people; and a genuine desire and willingness to help others.

A nursing selection and promotion committee will review each applicant's academic progress, personal adjustment, health status, and suitability for nursing. Educational records, nurse faculty adviser's observations, physical examinations and health records, personal interviews, and all available information about overall University performance are used to determine eligibility. Students who satisfy these requirements will be accepted for the nursing major program.

**Graduate Nurse Students**—Graduates of state approved diploma or associate degree programs who are currently licensed to practice as registered nurses are eligible for admission to the nursing program. The registered nurse student will follow

the same admission, progression and curriculum requirements as the basic baccalaureate student. Graduate nurse students may request placement examinations in selected nursing courses after formal admission to the University of Northern Colorado. Satisfactory scores on these examinations will result in recorded earned credit towards graduation.

## Policy for Promotion and Graduation of Nursing Students

**Promotion**—Pre-nursing students must have a cumulative average of 2.25 at the end of the sophomore year. An average of C each quarter in the nursing major is required for promotion without condition. A grade below C in any clinical nursing course or an average for a quarter which is less than C places a student on probation for the succeeding quarter.

At the end of each quarter of the nursing major the student's progress is considered by the nursing selection and promotion committee. Accomplishments in theory and practice, relationships with patients and others, and general development are considered. The School of Nursing faculty reserves the right to place on probation or to recommend withdrawal from the nursing major, any student who, in their judgment, fails to satisfy the requirements of scholarship, health, nursing performance, or personal suitability for nursing.

**Graduation**—The degree of Bachelor of Science in nursing will be granted by the University of Northern Colorado upon the recommendation of the faculty of the School of Nursing for those who have successfully completed the prescribed curriculum with an average of C or above.

**HONORS**—The School of Nursing participates in the Honors Program. See page No. 40.

## Policies for Attending Nursing Classes

Attendance is expected at all nursing classes, laboratory and clinical assignments. Excused absence may be granted only upon the permission of the instructor in charge or the Dean of the School. Students who are unable for any reason to report for nursing practice as assigned are required to report to the instructor, or to the School of Nursing office, not less than one hour prior to the time the assignment is scheduled. No unexcused absences are allowed.

Students are responsible to the instructor in charge for making up any work missed due to illness, leave of absence or non-attendance for any reason. The number of excused absences allowed for each course will be determined by the instructor in charge on the basis of the nature of the content and activities missed and the ability of the student. Students who are unable to meet the objectives of a clinical nursing course due to excessive excusable absences will be required to withdraw and repeat the course. If the course is not offered in the succeeding quarter it may be necessary for the student to discontinue further study until the course is offered again.

## Health Policies for Nursing Majors

At the time the student makes application to the nursing major a health examination by a Student Health Service physician is required. The examination shall include the following:

1. Immunizations: small pox, typhoid, adult tetanus, diphtheria, and polio.
2. A tuberculin skin test.
3. A large chest x-ray at the student's expense.
4. Examination and conference.

During the spring quarter of the senior year all nursing majors planning to graduate shall complete the following:

1. Repeat tuberculin skin test.
2. If the tuberculin skin test is positive, a large chest x-ray.
3. Immunizations shall be brought up to date.

## Additional Expenses for Nursing Majors

In addition to the regular tuition and fees, nursing majors have the following expenses:

<i>Year</i>	<i>Quarter</i>	<i>Item</i>	<i>Amount*</i>
Sophomore	Spring	Uniforms and caps	55.00
		Chest x-ray	10.00
Junior	Summer	White shoes	10-15.00
		Name pin	.50
		Bandage scissors	1.50
		Watch with second hand (May be inexpensive)	Variable
		School pin	15.55
Senior	Spring	Chest x-ray	10.00

\*Costs listed above are approximate and are subject to change.

Community nursing is offered either the fall, winter, or spring quarter of the senior year. During the quarter students are enrolled in this course they may visit clinics, schools, and patients in their homes. Use and maintenance of a car, a current Colorado driver's license and liability insurance are a requirement. These are at the student's expense.

Students are responsible for their own transportation to all facilities where learning experiences are provided.

Field trips are required in Nursing 304, Community Mental Health Nursing, and may be required in other nursing courses. Students should be prepared to share the cost for transportation and to pay for their own meals on these field trips.

**Continuing Education Services**—The School of Nursing, in cooperation with the University Department of Continuing Education and the Department of Vocational Education, offers several short courses throughout the year for practicing nurses who are not currently enrolled in a formal education program. The purpose of these courses is to disseminate important changes in the health care field and to assist practicing nurses to maintain and enhance their nursing knowledge and skills. Programs range in scope from one, two, and three day courses at the University and throughout Northeastern Colorado to courses of two weeks duration.

Information about courses offered at specific times may be obtained from the School of Nursing.

# AEROSPACE STUDIES

**Lt. Col. John C. Brown Jr., Chairman**

**Assistant Professor:** Maj. John P. Pedjoe

**Assistant Professor:** Capt. Edward C. Neid

**History**—A four-year Air Force ROTC curriculum was established at Colorado State College Fall Quarter, 1951. The ROTC Vitalization Act of 1964 expanded the traditional four-year curriculum to include a two-year curriculum designed primarily for transfer students. Beginning Fall Quarter, 1964, Air Force ROTC became a voluntary course of study.

**General Information**—The Air Force ROTC offers a two-year and a four-year campus program. Both programs are elective and lead to an Air Force commission. Air Force ROTC commissioned graduates enter active duty in the grade of Second Lieutenant with all pay and allowances of that grade.

Physically qualified graduates receive additional pilot or navigator training and the non-flying officer is given an initial duty assignment in a specialty closely related to his academic major. Women applicants are accepted beginning with the Fall Quarter 1970. Nurses are eligible for the WAF program.

## AFROTC Curriculum

**Four-Year** — The four-year program requires student participation in the General Military Course (GMC) and the Professional Officer Course (POC), each being a two-year program. During the second year of the GMC, qualified cadets may apply for membership in the POC. Cadets selected by the Professor of Aerospace Studies (PAS) will enter the POC at the beginning of the junior year or six quarters prior to completion of their academic program. Cadets will be commissioned in the Air Force Reserve on completion of: (1) the GMC and POC, (2) a four-week Field Training Course between the sophomore and junior year, and (3) a college degree.

**Two-Year** — The two-year program requires student participation in six academic undergraduate and/or graduate quarters concurrently with the POC. **Students will compete for selection during Fall and Winter Quarters of the academic year preceding the year of entrance into the POC.** Students will be commissioned in the Air Force reserve on completion of: (1) a six-week Field Training Course during the summer prior to entering the POC, (2) the POC, and (3) six quarters of undergraduate/graduate academic work, and (4) a college degree. Testing information is available at the AFROTC office.

**Flight Instruction Program**—Pilot qualified students receive 36½ hours of flight instruction and ground school during the senior year of the POC. Only males may participate in the flying portion of the FIP.

**Deferment**—The National Selective Service Act authorizes deferment for full-time students enrolled in the AFROTC program. Students are eligible for deferment beginning Winter Quarter of the Freshman year, if enrolled in Aerospace Studies Courses.

## General Military Course

The General Military Course is a two-year program open to all full-time, undergraduate, male students. Air Force uniforms and textbooks are furnished. Veterans and Junior ROTC graduates may request waiver of portions of the GMC based on active duty service.

**Freshmen enroll in the following courses:**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
AS 100	U. S. Military Forces in the Contemporary World I	2	2*
AS 101	U. S. Military Forces in the Contemporary World II	2	2
AS 102	U. S. Military Forces in the Contemporary World III	2	2

**Sophomores enroll in the following courses:**

AS 200	U. S. Military Forces in the Contemporary World IV	2	2
AS 201	U. S. Military Forces in the Contemporary World V	2	2
AS 202	U. S. Military Forces in the Contemporary World VI	2	2

\*Credit for four of the required six quarter hours of physical education activity courses will be granted if a written request is submitted to the Registrar. These four hours of AFROTC credit do not apply towards the required 180 hours of academic credit.

**Professional Officer Course**

The Professional Officer Course is a two-year program which prepares the student for active duty service as a commissioned officer in the United States Air Force Reserve. The curriculum is continually up-dated to include current technological developments made by the military establishment. All course instruction is student-centered. The Professor of Aerospace Studies selects the most highly qualified applicants for enrollment. Corps Training arranged within the cadet corps on an individual basis.

**Required Professional Officer Courses:**

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
AS 300	Growth and Development of Aerospace Power I	3	3
AS 301	Growth and Development of Aerospace Power II	3	3
AS 302	Growth and Development of Aerospace Power III	3	3
AS 400	Air Force Leadership and Management I	3	3
AS 401	Air Force Leadership and Management II	3	3
AS 402	Air Force Leadership and Management III	3	3
AS 403	Flight Instruction	3	3*

\*AS 403 (Flight Instruction) is required for all pilot trainees; however, enrollment for the ground school class is open to any interested student.

**Staff**—Air Force personnel are assigned by Headquarters, United States Air Force. The Professor of Aerospace Studies (PAS) and instructional staff are highly qualified professional officers with diversified experience.

**AFROTC College Scholarship Program**—The program includes full tuition, fees, a quarterly book allowance of \$25, and \$50 per month. Selected cadets participating in the four year AFROTC program are eligible. Both male and female applicants may qualify on a competitive basis.

# COURSE DESCRIPTIONS

## AEROSPACE STUDIES

**AS 100. U. S. MILITARY FORCES IN THE CONTEMPORARY WORLD I.**  
*Two hours credit.*

An introductory course presenting the doctrine, mission and organization of the U. S. Air Force and an introduction to strategic offensive forces employed by the U. S. Corps Training is included as a laboratory portion of the course.

**AS 101. U. S. MILITARY FORCES IN THE CONTEMPORARY WORLD II.**  
*Two hours credit.*

A continuing study of doctrine, mission and organization of the U. S. Air Force and an introduction to strategic defensive forces and General Purpose Forces employed by the U. S. Corps Training is conducted as the laboratory portion of the course.

**AS 102. U. S. MILITARY FORCES IN THE CONTEMPORARY WORLD III.**  
*Two hours credit.*

A continuing study of the employment of General Purpose Forces plus an introduction to the employment of Aerospace Support Forces. Corps Training is conducted as the laboratory portion of the course.

**AS 200. U. S. MILITARY FORCES IN THE CONTEMPORARY WORLD IV.**  
*Two hours credit.*

A study of the doctrine, organization and mission of the U. S. Aerospace Support Forces. The course also includes an introduction to alliances and collective security. Corps Training is conducted as the laboratory portion of the course.

**AS 201. U. S. MILITARY FORCES IN THE CONTEMPORARY WORLD V.**  
*Two hours credit.*

A continuing study of alliances and collective security and their relation to national objectives. This study includes expanded coverage on organization and role of the military instrument of national power. Corps training is conducted as the laboratory portion of the course.

**AS 202. U. S. MILITARY FORCES IN THE CONTEMPORARY WORLD VI.**  
*Two hours credit.*

A study of Soviet and Chinese Defense Policies: The course also includes an introduction to the formulation of U. S. Defense Policy. Corps Training is conducted as the laboratory portion of the course.

**AS 300. GROWTH AND DEVELOPMENT OF AEROSPACE POWER I.**  
*Three hours credit.*

Prerequisite, Enrollment in POC. A survey course about the development of airpower in the United States, including the beginning of manned flight, from Kitty Hawk to Versailles, the Inter-war years, development of an independent Air Force, Korea, and the challenges and changes. Development of communicative skill is a major goal of this course.

**AS 301. GROWTH AND DEVELOPMENT OF AEROSPACE POWER II.**  
*Three hours credit.*

Prerequisite, Enrollment in POC. A study of Aerospace power today including concepts, doctrine and employment of aerospace forces; the future of manned aircraft and man's role in a flying air force, types and uses of future aircraft and technological developments.

**AS 302. GROWTH AND DEVELOPMENT OF AEROSPACE POWER III.**  
*Three hours credit.*

Prerequisite, Enrollment in POC. A study of astronautics, space operations, and the future development in space. The development of communicative skill is a major goal in this course.

**AS 400. AIR FORCE LEADERSHIP AND MANAGEMENT I.** *Three hours credit.*

Prerequisite, Enrollment in POC. A study of human behavior and human relations as they affect Air Force leadership, and the professional values of military life. The need for discipline, within the military, the study of non-judicial punishment and the courts-martial system are discussed.

**AS 401. AIR FORCE LEADERSHIP AND MANAGEMENT II.** *Three hours credit.*

This course includes the study of military management, surveys planning, organizing, coordinating, directing, and controlling. Individual and group problem-solving techniques are discussed and the study of the Command-Staff team pays particular attention to principals and patterns of organization.

**AS 402. AIR FORCE LEADERSHIP AND MANAGEMENT III.** *Three hours credit.*

Prerequisite, Enrollment in POC. A study of the variables affecting leadership including the trait, the situational and interactional approach. A study of management evaluation and informational sciences. Course concluded with a pre-commissioning briefing for active duty.

**AS 403. FLIGHT INSTRUCTION.** *Three hours credit.*

This course is designed to meet the ground school requirements for a private pilot license. Includes the study of Federal Aviation regulations, meteorology, aerial navigation, radio procedures, flight computer and flying safety practices.

## **ANTHROPOLOGY**

**\*ANT 100. GENERAL ANTHROPOLOGY.** *Five hours credit.*

The nature and scope of anthropology, organic man, and the nature of culture. Emphasis upon cultural anthropology.

*All of the following Anthropology courses have as a prerequisite ANT 100 or permission of instructor (with exception of ANT 600).*

**\*ANT 120. WORLD ENTHOLOGY.** *Three hours credit.*

Cultural areas of the world with a survey of cultures from selected areas in Asia, Africa, the Americas and Oceania.

**\*ANT 121. NORTH AMERICAN INDIANS.** *Three hours credit.*

Aboriginal cultures north of Mexico.

**\*ANT 122. SOUTH AMERICAN INDIANS.** *Three hours credit.*

Aboriginal cultures of South America. Special emphasis on the Inca Empire.

**\*ANT 220. SEMINAR IN MODERN ETHNOLOGY.** *Three to nine hours credit.*

A study and analysis of selected modern ethnographies to present up-to-date materials and problems in various culture areas.

**\*ANT 221. FOLK CULTURES.** *Four hours credit.*

Concentration upon the rural communities of peasant farmers. Communities analyzed from the point of view of the social, religious, economic and political organization, as well as value orientation. Special emphasis on the peasant societies of Middle and South America.

**\*ANT 222. NOMADIC SOCIETIES.** *Four hours credit.*

A comparative study of primitive nomadic hunting-gathering non-agricultural and pastoral peoples. An analysis of social organization, economic pursuits, enculturation-acculturation processes, value orientation, sedentarization, and cultural change. Selected cultures will be studied from Africa, Asia, and the New World.

**\*ANT 240. ARCHAEOLOGY OF NORTH AMERICA.** *Four hours credit.*

Ancient man in North America, north of Mexico. The development of pre-historic American Indian cultures; a thorough study of the archaeology of the



Mississippi Valley, Great Plains, and other pre-Columbian cultures; historical development and interrelations of archaeological horizons.

**\*ANT 241. ARCHAEOLOGY—FIELD METHODS.** *Two-eight hours credit.*  
Techniques of archaeological investigation; field surveying and recording of excavated materials; proper handling and preservation of specimens in the field and laboratory; etc. Course involves off-campus archaeological research.

**\*ANT 242. ARCHAEOLOGY OF SOUTH AMERICA.** *Three hours credit.*  
Ancient man, and the development of prehistoric Indian cultures in South America. Discussion of archaeological centers, with analysis of ceramics, stonework, art styles, etc. Particular emphasis will be devoted to the Andean Highlands and its influence on cultures elsewhere.

**\*ANT 260. PHONEMIC ANALYSIS.** *Four hours credit.*  
Phonemic analysis of language; anthropological field methods involving language learning.

**\*ANT 270. PHYSICAL ANTHROPOLOGY.** *Four hours credit.*  
This course will emphasize the evolution of man, including the observation of and specific measurement of human skeletal material, both modern and fossil, study of population statistics and comparison of male and female skeletal types.

**\*ANT 280. PRIMITIVE RELIGIONS.** *Three hours credit.*  
The religions of the peoples not involved in the Indic complex of Hindu-Buddhist or the Judaic tradition of the Mid-East.

**\*ANT 281. PRINCIPLES OF SOCIAL ORGANIZATION.** *Four hours credit.*  
Basic principles of social organization in human societies, especially kinship and associated phenomena. Theory and comparative data are drawn primarily from studies of non-western societies including many from Africa, Oceania, and the Americas.

**\*ANT 320. ETHNOLOGY OF MEXICO AND CENTRAL AMERICA.** *Four hours credit.*

A comparative study of the major Indian peoples of Mexico and Central America, and of the modern peoples in the area whose ancestry and cultural traditions derive in part from pre-Columbian cultures. Emphasis is placed on economic and social characteristics, interethnic relationships, acculturation trends, and current urbanization.

**\*ANT 321. NORTH AFRICA AND THE MIDDLE EAST.** *Three hours credit.*  
The culture complex of the Mid-East and North Africa. The background of peasant nomad and feudal societies which have helped to produce the present society.

**\*ANT 322. OCEANIA.** *Four hours credit.*  
Peoples of Polynesia, Melanesia and Micronesia.

**\*ANT 323. INDIA AND PAKISTAN.** *Three hours credit.*  
A study of modern ethnic populations of India, Pakistan and Ceylon, as well as a review of their ancient cultural heritage and religion.

**\*ANT 324. SOUTHEAST ASIA.** *Three hours credit.*  
A study of modern ethnic populations and primitive peoples inhabiting Burma, Thailand, Laos, Cambodia and Vietnam, as well as the Philippine Islands and Indonesia.

**\*ANT 325. SPANISH AND MEXICAN-AMERICAN CULTURES IN AMERICAN SOUTHWEST.** *Three hours credit.*

Historical development of Spanish Colonial and Mexican-American Cultures including patterns of family structure, health practices and folk medicine, religious patterns, value systems, etc. Patterns are examined in light of current problems.

**\*ANT 326. INDIANS OF THE SOUTHWEST.** *Three hours credit.*  
Ethnology of the Pueblo, Navajo, Apache, Yuman tribes and the Pima-Papago groups.

**\*ANT 327. ARCTIC CULTURES.** *Three hours credit.*

A descriptive survey of the native cultures of the Arctic forests (tiaga) and tundra of Siberia; the Eskimo, Aleut and sub-Arctic cultures of North America; and the Lapps of Scandinavia.

**\*ANT 328. EASTERN ASIA.** *Four hours credit.*

A study of societies and cultures in Eastern Asia—with special emphasis on the ethnic populations of Tibet, Sinkiang, Mongolia and Korea, and an archaeological-ethnological review of China and Japan.

**\*ANT 340. ARCHAEOLOGY OF THE SOUTHWEST.** *Four hours credit.*

A study of ancient cultural horizons in the Southwest, up to the Conquest; emphasis on chronology, culture change, and classification. Thorough review of Early Man; the Mogollon, Hohokam, and Pueblo (Anasazi) archaeological cultures.

**\*ANT 341. OLD WORLD ARCHAEOLOGY I.** *Four hours credit.*

The development of Paleolithic, Mesolithic, Neolithic, and The Age of Metal, Cultures of Europe, Africa, and Asia, emphasizing the interpretation of archaeological data, Pleistocene geology, and chronology.

**\*ANT 342. OLD WORLD ARCHAEOLOGY II.** *Four hours credit.*

A survey of the prehistoric foundations and cultural development of civilizations in Egypt, the Near East, and the Indus Valley, as revealed by major archaeological discoveries; theories of cultural evolution and diffusion.

**\*ANT 343. ARCHAEOLOGY OF MEXICO.** *Four hours credit.*

A comparative study of cultural development in ancient Mexico and Central America with emphasis on agricultural beginnings, settlement patterns and urbanization, hieroglyphics, calendrical systems, and religious activities. A thorough examination of Archaic, Toltec, Aztec, and Maya cultures.

**\*ANT 344. ARCHAEOLOGY OF AFRICA.** *Three hours credit.*

The antiquity of man in Africa—a thorough review of archaeological development from the Australopithecines, through the Paleolithic, Mesolithic and Neolithic stages up through the 18th Century A. D. (This course does not include Egypt; cf., ANT 342).

**\*ANT 360. ANTHROPOLOGICAL LINGUISTICS.** *Four hours credit.*

The study of speech and language within the context of anthropology. Cognitive categories formed through language, the nature of language, cultural focus in language, linguistic change.

**\*ANT 370. HUMAN EVOLUTION.** *Four hours credit.*

A study of evolutionary theory and the various types of evidence for human evolution. Major emphasis will be on interpretation of the fossil record from the emergence of primates to the appearance of Modern Man. Summation of present-day variation in human populations.

**\*ANT 372. PRIMATE BEHAVIOR.** *Three hours credit.*

A study of theories of animal behavior, and their application to the behavior of primates. In-depth examination of the adaptive advantages of social living in its various forms.

**\*ANT 380. GREAT IDEAS IN ANTHROPOLOGY-SEMINAR.** *Three to nine hours credit. Consult with instructor before enrolling.*

The purpose of the course is to provide information about current important ideas in special fields of anthropology. Consult with instructor before enrolling.

**\*ANT 381. ENCULTURATION.** *Four hours credit.*

A study of the patterned interactions by which an individual becomes oriented to his culture, and through which he is prepared to perform adequately as an adult member of his society. Comparison of the enculturation process in selected nonliterate societies.

**\*ANT 382. ACCULTURATION.** *Four hours credit.*

The study of cultures in contact and the influences they have one upon the other.

**\*ANT 383. CULTURE AND PERSONALITY.** *Three hours credit.*

A study of the social development of the individual and of the influence of the cultural environment of the development of the human personality, in relation to social stimulus situations. Examples utilized from primitive societies.

**\*ANT 420. AFRICA SOUTH OF THE SAHARA I: EAST AND SOUTH AFRICA.** *Four hours credit.*

Emphasis will be placed on tribal backgrounds and acculturation that is taking place between European and African systems in East and South Africa.

**\*ANT 421. AFRICA SOUTH OF THE SAHARA II: NIGER-CONGO AREA.** *Four hours credit.*

Emphasis will be placed on tribal backgrounds and acculturation that is taking place between European and African systems in the Niger-Congo drainage systems in Africa.

**\*ANT 440. TECHNIQUES OF ARCHAEOLOGY.** *Three hours credit.*

A review of field methods and laboratory techniques utilized in *prehistoric* archaeology. Special attention paid to stratigraphy, typological analysis, dating techniques, and research publication.

**\*ANT 441. HISTORICAL ARCHAEOLOGY.** *Three hours credit.*

A review of the methods and techniques of archaeology as applied to the excavation and preservation of *historic* sites. Reconstruction and interpretation of historical archaeological materials.

**\*ANT 470. THE NATURE OF MAN.** *Three hours credit.*

A study of man as a biosocial being. Analysis of the functional requirements of social living and how these have been met in various species including man. A delineation of the distinctive characteristics of man's social existence and how these affect the ecosystem.

**\*ANT 480. SURVEY OF ANTHROPOLOGICAL THEORY.** *Three hours credit.*

Seminar on the development of anthropological theory from Tylor to the present. Includes cultural evolution, diffusion and historical reconstruction, functionalism, and psychologically oriented theories.

**\*ANT 481. ANTHROPOLOGICAL THEORY I.** *Three hours credit.*

A seminar on the theories of cultural analysis and development of skills for gathering cultural data. Examination of observational and analytical procedures. Recording and analysis of formal and informal behavioral sequences. Formulation of problems of relationships between culture patterns.

## ASTRONOMY

Courses in astronomy are administered by the Department of Earth Sciences.

**\*AST 100. GENERAL ASTRONOMY.** *Four hours credit. (Three hours lecture, two hours laboratory.)*

The development of man's understanding of the universe and his place in it. No mathematics background required.

**\*AST 301. PRINCIPLES OF ASTRONOMY I: SOLAR SYSTEM.** *Four hours credit. (Three hours lecture, two hours laboratory.)*

The solar system: A survey of the dynamics and physical properties of its members.

**\*AST 302. PRINCIPLES OF ASTRONOMY II: STELLAR.** *Three hours credit.* Prerequisite, AST 301. The universe beyond the solar system: stars and stellar systems.**\*AST 310. OBSERVATIONAL ASTRONOMY.** *Four hours credit. (Two hours lecture, six hours laboratory.)*

Prerequisite, AST 100 or 301. Equipment, materials, and techniques used in astronomical research. Students will conceive and carry out observational projects.

**\*AST 420. SPACE SCIENCE.** *Three hours credit.*

Prerequisite, AST 302. Techniques and results of space exploration. Students will select topics for intensive individual study.

## BIOLOGY

Courses in biology are administered by the Department of Biological Sciences.

**\*BIO 101. PRINCIPLES OF BIOLOGY.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

A study of biological principles from the biosphere to the ultrastructures of the cell. Aspects of ecology, reproduction, genetics, evolution, the structural and functional basis of life, and the coordination of the organism to be studied.

**\*BIO 102. PRINCIPLES OF BOTANY.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, BIO 101. A study of plant diversity concerned with morphology, habitats, structure, function, and economic relationships of the plant kingdom.

**\*BIO 103. PRINCIPLES OF ZOOLOGY.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, BIO 101. A survey of animal diversity, including principles of structure and function, phylogeny, life cycles and systematics. The relationship of the animal kingdom to man is stressed.

**\*BIO 131. HEREDITY AND YOUR LIFE.** *Three hours credit.*

A course dealing with the principles of heredity as they apply to man, presented on an elementary level which requires no background in science. Topics included are superstitions and facts about human heredity, method of inheritance of common human traits, heredity and race, heredity and environment, effects of radiation on future generations, and eugenic and population problems. Especially appropriate for non-science majors. Credit not allowed toward major or minor in Biological Sciences.

**BIO 231. GENETICS.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisites, BIO 101, 102, 103. A study of the fundamental laws of heredity and their application to plants and animals, with emphasis on the heredity of man.

**BIO 234. POPULATION GENETICS.** *Three hours credit.*

A study of genes in human populations together with a consideration of the influence of various environmental factors on the distribution of these genes.

**BIO 240. GENERAL ECOLOGY.** *Three hours credit. (Two hours lecture, three hours laboratory.)*

A general study of plant and animal communities and their relationships with the environment. Laboratory activities will include field trips to various biotic communities for analysis.

**BIO 241. MODIFICATION OF THE HUMAN ENVIRONMENT.** *Two hours credit.*

Prerequisites, BIO 101, 240. Discussions regarding the alteration of the earth's surface due to man's planned and unplanned activities and developments. Effects of man-made changes on the world ecosystem. Social implications of environmental change.

**BIO 242. ENVIRONMENTAL POLLUTION.** *Three hours credit. (Two hours lecture, three hours laboratory.)*

Prerequisites, BIO 101, 240 or consent of instructor. A study of the various types of pollutants and their effect on man and his environment. Laboratory will include the identification of different pollutants, their source and their effects on biological systems.

**BIO 250. CELL PHYSIOLOGY.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisites, BIO 101, 102, 103, CHEM 130 or 332. A course in general biological principles relating cell structure to function. The topics discussed include

genetic control of cell activity, the molecular basis of cell metabolism, energy transformations within the cell, cell division and homeostatic regulation of the cell environment.

**BIO 260. MICROBIOLOGY.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisite, CHEM 130 or 332. A basic course in microbiology (bacteriology, mycology, virology, rickettsiology, and protozoology) with emphasis on the structure, function, physiology, and identification of microorganisms and their relationships to other organisms. The course is recommended for biological sciences and medical technology students.

**BIO 261. MEDICAL AND PUBLIC HEALTH MICROBIOLOGY.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisite, CHEM 281, ZOO 250. This course places emphasis on the microorganisms of public health significance, their detection, the diseases they cause and treatment of these diseases. The course is primarily designed for students in nursing, pre-medicine, pre-dentistry, and pre-veterinary medicine.

**\*BIO 336. EVOLUTION.** *Three hours credit.*

This course is designed as a study of the processes of change of living organisms through time, and to show how genetic variations are related to natural selection and formation of species. Some time is devoted to consideration of the impact of the theory of evolution on the biological sciences since Darwin's time.

**BIO 346. AQUATIC BIOLOGY.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisites, BIO 101, 102, 103. A course in the study of fresh water plants and animals of the Rocky Mountain Region. Emphasis will be upon methods of collecting, classification, ecological relations, and economic importance of the fresh water biota. Field trips arranged. *Collecting permits are needed.*

**BIO 360. BIOLOGY OF MICROORGANISMS.** *Three hours credit. (Two hours lecture, three hours laboratory.)*

A survey of microorganisms with emphasis on basic principles and techniques of microbiology as well as the role of microorganisms in nature, industry, and disease. Credit not allowed for biology major.

**BIO 371. TECHNIQUES OF BIOLOGICAL PREPARATION.** *One hour credit (Three hours laboratory.)*

This is a course designed to acquaint the student with the techniques of laboratory preparation and biological investigation. Emphasis is placed on instrumentaton and methods of preparing culture media, experimental solutions, and living material. Required of all senior biology majors; to be taken concurrently with SCED 440.

**BIO 391. SEMINAR IN RESEARCH I.** *One hour credit.*

Prerequisite, junior classification. A course designed to acquaint the student with the preliminary procedures in scientific research. Techniques of problem delineation, literature survey and synthesis of data are stressed. Credit not allowed for graduate students. This course is a prerequisite for BIO 392.

**BIO 392. SEMINAR IN RESEARCH II.** *One hour credit.*

Prerequisites, BIO 391 and junior classification. This is a course designed to acquaint the student with the values and techniques of research in biology. An original research project is required. Credit not allowed for graduate students. (A continuation of the research initiated in BIO 391.)

**\*BIO 399. JUNIOR RESEARCH.** *Maximum five hours credit.*

Prerequisite, Consent of Instructor. An introduction to the theories and practice of research in the biological sciences. A problem will be selected in one of the following fields: animal ecology, aquatic biology, embryology, bacteriology, mycology, genetics, animal physiology, plant physiology, plant ecology, ornithology, invertebrate zoology, vertebrate zoology, parasitology, vertebrate anatomy, upon consultation with the professor who specializes in that area. Original research will be conducted by the student and final report will be submitted by him to the supervising instructor.

**\*BIO 401. CONSERVATION OF NATURAL RESOURCES.** *Four hours credit.*  
A study of the relation of natural resources to the development of man and his culture. Units of study are organized on soil, water, forest and forest products. Range management, wildlife, and mineral resources are also covered. The emphasis throughout is on their relation to man.

Field trips required. Credit will not be allowed for students who have taken BIO 501.

**BIO 471. BIOLOGICAL MICROTÉCHNIQUE.** *Three hours credit. (One hour lecture, six hours laboratory.)*

Prerequisites, BIO 101, 102, 103. The skills of killing, staining and preparing plant and animal tissues for microscopic study.

**BIO 475. BIOLOGICAL PHOTOGRAPHY.** *One hour credit. (Three hours laboratory.)*

A study of the skills and techniques of photomicrography, macrophotography, general nature photography, slide production, etc., as used for audiovisual aids and scientific publication.

**BIO 499. SENIOR RESEARCH.** *Maximum five hours credit.*

Prerequisite, consent of instructor. Qualified seniors outline and spend a minimum of 25 clock hours per quarter hour on a research problem. A well-written report must be submitted to the instructor before credit can be given.

## BOTANY

Courses in botany are administered by the Department of Biological Sciences.

**BOT 306. ECONOMIC BOTANY.** *Two hours credit.*

A study of the plants that directly affect the welfare of man including plants that supply our food, drugs, fibers, naval stores, wood, dyes, insecticides and other useful products. Each plant source is briefly considered as to its classification, structure and ecological requirements.

**BOT 310. PLANT TAXONOMY.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisites, BIO 101, 102. An introductory course concerned with recognition and identification of plants at the species and family levels. Use of keys, manuals, and collecting techniques.

**BOT 312. IDENTIFICATION OF TREES AND SHRUBS.** *Three hours credit. (Two hours lecture, three hours laboratory.)*

Prerequisites, BIO 101, 102. Identification of native and cultivated trees and shrubs, their distribution and economic importance. Use of keys.

**BOT 323. MORPHOGENESIS OF THE NONVASCULAR PLANTS.** *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisite, BIO 101, 102, 103. Structure, morphogenesis and phylogenetic relationships of the algae, fungi, bryophytes and mosses.

**BOT 324. MORPHOGENESIS OF THE VASCULAR PLANTS.** *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisite, BIO 101, 102, 103. Structure, morphogenesis and phylogenetic relationships of the ferns, gymnosperms and angiosperms.

**BOT 340. PLANT ECOLOGY.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisites, BIO 101, 102. A study of plant ecosystems and the interrelationships of the organisms therein as they are affected by the factors of the environment. Field studies are made on the plains and in the mountains.

**BOT 350. GENERAL PLANT PHYSIOLOGY.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisites, BIO 101, 102, CHEM 130 or 332. A course dealing with the fundamental principles of growth and development, absorption and utilization of water and minerals, photosynthesis, translocation, respiration, and chemical composition of plants.

## BUSINESS

**BUS 010. TYPEWRITING I.** *No Credit. (A fee for a four hour credit course will be assessed.)*

A beginning course in typewriting. Emphasis will be given to both personal and vocational use.

**\*BUS 100. THE AMERICAN BUSINESS SYSTEM.** *Five hours credit.*

A general course designed to provide an understanding of how the American business system operates and its place in the economy. The course provides background for more effective use of business services in personal affairs as well as foundation for future business courses.

**BUS 111. TYPEWRITING II.** *Four hours credit.*

Prerequisite, BUS 010 completed satisfactorily, or a speed of at least 30 w.p.m. The second course in typewriting. Emphasis will be strictly on vocational use. Students who have had two years of high school typewriting or the equivalent may not take this course for credit.

**BUS 112. TYPEWRITING III.** *Four hours credit.*

Prerequisite, BUS 111, with a grade of "C" or better, or a speed of at least 45 w.p.m. The third course in typewriting. Emphasis will be on speed and accuracy building and advanced production procedures.

**BUS 113. SECRETARIAL MACHINES.** *Two hours credit.*

Prerequisite, BUS 112 with a grade of "C" or better. An introduction to machines used in the business world. Emphasis will be on attaining some skill in using various duplicating machines and dictating and transcribing machines.

**BUS 116. BEGINNING GREGG SHORTHAND.** *Four hours credit.*

Prerequisite, BUS 111. Course comprises complete theory of Gregg shorthand. Students who have one year of high school shorthand or the equivalent cannot take this course for credit, but should take BUS 117.

**BUS 117. INTERMEDIATE GREGG SHORTHAND.** *Four hours credit.*

Prerequisite, BUS 116 with a grade of "C" or better, or take dictation at 60 w.p.m. Course comprises intensive review of Gregg shorthand theory. Students who have had two years of high school shorthand or the equivalent may not take this course for credit.

**BUS 118. ADVANCED SHORTHAND.** *Four hours credit.*

Prerequisite, BUS 117 and the ability to take dictation of at least 80 w.p.m., and typing speed of 45 w.p.m. This course is devoted primarily to dictation and transcription.

**BUS 130. INTRODUCTION TO BUSINESS LAW.** *Three hours credit.*

A general course in business law designed to emphasize the conceptual approach to business law. The role of law in society and the legal philosophy are seen through the careful study of actual cases and the court decisions rendered. All topics are covered briefly in this introductory course.

**BUS 150. PRINCIPLES OF MANAGEMENT.** *Three hours credit.*

Prerequisite, BUS 100. An analysis of how the manager does his task and what basic science underlies it. This analysis is approached by breaking down the total managerial task into its primary functions of planning, organizing, staffing, directing, and controlling, and organizing the principles techniques, and knowledge of managing around those functions.

## 150 / COURSE DESCRIPTIONS

### **BUS 170. PRINCIPLES OF FINANCE.** *Three hours credit.*

This course is designed to provide factual knowledge of the financial institutions in our economy. Course emphasis will be placed upon the integration of the short-term money market, the long-term capital market, and monetary and fiscal management, particularly as these relate to business practices.

### **BUS 180. INTRODUCTION TO BUSINESS DATA PROCESSING.** *Three hours credit.*

Prerequisite, BUS 220, or concurrently. This course is designed to familiarize students with the basic concepts and equipment of business data processing. Starting with manual methods, the student is then introduced to mechanical and electronic data processing methods applied to three business operations: order and billing, inventory, and payroll.

### **BUS 181. DATA PROCESSING-UNIT RECORD.** *Three hours credit. (Laboratory arranged.)*

Prerequisite, BUS 180. This is a course in using punched card data processing equipment. It is concerned with terminology, concepts, various machines, and applications.

### **BUS 190. CALCULATING MACHINES AND BUSINESS ARITHMETIC.** *Four hours credit. (Three hours lecture, two hours laboratory.)*

An office machines course emphasizing the operation and use of printing, electronic, and rotary calculators. Business arithmetic is studied in its applications to the routine business calculations in retail and wholesale businesses.

### **BUS 205. BUSINESS COMMUNICATIONS.** *Three hours credit.*

Prerequisite, BUS 010. Basic principles and practices in the preparation of business communications are studied and applied.

### **BUS 206. FUNCTIONAL BUSINESS WRITING.** *Three hours credit.*

Prerequisite, BUS 205. Principles of effective letter writing applied to business and industrial situations.

### **BUS 207. ADMINISTRATIVE BUSINESS REPORTS.** *Three hours credit.*

Prerequisite, BUS 205. Organization, preparation, and analysis of business and technical reports with emphasis on techniques of collecting, interpreting, and presenting information.

### **BUS 210. SECRETARIAL PROCEDURES.** *Three hours credit.*

Prerequisites, BUS 112, 113, 214, 219. Advanced instruction in and practical application of the skills and knowledge needed to be a secretary.

### **BUS 214. RECORDS MANAGEMENT.** *Two hours credit.*

Prerequisite, BUS 010 completed satisfactorily. An introduction to various records systems used in the business world. Practice will be provided in the various filing systems also.

### **BUS 219. SHORTHAND TRANSCRIPTION.** *Four hours credit.*

Prerequisites, BUS 112 and 118, and the ability to take dictation of at least 100 w.p.m. Emphasis is upon rapid and accurate transcription, speed dictation, punctuation, and other office skills.

### **BUS 220. PRINCIPLES OF ACCOUNTING I.** *Four hours credit.*

A beginning course in accounting. Students who have previously studied book-keeping or accounting may be exempt from this course with the approval of their adviser. Common business transactions are recorded in various journals, summarized in general and subsidiary ledgers, and the effect of these transactions is reported on classified financial statements.

### **BUS 221. PRINCIPLES OF ACCOUNTING II.** *Four hours credit.*

Prerequisite, BUS 220. The emphasis in this course is on principles of accounting as they apply to the measurement and reporting of assets, liabilities, ownership equities, periodic revenues, and periodic expenses.

### **BUS 230. PRINCIPLES OF BUSINESS LAW.** *Five hours credit.*

Prerequisite, BUS 130. This course in business law is designed to provide the student with a more thorough understanding of the various areas of business



law: contracts, agency, commercial paper, sales, bailments, partnerships, corporations, insurance, security devices, bankruptcy, trusts, and estates. The case approach will be used stressing the Uniform Commercial Code in understanding how the principles of business law are applied.

**BUS 251. JOB ANALYSIS.** *Two hours credit.*

Job analysis is studied as part of a job-study program. Techniques of preparing job analysis forms, collecting information, processing information, and putting the job analysis to work are considered. Job descriptions are developed and analyzed.

**BUS 252. PROCUREMENT.** *Three hours credit.*

Prerequisite, BUS 291 and 295. The course deals primarily with the procurement of proper equipment, materials, and supplies for the business firm. Topics discussed include: automation, budgets, procedures, quality, sources of supply, price policies, forward buying, and the legal status of the procurement officer.

**BUS 260. MARKETING.** *Four hours credit.*

Prerequisite, ECON 100. Marketing as an institution and as a managerial variable is studied in this course. Particular attention is placed upon the interdisciplinary contributions made to marketing as they affect the role of the marketing manager.

**BUS 261. SALESMANSHIP.** *Three hours credit.*

An introductory course in the principles and practices of salesmanship. Emphasis is placed on both "in store" and "outside" selling. Selling demonstrations are conducted.

**BUS 281. ELECTRONIC DATA PROCESSING—FORTRAN.** *Three hours credit. (Laboratory arranged.)*

Prerequisite, BUS 180 or equivalent. This course includes an introduction to electronic computers and to **Fortran** programming. The student's work involves analyzing and developing a program relative to his field of interest.

**BUS 285. ELECTRONIC DATA PROCESSING—ADVANCED FORTRAN.** *Three hours credit. (Laboratory arranged.)*

Prerequisite, BUS 281. Advanced computer programming techniques with special reference to business problems and applications. This course will require approximately 3 hours of lab per week. This course will make repeated use of the principles presented in 281.

**BUS 291. BUSINESS STATISTICS I.** *Three hours credit.*

A course designed to orient the business student to statistics and its use in business affairs. The major emphasis will be on the nature of statistics, decision based on statistics, and collection of business data.

**BUS 292. BUSINESS STATISTICS II.** *Three hours credit.*

Prerequisite, BUS 291. A continuation of the foundation started in BUS 291. Major emphasis will be on probability, normal distributions, sampling distributions, statistical inference, decision procedures, sampling designs, quality control, and the time series analysis.

**BUS 295. INTRODUCTION TO OPERATIONS RESEARCH.** *Three hours credit.*

A course of business-oriented mathematical concepts applicable to analysis and control in business. Control of variables in operations, as used in decision making, in the establishment of standards and limits for performance, to maximize operational efficiency. New mathematical techniques related to statistical measurement of economic activity.

**BUS 316. SHORTHAND THEORY FOR TEACHERS.** *One hour credit.*

Prerequisite, Concurrent enrollment with BUED 341. Gregg shorthand theory is thoroughly explored; rules for joining strokes, rules for formation of words, the mastery of brief forms, and the theory underlying the construction of the Gregg shorthand system are covered.

## 152 / COURSE DESCRIPTIONS

### **BUS 320. INTERMEDIATE ACCOUNTING I.** *Four hours credit.*

Prerequisite, BUS 221 and minimum grade point average of 2.00 in BUS 220 and 221. An advanced course in accounting principles emphasizing the problems of asset and liability valuations and the related problems of measuring income periodically.

### **BUS 321. INTERMEDIATE ACCOUNTING II.** *Four hours credit.*

Prerequisite, BUS 320. A continuation of BUS 320 and, in addition, includes the study of funds-flow reporting.

### **BUS 323. COST AND MANAGERIAL ACCOUNTING I.** *Four hours credit.*

Prerequisite, BUS 221. The emphasis in this course is on the accumulation and analysis of financial data for management purposes.

### **BUS 324. COST AND MANAGERIAL ACCOUNTING II.** *Four hours credit.*

Prerequisite, BUS 323. This course gives emphasis to both costing for inventory valuation and income determination and costing for planning and control .

### **BUS 333. REAL ESTATE LAW.** *Two hours credit.*

This course is concerned with basic terminology, concepts, and relationships involving purchaser, seller, broker, builders, lending agencies, administrative groups, and landlord and tenant. Practical aspects of title, building contracts, loans, deeds, liens, restrictions, zoning, eminent domain, escrow, and statutory requirements will be included.

### **BUS 334. LIFE INSURANCE LAW AND COMPANY OPERATION.** *Three hours credit.*

In this course the following legal topics as applied to life insurance will be discussed and studied: law of contract and agency, the life insurance contract, policy provisions, the contract in operation, settlement options, and beneficiary designations. Company organization, operation, investments will be studied (CLU Course 2).

### **BUS 339. PROPERTY INSURANCE LAW.** *Three hours credit.*

This course provides a review of basic principles of business law and applies them specifically to property and casualty insurance practices and problems. Special attention is given to the law of contracts as applied to insurance contracts, agency insurance, and the law of liability as resulting from negligence . (C.P.C.U. Part IV)

### **BUS 340. INTRODUCTION TO INSURANCE.** *Three hours credit.*

This course deals with the basic principles of insurance and risk. Various kinds of insurance are discussed; the primary objective of the course is an orientation to the many kinds of insurance and their purposes.

### **BUS 341. LIFE AND HEALTH INSURANCE.** *Three hours credit.*

This course is designed to provide the student with a firm foundation in the many details of life and health insurance. Topics considered will include: individual life contracts, special and annuity contracts, disability income, medical expense insurance, probability in life insurance, reserves, nonforfeiture values, and dividends. (CLU Course 1)

### **BUS 342. SOCIAL AND GROUP INSURANCE.** *Three hours credit.*

This course provides a background in the large area of social insurance and also group insurance. Various kinds of group policies are discussed, including life, health, etc.

### **BUS 343. PENSION PLANNING.** *Three hours credit.*

As part of a comprehensive insurance program, the following topics are discussed concerning pension planning: basic features of a pension plan, tax considerations, cost considerations, allocated funding instruments, profit sharing, and tax sheltered annuities. (CLU Course 4)

### **BUS 344. INSURANCE AND TAXATION.** *Three hours credit.*

The effect of income, estate, and gift taxation on an insurance program are discussed in this course. These taxes are considered for the individual and the business enterprise also.

**BUS 349. INSURANCE MANAGEMENT.** *Six hours credit. (Two per quarter.)*

This course reviews the basic principles of management and then applies them specifically to the management of insurance businesses. A brief unit on personal finance is also included to help persons manage. Also included in the course are units on accounting and business finance as applied to the insurance business. (C.P.C.U. Part V)

**BUS 360. RETAILING PROMOTIONS.** *Four hours credit.*

Prerequisite, Distributive Education specialization or consent of the instructor. A course designed to familiarize the student with the various methods of retail promotion with emphasis placed on visual merchandising, advertising, show card writing, and other retail promotion techniques.

**BUS 361. RETAIL MANAGEMENT.** *Four hours credit.*

Prerequisite, BUS 260. A study of the basic principles and techniques of retail merchandising and store operation.

**BUS 362. ADVERTISING** *Three hours credit.*

An introductory course in advertising including a study of psychological principles, advertising media and types of advertising business organizations. Students participate in the preparation of advertising layouts and radio and TV announcements.

**BUS 363. SALES MANAGEMENT.** *Three hours credit.*

Prerequisite, BUS 261. A study of sales management, the major problems involved, and the relationship of sales management to the total business operation.

**BUS 364. PHYSICAL DISTRIBUTION.** *Three hours credit.*

Prerequisite, BUS 260. A systems approach to the marketers' problems of physical distribution; including inventories transportation, warehousing, packaging and order processing.

**BUS 365. MARKETING STRATEGY.** *Four hours credit.*

Prerequisite, BUS 260. This course is designed to familiarize the student with operations of marketing organizations. The understandings and administrations of marketing strategy with regard to consumer analysis, product planning, and promotion.

**BUS 370. BUSINESS FINANCE.** *Three hours credit.*

Prerequisite, BUS 221. This course emphasizes the sources of short-term, intermediate-term, and long-term funds for a business. Principles and motives of financial management are stressed.

**BUS 371. PERSONAL FINANCE.** *Three hours credit.*

Prerequisite, BUS 100. The course is designed to help those students interested in the problems of allocating income and managing personal finances.

**BUS 372. PRINCIPLES OF REAL ESTATE.** *Three hours credit.*

The course is designed to be a beginning course in the real estate area. Theories and practices that have a significant influence on the real estate market both locally and nationally are discussed. The course will be useful to the consumer, the practitioner in real estate, and the general employee in business.

**BUS 376. CREDIT MANAGEMENT.** *Three hours credit.*

This course provides information and understanding of the credit operations of business for both students of business and practicing businessmen. The various kinds of credit (consumer and commercial) are discussed, and the management of credit by business firms is given emphasis in the course.

**BUS 383. ELECTRONIC DATA PROCESSING—COBOL.** *Three hours credit. (Laboratory arranged.)*

Prerequisite, BUS 180 or equivalent. This course includes an introduction to electronic computer operation and to Cobol programming. The student's work involves analyzing and developing programs relative to his field of interest.

**BUS 388. SYSTEMS AND PROCEDURES.** *Three hours credit.*

Prerequisite, BUS 181 and 281. The relationship of systems and procedures to policies and needs of management; job characteristics, management audit; flow charting. Analysis of operations by a study of work simplification, work measurement, work sampling. Current development in human engineering, job design, forms control, records management, and company manuals.

**BUS 395. MANAGEMENT SCIENCE I.** *Three hours credit.*

Prerequisite, BUS 295 or permission of the instructor. This course is designed to provide theoretical and practical foundations for the use of linear programming as a "systems approach" to management decision making. The course is quantitative analysis distilled from and based on the descriptive and qualitative aspects of management problems.

**BUS 396. MANAGEMENT SCIENCE II.** *Three hours credit.*

Prerequisite, BUS 395. Managerial decision-making based upon optimality analysis, microanalytic methods including inventory control, games and strategies, queuing theory and Markov Analysis.

**BUS 397. MANAGEMENT SCIENCE III.** *Three hours credit.*

Prerequisite, BUS 292 and 395. Decision-making in uncertain environments. Applications of modern statistical techniques, with particular emphasis on probability models, including Bayesian methods of analysis.

**BUS 406. INTERNSHIP IN BUSINESS.** *Nine hours credit.*

Prerequisite, Consent of Faculty Coordinator. A practical experience course providing opportunities to utilize the theory of academic business administration courses in business situations.

**BUS 420. ADVANCED ACCOUNTING.** *Four hours credit.*

Prerequisite, BUS 320. This course includes a study of the accounting problems caused by multiple proprietorship—partnerships, corporations, and business combinations.

**BUS 421. ADVANCED ACCOUNTING PROBLEMS.** *Four hours credit.*

Prerequisites, BUS 321 and 420. An advanced course in accounting problems and theory emphasizing the more complex problems associated with partnerships, parent and subsidiary relationships, consolidations, liquidations, and current developments in accounting practices. Includes as an integral part of the subject matter, a review of recent C.P.A. examinations.

**BUS 423. GOVERNMENTAL AND INSTITUTIONAL ACCOUNTING.**

*Four hours credit.*

Prerequisite, BUS 221. Accounting principles and procedures relating to schools, hospitals, and other non-profit institutions and to cities, counties and other governmental units.

**BUS 427. AUDITING.** *Four hours credit.*

Prerequisites, BUS 291 and 321. This course involves a study of professional ethics and legal responsibility of public accountants, generally accepted accounting principles, and auditing procedures.

**BUS 428. INCOME TAX ACCOUNTING I.** *Three hours credit.*

Prerequisite, BUS 221 or consent of the instructor. A study of the basic rules and regulations of Federal income taxation of individuals. Includes as an integral part of the subject matter, tax planning for individuals in such areas as standard vs. itemized deductions, joint vs. separate returns, importance of distinguishing between deductions or adjusted gross income and deductions from adjusted gross income, and capital gain income vs. ordinary income.

**BUS 429. INCOME TAX ACCOUNTING II.** *Three hours credit.*

Prerequisite, BUS 428. A continuation of BUS 428, with emphasis on federal income tax rules applicable to partnerships and corporations.

**BUS 440. BUSINESS INSURANCE.** *Three hours credit.*

Prerequisite, BUS 341. Various kinds of insurance for the business firm are studied. The special needs of the individual proprietor, partnerships, and corporations receive attention. Special disability insurance, life insurance on key men, and split dollar plans are discussed. (CLU Course 9)

**BUS 441. ESTATE PLANNING AND LIFE INSURANCE.** *Three hours credit.*

Topics studied include: disposition of property in estates and trusts, administration of estates, federal estate taxation, federal gift taxation, planning through trusts and wills, and the place of life insurance in estate planning. (CLU Course 10)

**BUS 442. ANALYSIS OF INSURANCE FUNCTIONS I.** *Three hours credit.*

This course covers in detail an analysis of the various insurance functions especially applicable to property and casualty insurance. Some of the topics covered will be underwriting practices, loss prevention, rate making, regulation of insurance, types of insurers, reserves necessary, human motivation, professional ethics, and risk management. (C.P.C.U. Part II)

**BUS 443. ANALYSIS OF INSURANCE FUNCTIONS II.** *Three hours credit.*

A continuation of BUS 442. (Second part of C.P.C.U. Part II)

**BUS 452. OFFICE MANAGEMENT.** *Three hours credit.*

Prerequisite, BUS 150. The emphasis in this course is on the functions of the office and office organization; work in the office, office layout, equipment, supplies and forms; personnel problems in the office; and costs and control of office work.

**BUS 453. PERSONNEL MANAGEMENT.** *Five hours credit.*

A study of the principles and techniques of personnel management with attention given to their psychological foundations.

**BUS 455. SMALL BUSINESS MANAGEMENT.** *Three hours credit.*

Prerequisite, BUS 150. This course is designed to emphasize those aspects of management that are uniquely important to small business firms, and to develop the student's understanding of the economic and social environment in which the small concerns function.

**BUS 456. BUSINESS POLICIES AND MANAGEMENT.** *Three hours credit.*

Prerequisite, Business Core requirements completed. A course for the senior student designed to integrate the various functional areas of business in terms of policy level decision-making. Cases are emphasized.

**BUS 457. PRODUCTION MANAGEMENT.** *Three hours credit.*

Prerequisites, BUS 291 and 295. A course which emphasizes the methods of production control in industrial processes. The elements of control applied in planning, scheduling, routing of the product-in-process, and the appraisal and measurement of industrial performance as applied by conventional administrative methods, assisted by data processing and computer-controlled processes.

**BUS 460. MARKET ANALYSIS AND RESEARCH.** *Four hours credit.*

Prerequisites, BUS 260 and 292. This course is designed to acquaint the student with the typical marketing problems on which research can be used effectively. Analysis of basic research designs and basic methods of collecting data will be covered. Special emphasis will be placed on motivational research, product research, advertising research, marketing research, consumer-demand research and sales control research. Cases are used for discussions.

**BUS 461. ADVERTISING STRATEGY.** *Three hours credit.*

Prerequisite, BUS 362. A study of current advertising strategy, and the functions of advertising departments and agencies leading into the development and management of a complete advertising program.

**BUS 462. MARKETING PROBLEMS.** *Four hours credit.*

Prerequisites, BUS 365, 460, and senior standing or consent of the instructor. A course dealing with the problems of marketing managers. This senior level course is designed to acquaint the student with current marketing problems. Included will be a study of business cases and/or business games and a current reading of related materials.

**BUS 463. INDUSTRIAL MARKETING.** *Three hours credit.*

Prerequisite, BUS 260. This course deals with the marketing of industrial goods. The major topics are: planning products and markets, planning strategy, pricing policies, managing distribution, and managerial control.

**BUS 464. INTERNATIONAL MARKETING.** *Three hours credit.*

Prerequisite, BUS 260. Consideration of the global or multinational aspect of business enterprise and its effect on marketing problems and management. Factors of international marketing will be considered through the various studies of buying and selling processes in the countries of the world.

**BUS 470. FINANCIAL MANAGEMENT.** *Three hours credit.*

Prerequisite, BUS 370. In this course the problems of financing business enterprise are studied. The scope includes working capital financing, budgeting, analyzing financial statements, and intermediate and long-term financing. Cases will be used to illustrate.

**BUS 471. INVESTMENTS.** *Three hours credit.*

Prerequisite, BUS 370 or permission of instructor. The course is designed to provide the individual investor with a working basis for investment policy. A study will be made of topics such as how to develop a logical investment program, how to recognize and minimize investment risks, how to formulate decisions, and how to take advantage of investment opportunities.

**BUS 489. ADVANCED SYSTEMS ANALYSIS.** *Three hours credit. (Laboratory arranged.)*

Prerequisite, BUS 388. This course introduces the student to the methodology of systems analysis by the use of models and computer simulation. The primary emphasis will be on decision making with special attention devoted to automated applications.

## BUSINESS TEACHER EDUCATION

**BUED 245. INTRODUCTION TO DISTRIBUTIVE EDUCATION (PTE).** *Three hours credit.*

A study of the organization, supervision, and coordination of secondary school, post secondary school, and adult distributive education programs.

**BUED 340. INTRODUCTION TO BUSINESS TEACHER EDUCATION (PTE).** *Two hours credit.*

Prerequisites, EDF 365 and PSY 341 (or concurrently). A beginning course for future business teachers designed to acquaint students with problems of teaching, the business program, philosophy of business education, common methods for business classes, and devices common to many classes. Observation of high school business classes is one of the course requirements.

**BUED 341. METHODS AND MATERIALS OF TEACHING TYPEWRITING. (PTE)** *One hour credit.*

Prerequisites, BUS 112 and BUED 340 (or concurrently). A beginning course in the teaching of typewriting with special emphasis on various methods and techniques that have been shown to be useful by research. Materials will also be examined in the course.

**BUED 342. METHODS AND MATERIALS OF TEACHING SHORTHAND. (PTE)** *One hour credit.*

Prerequisites, BUS 119, BUED 340 (or concurrently), and concurrently with BUS 316. An introduction to the teaching of shorthand for business teachers with emphasis on devices, techniques, and materials.

**BUED 343. METHODS AND MATERIALS OF TEACHING BOOKKEEPING. (PTE)** *One hour credit.*

Prerequisites, BUS 221 and BUED 340 (or concurrently). An introduction to the teaching of bookkeeping. Major emphasis in the course will be on techniques and methods of aiding students in high school. Materials will be examined and evaluated in the class.

**BUED 344. METHODS AND MATERIALS OF TEACHING BASIC BUSINESS SUBJECTS. (PTE)** *One hour credit.*

Prerequisites, BUS 100, BUED 340 (or concurrently), and ECON 100. A course

designed to aid beginning business teachers in the teaching of basic business subjects of general business, business law, economics, consumer economics, etc. Material available for such classes will be examined by the class.

**BUED 346. METHODS AND MATERIALS OF TEACHING DISTRIBUTIVE EDUCATION.** (PTE) *Two hours credit.*

Prerequisites, BUED 245 and BUED 340. A course devoted to the specific methods and techniques relating to the teaching of distributive education. Major emphasis will be placed upon individual instruction and sources of instructional materials.

**BUED 348. METHODS AND MATERIALS OF TEACHING OFFICE PRACTICE.** (PTE) *One hour credit.*

Prerequisites, BUS 113, 190, 214, and BUED 340 (or concurrently). An introduction to the teaching of office practice with emphasis on classroom organization plans, teaching methods, development or selection of materials and equipment.

**BUED 371. EVALUATION IN BUSINESS SUBJECTS (PTE).** *Three hours credit.*

Designed to supplement the methods course with a foundation in techniques of evaluation including the preparation and administration of tests in the skill and content areas of business subjects and the use of other evaluative materials in the field.

**BUED 430. ECONOMIC EDUCATION SEMINAR (PTE).** *Three hours credit.*  
Prerequisites, ECON 100 and 102. A study of the conceptual framework of economic education for potential teachers, administrators, curriculum specialists, and guidance personnel.

**BUED 460. CURRICULUM DEVELOPMENT IN DISTRIBUTIVE EDUCATION.** *Three hours credit.*

A study of the basic principles of curriculum development, content organization, and criteria for evaluation; the analysis of Distributive Education curriculums in high school, junior colleges, and adult education programs; the construction of courses of study and preparation of units of instruction in Distributive Education.

## CHEMISTRY

**\*CHEM 101. FOUNDATIONS OF CHEMISTRY I.** *Four hours credit. (Three hours lecture, three hours laboratory.)*

This course deals with chemical principles on an elementary level which requires no background in chemistry. When possible, the relationship between chemistry, man, and his environment will be stressed. Recommended as a substitute for SCI 103. Credit will not be allowed toward a chemistry major or minor.

**\*CHEM 102. FOUNDATIONS OF CHEMISTRY II.** *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisite, CHEM 101. This course is a continuation of CHEM 101 and will treat such topics as quantitative relationships in chemical reactions, the gas laws, and radiochemistry.

**\*CHEM 104. PRINCIPLES OF CHEMISTRY I.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

This course introduces the student to the principles of chemistry together with some descriptive chemistry to illustrate these principles. It is designed for science majors and minors, as well as for pre-medical, pre-dental, pre-veterinary, pre-engineering, nursing, and home economics students.

**\*CHEM 105. PRINCIPLES OF CHEMISTRY II.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 104 or 106. This course is a continuation of the principles of chemistry together with the descriptive chemistry necessary to illustrate these principles. It is designed for the same group of students as CHEM 104 and is necessary to provide a reasonably complete understanding of the basic concepts of chemistry.

**\*CHEM 106. PRINCIPLES OF CHEMISTRY IA.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, one year high school chemistry, three years high school mathematics or MATH 123. The course presents the principles of chemistry rigorously to those students who have a strong background in high school chemistry and mathematics. Descriptive chemistry will be used to illustrate the theoretical basis of modern chemistry. Laboratory work will emphasize quantitative aspects of chemistry.

**\*CHEM 107. PRINCIPLES OF CHEMISTRY IIA.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisites, CHEM 104 or 106. This course is a continuation of the principles of chemistry together with the descriptive chemistry necessary to illustrate these principles. It is designed for the same group of students as CHEM 106 and is necessary to provide a reasonably complete understanding of the basic concepts of chemistry. Laboratory work will emphasize the quantitative aspects of chemistry.

**\*CHEM 111. QUALITATIVE ANALYSIS.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisites, CHEM 104 or 107 and MATH 123 or one year of high school algebra. In this course, the student is introduced to analytical theory and the methods of detection of common ions. The laboratory work illustrates the class discussion.

**\*CHEM 130. INTRODUCTORY ORGANIC CHEMISTRY.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 105 or 107. This course provides an elementary introduction to organic chemistry, including some of the many applications in such fields as food, drug, plastic, dye, and vitamin chemistry. A student cannot receive credit for both CHEM 130 and 332.

**\*CHEM 281. GENERAL BIOCHEMISTRY.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 130 or 333. An introduction to the chemistry of foods, nutrition, and body processes is given.

**CHEM 301. INORGANIC CHEMISTRY I.** *Three hours credit.*

Prerequisite, CHEM 311. This course is an introduction to inorganic chemistry. Literature, atomic structure and chemical bonding will be presented.

**\*CHEM 311. QUANTITATIVE ANALYSIS II.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisite, CHEM 111. This course provides a discussion of quantitative analytical procedures and emphasizes analytical theory. Gravimetric, volumetric, colorimetric and electrodeposition methods are applied to common substances in the laboratory.

**\*CHEM 312. QUANTITATIVE ANALYSIS II.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisite, CHEM 311. Corequisite, CHEM 452. Special attention is given to the analysis of complex mixtures, and the use of certain analytical instruments.

**\*CHEM 314. INSTRUMENTAL ANALYSIS.** *Three hours credit. (Two hours lecture, three hours laboratory.)*

Prerequisites, CHEM 311 and either CHEM 130 or 332. Lectures and laboratory sessions centered around colorimetry, spectrophotometry, fluorimetry, flame spectrophotometry, infrared spectrophotometry and other selected methods of analysis. For medical technology, biology and earth science majors, as well as others not qualified to take CHEM 414.

**CHEM 315. FOOD ANALYSIS.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisite, CHEM 130. This course deals with some of the techniques of qualitative and quantitative analysis of foods for certain inorganic and organic constituents.



**\*CHEM 332. ORGANIC CHEMISTRY I.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 105 or 107. This course is the first of a series of three courses which cover the nomenclature and reactions of the various classes of organic compounds, together with basic electronic aspects of these compounds. The aliphatic and aromatic compounds are integrated in this series. A student cannot receive credit for both CHEM 130 and 332.

**\*CHEM 333. ORGANIC CHEMISTRY II.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 332. This course is the second of the series which covers the nomenclature, reactions and electronic theory of the various classes of organic compounds. Aliphatic and aromatic compounds are integrated in this series.

**CHEM 334. ORGANIC CHEMISTRY III.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 333 or 530. This course is the last of the series which covers the nomenclature, reactions and electronic theory of the various classes of organic compounds. Aliphatic and aromatic compounds are integrated in this series. Chemistry majors (Arts and Sciences) may also register for CHEM 335 (one hour) concurrently.

**CHEM 335. ADVANCED LABORATORY IN ORGANIC CHEMISTRY.** *One hour credit. (Three hours laboratory.) (Maximum three hours credit.)*

Prerequisite, CHEM 334 or taken concurrently. This is a laboratory course dealing with organic preparations, analysis, and structure determination using the more advanced research tools of nmr, gpc, ir, and uv.

**CHEM 381. ENZYME CHEMISTRY.** *Two hours credit.*

Prerequisite, CHEM 281. A study of the structure and function of enzymes with an emphasis on the kinetics and mechanisms of enzyme-catalyzed reactions.

**CHEM 390. CHEMICAL LITERATURE.** *One hour credit.*

Prerequisite, CHEM 334. This course covers the use of the library and the function of chemical literature. Problems in the use of the library are assigned.

**CHEM 401. INORGANIC CHEMISTRY II.** *Three hours credit.*

Prerequisites, CHEM 301, 452, corequisite, CHEM 453. The chemistry of typical inorganic compounds will be presented. Emphasis will be placed on the relationship of bonding and structure to chemical properties.

**CHEM 402. LABORATORY IN INORGANIC CHEMISTRY.** *One hour credit. (Three hours laboratory.)*

Prerequisite, CHEM 301. The student will perform experiments which will explore the structure, bonding and chemical properties of inorganic substances.

**CHEM 411. QUANTITATIVE ANALYSIS.** *Five hours credit. (Three hours lecture, six hour laboratory.)*

Prerequisites, MATH 123 and CHEM 105 or 107. Lectures treat the equilibria existing in solutions of acids, bases, and slightly soluble salts, and the application of such equilibria to gravimetric and acid-base and volumetric precipitation analysis. Laboratory work consists of illustrating these three types of analysis. Students having credit in any quantitative analysis course must obtain permission of instructor before enrolling in this course.

**CHEM 414. INSTRUMENTAL METHODS OF ANALYSIS.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisite, CHEM 311. Corequisite, CHEM 453. Lectures will consider the theory and techniques of the analysis of chemical systems by various optical, X-ray and electrical methods of analysis. In the laboratory the student will perform analyses using the colorimeter, spectrophotometer, flame photometer, fluorimeter, infrared spectrophotometer and polarograph.

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**CHEM 421. ELEMENTS OF GLASS BLOWING.** *One hour credit. (Three hours laboratory.)*

Demonstrations and practice in the elementary operations of glass blowing; the construction and repair of borosilicate glass laboratory equipment.

**CHEM 431. ORGANIC QUALITATIVE ANALYSIS.** *Three hours credit. (One hour lecture, six hours laboratory.)*

Prerequisite, CHEM 334. This course is an advanced laboratory course in organic chemistry. The identification of organic compounds by classical and modern spectral methods constitutes the laboratory work. Lecture will consider theory and technique of analysis.

**CHEM 451. PHYSICAL CHEMISTRY I.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 333, MATH 133, PHYS 267. Corequisite, CHEM 311. This course is an advanced study of the theoretical principles upon which chemistry is based. The properties of the gaseous, liquid, and solid states, the principles of thermodynamics and thermochemistry and the theories of atomic and molecular structure are considered. The laboratory demonstrates the principles developed in the lecture.

**CHEM 452. PHYSICAL CHEMISTRY II.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 451. This course is a continuation of CHEM 451. The following topics are considered: solutions, homogenous and heterogenous chemical equilibria, and chemical kinetics.

**CHEM 453. PHYSICAL CHEMISTRY III.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 452. This course is a continuation of CHEM 452. Electrochemistry, ionic equilibria, and colloids are considered.

**CHEM 481. PHYSICAL BIOCHEMISTRY.** *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisites, CHEM 334, 453 (or taken concurrently.) The physical and organic bases of modern biochemistry will be studied. Enzyme chemistry, the physical chemistry of macromolecules, and the molecular organization of the cell will be emphasized.

**CHEM 490. SENIOR RESEARCH.** *Two hours credit. (Minimum four hours credit, maximum six hours credit.)*

Prerequisites, CHEM 334, 453. An introduction to research in chemistry. The student will initiate and pursue an independent original investigation. A paper and oral presentation of his work are required. Weekly conferences with instructor are required. The student may earn a maximum of six hours credit.

## COMMUNICATIONS

**\*COM 101. ELEMENTARY COMPOSITION I.** *Three hours credit.*

The first of the two quarters of elementary expository writing, with introduction to functional grammar, sentence structure, punctuation, and paragraph organization.

**\*COM 102. ELEMENTARY COMPOSITION II.** *Three hours credit.*

Prerequisite, COM 101. The second quarter of elementary expository writing, with instruction in diction, style, tone, logical thinking, the organization of well-developed reports, and a research paper.

## EARTH SCIENCE

**ESCI 100. INTRODUCTION TO EARTH SCIENCE TEACHING.** *Three hours credit.*

This course is designed to introduce beginning students in the teacher education programs to the broad aspects of the field of Earth Science, to present unifying concepts and principles of the total program, and to introduce students to the teaching of Earth Science.

**ESCI 499. SEMINAR IN EARTH SCIENCE.** *Two hours credit.*

Prerequisite, consent of student's major adviser. The final course for Earth Sciences majors in the teacher education program. It will provide students with an opportunity to investigate and discuss earth science topics of special interest beyond the scope of existing departmental course offerings, as well as problems which might be encountered in teaching earth science in the schools. Special attention will be given to the unifying concepts and principles of earth science.

## ECONOMICS

**\*ECON 100. INTRODUCTORY ECONOMICS.** *Five hours credit.*

An introductory analysis of the American economic system as it affects the average citizen. Considers resources, the market, business organization, labor, money and public finance.

**\*ECON 102. CONTEMPORARY ECONOMIC PROBLEMS.** *Three hours credit.*

Prerequisite, ECON 100. An examination into critical economic problems facing modern society, most of which are in sharp focus within the decade. Particular attention is given to agricultural adjustment, high-level employment maintenance, federal taxation influences, monetary controls, stabilization of prices, obstructions to foreign trade.

**\*ECON 200. INTERMEDIATE ECONOMIC THEORY.** *Three hours credit.*

The purpose of this course is to provide a summary exposition of contemporary economic theory for those students intending to undertake graduate courses in economics. Emphasis is upon value and distribution theory. It is assumed that students will have had an introductory course in economics.

**ECON 202. MONEY AND BANKING.** *Five hours credit.*

Prerequisite, ECON 100. A study of the origins and present roles of our monetary system, commercial banking and Federal Reserve System.

**\*ECON 241. PUBLIC FINANCE.** *Five hours credit.*

Prerequisite, ECON 100. A study of government financing on the federal, state, and local level as it is reflected in expenditures, revenue sources, such as taxes, and the problems and solutions of public debt.

**\*ECON 242. STATE AND LOCAL FINANCE.** *Three hours credit.*

The purpose of this course will be to focus attention upon the mechanisms and the goals of public finance as employed by governments on the state and local level in the U. S. economy.

**\*ECON 250. HISTORY OF ECONOMIC SYSTEMS: SOCIALISM, COMMUNISM, CAPITALISM, FASCISM.** *Three hours credit.*

A survey of socio-economic reform movements, including Utopian schemes, mercantilism, monopolistic capitalism, socialism, communism, fascism and modified capitalism.

**\*ECON 300. INTERNATIONAL ECONOMICS.** *Three hours credit.*

Prerequisite, ECON 100. Consideration of the theories, policies and practices related to international economics. The course seeks an understanding of the fundamental causal relationships, basic institutions, and unifying concepts which are found in the world economy.

**\*ECON 302. INTERNATIONAL ECONOMICS.** *Three hours credit.*

Prerequisites, ECON 100, 210, or the consent of the instructor. A study of the financial instruments, institutions and organizations which comprise international finance and which assist international trade.

**\*ECON 305. LABOR-MANAGEMENT RELATIONS.** *Three hours credit.*

A study into the origins of the labor movement and an examination of the impact of trade unionism on contemporary industrial organization.

**\*ECON 320. RUSSIA'S SOVIET ECONOMY.** *Three hours credit.*

A synthesis of available knowledge regarding all major sectors of the Soviet economy, particularly as regards their organization and operation.

**\*ECON 350. NATIONAL INCOME ANALYSIS.** *Three hours credit.*

Prerequisite, ECON 100. This course will incorporate major areas of modern aggregate economics analysis. Income measurement and determination of the level of income will be combined with problems of growth and fluctuations.

**\*ECON 360. DEVELOPMENTAL ECONOMICS.** *Three hours credit.*

Prerequisites, ECON 100, 200, or the consent of the instructor. A study of the economic factors which aid or impair economic development with primary emphasis placed on evolving national economies and regional economic problems of advanced economies.

**\*ECON 370. AGRICULTURE ECONOMICS.** *Three hours credit.*

Prerequisite, ECON 100. A study of the economics of agriculture and the relation of agricultural economic factors to the total modern economy.

**\*ECON 377. GOVERNMENT AND BUSINESS.** *Three hours credit.*

Prerequisite, ECON 100. A study of the relation of American public policy to the challenge of industry, labor, agriculture and inflation-depression periods.

**\*ECON 390. EUROPEAN ECONOMIC HISTORY.** *Three hours credit.*

Prerequisite, ECON 100. A study of the historical origins of the economic institutions of Europe as related to the development of present European economic life.

**\*ECON 420. INDUSTRY STUDIES.** *Three hours credit.*

Prerequisite, ECON 100. This will be a course in the application of basic economic principles. Students should be prepared to do an extensive case study of an industry.

**\*ECON 425. THE ECONOMICS OF PUBLIC UTILITIES.** *Three hours credit.*

Prerequisite, ECON 100. A study of public-utility concepts in the American business system and the problems relative to effective regulation and growth of these industries.

**\*ECON 451. INTRODUCTION TO QUANTITATIVE ECONOMICS.** *Three hours credit.*

Prerequisite, ECON 200 or the consent of the instructor. An introductory course in the use of mathematical techniques in economics. High school algebra and a good background in economic theory would be sufficient preparation.

**\*ECON 452. EMPIRICAL METHODS IN ECONOMICS.** *Three hours credit.*

Prerequisite, ECON 100 or consent of the instructor. The course will present an examination of national income accounting practices, compilation of economic statistics, index number computation and related topics. Only elementary statistical background will be needed.

**\*ECON 455. ANALYSIS OF BUSINESS CYCLES.** *Three hours credit.*

Prerequisites, ECON 200, 350 or the consent of the Instructor. The course will present a theoretical and empirical investigation of economic fluctuations.

**\*ECON 460. ECONOMIC COLONIALISM AND IMPERIALISM.** *Three hours credit.*

Prerequisites, ECON 100, 390, or the consent of the instructor. A study of the part played by economic doctrines, theories and practices in the expansionary drives to colonialism and imperialism, with primary emphasis given to modern history.

**\*ECON 462. ECONOMIC HISTORY OF THE UNITED STATES.** *Three hours credit.*

A review of the historical changes in the major American economic institutions with emphasis on the post-Civil War period.

**\*ECON 470. HISTORY OF ECONOMIC THOUGHT.** *Three hours credit.*

Prerequisite, ECON 100. This course will trace the evolution of economic thinking from the period of the Old Testament up to the present day. Particular

attention will be given the roles played by particular "schools" of economic thinkers, the genesis of their ideas and their contributions.

**ECON 480. SEMINAR IN ECONOMIC THOUGHT.** *Three hours credit.*

Prerequisites, ECON 100, 201, 120, or the consent of the instructor. This course is primarily concerned with independent study and limited guided research in the development of economic thought. The group will meet for regular discussions and criticism of their work.

## EDUCATIONAL CURRICULUM AND INSTRUCTION

**EDCI 340. INTRODUCTION TO STUDENT TEACHING IN THE SECONDARY SCHOOL.** (PTE) *Two hours credit.*

Student is assigned to a specific class in his major or minor area under supervision in the Laboratory School. He will meet with the class and the supervising teacher five days per week and arrange for one additional conference hour.

**EDCI 341. METHODS OF TEACHING IN THE SECONDARY SCHOOL.** (PTE) *Three hours credit.*

Prerequisite to student teaching. Taken in the department in which student teaching is done. Includes curriculum and classroom organization, testing and evaluation, procedures and materials, relationship of the subject area to the total secondary program. Teaching techniques are a point of emphasis.

**EDCI 351. TEACHING PROBLEMS LABORATORY.** *Three hours credit.*

Designed to assist the preservice teacher in dealing appropriately with problems common to classroom teaching, such as the disruptive student, parent conferences, adapting teaching materials, etc., through the use of simulation, role-playing, films, videotape and other techniques.

**EDCI 551. PROBLEMS IN TEACHING MINORITY GROUPS.** *Three hours credit.*

An indepth study of minority groups—with special emphasis on the psychological, educational and social needs of the Mexican—American school child of the Southwest. An attempt will also be made to acquaint educators with teaching methods and techniques that seem to work with minority children.

**EDCI 560. PROFESSIONAL RESPONSIBILITIES OF TEACHERS.** (PTE) *Maximum of three hours credit.*

Designed to provide a basic understanding of the roles and responsibilities within the education profession. Includes consideration of professional organizations, teacher rights and responsibilities, personnel policies and working conditions. *Enrollment limited to beginning teachers.*

**EDCI 422. INDIVIDUAL STUDIES.** *Maximum of four hours credit.*

Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed before credit is given, one with instructor and one with the chairman of the department.

## EDUCATIONAL MEDIA

**EDEM 250. INTRODUCTION TO OUTDOOR EDUCATION.** *Three hours credit.*

Introductory course to orient students to the basic concepts of outdoor education. Natural and community resources are utilized in providing direct learning experiences. Short field trips and participation in outdoor laboratory school programs are provided. The interdisciplinary approach, involving instructors from academic areas and the Laboratory School, will be followed.

**EDEM 310. INTRODUCTION TO EDUCATIONAL RESOURCES.** *Five hours credit.*

Introduces students to most of the materials, both print and nonprint, available for instruction; each is demonstrated, and psychological basis for use is discussed as well as its characteristics, advantages and disadvantages; designed to be of value to all interested in education.

**EDEM 320. DESIGN AND CONSTRUCTION OF AUDIO-VISUAL MATERIALS.** *Three hours credit.*

Provides experience in the production of teaching materials using equipment and facilities available to most teachers. Includes preparation and mounting of pictures and the production of graphic materials, slides and recordings.

**EDEM 330. INTRODUCTION TO CLASSIFICATION AND CATALOGING.** *Three hours credit.*

The course considers needs for classification and cataloging. A number of well known classification systems are examined and their relative merits for school use are considered. Fundamentals of the Dewey and Library of Congress systems are studied in greater detail.

**EDEM 422. INDIVIDUAL STUDIES.** *Maximum of four hours credit.*

Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter on a problem. Two copies of a well written paper must be filed before credit is given, one with the instructor and one with the chairman of the department.

**EDEM 460. TELEVISION IN EDUCATION.** *Four hours credit.*

Educators are exposed to the use of television as an effective educational tool at all grade levels, and are provided basic instruction in ETV equipment, methods, and administration. Involvement in actual ETV development on the UNC campus will be encouraged to give practical experience in a working situation.

**EDEM 500. STILL PHOTOGRAPHY FOR TEACHERS.** *Two hours credit.*

Teachers are introduced to the basic techniques of photography. Primary emphasis will be on taking and using of photographs and slides to aid communication. A minimum background in darkroom procedures is provided.

**EDEM 508. WORKSHOP.** *One to three hours credit.*

This course is concerned with the instructional problems of the participants; however, the problems attacked would vary from time to time according to the experts conducting the workshop. The nature of the workshop might cover such areas as Administration, Production, Utilization. Each workshop will have a sub-title and no sub-title may be repeated for credit.

**EDEM 516. UTILIZATION OF EDUCATIONAL RESOURCES.** *Three hours credit.*

Considers the selection and utilization of appropriate instructional materials for each of the following situations: (1) individual (self) instruction, (2) small group instruction, and, (3) large group instruction.

**EDEM 531. CATALOGING AND CLASSIFICATION II.** *Three hours credit.*

Continues work on the fundamentals of classification by both the L.C. and Dewey System. Considers construction of a suitable catalog for the school resource center. It will include all necessary processes from the time the materials are acquired until they are ready for circulation.

**EDEM 534. REFERENCE MATERIALS FOR EDUCATIONAL RESOURCE CENTER.** *Three hours credit.*

A discussion of suitable reference materials for elementary and secondary school resource centers. Covers selection of principles and use of reference materials.

**EDEM 536. EVALUATION AND SELECTION OF EDUCATIONAL MATERIALS.** *Three hours credit.*

Discussion of book selection principles and book selection aids for school libraries. Covers reading levels and interests of children and young people. Course discusses suitable trade book materials for both elementary and high school libraries.

**EDEM 575. ORGANIZATION AND ADMINISTRATION OF EDUCATIONAL RESOURCE CENTER.** *Five hours credit.*

This course includes a consideration of order and circulation procedures, supervising student personnel, the role of the librarian in the development of curriculum and guidance programs, the relationships of the librarian with teachers and administrators and with other local and state agencies.

**ELEMENTARY EDUCATION****EDEL 310. INTRODUCTION TO STUDENT FIELD WORK.** (PTE) *Two hours credit.*

Student engages in directed participation in a teaching situation four hours per week under the supervision of a master elementary teacher in the Laboratory School and arranges for one additional conference hour.

**EDEL 320. IMPROVEMENT OF INSTRUCTION IN MATHEMATICS IN THE ELEMENTARY SCHOOL.** (PTE) *Three hours credit.*

A comprehensive analysis of the meaning theory, developmental method of teaching, what to teach, grade placement of content, methods of instruction with major emphasis on how to bring about insightful learning tools of instruction including concrete and semi-concrete materials, and means of evaluating achievement.

**EDEL 330. TEACHING HANDWRITING AND SPELLING IN THE ELEMENTARY SCHOOL.** (PTE) *Two hours credit.*

A detailed consideration of content, methods, instructional material and evaluation in the fields of handwriting and spelling. The student demonstrates competency in spelling and in manuscript and cursive handwriting.

**EDEL 340. IMPROVEMENT OF INSTRUCTION IN ENGLISH IN THE ELEMENTARY SCHOOL.** (PTE) *Three hours credit.*

This course is the basic course in the teaching of English in the elementary school. It considers the scope and nature of an adequate program of instruction in English and is concerned primarily with the identification of content to be taught and methods and materials to be used.

**EDEL 350. IMPROVEMENT OF INSTRUCTION IN SOCIAL STUDIES IN THE ELEMENTARY SCHOOL.** (PTE) *Three hours credit.*

A detailed basic consideration of objectives, construction and use of units, problem solving, selection and grade placement of content, methodology including the use of concrete experiences, audio-visual materials, group processes, questioning, reading, and techniques of evaluation.

**EDEL 422. INDIVIDUAL STUDIES.** *Maximum of four hours credit.*

Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed before credit is given, one with the instructor and one with the chairman of the department.

**EDEL 460. KINDERGARTEN EDUCATION.** (PTE) *Three hours credit.*

A course covering theory and practices for education in kindergarten. Organization, scheduling, and equipping of kindergartens, the readiness program, and parent education will have pertinent handlings within the course.

**ENGLISH****ENG 100. WRITING CLINIC.** *No credit.*

A laboratory designed to help students improve their writing.

**\*ENG 111. INTRODUCTION TO POETRY.** *Three hours credit.*

A reading and thorough understanding of selected major poems and plays, American and European, modern and ancient.

**\*ENG 112. INTRODUCTION TO PROSE.** *Three hours credit.*

The reading of selected short stories, one novel, and articles about fiction.

**\*ENG 206. SURVEY OF ENGLISH LITERATURE FROM THE BEGINNINGS TO 1660.** *Four hours credit.*

Prerequisites: Eng 111 and 112 or equivalents. A study of English prose and poetry of the Old English, Middle English and Renaissance periods.

**ENG 207. SURVEY OF ENGLISH LITERATURE FROM 1660 TO 1832.** *Four hours credit.*

Prerequisites: ENG 111 and 112 or equivalents. Comprehensive readings in English literature following its development through the Restoration, Eighteenth Century and Romantic Movement.

**ENG 208. SURVEY OF ENGLISH LITERATURE FROM 1832 TO THE PRESENT.** *Four hours credit.*

Prerequisites: ENG 111 and 112 or equivalents. A study of English prose and poetry of the Victorian and modern periods.

**\*ENG 209. AMERICAN LITERATURE TO THE CIVIL WAR.** *Four hours credit.*

A study of American literature during the formative years of the colonial period and during the early years of the republic, emphasizing the religious and political traditions from which the literature sprang. Emphasis is given to the works of Edwards, Franklin, Paine, Bryant, Emerson, Poe, Hawthorne, and Melville.

**\*ENG 210. AMERICAN LITERATURE SINCE THE CIVIL WAR.** *Four hours credit.*

A study of the literature of America since 1865, emphasizing in particular the development of modern American fiction and the late nineteenth century and twentieth century developments in American poetry. Particular attention is given to such writers as Whitman, James, Robinson, Frost, Sandburg, Faulkner, and Eliot.

**\*ENG 301. SHAKESPEARE: EARLY PLAYS.** *Three hours credit.*

The reading and understanding of the early plays of Shakespeare.

**\*ENG 302. SHAKESPEARE: LATER PLAYS.** *Three hours credit.*

The reading and understanding of the later plays of Shakespeare.

**\*ENG 303, 304, 305. CREATIVE WRITING I, (INTRODUCTION), II, (POETRY), III, (FICTION).** *Two hours credit.*

Prerequisites: COM 101 and 102. Opportunity to write creatively under criticism with emphasis upon the individual's own purposes and experiences.

**\*ENG 306. ENGLISH LITERATURE FROM THE BEGINNINGS TO 1500.** *Three hours credit.*

A study of English poetry and prose of the Old English and Middle English periods. Emphasis is placed on *Beowulf*, *Sir Gawain and the Green Knight*, *The Canterbury Tales*, and *Le Morte Darthur*.

**\*ENG 307. ENGLISH LITERATURE FROM 1500 TO 1660.** *Three hours credit.*

A study of English poetry and prose of the Renaissance. Emphasis is placed on the work of Spenser, Jonson, Marlowe, Bacon, the Metaphysical poets, and Milton.

**\*ENG 308. THE RESTORATION AND EIGHTEENTH CENTURY.** *Three hours credit.*

A study of major writers of the period with attention to their influence on subsequent ideas and literary forms.

**\*ENG 309. THE ROMANTIC MOVEMENT.** *Three hours credit.*

The development of English Romanticism; its social and philosophical backgrounds. Wordsworth, Coleridge, Byron, Shelley, and Keats; with some consideration of the essayists and minor poets.



**\*ENG 310. VICTORIAN PROSE AND POETRY.** *Three hours credit.*  
A study of the poems and more important prose works of the major Victorian writers, and of their relation to the life of the times.

**\*ENG 311. CONTEMPORARY ENGLISH AND AMERICAN LITERATURE.** *Four hours credit.*

A study of the development of British and American poetry, fiction, and drama since 1920, showing the relationships between the two literatures in a period when the interaction becomes extensive.

**\*ENG 312. AFRO-AMERICAN LITERATURE.** *Four hours credit.*

Study of the writings of black authors of both the present and the past. Includes fiction, biography, poetry, and autobiography.

**\*ENG 313. ADVANCED EXPOSITORY WRITING.** *Three hours credit.*

Prerequisites, COM 101, 102. For upper division and graduate students with adequate preparation in grammar and composition. Application of the elements of style to the development of effective prose.

**\*ENG 314. THE ENGLISH LANGUAGE.** *Five hours credit.*

The course presents a history of the development of the English language; the historical basis of usage and grammar including grammatical analysis based upon traditional terminology as opposed to the new approaches, structural grammar, generative grammar, etc.; and the sources of the English vocabulary.

**\*ENG 401. GREEK AND COMPARATIVE MYTHOLOGY.** *Four hours credit.*

A study of Greek myths as one of the important sources of literary allusion and imagery and a comparison of Greek myths with those of other cultures to show what is common to all mythologies.

**\*ENG 402. THE SHORT STORY.** *Three hours credit.*

The study of typical modern short stories to observe the methods of modern writers and the interpretation of our present-day life embodied in this form of literature.

**\*ENG 403. TECHNIQUES OF THE NOVEL.** *Five hours credit.*

A study of seven or eight important English and American novels to show different techniques which have been used to reveal the novelists' artistic insight.

**\*ENG 404. MODERN LITERATURE ABOUT CHILDHOOD AND ADOLESCENCE.** *Three hours credit.*

A study of the concept of childhood and adolescence in the writing of twentieth-century British and American authors, with emphasis on the ideas of innocence and initiation.

**\*ENG 405. CONTEMPORARY AMERICAN DRAMA.** *Three hours credit.*

A comprehensive view of the best dramatic literature of the modern American theater.

**\*ENG 406. MODERN DRAMA SINCE IBSEN.** *Three hours credit.*

A study of the developments in modern European and American drama since the time of Ibsen, emphasizing the works of such writers as Ibsen, Shaw, Synge, O'Casey, O'Neill, and such other European and American writers as have been significant in the development of the twentieth century drama.

**\*ENG 407. THE FORMS AND MEANING OF POETRY.** *Four hours credit.*

A study of some of the formal aspects of poetry (prosody, stanzaic and "named" forms, and the like), of types (lyric, narrative, dramatic), and of the poets' use of language.

**\*ENG 408. ELIZABETHAN DRAMA EXCLUSIVE OF SHAKESPEARE.** *Four hours credit.*

The drama from 1558 to 1642; the major dramatists, stage conditions, acting companies, and changes in dramatic form and subjects reflecting the life of the times.

**\*ENG 409. LITERARY CRITICISM.** *Three hours credit.*

A study of the theory and history of literary criticism from Plato to Wayne C. Booth, with some application of critical theory.

**\*ENG 410. HISTORY OF IDEAS IN LITERATURE.** *Three hours credit.*

An intensive chronological study of various of the significant themes in literature.

**\*ENG 415. LITERATURE OF THE OLD TESTAMENT.** *Three hours credit.*

A study of selected books of the Old Testament with emphasis on their literary qualities, and on the moral and religious progress they reveal. The historical and cultural background of these writings will be studied.

**\*ENG 416. LITERATURE OF THE NEW TESTAMENT.** *Three hours credit.*

A comparative study of the Gospels, followed by a study of other New Testament writings and of the historical and cultural background of the period in which they were written.

**\*ENG 417. GENERATIVE - TRANSFORMATIONAL GRAMMAR.** *Four hours credit.*

Prerequisite, ENG 314. A study of the generation of English sentences: blocks, kernels (phrase-structure rules), transformations (single and double base); conceptual postulates, operations, and processes underlying a generative-transformational grammar.

**\*ENG 418. GRAMMATICAL ANALYSIS.** *Three hours credit.*

A study and comparison of grammatical systems that have been devised for the description of the English language. Approximately equal time will be given to the theoretical formulations and assumptions underlying structural, and traditional grammars. Some time will be spent survey the tests that advocate each system.

**\*ENG 419. ADVANCED TOPICS IN SYNTAX.** *Three hours credit.*

Prerequisite ENG 417. A study of selected topics of concern to current linguistic theory. Topics selected will be studied from two currently opposed generative-transformational positions.

**\*ENG 420. STYLISTICS.** *Three hours credit.*

Prerequisite ENG 417. A study of the linguistic bases of stylistics, with special attention to the properties of literature and literary texts. The three major twentieth century theoretical stances will be considered.

## ENGLISH EDUCATION

**EED 401. WORKSHOP in THE TEACHING OF ENGLISH.** (PTE) *Maximum of nine hours credit.*

A series of workshops in special problems in the teaching of English, conducted by authorities in the field.

**EED 402. LITERATURE AND MATERIALS IN THE SECONDARY SCHOOL.** (PTE) *Five hours credit.*

Materials for teaching English in secondary schools. Principles for the selection of literature for high school pupils. Critical study of selected readings.

**EED 403. LITERATURE AND MATERIALS IN THE JUNIOR HIGH SCHOOL.** (PTE) *Four hours credit.*

Selection of literature and supplementary materials to fit the needs and interests of early adolescents. Methods of teaching literature in grades 7, 8, and 9.

**EED 404. THE TEACHING OF READING IN THE SECONDARY SCHOOL.** (PTE) *Four hours credit.*

Methods and materials to be used in the teaching of reading, both developmental and remedial, in the secondary school.

**EED 405. THE TEACHING OF LANGUAGE.** (PTE) *Four hours credit.*

A study of language learning and teaching, including the philosophy of English and the evaluation of inductive and deductive procedures. An analysis of some of the "new grammars" in current textbooks with implications for the secondary English curriculum.

**EED 406. LITERATURE FOR ADOLESCENTS.** *Three hours credit.*

Study of that reading material which provides a transition from children's literature to literature for adults. Attention concentrated upon junior novels, junior biographies, and their authors, as well as upon trends and evaluative standards.

**FINE ARTS****\*FA 100. DRAWING.** *Three hours credit.*

The basic elements and principles of beginning drawing, with emphasis on visual training, technical procedures, and the essentials of perspective. Media: chiefly charcoal and pencil.

**\*FA 102. FIGURE DRAWING.** *Three hours credit.*

Prerequisite FA 100. The study of the human figure, its essential anatomy and construction. The figure as an important motif in design and composition. Study from life.

**\*FA 105. DESIGN FUNDAMENTALS.** *Three hours credit.*

Experiences in two dimensional design which involve the student in laboratory problems including the use of materials, techniques and tools.

**\*FA 106. DESIGN AND COLOR.** *Three hours credit.*

Prerequisite FA 105. Color experiments, both theoretical and practical, and their application to pure design, decorative design, and pictorial organization.

**\*FA 107. DESIGN IN THREE DIMENSIONS.** *Three hours credit.*

Prerequisites FA 105, 106. Experiences organized to help the student in his intellectual and visual understanding of three-dimensional art. Experiences will be built around problems involving bas-relief, volumetric constructions and space experiments.

**\*FA 111. SURVEY OF ART HISTORY.** *Three hours credit.*

This course will develop concepts of the many eras of art, with emphasis on the scope of art, our legacy in art, and the artists who through the ages have created those works of art, that challenge us to search and discover.

**\*FA 112. CONTEMPORARY ART HISTORY.** *Three hours credit.*

An inquiry into the meaning, sociological relevance and historical foundations of recent art movements.

**FA 113. LETTERING.** *Two hours credit.*

A study of basic letter forms and their variants, layout and design, manuscript writing, showcards and posters.

**FA 114. ELEMENTARY CRAFTS DESIGN.** *Two hours credit.*

Various approaches and uses of simple paper construction suitable for use in the elementary art program.

**FA 115. ELEMENTARY EARTHENWARE.** *Two hours credit.*

The creative application of pottery to a grade school art teaching situation with few, if any, existing facilities.

**\*FA 120. ART APPRECIATION.** *Three hours credit.*

A general study and research of art to develop knowledge and understanding of the past and the present.

**\*FA 123. POSTER DESIGN AND PRODUCTION.** *Two hours credit.*

A series of laboratory visual experiments organized to aid the student in manipulating materials and originating effective visual patterns for the purpose of

advertising events, mass-producing notices and organizing bulletin boards for efficient display purposes.

**\*FA 153. DISPLAY AND EXHIBITION TECHNIQUES.** *Two hours credit.*  
Different methods of matting watercolors, prints and reproductions. Making and treating frames, fashioning of inserts, color schemes and the best methods of displaying and pricing different styles and types of paintings.

**\*FA 154. DRAWING AND PAINTING TECHNIQUES.** *Three hours credit.*  
Techniques in drawing and several areas of painting with a variety of media.

**\*FA 200. ART AND AESTHETICS.** *Two hours credit.*  
An introductory survey of past and present theories of the nature of visual arts.

**\*FA 203. INTRODUCTION TO WATERCOLOR PAINTING.** *Two hours credit.*  
Basic watercolor principles and techniques and a study of traditional and contemporary methods and ideas.

**\*FA 204. COMMERCIAL DESIGN AND POSTER.** *Two hours credit.*  
A study of the commercial arts and their place in the art program in the high school. Emphasis will be directed toward the development of techniques in advertising layout, package design, poster design and illustration. Commercial processes of reproduction and printing will also be introduced.

**\*FA 205. COLOR THEORY.** *Three hours credit.*  
A study of color relationships and organizational principles pertinent to the color unit.

**\*FA 210. LITHOGRAPHY.** *Three hours credit.*  
Pictorial expression in the art of planographic printing, techniques and problems involved.

**\*FA 215. CRAFTS: DESIGN ON FABRICS.** *Five hours credit.*  
Emphasis on materials and processes of fabric decoration, including silk screen, block print, batik, hooking, stitchery, tie dye, and weaving without a loom.

**\*FA 216. CRAFTS: DESIGN WITH MATERIALS.** *Five hours credit.*  
Experimental approach to the problems of working with contemporary materials in mosaics, basic sculpture, copper enameling, modeling, and carving.

**\*FA 217. INTRODUCTION TO POTTERY.** *Three hours credit.*  
Prerequisites FA 100, 102, 105, 106, 107. The basic design and construction of pottery in pinch, coil, and slab techniques with emphasis on form and texture.

**\*FA 221. INFLUENCE OF AFRICAN SCULPTURE ON MODERN ART.** *Three hours credit.*  
Experiences for the development of concepts relative to the historical and functional aspects of African art and their influences upon the art of the twentieth century.

**FA 224. ELEMENTARY ART.** *Three hours credit.*  
Practical creative experience in a wide variety of media. To be taken concurrently with FA 225.

**FA 225. METHODS OF TEACHING ART IN THE ELEMENTARY SCHOOL.** *Two hours credit.*  
Methods of teaching art at the elementary school level with emphasis on teaching techniques, procedures, materials and evaluation. To be taken concurrently with FA 224.

**FA 227. ART FOR THE EXCEPTIONAL CHILD.** *Three hours credit.*  
Experiences with materials and techniques in the arts are integrated with considerations of the aesthetic therapeutic values of creative activities for the exceptional child.

**\*FA 235. LIFE DRAWING.** *Two hours credit.*  
Advanced drawing experiences from the live model with experimentation in a variety of media.

**\*FA 258. INTRODUCTION TO SCULPTURE.** *Three hours credit.*

Prerequisites FA 100, 102, 105, 106, 107. Basic technology of sculpture, clay and plaster modeling, and simple mold-making. Elements of three-dimensional design related to sculpture problems.

**\*FA 259. PRINTMAKING.** *Three hours credit.*

Introduction of the technical application and study of the print process; relief; etching, engraving and other intaglio methods; and lithography.

**\*FA 270. INTRODUCTION TO SILVERSMITHING.** *Four hours credit.*

Basic forming, forging, soldering, chasing techniques and finishing incorporated in creative jewelry projects.

**\*FA 271. CAST JEWELRY DESIGNING AND TECHNIQUES.** *Four hours credit.*

Prerequisite FA 270. Basic casting design and techniques including charcoal, sand and centrifugal casting together with methods of stone setting.

**\*FA 300. WEAVING.** *Three hours credit.*

A study of the basic fundamentals of threading and weaving on two and four harness looms; emphasis on plain and pattern weaving.

**\*FA 305. MONOPRINTS.** *Two hours credit.*

A series of studies providing experience in the expressive use of oils as a graphic transfer technique.

**\*FA 307. SCULPTURE I.** *Five hours credit.*

Prerequisite FA 258. Modeling with plastic materials, plaster casting, stone and wood carving. Emphasis on significant form and expression.

**\*FA 308. SCULPTURE II.** *Five hours credit.*

Prerequisite 258. Direct methods of producing sculpture; construction and assemblage, synthetic mediums, plastics, welding. Emphasis on significant form and expression.

**\*FA 309. INTERMEDIATE PRINTMAKING.** *Three hours credit.*

Prerequisite, FA 259. An intensive exploration of intaglio and lithography, as two methods of print-making. Major emphasis is placed on the intaglio method.

**\*FA 316. CREATIVE JEWELRY.** *Four hours credit.*

Prerequisites FA 270 and 271. An experimental approach to the problem of contemporary silver jewelry, including the exploration of combining wood, bone, stones, and enameling.

**\*FA 317. POTTERY.** *Three hours credit.*

Prerequisite, FA 217. The study of glazes and firing with gas and electric kilns and beginning throwing on the potter's wheel.

**\*FA 320. INTRODUCTION TO OIL PAINTING.** *Three hours credit.*

Prerequisites FA 100, 102, 105, 106, 107. A study of the basic principles and techniques of oil painting.

**\*FA 321. ART HISTORY I.** *Three hours credit.*

A study of the development of art from prehistoric times to and including the Gothic Age.

**\*FA 322. ART HISTORY II.** *Five hours credit.*

A study of the development of art from the Renaissance to the present day.

**\*FA 323. ART HISTORY III.** *Five hours credit.*

A survey of the important arts of the world stressing the understanding and appreciation of the forms produced by man from the dawn of prehistory through all important eras of art development. Emphasis is placed on contemporary trends in the arts which dictate the appearance of the world around us today.

**FA 339. PHILOSOPHY OF ART EDUCATION.** *Two hours credit.*

The philosophy of art education in American schools and art as an integral part of the education of the citizens of a democracy.

**\*FA 403. WATERCOLOR PAINTING.** *Five hours credit.*  
Advanced experiences in watercolor painting to develop individual expression in creative painting and technical mastery of the medium.

**\*FA 407. FUNCTIONAL SCULPTURE.** *Three hours credit.*  
Prerequisites FA 258 and 308. Advanced application of sculpture technology. Emphasis on aesthetic and functional considerations; monumental, architectural, environmental sculpture.

**\*FA 417. POTTERY: ADVANCED THROWING.** *Three hours credit.*  
Prerequisites FA 217, 317. An advanced study of throwing techniques on the potter's wheel with individual competence and craftsmanship stressed in this phase of the potter's craft.

**\*FA 419. THE SILK SCREEN PRINTING PROCESS.** *Three hours credit.*  
A study of the various methods and techniques in the graphic processes of silk screening. Applied problems in all the processes with emphasis on blockout, paper stencil, film, touche, serigraphy, and textiles.

**\*FA 420. OIL PAINTING.** *Five hours credit.*  
An advanced study in oils to develop individual expression in creative painting and technical mastery of the medium.

**\*FA 500. TECHNIQUES OF CREATIVE WEAVING.** *Three hours credit.*  
A study of the problems and various processes of weaving with emphasis on original designing of weaves for color and texture.

**\*FA 503. ADVANCED WATERCOLOR PAINTING.** *Two hours credit.*  
Prerequisite, FA 403. A study of recent developments in watercolor painting with emphasis on new techniques and mixed media.

**\*FA 504. FIGURE AND COMPOSITION.** *Three hours credit.*  
An advanced study of the human figure in composition with creative work in a variety of media.

**\*FA 505. ADVANCED COLOR THEORY.** *Four hours credit.*  
An advanced and extensive study of creative color composition and existing color theories.

**\*FA 507. ADVANCED SCULPTURE.** *Three hours credit.*  
The major work of sculpture developed on the creative initiative of the graduate student. Seminar in sculpture; comparative esthetics and technology.

**\*FA 508. SCULPTURE IN METAL AND PLASTICS.** *Three hours credit.*  
Prerequisites FA 258 and 308. Procedures basic to the techniques of welding, fabrication and casting of sculpture in metal and/or plastics.

**\*FA 509. ADVANCED PRINTMAKING.** *Three hours credit.*  
Prerequisites, FA 259, 309. An advanced experimentation in intaglio, relief and lithography. Major emphasis on individual study in one or two processes.

**\*FA 512. PROBLEMS IN DESIGN.** *Three hours credit.*  
An advanced study of the techniques of organization of the design variables. Opportunity for individual growth in solving design problems in areas of student's choice.

**\*FA 515. TRENDS IN THE TEXTILE CRAFTS.** *Three hours credit.*  
Research and creative expression in the trends in the textile expressions of today, with emphasis on stitchery, hooking, batik, silk screen, weaving, and block printing.

**\*FA 516. CRAFT EXPRESSION AND CONSTRUCTION.** *Three hours credit.*  
An advanced study of the trends in craft expressions with special interest in various materials dealing with modeling, carving, simple sculpture, art metal and construction.

**\*FA 517. CERAMICS.** *Three hours credit.*  
Prerequisites, FA 217, 317, 417. Practical studio studies and experience on the graduate level in glazes, clay bodies, firing with gas and electric kilns, and related phases of pottery.

**\*FA 519. SERIGRAPHY.** *Two hours credit.*

Prerequisite, FA 419. A study and production of the techniques of making original art prints through the silk screen process.

**\*FA 524. CREATIVE ACTIVITIES IN THE ELEMENTARY SCHOOL.** *Three hours credit.*

Research and creative experience in the various art activities of the elementary school art education program.

**\*FA 525. FIGURE PAINTING.** *Four hours credit.*

Prerequisite, FA 320. Painting in oils from the human figure.

**\*FA 527. GLAZE FORMULATION.** *Three hours credit.*

Prerequisites, FA 217, 317. An exploration of ceramic glazes as related to their use in a pottery studio or public school classroom.

**FA 528. SEMINAR IN SECONDARY ART.** *Two hours credit.*

A survey and demonstration of new ideas in art techniques and materials essential to a secondary school art program with student participation in selected areas.

**FA 530. SEMINAR IN ELEMENTARY ART.** *Two hours credit.*

Research studies for the graduate student dealing with a philosophy of art education; an understanding of and an opportunity to participate in the essential art activities for the elementary school and to develop his interest and enthusiasm for the teaching of art. Emphasis is given to the creative approach and the integration of the art activities with the entire school program.

**FA 531. WORKSHOP IN FINE ARTS.** *Three hours credit.*

A series of workshops in specialized areas of Fine Arts conducted by authorities in the field. The subject to be completed in any one workshop will be determined by the sub-title. No sub-title may be repeated for credit.

**\*FA 532. CONTEMPORARY OIL PAINTING.** *Five hours credit.*

Experimentation in oils and a study of contemporary trends to provide the student more time and experience in a search for his own personal expression.

**\*FA 553. MEDIEVAL ART HISTORY.** *Three hours credit.*

The study of the development of painting, sculpture, architecture and crafts of the Middle Ages. A survey of the influence of Early Christian and Byzantine art styles; Romanesque and the Gothic will be chronologically introduced.

**\*FA 558. THE ARTS OF THE UNITED STATES.** *Three hours credit.*

The critical history of the development of the visual arts of the United States from the colonial period through the present.

**\*FA 570. ADVANCED JEWELRY AND SILVERSMITHING.** *Four hours credit.*

Prerequisites FA 270 and 271. An individual approach to involve casting problems and flat ware production.

## FOREIGN LANGUAGES

**FL 410. LINGUISTICS.** *Three hours credit.*

A brief survey of the world's chief languages, their geographical distribution, main cultural features and appearance. In more detail, classification of the Indo-European languages, with particular stress on historical development, basic grammatical structure, resemblances, differences and relationships of English, French, German and Spanish.

**FL 431. THE TEACHING OF FOREIGN LANGUAGES.** *Four hours credit.*

Prerequisite, two years of foreign language. A study of problems in the teaching of foreign languages at the secondary and elementary school levels. Includes development of content for course of study, organization of learning materials, procedures in teaching, testing and evaluating.

**FL 432. TEACHING FOREIGN LANGUAGE IN THE ELEMENTARY SCHOOL.** *Three hours credit.*

Especially for teachers of the elementary school level, but including all levels of instruction. A study of today's practical values, aims, methods, approaches, procedures, and means and materials for attaining success in teaching modern foreign languages.

**FRENCH****\*FR 101. ELEMENTARY FRENCH I.** *Five hours credit.*

Summer Quarter: Must enroll for FR 102 and 103. Credit is not given until three quarters are completed. Introduction to idiomatic spoken and written French by means of vocabulary learning and the study of the structure of French. Class activities regarding grammar and cultural readings are limited realistically to spoken and written French. Audio and phonetic laboratory aids will be used to the extent that they may benefit the student's pronunciation and accurate fluency.

**\*FR 102. ELEMENTARY FRENCH II.** *Five hours credit.*

Summer Quarter: Must enroll for FR 101 and 103. Credit is not given until three quarters are completed. A continuation of FR 101.

**\*FR 103. ELEMENTARY FRENCH III.** *Five hours credit.*

Summer Quarter: Must enroll for FR 101 and 102. Credit is not given until three quarters are completed. A continuation of FR 102.

**\*FR 201. INTERMEDIATE FRENCH I.** *Four hours credit.*

Prerequisite, two years of high school French or one year of college French. Grammar review, study of idioms, imitative composition. Drill in use of the phonetic alphabet.

**\*FR 202. INTERMEDIATE FRENCH II.** *Four hours credit.*

Prerequisite, two years of high school French or one year of college French. This course aims at developing the student's ability to express himself in correct and idiomatic French. (This course may be taken without having had FR 201.)

**\*FR 203. INTERMEDIATE FRENCH III.** *Four hours credit.*

Prerequisite, two years of high school French or one year of college French. Reading of one play and several short stories, with exercises and discussion in French based on the reading. (This course may be taken without having had FR 201 or 202.)

**\*FR 280. SEMINAR IN FRENCH DRAMA.** *Three hours credit.*

To give students an opportunity to study the various dramatic forms found in French literature. Students will stage scenes from the works studied both in class and publicly as an evening performance. Material will be selected from the seventeenth, eighteenth and nineteenth centuries.

**\*FR 305. SURVEY OF FRENCH LITERATURE I.** *Four hours credit.*

Prerequisite, two years of college French. Reading of an anthology, with lectures and discussion in French. This course deals with medieval and Renaissance literature.

**\*FR 306. SURVEY OF FRENCH LITERATURE II.** *Four hours credit.*

Prerequisite, two years of college French. Reading of an anthology with lectures and discussion in French. This course deals with the literature of the seventeenth and eighteenth centuries.

**\*FR 307. SURVEY OF FRENCH LITERATURE III.** *Four hours credit.*

Prerequisite, two years of college French. Reading of an anthology, with lectures and discussion in French. This course deals with nineteenth and early twentieth century literature.

**\*FR 310. INTERMEDIATE FRENCH CONVERSATION.** *Three hours credit.*

Prerequisite, two years of college French. A course designed to increase the



ability of each student to use spoken French in everyday situations. A study of some of the principles of French diction will be included. The course will be conducted in French.

**\*FR 311. INTERMEDIATE FRENCH COMPOSITION.** *Three hours credit.*

Prerequisite, two years of college French. A course designed to perfect the student's ability to express himself in French, through the use of translation passages and free compositions, and to provide an active review of certain grammatical problems. The class will be conducted in French.

**\*FR 312. INTERMEDIATE FRENCH SYNTAX AND STYLISTICS.** *Three hours credit.*

Prerequisite, two years of college French. A study of the more complex elements of French syntax and the common difficulties incurred in sentence structure. A study of styles employed in French literature, and the methods of studying them. The class will be conducted in French.

**\*FR 326. FRANCO-CANADIAN LITERATURE.** *Three hours credit.*

Prerequisite, two years of college French. The study of the Franco-Canadian novel in the twentieth century, the historical and political background, and the place of Franco-Canadian literature in the world of French letters.

**\*FR 340. THE FRENCH NOVEL TO 1800.** *Three hours credit.*

Prerequisite, two years of college French. The development of the novel in France from Mme. de Lafayette (1634-1693) to Chateaubriand (1768-1848), with emphasis on l'Abbé Prévost, Jean-Jacques Rousseau, Benjamin Constant, and Mme. de Staël. Six novels will be read during the course.

**\*FR 341. THE NINETEENTH CENTURY FRENCH NOVEL.** *Three hours credit.*

Prerequisite, two years of college French. The development of the novel in France during the nineteenth century, with emphasis on Balzac, Stendhal, Flaubert, and Zola. Representative novels of these and other authors will be read in the original, and the course will be conducted in French.

**\*FR 400. PROBLEMS IN ORAL FRENCH.** *Three hours credit.*

Prerequisite, two years of college French, or equivalent. To enable the student to reach a high level of accuracy and fluency in oral French. Time will be spent working on individual problems so that each student will be able to correct and strengthen his particular shortcomings. French phonetics will also be studied.

**FR 401. STUDY ABROAD PROGRAM.** *One to fifteen hours credit.*

Prerequisite, two years college French or permission of the department. This course is designed to give students a practical experience in the use of French. Study will include formal instruction in conversation and composition along with lectures and research of the contemporary and historical cultural phenomena of France.

**\*FR 405. FRENCH DRAMATISTS OF THE SEVENTEENTH CENTURY: CORNEILLE, RACINE, MOLIÈRE.** *Three hours credit.*

Prerequisite, two years of college French. A study of the three great dramatists of the seventeenth century, and of their contribution to French theater and French literature as a whole. Several plays by each author will be read in the original and discussed. The class will be conducted in French.

**\*FR 410. FRENCH CIVILIZATION.** *Three hours credit.*

Prerequisite, two years of college French. The study of French civilization and culture, including the historical, economic, political, and artistic development of the country from prehistoric times to the present. The class will be conducted in French.

**\*FR 415. EXPLICATION DE TEXTES.** *Three hours credit.*

Prerequisite, two years of college French. The study of the French method of studying literature called "explication de textes," which includes a discussion of the different literary genres and the analysis of the individual literary selections representing these genres. The class will be conducted in French.

**\*FR 450. TWENTIETH CENTURY FRENCH THEATER.** *Three hours credit.*  
Prerequisite, two years of college French. The main currents of French theater in the twentieth century, including the Avant-Garde movement. Emphasis will be placed on Cocteau, Giraudoux, Montherlant, Anouilh, Sartre, Camus and Ionesco. The class will be conducted in French.

**\*FR 451. TWENTIETH CENTURY FRENCH PROSE.** *Three hours credit.*  
Prerequisite, two years of college French. The main currents of French prose in the twentieth century. Emphasis will be placed on Gide, Proust, Mauriac, Malraux, St-Exupery, Sartre, Camus, and the "nouveau roman" novelists. The class will be conducted in French.

**\*FR 460. ANDRE GIDE.** *Four hours credit.*  
Prerequisite, permission of the instructor. The life and work of André Gide. The development of the writer and his influence on twentieth century French literature. Special attention will be given to *Les Caves du Vatican* and *Les Faux-Monnayeurs*. The class will be conducted in French.

**\*FR 461. CONTEMPORARY FRENCH POETRY.** *Four hours credit.*  
Prerequisite, permission of the instructor. The study of the poetry of France between 1918 and the 1960's. Special emphasis will be placed on Prévert, Chars and Saint-John Perse. The class will be conducted in French.

**\*FR 462. CONTEMPORARY FRENCH CRITICS AND ESSAYISTS.** *Four hours credit.*  
Prerequisite, permission of the instructor. An examination of French literary criticism and the work of French essayists in the nineteenth and twentieth centuries. Special attention will be devoted to the French literary journals and their role. The class will be conducted in French.

**FR 490. FRENCH FOR READING KNOWLEDGE I.** *No credit.*  
Prerequisite, none. The course will be conducted to help graduate students prepare for the Ph.D. language reading examination in French. The basic grammatical structures of the language will be introduced from a traditional viewpoint.

## GERMAN

**\*GER 101. ELEMENTARY GERMAN I.** *Five hours credit.*  
Three quarters completion necessary for credit to be given. To develop four lingual skills (listening, speaking, reading, writing) with stress on the first two. Emphasis on developing accurate pronunciation and ability to use German actively with minimum translation, using controlled drills, dialogs, and free conversation. Supplementary work in the language laboratory is required. Language structure is covered inductively.

**\*GER 102. ELEMENTARY GERMAN II.** *Five hours credit.*  
Credit is not given until three quarters are completed. A continuation of GER 101.

**\*GER 103. ELEMENTARY GERMAN III.** *Five hours credit.*  
Credit is not given until three quarters are completed. A continuation of GER 102.

**\*GER 201. INTERMEDIATE GERMAN I.** *Four hours credit.*  
Prerequisite, one year college German or placement by examination. A continuation of GER 103. While stress is placed on oral skills, language structure is analyzed in detail. Reading and writing increase to balance proficiency in all four skills. Well-chosen reading materials and intermediate text with conversational approach used with continued drill in the language laboratory.

**\*GER 202. INTERMEDIATE GERMAN II.** *Four hours credit.*  
Prerequisite, GER 201. A continuation of German 201.

**\*GER 203. INTERMEDIATE GERMAN III.** *Four hours credit.*

Prerequisite, GER 202. A continuation of GER 202.

**\*GER 305. SURVEY OF GERMAN LITERATURE I.** *Three hours credit.*

Prerequisite, two years of college German. German literature from the earliest beginnings through the seventeenth century. Pagan and early Christian literature, and then emphasis on the folk epic, the courtly epic, the courtly lyric, and on the Reformation period, with readings from Martin Luther and the humanists. (The course will be conducted primarily in German.)

**\*GER 306. SURVEY OF GERMAN LITERATURE II.** *Three hours credit.*

Prerequisite, two years of college German. German literature of the eighteenth and nineteenth centuries. Emphasis on the six great classical writers, with more intense effort on Goethe and Schiller. The historical and social background of all six will be explored. The decline of Classicism and the flowering of Romanticism will be traced. (The course will be conducted primarily in German.)

**\*GER 307. SURVEY OF GERMAN LITERATURE III.** *Three hours credit.*

Prerequisite, two years of college German or equivalent. A survey of modern German literature—later nineteenth and twentieth century writing. Emphasis on development and importance of Rainer Maria Rilke. Prose writings of Thomas and Heinrich Mann, Kafka and Hesse. (The course will be conducted primarily in German.)

**\*GER 335. INTERMEDIATE GERMAN CONVERSATION.** *Four hours credit.*

Prerequisite, two years of college German. A course designed to increase the ability of each student to use spoken German in practical, everyday situations. The class will be conducted in German.

**\*GER 336. ADVANCED GERMAN COMPOSITION.** *Four hours credit.*

Prerequisite, two years of college German. The course aims at helping the student to become familiar with a large number of idioms and to acquire flexibility of expression in written composition.

**\*GER 337. ADVANCED GERMAN GRAMMAR.** *Four hours credit.*

Prerequisite, two years of college German. The course is intended for students who have mastered the elements of German grammar and have gone through at least one full grammar review. A study of the more complex elements of German syntax and the common difficulties incurred in sentence structure.

**\*GER 341. GOETHE.** *Three hours credit.*

Prerequisite, two years of college German. This course is designed as an introduction to the life and work of Germany's greatest classic. Special emphasis is placed upon developing understanding of Goethe's *Weltanschauung* and his contributions to *Sturm und Drang*. Classicism and Romanticism. This course will be conducted in German.

**\*GER 343. FAUST.** *Three credit hours.*

Prerequisite, two years of college German. To enable students to become acquainted with the greatest masterpiece of German literature. The work will be read and analyzed as it reflects Goethe's life and time and the conditions of Eighteenth Century Germany. While stress will be placed on *Faust*, Part I, Part II will also be discussed. The course will be conducted in German.

**\*GER 345. PHONETICS OF THE GERMAN LANGUAGE.** *Three hours credit.*

Prerequisite, three years of college German or permission of instructor. An analytical survey of the German language. Regional and historical variations along with the high German sound shift will be examined. The course will also attempt to help students correct and perfect their pronunciation.

**\*GER 400. PROBLEMS IN ORAL GERMAN.** *Three hours credit.*

Prerequisite, three years of college German or permission of instructor. To provide advanced oral training. Stress will be on sharpening the pronunciation, comprehension, and fluency of conversational ability of the student. Individual problems will be discussed and aided by means of drills, tape work in the language laboratory and outside help. Course may be taken twice with departmental consent.

**\*GER 401. STUDY ABROAD PROGRAM.** *One to fifteen hours credit.*

Prerequisite, two years college German or permission of the department. This course is designed to give students a practical experience in the use of German. Study will include formal instruction in conversation and composition along with lectures and research of the contemporary and historical cultural phenomena of Germany.

**\*GER 410. GERMAN CIVILIZATION.** *Three hours credit.*

Prerequisite, two years college German. The study of German civilization and culture, including the historical, economic, political, and artistic development of the country from prehistoric times to the present. The class will be conducted in German.

**\*GER 425. EIGHTEENTH CENTURY GERMAN LITERATURE.** *Three hours credit.*

Prerequisite, two years of college German. The general trends of German literature in the eighteenth century. Emphasis will be placed on the Halle poets, Lessing, Wieland, Herder, and Goethe. Readings and lectures in German.

**\*GER 426. NINETEENTH CENTURY GERMAN LITERATURE.** *Three hours credit.*

Prerequisite, two years of college German. The main trends of German literature of the nineteenth century, especially the Romantic Movement. Emphasis will be placed on the later work of Goethe and the writings of Schiller. Readings and lectures in German.

**\*GER 427. TWENTIETH CENTURY GERMAN LITERATURE.** *Three hours credit.*

Prerequisite, two years of college German. The most important aspects of twentieth-century German literature: neo-romanticism, symbolism, expressionism, and other movements. Readings and lectures in German.

**\*GER 430. GERMAN POETRY.** *Three hours credit.*

Prerequisite, three years college German or permission of the instructor. A survey of German lyrical poetry from the *Minnesang* to the present. Selections will include a representative sampling from the 17th, 18th, 19th and 20th Century and will be analyzed according to form, style and content.

## ITALIAN

**\*ITAL 101. ELEMENTARY ITALIAN I.** *Five hours credit.*

Credit is not given until three quarters are completed. Introduction to idiomatic spoken and written Italian by means of vocabulary learning and the study of the structure of Italian. Class activities regarding grammar and cultural readings are limited realistically to spoken and written Italian. Audio and phonetic laboratory aids will be used to the extent that they may benefit the student's pronunciation and accurate fluency.

**\*ITAL 102. ELEMENTARY ITALIAN II.** *Five hours credit.*

Credit is not given until three quarters are completed. A continuation of ITAL 101.

**\*ITAL 103. ELEMENTARY ITALIAN III.** *Five hours credit.*

Credit is not given until three quarters are completed. A continuation of ITAL 102.

## RUSSIAN

**\*RUS 101. ELEMENTARY RUSSIAN I.** *Five hours credit.*

Credit is not given until three quarters are completed. An introduction to spoken and written Russian with a view toward giving the student a sound knowledge of the structure of the language and high-frequency vocabulary of approximately 1,100 words. Audio-visual aids will be used as needed.

**\*RUS 102. ELEMENTARY RUSSIAN II.** *Five hours credit.*

Credit is not given until three quarters are completed. A continuation of RUS 101.

**\*RUS 103. ELEMENTARY RUSSIAN III.** *Five hours credit.*  
Credit is not given until three quarters are completed. A continuation of RUS 102.

**\*RUS 201. INTERMEDIATE RUSSIAN.** *Four hours credit.*  
Prerequisite, RUS 103. Review of Russian grammar, imitative composition and the reading of intermediate Russian texts.

**\*RUS 202. INTERMEDIATE RUSSIAN COMPOSITION AND CONVERSATION I.** *Four hours credit.*  
Prerequisite, RUS 201. A continuation of RUS 201 but emphasizing more intensive reading, oral reports, advanced composition and more extensive conversation.

**\*RUS 203. INTERMEDIATE RUSSIAN COMPOSITION AND CONVERSATION II.** *Four hours credit.*  
Prerequisite, RUS 202. A continuation of RUS 202. A study of three Russian authors in their shorter works (Turgenev, Lermontov, Pushkin). Oral reports, advanced composition, and translation.

**\*RUS 305. SURVEY OF RUSSIAN LITERATURE I.** *Three hours credit.*  
Prerequisite, two years college Russian or equivalent. The course is designed to introduce students to masterpieces of Russian literature from beginning to eighteenth century. Introductory to the life and work of Russia's greatest classics.

**\*RUS 306. SURVEY OF RUSSIAN LITERATURE II.** *Three hours credit.*  
Prerequisite, RUS 305. The course is designed to introduce students to masterpieces of Russian literature from eighteenth to nineteenth century.

**\*RUS 307. SURVEY OF RUSSIAN LITERATURE III.** *Three hours credit.*  
Prerequisite, RUS 306. The course is designed to introduce students to masterpieces of Russian literature from nineteenth to contemporary period.

**\*RUS 335. RUSSIAN CONVERSATION.** *Three hours credit.*  
Prerequisite, two years college Russian or equivalent. The course is designed to develop the basic speech habits for control of spoken, conversational Russian through exercise in reproducing of episodes in the student's own words.

## SPANISH

**\*SPAN 101. ELEMENTARY SPANISH I.** *Five hours credit.*  
Credit is not given until three quarters are completed. A three-quarter sequence in the basic elements of Spanish through the aural-oral conversational approach; intensive and extensive use of aural-oral materials: writing and reading exercises; the use of audio-visual aids and devices to provide practical materials for pronunciation, comprehension, adequate construction, and fluency of expression in the language.

**SPAN 102. ELEMENTARY SPANISH II.** *Five hours credit.*  
Credit is not given until three quarters are completed. A continuation of SPAN 101.

**SPAN 103. ELEMENTARY SPANISH III.** *Five hours credit.*  
Credit is not given until three quarters are completed. A continuation of SPAN 102.

**SPAN 201. INTERMEDIATE SPANISH I.** *Four hours credit.*  
Prerequisite, two years of high school Spanish or one year of college Spanish. Review of the basic principles of the language. Aural-oral orientation through oral and written composition, conversation and audio-visual aids; stressing normal fluency and readiness in the use of Spanish in ordinary communication.

**\*SPAN 203. INTERMEDIATE SPANISH III.** *Four hours credit.*  
Prerequisite, two years of high school Spanish or one year of college Spanish. A continuation of SPAN 201 but emphasizing more intensive reading, oral reports, advanced composition and extensive conversation based on Spanish and Spanish-American culture.

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### **\*SPAN 203. INTERMEDIATE SPANISH III.** *Four hours credit.*

Prerequisite, two years of high school Spanish or one year of college Spanish. A continuation of SPAN 202. Based on Spanish-American cultural materials, sources, films, audio-visual materials and a higher level of all-round comprehension and fluent functional use of the language and culture.

### **\*SPAN 310. ADVANCED SPANISH GRAMMAR.** *Four hours credit.*

Prerequisite, two years of college Spanish. A systematic study of the more complex theories and forms of Spanish grammar, with emphasis on mood, tense, and voice.

### **\*SPAN 315. SURVEY OF SPANISH-AMERICAN LITERATURE I.** *Three hours credit.*

Prerequisite, two years of college Spanish. A study of the literature and civilization of Spanish America from the time of the earliest Spanish explorers until the nineteenth century.

### **\*SPAN 316. SURVEY OF SPANISH-AMERICAN LITERATURE II.** *Three hours credit.*

Prerequisite, two years of college Spanish. A study of the literature of Spanish America between 1888 and 1910, the Modernist period.

### **\*SPAN 317. SURVEY OF SPANISH-AMERICAN LITERATURE III.** *Three hours credit.*

Prerequisite, two years of college Spanish. A study of the main works of the contemporary period of Spanish-American literature.

### **\*SPAN 325. ADVANCED SPANISH COMPOSITION.** *Three hours credit.*

Prerequisite, two years of college Spanish. A course designed to increase the students' fluency in the language through the use of original compositions, translations, and resumes.

### **\*SPAN 335. SPANISH CONVERSATION.** *Four hours credit.*

Prerequisite, two years of college Spanish. A course designed to increase the ability of each student to use spoken Spanish in practical, everyday situations. The class will be conducted in Spanish.

### **\*SPAN 345. SPANISH PRONUNCIATION.** *Four hours credit.*

Prerequisite, two years of Spanish. A study of the mechanics of Spanish pronunciation. Methods of recognizing and correcting pronunciation errors.

### **\*SPAN 355. SURVEY OF SPANISH LITERATURE I.** *Three hours credit.*

Prerequisite, two years of college Spanish. A study of Spanish literature and civilization from the late medieval period to the Renaissance.

### **\*SPAN 356. SURVEY OF SPANISH LITERATURE II.** *Three hours credit.*

Prerequisite, two years of college Spanish. A study of Spanish literature and civilization of the sixteenth, seventeenth, and eighteenth centuries. Emphasis is placed on Cervantes, Lope de Vega, and Fernando de Rojas.

### **\*SPAN 357. SURVEY OF SPANISH LITERATURE III.** *Three hours credit.*

Prerequisite, two years of college Spanish. A study of Spanish literature and civilization of the nineteenth and twentieth centuries, with greatest emphasis on the more recent periods.

### **\*SPAN 400. PROBLEMS IN ORAL SPANISH.** *Three hours credit.*

Prerequisite, two years of college Spanish beyond first year, or permission of instructor. A course designed to provide advanced oral training; to help students with persistent individual problems in spoken Spanish to overcome those difficulties.

### **\*SPAN 401. STUDY ABROAD PROGRAM.** *One to fifteen hours credit.*

Prerequisite, two years college Spanish or permission of the department. This course is designed to give students a practical experience in the use of Spanish. Study will include formal instruction in conversation and composition along with lectures and research of the contemporary and historical cultural phenomena of Spain.

**\*SPAN 410. SPANISH CIVILIZATION.** *Three hours credit.*

Prerequisite, two years of college Spanish. A course designed to acquaint the student with general trends of Spanish Civilization and Culture, including the historical, economic, political and artistic development of the country from prehistoric times to present.

**\*SPAN 420. CERVANTES.** *Four hours credit.*

Prerequisite, two years of college Spanish. The life and works of Miguel de Cervantes Saavedra, how he portrays the Spain of his day, and how his works mark the various stages in his career. The class will be conducted in Spanish.

**\*SPAN 430. A PANORAMA OF MEXICAN LITERATURE.** *Three hours credit.*

Prerequisite, two years of college Spanish. The study of Mexican literature from colonial times to the present day. The class will be conducted in Spanish.

**\*SPAN 475. SPANISH READING.** *Maximum of four hours credit.*

Prerequisite, two years of college Spanish. Designed to fit the reading abilities and interests of various students. Class meets two days a week for intensive reading. Extensive outside reading is reported in conference.

**\*SPAN 490. SPANISH FOR GRADUATE STUDENTS.** *No credit.*

Prerequisite, none. A course to enable doctoral candidates in other fields to pass the Ph.D. language reading examination in Spanish.

## FOUNDATIONS OF EDUCATION

**\*EDF 365. BASIC CONCEPTS OF EDUCATION.** (PTE) *Five hours credit.*

A conceptual approach to the problems and issues facing educators in contemporary American Society, designed to create an environment in which the student can select and evaluate concepts and information from the many disciplines related to the educational enterprise. Special emphasis is placed upon the sociological, anthropological, historical and structural foundations of American Education. Problems and issues are analyzed as they relate to the classroom teacher at each level.

**EDF 445. COMPARATIVE STUDIES IN INTERNATIONAL EDUCATION.** *Twelve or Fifteen hours credit.*

A comparison will be made of selected countries in Asia and the Pacific which will be studied on the campus and in home study and will be followed by travel to the selected countries. Schools and Universities will be visited and an opportunity will be provided to make comparison of the countries visited with education in the United States.

**EDF 475. HISTORY OF EDUCATION IN THE UNITED STATES.** *Three hours credit.*

This course is based on material in the most recent texts on the history of education in the United States.

**EDF 485. PHILOSOPHY OF EDUCATION.** (PTE) *Three hours credit.*

Prerequisite, EDF 365. An introductory course in which the student considers the basic problems of knowledge, truth, reality, and value as perceived by the various schools of philosophic thought. The traditional philosophic positions are translated into educational schools of thought and application is made to the specific problems of education.

## GEOGRAPHY

**\*GEOG 100. WORLD GEOGRAPHY.** *Five hours credit.*

World survey of the interrelationships of man and his culture to the climates, animal life, minerals, soils and surface features of the earth.

**\*GEOG 120. PHYSICAL GEOGRAPHY I.** *Three hours credit.*

The study of the relationship between man and his physical environment, with an emphasis on the climatic and edaphic qualities of the earth.

**\*GEOG 121. PHYSICAL GEOGRAPHY II.** *Three hours credit.*

The study of the relationship between man and his physical environment, with an emphasis on landforms—their characteristics, distribution, and effects upon human settlement.

**\*GEOG 122. CULTURAL GEOGRAPHY I.** *Three hours credit.*

Cultural Geography directs its attention to the origin, distribution, and influence of those elements of culture which give characteristic expression to an area; literally, man's role of adapting to and modifying his natural environment through his varying cultural means to suit his own needs and desires. "Relating habits to habitats."

**\*GEOG 123. CULTURAL GEOGRAPHY II.** *Three hours credit.*

The study of man's economic basis as found in the development and utilization of those natural resources at his disposal. Emphasis will be given to man's use of commodities derived from the sea and forest, agriculture, mining and manufacturing. A basic approach to studying human response to the provisions of nature as it relates to cultural development.

**\*GEOG 148. ANGLO-AMERICA.** *Five hours credit.*

A study of regions and their interdependence. Land use, social and economic problems emphasized.

**GEOG 392. FIELD COURSE IN GEOGRAPHY.** *Three to fifteen hours credit.*

(undergraduate and graduate) Study and application of the techniques used in solving of geographic problems in the field, together with the effective presentation of the results of such studies.

**\*GEOG 312. ECONOMIC GEOGRAPHY.** *Five hours credit.*

Geographic and economic conditions affecting the products, industries, commerce and resources of the world. Special emphasis on the United States.

**\*GEOG 318. AUSTRALIA AND THE PACIFIC.** *Two hours credit.*

A regional consideration of the advantages and limitations of the physical and cultural environment, population distribution, and economic development of Australia, New Zealand, Melanesia, Micronesia, and Polynesia.

**\*GEOG 326. AFRICA.** *Five hours credit.*

Relationships between the physical and cultural patterns. Land use, resource development, social and political problems.

**\*GEOG 336. GEOGRAPHY OF MEXICO AND THE CARIBBEAN.** *Three hours credit.*

An analysis and comparison of Mestizo Mexico and the highly varied islands of the Caribbean with their strong European-African heritage. Emphasis is placed on social and economic problems of Mexico as well as her role as a leading Latin American country.

**\*GEOG 337. GEOGRAPHY OF CENTRAL AMERICA.** *Three hours credit.*

A study of the physical and cultural conditions of the Central American countries. Attention will be given to current economic and social problems facing these populations.

**\*GEOG 338. SOUTH AMERICA.** *Three hours credit.*

A study of the countries of the South American continent. Physical features and patterns will be analyzed but the major emphasis in the course will be upon such cultural characteristics as land utilization, agriculture, resource development, settlement and migration patterns and processes of industrialization.

**\*GEOG 343. EUROPE.** *Three hours credit.*

Physical and cultural patterns. The nations of Europe, their regions, cultures, social and economic organizations with resulting conflicts.

**\*GEOG 344. ASIA.** *Three hours credit.*

The countries of Asia in terms of their physiography, climates, regions, cultural landscapes, social organizations and economic activities.



**\*GEOG 348. PHYSICAL GEOGRAPHY OF THE UNITED STATES.** *Four hours credit.*

The study of the major climatic, edaphic, vegetational, and landform patterns of the United States, with an emphasis on Colorado. Weekend field trip. Prerequisites: GEOG 120 and 121 or permission of instructor.

**\*GEOG 350. GEOGRAPHY OF COLORADO.** *Three hours credit.*

A study of the geographical and human resources of Colorado. The course is concerned with the physical features, climate, land form regions and natural resources of the state and their utilization and conservation; agricultural, mining, manufacturing, water supply, transportation, commerce and industry; population problems, state government and current problems in the growth and development of Colorado.

**\*GEOG 355. POPULATION GEOGRAPHY.** *Three hours credit.*

Investigates the distribution of world population through the related topics of migration, settlement, urbanization and utilization of natural resources.

**\*GEOG 356. AGRICULTURAL GEOGRAPHY.** *Two hours credit.*

An analysis of numerous agricultural systems, including subsistence and commercial, tropical and mid-latitude examples. Students will investigate the relationship of agricultural systems to physical and cultural conditions.

**\*GEOG 360. POLITICAL GEOGRAPHY.** *Three hours credit.*

The study of political phenomena as it relates to a particular geographic setting. Considerable attention will be given to answering the question of "what politico-geographic factors contribute to the strength or weakness of states?" Topics of study will include: concept of territorial expansion, global overpopulation, national resources, territorial sea, and warfare. Adequate time will be devoted to class discussion.

**\*GEOG 364. MAPS AND THEIR USES.** *Two hours credit.*

The course presents the basis for an effective use of maps and globes. It is designed to develop the skill of map reading and map interpretation.

**\*GEOG 365. THE SOVIET UNION.** *Five hours credit.*

A regional analysis of the geographic conditions, their historical importance, and their relation to economic, social, and political problems in the Soviet Union and to its position in world affairs.

**\*GEOG 370. URBAN GEOGRAPHY.** *Five hours credit.*

A study of the urban community as a geographical phenomenon. Opportunity is provided for students to obtain practical field experience within the local area. Attention is also given to the development of cartographic skills as an aid to meaningful organization and presentation of data.

**\*GEOG 402. CARTOGRAPHY.** *Four hours credit.*

A fundamental course on the theory and practice of maps and graphic representation. Three one-hour lectures and one credit hour for arranged laboratory work.

**\*GEOG 490. PROBLEMS IN GEOGRAPHY.** *Maximum of nine hours credit.*

A series (three) of advanced undergraduate research seminars. Each seminar will be conducted by an instructor who specializes in the regional or systematic study upon which the seminar is based (e.g., Latin America, Africa, Urban, Economic).

## GEOLOGY

Courses in geology are administered by the Department of Earth Sciences.

**\*GEOL 100. GENERAL GEOLOGY.** *Four hours credit. (Three hours lecture, two hours laboratory.)*

This course presents an introduction to the minerals and rocks that make up the Earth's crust, the building-up processes of vulcanism and diastrophism, the counter processes of weathering and erosion, the interior of the Earth, and Earth history. Field trips required. Not open to earth sciences majors.

**\*GEOL 201. PRINCIPLES OF GEOLOGY I.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

One of the three basic geology courses required of Earth Sciences majors. Earth materials, the processes of vulcanism, metamorphism, and diastrophism, geologic structures, earthquakes, and the nature of the solid earth and its interior will be thoroughly investigated. Field trips required. Students cannot receive credit for both GEOL 100 and 201.

**\*GEOL 202. PRINCIPLES OF GEOLOGY II.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, GEOL 201. One of the three basic geology courses required of Earth Science majors. The processes of weathering, mass movements, and erosion by the agents of streams, glaciers, wind, waves and currents, and groundwater will be thoroughly investigated, along with the resulting landforms. Some attention will be given to the development of soils and to interpretation of topographic maps and aerial photographs. Field trips required. Students cannot receive credit for both GEOL 100 and 202.

**\*GEOL 203. PRINCIPLES OF GEOLOGY III.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisites, GEOL 100 or 202. One of the three basic geology courses required of Earth Sciences majors. Geologic time, the origin and development of the earth's hydrosphere and atmosphere, the origin of life, the geosynclinal theory, and basic stratigraphic principles will be investigated. Earth history and the evolution of life on earth will be developed through studies of regional stratigraphy and fossils. Field trips require.

**\*GEOL 320. MINERALOGY.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisite, GEOL 202. This course includes introductory work in crystallography, optical crystallography, descriptive and determinative mineralogy, and the study of mineral occurrences and associations. The laboratory stresses identification of minerals by means of physical and chemical techniques. One Saturday field trip required.

**GEOL 330. PETROLOGY.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisite, GEOL 202. The origins of the various rocks, their compositions, and the bases for their classification will be investigated in the classroom. Also, the basic theories and methods of optical crystallography will be studied. In the laboratory various petrographic techniques will be learned and practiced, including use of the petrographic microscope for identifying mineral grains and minerals in thin rock sections.

**\*GEOL 340. PALEONTOLOGY.** *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisite, GEOL 203 or consent of instructor. This course is a study of fossil animals and plants—their morphologies, classifications, life histories, trends of evolution, ecologies, and their uses as stratigraphic tools.

**GEOL 362. INTERPRETATION OF GEOLOGIC MAPS AND AERIAL PHOTOGRAPHS.** *Three hours credit. (One hour lecture, six hours laboratory.)*

Prerequisite, GEOL 100 or 202. In this course, which is largely laboratory in nature, the student will learn basic principles in interpreting physiographic and structural features from aerial photographs and geologic maps.

**GEOL 370. STRUCTURAL GEOLOGY.** *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisite, GEOL 202. This course deals with the mechanics of rock deformation, and the geologic structures of the Earth's crust—their description and classification, theories and facts regarding their origins, and methods of investigating them.

**GEOL 420. OPTICAL CRYSTALLOGRAPHY AND PETROGRAPHY.***Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisite, GEOL 320. In the classroom theories and methods of optical crystallography are investigated, and the optical properties of minerals are discussed. In the laboratory various petrographic techniques are learned including use of the petrographic microscope for identifying mineral grains in immersion media and in rock thin sections.

**GEOL 425. ORE DEPOSITS.** *Three hours credit.*

Prerequisite, GEOL 320. In this course the origins, geologic occurrences, uses, and conservation of the Earth's metallic and non-metallic mineral deposits will be investigated.

**GEOL 450. PRINCIPLES OF STRATIGRAPHY AND SEDIMENTOLOGY.** *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisite, GEOL 203. This course will investigate the methods of studying the sedimentary rocks and their contained fossils, and also methods of correlation and interpreting the stratigraphic record to build a picture of the geologic past. There will be an introduction to the regional stratigraphy of this area.

**GEOL 460. GEOMORPHOLOGY.** *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisites, GEOL 100 or 202. Origin and evolution of landforms with emphasis on fluvial processes—hydraulic and dynamic characteristics of streams; morphology of drainage basins; landscape evolution by stream sculpture and deposition; lithologic, climatic, and structural controls.

**GEOL 464. GLACIAL AND PLEISTOCENE GEOLOGY.** *Three hours credit.*

Prerequisite, GEOL 202. A survey of geologic phenomena which characterized the Pleistocene Epoch with emphasis on the behavior of glaciers—their dynamics, growth and recession, associated landforms and sediments, and climatic implications.

**GEOL 480. GEOLOGIC FIELD METHODS.** *Four hours credit. (Two hours lecture, six hours laboratory.)*

Prerequisites, GEOL 450 and MATH 125. This course will give the student some appreciation of how geologic information is obtained in the field and recorded on maps. By use of Brunton compass and alidade, each student will prepare several maps of areas near the campus, plus one map of an area of moderately complex structure.

**GEOL 490. ROCKY MOUNTAIN GEOLOGY.** *Three hours credit.*

Prerequisite, GEOL 203. This course seeks to apply the student's geologic knowledge to regional problems in the Rocky Mountains. Emphasis is placed on the use of an extensive geological literature dealing with the Rocky Mountain area, particularly Colorado. Two-day field trip required.

## HEALTH, PHYSICAL EDUCATION AND RECREATION

### GENERAL EDUCATION COURSES

These courses are numbered from 101-191 inclusive with courses numbered from 101 to 190 meeting the physical education activity requirement of the General Education Program. When an activity is offered at more than one level of skill it will be noted in the printed class schedule. Skill standards are posted on school bulletin boards. Special advisement and detailed mechanics of the activity program are described in the Undergraduate Programs section of the catalog. HPER 191, Personal and Family Health, is an academic requirement of General Education.

**HPER 101. FIELD SPORTS.** *One hour credit.*

**HPER 102. WINTER SPORTS.** *One hour credit.*

**HPER 103. BADMINTON.** *One hour credit.*

- HPER 104.** ARCHERY. *One hour credit.*  
**HPER 105.** MOVEMENT FUNDAMENTALS. *One hour credit.*  
**HPER 106.** TUMBLING. *One hour credit.*  
**HPER 108.** GYMNASTICS. *One hour credit.*  
**HPER 109.** PHYSICAL FITNESS AND CONDITIONING. *One hour credit.*  
**HPER 110.** ORIENTATION TO PHYSICAL EDUCATION ACTIVITIES. *One hour credit.*  
**HPER 111.** SOFTBALL. *One hour credit.*  
**HPER 112.** TENNIS. *One hour credit.*  
**HPER 115.** VOLLEYBALL. *One hour credit.*  
**HPER 116.** GOLF. *One hour credit.*  
**HPER 118.** BASKETBALL. *One hour credit.*  
**HPER 120.** BOWLING. *One hour credit.*  
**HPER 122.** FENCING. *One hour credit.*  
**HPER 125.** SWIMMING. *One hour credit.*  
**HPER 126.** SKIING. *One hour credit.*  
**HPER 127.** HORSEMANSHIP. *One hour credit.*  
**HPER 128.** ROLLER SKATING. *One hour credit.*  
**HPER 129.** BASIC MOUNTAINEERING. *One hour credit.*  
**HPER 130.** CONTEMPORARY DANCE. *One hour credit.*  
**HPER 133.** SOCIAL DANCE. *One hour credit.*  
**HPER 134.** FOLK DANCE. *One hour credit.*  
**HPER 135.** AMERICAN SQUARE AND COUPLE DANCE. *One hour credit.*  
**HPER 138.** SENIOR LIFE SAVING. *One hour credit.*  
**HPER 139.** WATER SAFETY INSTRUCTORS COURSE. *One hour credit.*

Prerequisite, HPER 138.

- HPER 140.** FRESHMAN FOOTBALL. *One hour credit.*  
**HPER 141.** VARSITY FOOTBALL. *One hour credit.*  
**HPER 142.** FRESHMAN BASKETBALL. *One hour credit.*  
**HPER 143.** VARSITY BASKETBALL. *One hour credit.*  
**HPER 144.** FRESHMAN WRESTLING. *One hour credit.*  
**HPER 145.** VARSITY WRESTLING. *One hour credit.*  
**HPER 147.** VARSITY GYMNASTICS. *One hour credit.*  
**HPER 149.** VARSITY SWIMMING. *One hour credit.*  
**HPER 150.** FRESHMAN BASEBALL. *One hour credit.*  
**HPER 151.** VARSITY BASEBALL. *One hour credit.*  
**HPER 153.** VARSITY TRACK. *One hour credit.*  
**HPER 155.** VARSITY TENNIS. *One hour credit.*  
**HPER 157.** VARSITY GOLF. *One hour credit.*  
**HPER 160.** INTERCOLLEGIATE BASKETBALL (WOMEN). *One hour credit.*  
**HPER 161.** INTERCOLLEGIATE GYMNASTICS (WOMEN). *One hour credit.*  
**HPER 162.** INTERCOLLEGIATE SWIMMING (WOMEN). *One hour credit.*  
**HPER 163.** INTERCOLLEGIATE TRACK (WOMEN). *One hour credit.*  
**HPER 164.** INTERCOLLEGIATE TENNIS (WOMEN). *One hour credit.*  
**HPER 165.** INTERCOLLEGIATE GOLF (WOMEN). *One hour credit.*  
**HPER 166.** INTERCOLLEGIATE VOLLEYBALL (WOMEN). *One hour credit.*  
**HPER 167.** INTERCOLLEGIATE FIELD HOCKEY (WOMEN). *One hour credit.*  
**HPER 168.** INTERCOLLEGIATE SOFTBALL (WOMEN). *One hour credit.*

**\*HPER 191.** PERSONAL AND FAMILY HEALTH. *Three hours credit.*  
 Designed to develop the understandings, attitudes, and practices which contribute to better individual and family health. Emphasis is placed upon the major health and safety problems of the college years and early adulthood.

## SPECIAL CERTIFICATION COURSES

**Water Safety:** HPER 138, 139.

**First Aid:** HPER 262, 263, 264.

**Driver Education:** The Colorado State Department of Education will certify as Driver Education Instructors those holders of Colorado Teaching certificates who complete HPER 471, Safety Education; HPER 474, Driver Education I; HPER 475, Driver Education II; and who are recommended by the School of Health, Physical Education and Recreation. Applications for certification should be obtained in the School office, filled out by applicant, and returned to the School office for approval.

## PROFESSIONAL COURSES FOR SCHOOL MAJORS AND MINORS

Courses numbered 197 and higher are intended primarily for the professional preparation of degree candidates completing a major or a minor in the school.

**HPER 197. INTRODUCTION TO HEALTH EDUCATION, PHYSICAL EDUCATION, AND RECREATION.** *Two hours credit.*

Designed to orient freshman majors with the breadth, scope, and nature of the professional program in health education, physical education, and recreation.

**\*HPER 220. ANATOMICAL KINESIOLOGY.** *Three hours credit. (Three hours lecture, one hour laboratory.)*

A study of the anatomical and anthropometrical components of human movement as they relate to the prescription of exercise.

**\*HPER 221. MECHANICAL KINESIOLOGY.** *Three hours credit.*

Prerequisite, HPER 220. A study of the mechanical components of human movement. The course will involve a study of the mechanical laws applicable to the movements of the body and to the performance of motor skills.

**\*HPER 222. PHYSIOLOGICAL KINESIOLOGY.** *Three hours credit. (Three hours lecture, one hour laboratory.)*

A study of the physiological components of human movement as they relate to motor performance and the effects of exercise.

**\*HPER 223. PSYCHOLOGICAL KINESIOLOGY.** *Three hours credit.*

A study of the psychological components of human movement. The course will involve a study of human motor behavior, and the behavioral factors affecting human motor performance.

**\*HPER 224. MATURATIONAL KINESIOLOGY.** *Three hours credit.*

Prerequisites, HPER 222 and 223. A study of the genetic and environmental factors affecting human maturation. Emphasis will be given to organic and motor development and motor learning as affected by age group characteristics and environmental stimuli.

**HPER 227. COACHING AND OFFICIATING OF GYMNASTICS.** *Two hours credit.*

Prerequisite, HPER 285. Designed to prepare the student in the techniques and strategies of coaching competitive gymnastics, to provide a background and understanding of the rules and techniques of officiating, and to give practical experience in officiating.

**HPER 228. COACHING AND OFFICIATING OF TRACK AND FIELD.** *Two hours credit.*

Prerequisite, HPER 277. Designed to prepare the student in the techniques and strategies of coaching competitive track and field events, to provide a background and understanding of the rules and techniques of officiating, and to give practical experience in officiating.

**HPER 229. COACHING AND OFFICIATING OF FIELD SPORTS.** *Two hours credit.*

Prerequisite, HPER 271, 272. Designed to prepare the student in the techniques and strategies of coaching competitive field sports, to provide a background and understanding of the rules and techniques of officiating, and to give practical experience in officiating.

**HPER 230. COACHING AND OFFICIATING OF VOLLEYBALL.** *Two hours credit.*

Prerequisite, HPER 274. Designed to prepare the student in the techniques and strategies of coaching competitive volleyball, to provide a background and understanding of the rules and techniques of officiating, and to give practical experience in officiating.

**HPER 231. COACHING AND OFFICIATING OF BASKETBALL.** *Two hours credit.*

Prerequisite, HPER 273. Designed to prepare the student in the techniques and strategies of coaching competitive basketball, to provide a background and understanding of the rules and techniques of officiating, and to give practical experience in officiating.

**HPER 232. COACHING AND OFFICIATING OF TENNIS.** *Two hours credit.*

Prerequisites, HPER 284. Designed to prepare the student in the techniques and strategies of coaching competitive tennis to provide a background and understanding of the rules and techniques of officiating, and to give practical experience in officiating.

**HPER 233. COACHING AND OFFICIATING OF SWIMMING.** *Two hours credit.*

Prerequisite, HPER 139. Designed to prepare the student in the techniques and strategies of coaching competitive swimming, to provide a background and understanding of the rules and techniques of officiating, and to give practical experience in officiating.

**HPER 244. ELEMENTARY PHYSICAL EDUCATION LEADERSHIP.** *Two hours credit.*

This course is designed for the purpose of planning activities for and teaching elementary children in the areas of rhythms, sports and games, and aquatics.

**\*HPER 252. SOCIAL RECREATION.** *Two hours credit.*

Designed to prepare the student for effective planning and leadership in the area of social recreation activities. Special attention is given to programs for church and school groups as well as to activities appropriate for family groups within the home.

**HPER 253. CAMP COUNSELING.** *Three hours credit.*

An introductory course to acquaint the student with methods of leadership in camping activities. Special attention is given to the development and application of outdoor skills to the camping situation.

**\*HPER 255. MODERN DANCE TECHNIQUES AND COMPOSITION.** *Four hours credit.*

Prerequisites, HPER 293, 294. Basic techniques, movement analysis and composition for the advanced dance student.

**\*HPER 256. IMPROVISATION AND COMPOSITION FORMS.** *Two hours credit.*

Prerequisites HPER 293, 294. This course provides instruction in the improvisational approach to creative dance and the sequential and contrapuntal compositional forms. Emphasis is placed on form and structure of composition.

**HPER 262. FIRST AID.** *Two hours credit.*

**HPER 263. ADVANCED FIRST AID.** *One hour credit.*

Prerequisite, HPER 262.

**HPER 264. INSTRUCTOR'S COURSE IN FIRST AID.** *One hour credit.*

Prerequisites. HPER 262, 263.

**HPER 271. ANALYSIS AND MOVEMENTS OF SOCCER.** *One hour credit.*

Movement skills, rules, and strategies.

**HPER 272. ANALYSIS AND MOVEMENTS OF HOCKEY.** *One hour credit.*

Movement skills, rules, and strategies.

**HPER 273. ANALYSIS AND MOVEMENTS OF BASKETBALL.** *Two hours credit.*

Movement skills, rules, and strategies.

**HPER 274. ANALYSIS AND MOVEMENTS OF VOLLEYBALL.** *One hour credit.*

Movement skills, rules, and strategies.

**HPER 275. ANALYSIS AND MOVEMENTS OF WRESTLING.** *One hour credit.*

Movement skills, rules, and strategies.

**HPER 276. ANALYSIS AND MOVEMENTS OF FOOTBALL.** *Two hours credit.*

Movement skills, rules, and strategies.

**HPER 277. ANALYSIS AND MOVEMENTS OF TRACK.** *One hour credit.*

Movement skills, rules, and strategies.

**HPER 278. ANALYSIS AND MOVEMENTS OF BASEBALL OR SOFTBALL.** *One hour credit.*

Movement skills, rules, and strategies.

**HPER 280. ANALYSIS AND MOVEMENTS OF BADMINTON.** *One hour credit.*

Movement skills, rules, and strategies.

**HPER 281. ANALYSIS AND MOVEMENTS OF FENCING.** *One hour credit.*

Movement skills, rules, and strategies.

**HPER 282. ANALYSIS AND MOVEMENTS OF BOWLING.** *One hour credit.*

Movement skills, rules, and strategies.

**HPER 283. ANALYSIS AND MOVEMENTS OF SWIMMING.** *Two hours credit.*

Movement skills, rules, and strategies.

**HPER 284. ANALYSIS AND MOVEMENTS OF TENNIS.** *One hour credit.*

Movement skills, rules, and strategies.

**HPER 285. ANALYSIS AND MOVEMENTS OF TUMBLING AND GYMNASTICS.** *Two hours credit.*

Movement skills, rules, and strategies.

**HPER 286. ANALYSIS AND MOVEMENTS OF ARCHERY.** *One hour credit.*

Movement skills, rules, and strategies.

**HPER 287. ANALYSIS AND MOVEMENTS OF GOLF.** *One hour credit.*

Movement skills, rules, and strategies.

**HPER 288. PHYSICAL EDUCATION ACTIVITIES FOR THE ELEMENTARY SCHOOL.** *Two hours credit.*

Designed for, required of, and restricted to majors and minors in elementary education. Content deals with basic principles and activities included in a well-rounded program of physical education for the elementary school.

**HPER 290. ANALYSIS AND MOVEMENTS OF FOLK DANCE.** *Two hours credit.*

Fundamental and advanced skills of folk dance.

**HPER 291. RHYTHMS FOR THE ELEMENTARY SCHOOL.** *Two hours credit.*

Techniques and materials in creative dance, singing games, and folk dances.

**HPER 292. ANALYSIS AND MOVEMENTS OF AMERICAN SQUARE AND SOCIAL DANCE.** *Two hours credit.*

Fundamental and advanced skills of square and social dancing.

**HPER 293. ANALYSIS AND MOVEMENTS OF MODERN DANCE.** *Two hours credit.*

The analysis and techniques of movement in relation to the aspects of time, space and force.

## 190 / COURSE DESCRIPTIONS

- HPER 294. PROBLEMS IN DANCE COMPOSITION.** *Two hours credit.*  
Problems in dance composition includes rhythmic analysis and accompaniment for dance.
- HPER 295. ANALYSIS OF MOVEMENT FUNDAMENTALS.** *One hour credit.*  
Skills and techniques of conditioning, body mechanics and movement patterns.
- \*HPER 296. RHYTHMIC ANALYSIS AND DANCE ACCOMPANIMENT.** *Two hours credit.*  
A course designed to present the fundamental principles of rhythm and dance accompaniment through practical dance application.
- HPER 298. ANALYSIS OF SWIMMING TECHNIQUES (Women).** *One hour credit.*  
Prerequisite, HPER 283. Analysis of swimming and diving and synchronized swimming techniques.
- \*HPER 299. COMMUNITY HEALTH.** *Four hours credit.*  
Prerequisite, HPER 191. Designed to acquaint students with health problems in a community and to make them aware of community agencies which cope with these problems.
- HPER 301. HEALTH EDUCATION IN THE ELEMENTARY SCHOOL.** (PTE) *Two hours credit.*  
Designed to give the prospective elementary teacher a foundation in school health education, including health services, healthful school living, and health instruction. In addition, opportunity to develop skills in organizing and presenting learning experiences in a comprehensive and sequential health curriculum, including standard and controversial topics, will be provided.
- HPER 302. HEALTH EDUCATION IN THE SECONDARY SCHOOL.** (PTE) *Four hours credit.*  
Designed to give the prospective secondary teacher a foundation in school health education, including health services, healthful school living, and health instruction. In addition, opportunity to develop skills in organizing and presenting learning experiences in a comprehensive and sequential health curriculum, including standard and controversial topics, will be provided.
- HPER 325. TEACHING OF SPORTS (Women).** (PTE) *Two hours credit.*  
Prerequisites, HPER 271, 272, 273, 274, 277, 278, 280, 284, 285, and 295.  
A consideration of the basic techniques of team sports including skills, rules and strategies, emphasizing teaching procedures.
- HPER 326. TEACHING OF DANCE.** (PTE) *Two hours credit.*  
Prerequisites, HPER 290, 292, 293, 294. Teaching procedures of dance activities for the physical education major student.
- \*HPER 337. SOCIO-PSYCHOLOGICAL CONCEPTS OF LEISURE.** *Three hours credit.*  
It is the purpose of this course to familiarize the student with basic sociological and psychological concepts of leisure.
- HPER 340. HEALTH AND PHYSICAL EDUCATION FOR THE HANDICAPPED.** *Three hours credit.*  
Discussion of basic characteristics of the handicapped as related to participation in physical education, recreation, and outdoor education. Emphasis is placed on interests, needs, limitations, and potentialities of the handicapped. Special consideration is given to types of activity programs, modification of activities, and approach to teaching the mentally and physically handicapped.
- \*HPER 342. MODERN CONCEPTS IN HEALTH AND DISEASE.** *Three hours credit.*  
A thorough investigation of the current theories of and defenses against disease, followed by a review of prevalent congenital, communicable, chronic, and degenerative diseases.



**HPER 343. METHODS AND OBSERVATION OF HEALTH EDUCATION.** (PTE) *Five hours credit.*

This course is designed for the purpose of demonstrating effective presentation of health information through the utilization of various educational media, qualified resource persons, special exhibits, experiments and presentations, and community resources available beyond the classroom. Observation and direct exposure to first hand learning experiences will be provided whenever possible. Various instructional procedures, techniques, and methods will be utilized.

**HPER 344. METHODS AND OBSERVATION OF TEACHING PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL.** (PTE) *Three hours credit.*

A study of mental, emotional, physical and social needs of children of elementary school age levels, and the planning of a program, selection of materials and methods of teaching physical education at these levels.

**HPER 345. METHODS AND OBSERVATIONS OF TEACHING PHYSICAL EDUCATION IN THE SECONDARY SCHOOL.** (PTE) *Two hours credit.*

A study of planning, materials, and methods in physical education for the secondary school based on mental, physical, and social needs of the student at various age levels.

**HPER 361. COACHING OF FOOTBALL.** (PTE) *Two hours credit.*

Prerequisites, HPER 140, or 141, or 276. The techniques and strategy of coaching football, with emphasis upon type of formations, defense, play series, rules, and football coaching in general.

**HPER 362. COACHING OF BASKETBALL.** (PTE) *Two hours credit.*

Prerequisites, HPER 142, or 143, or 273. Theory and practice in scouting, charting, scoring, timing, and officiating. Principles of successful modern offensive and defensive play. Procedures in developing and utilizing playing personnel.

**HPER 363. COACHING OF TRACK AND FIELD.** (PTE) *Two hours credit.*

Prerequisite, HPER 153 or 277. A study of the techniques of coaching the various events in track and field, the rules, and the methods of conducting track events.

**HPER 364. COACHING OF BASEBALL.** (PTE) *Two hours credit.*

Prerequisite, HPER 150, or 151 or 278. Techniques and procedures in developing individual and team play. Defensive baseball: pitching, catching, infielding, outfielding, strategy. Offensive baseball: batting, base-running, strategy.

**HPER 368. PROGRAMS IN RECREATION.** *Four hours credit.*

Designed to prepare the student for effective planning of varied types of recreation programs. Special attention is given to programs for public playgrounds, community centers, and such special groups as the aging, teenagers, young adults, and the handicapped.

**HPER 369. THERAPEUTIC RECREATION.** *Three hours credit.*

Adaptation of recreation activities to meet the varying needs of handicapped individuals in hospitals, schools, homes, recreation and rehabilitation centers. Reports, discussions, observations, and visitations.

**HPER 405. ISSUES IN HEALTH.** *Three hours credit.*

Prerequisite Health 191 or equivalent. A comprehensive and intensive study of the major contemporary individual and social health problems relating to family life, sex education, the use of stimulants, narcotics, halucinogens, alcohol, tobacco, and other crucial health problems.

**HPER 426. TESTS AND MEASUREMENTS IN PHYSICAL EDUCATION.** (PTE) *Three hours credit.*

Designed to give the student a foundation in techniques of evaluation, including elementary statistical procedures, the preparation and administration of skill and written tests, and the use of other evaluative materials in the field.

**HPER 432. ADAPTED PHYSICAL EDUCATION. (PTE) *Three hours credit.***

Prerequisites, HPER 220, 221. Developmental, remedial, and corrective programs in physical education. Emphasis is given to adaptations which are designed to meet the needs of individuals requiring special attention above and beyond the regular physical education program.

**HPER 435. EDUCATIONAL INTERPRETATIONS OF HEALTH, PHYSICAL EDUCATION AND RECREATION. (PTE) *Three hours credit.***

A foundational approach to interpretations and objectives of physical education, health education, and recreation in general education. Designed to assist the mature professional major in developing a sound philosophic background for continued growth in the professional field.

**HPER 436. SOCIOLOGICAL DIMENSIONS OF SPORT IN AMERICAN SOCIETY. *Three hours credit.***

It is the main objective of this course to examine and utilize basic sociological concepts and demonstrate their manifestations within the area of physical education.

**HPER 441. ADMINISTRATION OF INTRAMURAL SPORTS AND STUDENT RECREATION PROGRAMS. *Two hours credit. (Laboratory required.)***

The administrative problems confronted by the Intramural Director: organization, supervision, scheduling, facility management, financing, equipment, and evaluation.

**HPER 450. ADMINISTRATION OF PHYSICAL EDUCATION. (PTE) *Three hours credit.***

A study of administrative problems in physical education for men and women dealing with budget and finance, legal aspects, purchase and care of equipment and supplies, programs, public relations, intramural activities, and class organization.

**HPER 451. ADMINISTRATION OF COMMUNITY RECREATION. *Four hours credit.***

The course is concerned with the organization and administration of the community recreation program. Eleven essential areas of this subject are studied: fact-finding, survey, legal aspects, municipal organization, department organization, financing, records and reports, publicity, public relations, leadership, and program.

**HPER 452. INTERNSHIP IN RECREATION. *Fifteen hours credit.***

Prerequisites, HPER 368, 369, 451, 472. A course designed primarily to help students make the transition from the classroom to the practical situation. Opportunity is provided for students to assume the normal responsibilities involved in the conduct of various kinds of recreation activities. One quarter of full-time activity is required.

**HPER 456. WORKSHOP IN MODERN DANCE. *Four hours credit.***

Problems connected with the staging of dance performances.

**\*HPER 457. DANCE HISTORY AND PHILOSOPHY. *Four hours credit.***

History and development of dance as it is culturally determined and the philosophy influencing dance.

**HPER 458. DANCE METHODS AND MATERIALS. *Four hours credit.***

Prerequisites, HPER 293, 294. Procedures and materials for teaching contemporary dance. For the dance education major and minor student. This includes dance accompaniment.

**HPER 459. DANCE PRODUCTION IN HIGH SCHOOL AND COLLEGE. *Two hours credit.***

Prerequisites, HPER 293, 294, 456. A practical application and principles which serve the presentation of dance. The course deals with a choreographic problem, the invention, manipulation, direction and production involving theatre application of set, and costume and light design.

**HPER 460. OUTDOOR RECREATION AND ENVIRONMENTAL AWARENESS.** *Four hours credit.*

Emphasis will be placed on initiating and developing outdoor recreation programs through the multi-disciplinary (team approach), involving state and national professional educational associations, governments, organizations, and private agencies.

**HPER 464. SPORTS OFFICIATING FOR MEN.** *One to four hours credit.*

Designed for coaches, administrators, and officials. Considers general principles and philosophy of officiating as well as study of the mechanics of officiating the sports for men in the school program.

**HPER 470. ADMINISTRATION OF ATHLETICS.** *Three hours credit.*

The administrative problems confronted by the coach: management of athletic events, schedules, budgets, finances, athletic facilities and equipment, awards, public relations, and insurance.

**HPER 471. SAFETY EDUCATION.** *Three hours credit.*

A comprehensive course for preparing teachers and school administrators to assume responsibility for safety education and accident prevention programming in school and public service.

**HPER 472. RECREATION LEADERSHIP.** *Three hours credit.*

Reading, reports and projects covering the philosophy, methods, and materials for the recreation leader.

**HPER 474. DRIVER EDUCATION I.** *Three hours credit.*

Designed to prepare teachers in the organization and teaching of driver education and traffic safety programs in secondary schools. Primary emphasis is placed on teaching the classroom phase of driver education.

**HPER 475. DRIVER EDUCATION II.** *Three hours credit.*

Prerequisite HPER 474. An advanced course designed for driver education teachers. Problems related to administration, instruction, evaluation, and research in driver education programs will be studied. Course requires laboratory time in which prospective teachers of driver education practice on-the-street driving, receive instruction and practice on the multiple car driving range, and in the simulator training units.

**HPER 480. CARE OF SPORTS INJURIES.** *Three hours credit.*

Prerequisites, HPER 220, 221. Intensive course in care and treatment of athletic injuries with time devoted to each specific injury. The etiology, pathology, sign and symptoms, treatment, and adapted activities will be given for the major injuries.

## HISTORY

**\*HIST 125. WESTERN CIVILIZATION I.** *Three hours credit.*

The course will cover the most significant aspects of European civilization from about 1492 to 1815. Emphasis will be on the cultural, intellectual and religious developments which have had an enduring value. Not open to history majors or minors.

**\*HIST 126. WESTERN CIVILIZATION II.** *Three hours credit.*

The emphasis of this course will be on the principal developments of Western civilizations between 1815 and 1914, the rise of nationalism, liberalism, constitutionalism and industrialism, and the impact of these on life and culture in the nineteenth century. Not open to history majors or minors.

**\*HIST 127. WESTERN CIVILIZATION III.** *Three hours credit.*

The course will cover the period from 1914 to the present. The emphasis will be on the two great wars, the rise of dictatorships, and the quest for peace and security. Not open to history majors or minors.

**\*HIST 130. WORLD HISTORY I.** *Four hours credit.*

World history—early times to 800. Major civilizations.

**\*HIST 131. WORLD HISTORY II.** *Four hours credit.*

World History—800 to 1800. Major civilizations.

**\*HIST 132. WORLD HISTORY III.** *Four hours credit.*  
World History—1880 to the present. Major civilizations.

**\*HIST 170. UNITED STATES HISTORY I.** *Three hours credit.*  
United States history to 1848, European background of American history, the age of discovery and colonization, the imperial rivalries, the revolution and the new nation, nationalism and sectionalism.

**\*HIST 171. UNITED STATES HISTORY II.** *Three hours credit.*  
United States history, 1848-1912. The War Between the States, reconstruction, the emergence of modern America, the United States as a world power, the new nationalism.

**\*HIST 172. UNITED STATES HISTORY III.** *Three hours credit.*  
United States history, 1912 to the present. The New Freedom, World War I, prosperity and depression, the New Deal, the long armistice, World War II, post-war problems since 1945.

**\*HIST 175. UNIT SURVEY OF UNITED STATES HISTORY.** *Five hours credit.*  
Detailed consideration of specific units in American history with emphasis upon the content and materials for use in elementary schools. Not open to history majors or minors.

**\*HIST 210. INTELLECTUAL AND CULTURAL HISTORY OF MEDIEVAL EUROPE, 4TH-16TH CENTURIES.** *Three hours credit.*  
A survey of history from the end of ancient times to the beginnings of Modern Europe. Open to sophomores.

**\*HIST 220. INTELLECTUAL AND CULTURAL HISTORY OF EARLY MODERN EUROPE, 1600 TO 1800.** *Three hours credit.*  
A survey of intellectual and cultural developments of the period 1600-1800, emphasizing the Age of Science, Age of Reason, and the Enlightenment. Open to sophomores.

**\*HIST 230. INTELLECTUAL AND CULTURAL HISTORY OF MODERN EUROPE, 1800 TO THE PRESENT.** *Three hours credit.*  
A survey of intellectual and cultural developments from the Romantic period to the present. Open to sophomores.

**\*HIST 240. THE FAR EAST.** *Four hours credit.*  
A study of the historical background of the economic, social, educational, philosophical and political life of the major nations and regions of the Far East.

**\*HIST 250. GEOGRAPHIC INFLUENCES IN UNITED STATES HISTORY.** *Two hours credit.*  
Relationships of geography to the discovery, exploration, settlement, and development of the United States.

**\*HIST 254. HISTORY OF THE EARLY WEST.** *Four hours credit.*  
The westward movement beginning with the settlement of Jamestown in 1607 and dealing with the development of the colonial west, organization of the Northwest Territory, the land laws, Indian wars, fur trappers' frontier, the Cumberland Road, coming of the steamboat-canal era, and the early settlement of Texas.

**\*HIST 256. HISTORY OF COLORADO.** *Three hours credit.*  
A study of the growth and development of Colorado: Indian influence; Spanish, French, and American explorations; historical development; early settlements; gold and silver rushes; pioneer life; territorial problems; the growth of agriculture, industry, livestock production; economic, social and cultural progress; political progress; governmental organization; problems of recent and present-day Colorado.

**\*HIST 258. THE HISPANO IN THE AMERICAN SOUTHWEST.** *Three hours credit.*  
Examination of the historical heritage of the Hispano in the southwestern states

of New Mexico, Arizona, California, and Texas, plus southern Colorado, will be made in this course from the coming of Coronado in 1540 to the present. Hispano movements and contributions during the Spanish, Mexican, territorial, and modern periods will be stressed. Although political and economic developments will be emphasized, social and cultural movements also will be covered.

**\*HIST 265. AMERICAN SOCIAL AND INDUSTRIAL HISTORY.** *Four hours credit.*

A study of the major social, industrial and cultural forces which have shaped American life, the growth of cities, education and culture, the impact of the frontier, immigration, scientific and industrial progress, and the correlation between these forces in the development of present-day America.

**\*HIST 277. HISTORY OF THE BLACK MAN IN AMERICA I.** *Three hours credit.*

An introduction to the Black African heritage. The course will analyze the following: the slave system in the United States; black resistance to slavery and involvement in the American Revolution; the role of the free Black man prior to the Civil War.

**\*HIST 278. HISTORY OF THE BLACK MAN IN AMERICA II.** *Three hours credit.*

A Study of the Black man's role during the Civil War and the significance of the Reconstruction period. Black opposition to the growth of Jim Crow practices in the United States, their relationship to the labor movement, the plight of the Southern tenant farmer, and the philosophies of Black thinkers, particularly Booker T. Washington and W. E. B. DuBois.

**\*HIST 279. HISTORY OF THE BLACK MAN IN AMERICA III.** *Three hours credit.*

A survey of twentieth-century developments, including the migration of Blacks to the North, the growth of the black urban ghetto, the Garvey movement and the Harlem Renaissance, life under the New Deal and during World War II, the "Civil Rights" movement of the late 1950's and early 1960's, and the Black Power movement.

**\*HIST 300. THE EARLY COLONIAL PERIOD: 1492-1689.** *Four hours credit.*

This course will investigate in depth the background of European colonization, the Age of Discovery and Exploration, the founding of the first British Colonial Empire, and the history of that Empire until 1689.

**HIST 301. EIGHTEENTH CENTURY AMERICA: 1689-1763.** *Four hours credit.*

This course will investigate in depth the development of the North American British colonies in the 18th Century. Emphasis will be placed on the origin of the Empire and on the colonial economy, political structure, and a society of the time.

**HIST 302. EMERGENCE OF A NEW NATION: 1763-1789.** *Four hours*

An examination of the background of the American Revolution, Declaration of Independence, the Articles of Confederation, and the framing of the United States Constitution as well as of the changing social, economic, and political patterns discernible in the Revolutionary generation.

**\*HIST 306. CONSTITUTIONAL HISTORY OF THE UNITED STATES TO 1865.** *Four hours credit.*

The study of the origins of the Constitution from the colonial background; political philosophy of the eighteenth century; the drafting and ratification of the Constitution; and the subsequent molding of its terms by executive, legislative, and judicial pressure up to 1865.

**\*HIST 308. AMERICAN INTELLECTUAL HISTORY TO 1865.** *Four hours credit.*

The course deals with the individuals, works, and schools of thought in the history of ideas in American culture from the Puritanism of the Colonial Period to the Romanticism of antebellum America.

**\*HIST 310. GREAT MEN IN AMERICAN HISTORY.** *Three hours credit.*  
A biographical approach to American history focusing on the lives and contributions of such great Americans as Franklin, Washington, Hamilton, Jefferson, Marshall, Jackson, Lincoln, Holmes, Theodore Roosevelt, Wilson, and Franklin Roosevelt.

**\*HIST 316. HISTORY OF THE TRANS-MISSISSIPPI WEST: 1821-1890.**  
*Four hours credit.*  
Examination of the Westward movement from the settlement of Texas to the end of the frontier period. Major topics stressed include frontier monetary problems, relation of Mormons to the move west, pre-emption and homestead acts, forty-niners and fifty-niners, transcontinental railroads, and the range-cattle industry.

**\*HIST 321. DIPLOMATIC HISTORY OF THE UNITED STATES TO 1889.**  
*Four hours credit.*  
A survey of American diplomatic history from the war for independence to 1889, emphasizing the problems of expansion and relations with major European, Latin American, and Far Eastern countries.

**HIST 325. INSTITUTE IN CHANGE IN UNITED STATES HISTORY.**  
*Twelve hours credit.*  
An analysis and study of the social, political, economic, and diplomatic forces that have shaped major developments in United States history from 1776 to the present. A course for high school history teachers who have not majored in history. Special attention will be paid to the methods and materials of teaching history.

**\*HIST 326. EUROPEAN CONTRIBUTIONS TO AMERICAN CULTURE.**  
*Fifteen hours credit.*  
The major contributions of European civilization to American culture are studied for five weeks on campus and then one month in Europe. Contemporary influences and relationships are included as well as origins of social, economic and political institutions. The background of art and architecture will also be covered.

**\*HIST 327. CULTURAL BACKGROUND OF WESTERN-SOVIET RUSSIAN RELATIONS.** *Fifteen hours credit.*  
The background of Soviet Russia's relations with the West is studied on campus for five weeks followed by a study tour of selected Western European capitals, Leningrad and Moscow. Excursions are made to Oxford, Versailles, Peterhof and Zagorsk or other places of historical importance.

**\*HIST 330. COLONIAL LATIN AMERICAN HISTORY.** *Five hours credit.*  
A history of the discovery and colonization of Latin America with particular emphasis on the Spanish and Portuguese institutions, and the events leading up to the wars for independence.

**\*HIST 331. HISTORY OF LATIN AMERICA.** *Five hours credit.*  
A study of the development of the economic, educational, political, religious, and social institutions of Latin America. Consideration will be given to United States relations with Latin America, and to the status of and prospects for democracy in Latin American nations.

**\*HIST 340. HISTORY OF AFRICA TO 1889.** *Five hours credit.*  
A general history of the African continent from the early civilizations through the early European explorations and settlements to the British, French, Belgian, and other European colonizing activities of the nineteenth century.

**\*HIST 350. ANCIENT HISTORY.** *Four hours credit.*  
The life and institutions of the Ancient Near East and Greece, cultural development, living conditions, and recent archaeological discoveries.

**\*HIST 358. HISTORY OF MEDIEVAL EUROPE.** *Four hours credit.*  
This course in Medieval history is to provide the advanced undergraduate and graduate students with the basic political, social and economic facts and interpretations from the end of the Roman Empire to the Renaissance.

**\*HIST 360. HISTORY OF MEDIEVAL THOUGHT.** *Four hours credit.*  
An advanced study of Medieval life and civilization from the beginning of the Middle Ages to about 1300. The course will emphasize Medieval philosophy, theology, literature, art and culture from Augustine to Dante.

**\*HIST 363. THE OLD REGIME.** *Five hours credit.*  
A study of the political, social, economic, intellectual, and cultural development from the end of the Reformation period to the French Revolution.

**\*HIST 370. CONSTITUTIONAL HISTORY OF MEDIEVAL ENGLAND.**  
*Four hours credit.*

The development of English legal, constitutional and administrative institutions from their Anglo-Saxon origins to 1485. Stress will be placed on the medieval antecedents of the modern English governmental departments as well as on the development of the common law, the jury system, and the rise of representative government. Emphasis will also be placed on the role of these institutions in the transition from a feudal to a national monarchy.

**\*HIST 371. EARLY ENGLISH HISTORY. TUDOR AND STUART ENGLAND, 1485-1688.** *Four hours credit.*

The course will emphasize the political and constitutional stability reached in England during the two centuries following the Hundred Years' War. Constitutional, social, and economic development will be stressed. Prerequisites, HIST 30, 31, 32, or permission of instructor.

**\*HIST 375. FOUNDATIONS OF THE 2ND REICH.** *Four hours credit.*

A survey of German history stressing the foundations of the 2nd Reich under Bismarck to the outbreak of World War I. Special emphasis will be laid on Bismarck, his diplomacy, German's social and economic developments, and the German role in the outbreak of World War I.

**\*HIST 378. HISTORY OF RUSSIA TO 1917.** *Four hours credit.*

Surveys the political, social, economic, and cultural history of Russia from Kievan Rus up to the Bolshevik Revolution of 1917. Emphasis is placed on those Russian traits that have continued into the Soviet period.

**\*HIST 382. HISTORY OF SPAIN AND PORTUGAL, 1469-1808.** *Four hours credit.*

A study of the emergence and decline of Spain and Portugal as European and world powers. Demographic, economic, and social developments will be emphasized.

**\*HIST 385. EUROPE: 1815-1870.** *Five hours credit.*

A study of the period from the Congress of Vienna through the unification of Germany. Includes the history of ideas, development of political history, and socio-economic changes.

**\*HIST 386. DIPLOMATIC HISTORY OF MODERN EUROPE: 1914-1939.**  
*Four hours credit.*

A specialized course in the study of European diplomacy, its methods and accomplishments, utilizing lectures and analyses of basic documents and treaties.

**\*HIST 390. HISTORY OF CHINA TO 1840.** *Four hours credit.*

The history of China to 1840 will be considered from the point of view of political and cultural development.

**\*HIST 394. HISTORY OF JAPAN TO 1868.** *Four hours credit.*

The history of Japan up to 1868 will be considered from a cultural and political aspect. Emphasis will also be placed upon social development.

**\*HIST 404. THE EARLY REPUBLIC, 1789-1815.** *Four hours credit.*

The study of the establishment of a new federal government, the administrations of Washington, Adams, Jefferson and Madison, the emergence of a national economy, the rise of political parties, the growth of American nationalism, and the War of 1812.

**\*HIST 405. NATIONALISM AND SECTIONALISM IN AMERICA, 1815-1848. *Four hours credit.***

A detailed survey of the period 1815-1848 in American history. Major topics examined include post-1815 nationalism, political trends of the Jacksonian Era, the development of sectionalism, religion and reform, expansion and the Mexican War.

**\*HIST 406. THE CIVIL WAR AND RECONSTRUCTION, 1848-1877. *Four hours credit.***

A detailed survey of the period 1848-1877 in American history. Major topics examined include political upheavals of the 1850's, growth of southern nationalism, Civil War years, and problems of the Reconstruction Era.

**\*HIST 407. THE GILDED AGE: 1868-1892. *Four hours credit.***

Examination of the political, economic, social, and cultural developments in the United States during the Gilded Age from Grant's inauguration to the defeat of President Harrison in 1892. Industrial expansion and the low tone of political morality will be stressed.

**\*HIST 408. ERA OF REFORM: 1892-1917. *Four hours credit.***

A study of the reform movements that developed in response to America's great industrial transformation of the late nineteenth century. Agrarian agitation, Populism and Free Silver, Progressivism, and Wilson's New Freedom will be stressed.

**\*HIST 409. RECENT UNITED STATES HISTORY TO 1929. *Four hours credit.***

A study of the background of the modern age in America, with emphasis on the reaction to nineteenth century social and intellectual ideas and practices. Political and economic developments up to the Great Depression also are stressed.

**\*HIST 410. CONTEMPORARY UNITED STATES HISTORY: 1929 TO PRESENT. *Three hours credit.***

A cultural, political, and economic study of American history from the Great Depression to the present, emphasizing the depression, the New Deal, world wars and "police actions," and such recent developments as poverty programs, Black Power and other minority movements, and the social rebellion.

**\*HIST 415. DIPLOMATIC HISTORY OF THE UNITED STATES SINCE 1889. *Four hours credit.***

A survey of American diplomatic history since 1889, emphasizing the problems of peace and war and the internationalist-isolationist conflict in the twentieth century.

**\*HIST 416. CONTEMPORARY AMERICAN FOREIGN POLICY. *Three hours credit.***

An analysis of the theory and practice of American foreign policy since World War II, emphasizing the origins, history, and significance of the Cold War.

**\*HIST 422. CONSTITUTIONAL HISTORY OF THE UNITED STATES SINCE 1865. *Four hours credit.***

The development of Constitutional interpretation from the post Civil War era to the present. A study of Supreme Court decisions tracing changing interpretations during the Laissez Faire era. The Populist-Progressive era through the New Deal to the present time.

**\*HIST 425. AMERICAN INTELLECTUAL HISTORY SINCE 1865. *Four hours credit.***

The course deals with the individuals, works, and schools of thought in the history of ideas in American culture from the Naturalism of the post-Civil War period to the New Conservatism.

**\*HIST 430. CONTEMPORARY MEXICO AND THE CARIBBEAN. *Four hours credit.***

A study of the developments and problems of contemporary Mexico and republics of Central America and the Caribbean.



**\*HIST 435. HISTORY OF THE ABC COUNTRIES OF SOUTH AMERICA.**  
*Four hours credit.*

Detailed study of the Rio de la Plata region in Latin America including Argentina, Brazil, Chile, Paraguay and Uruguay. Designed to show historical development—special attention to European and African cultural influences, political processes, economic changes. Augments course offerings in Latin American history for M.A. students choosing this as one of their fields.

**\*HIST 437. HISTORY OF THE ANDEAN COUNTRIES OF SOUTH AMERICA.**  
*Four hours credit.*

Provide in-depth study of the Andean region of Latin America—attention to historical background of such contemporary problems as Indian assimilation, urbanization, social integration, political instability. Also augments offerings in Latin American history for the M.A. student who chooses this as one of his fields.

**\*HIST 440. HISTORY OF AFRICA FROM 1899.**  
*Five hours credit.*

A survey of Africa prior to colonial rule, the impact of the colonialism and the independence movement, with emphasis on the development of the African states, their politics, economics and society.

**\*HIST 451. HISTORY OF GREECE.**  
*Four hours credit.*

An advanced course in the history of Ancient Greece placed in the context of the river valley civilizations of the Near East. Emphasis will be placed on the various aspects of Hellenic and Hellenistic life and culture in the light of recent archaeological and historical discoveries.

**\*HIST 452. ROMAN HISTORY.**  
*Five hours credit.*

An advanced study of Roman Civilization from the founding of the Republic to the decline of the Empire. Roman life, institutions and cultural heritage will be emphasized.

**\*HIST 458. RENAISSANCE AND REFORMATION.**  
*Five hours credit.*

A study of political, social, economic, religious and cultural development from 1300-1600.

**\*HIST 460. RECENT ENGLISH HISTORY: 1689 TO THE PRESENT.**  
*Four hours credit.*

The course will trace the developments in English constitutional, political, economic, and social life from the time of the great Revolution in 1688-89. Emphasis will be placed on the growth of political liberalism in England, and on the role which England has played in the modern world. The role of England as a world power since 1713 will be similarly studied.

**\*HIST 465. FRENCH REVOLUTION AND NAPOLEON.**  
*Five hours credit.*  
A study of the causes of the Revolution, its classical pattern, the rise of nationalism, and the significance of Napoleon in France and abroad.

**\*HIST 466. HISTORY OF MODERN FRANCE: 1815 TO THE PRESENT.**  
*Four hours credit.*

The course will examine in depth the important political and constitutional issues in French history from the fall of Napoleon I to the present day. It will focus on the Restoration regimes, the Second Empire, and the Third, Fourth, and Fifth Republics.

**\*HIST 470. HISTORY OF MODERN GERMANY.**  
*Four hours credit.*

A survey of German history from World War I, including analysis of events from the outbreak of World War I to the present, through the reading of original sources and documents.

**\*HIST 478. HISTORY OF THE SOVIET UNION.**  
*Four hours credit.*

Surveys the political, social, economic, cultural history of the Soviet Union from 1917 to the present. Continuity with pre-Soviet Russia is emphasized as well as change.

**\*HIST 479. RUSSIAN HISTORY SEMINAR.**  
*Four hours credit.*

The class will consider pre-Soviet history, or if the student has also taken HIST 478, the Soviet period. Students will research, write and present a paper, which may be taken from either period. Lectures will cover Russian historiography and bibliography.

**\*HIST 485. EUROPE: 1870-1914.** *Five hours credit.*

A study of the political, social, economic, intellectual, and diplomatic developments from the Franco-Prussian War to the beginning of World War I.

**\*HIST 486. CONTEMPORARY WORLD HISTORY.** *Five hours credit.*

An advanced study of world developments in recent times which will investigate the period from 1900 to the present. The course will discuss the ideologies of communism, socialism, fascism, and democracy in their world setting.

**\*HIST 487. RECENT DIPLOMATIC HISTORY OF MODERN EUROPE: 1939 TO PRESENT.** *Four hours credit.*

A specialized course in the study of recent European diplomacy, its methods and accomplishments, utilizing lectures and analyses of basic documents and treaties.

**\*HIST 490. REVOLUTIONS IN MODERN TIMES.** *Four hours credit.*

The four great revolutions of the Western world, namely, the English, American, French, and Russian revolutions are compared in a search for causes and possible patterns of revolution. Post-World War II revolutions are analyzed to find economic, social, and intellectual causes of the revolutionary period of today.

**\*HIST 496. HISTORY OF MODERN CHINA AND JAPAN.** *Four hours credit.*

An advanced study of the China and Japan in modern times, beginning with the impact of western powers in the mid-nineteenth century to the present day. Emphasis will be on internal changes in political, social, economic and cultural aspects of the nations studied.

**\*HIST 497. HISTORY OF INDIA AND PAKISTAN.** *Five hours credit.*

A brief history of the peoples of the Indian subcontinent from early times to the present. Emphasis will be placed on the rise and decline of various cultures, Indo-Islamic culture, the advent of the English and their contribution to the birth of nationalism and the organization of India and Pakistan as independent states.

**HIST 499. INTRODUCTION TO HISTORICAL RESEARCH.** *Three hours credit.*

An introduction to the nature of history; what is history; why study history; how to study history; pursuit of evidence; familiarization with library catalogs; bibliographies and indexes. Selection of topic for research by student. Note taking; criticism; construction of research papers; elements of good English usage.

## HOME ECONOMICS

**HEC 108. THE HOME ECONOMICS PROFESSION.** *One hour credit.*

An introduction to the philosophy and purposes of the home economics profession with an overview of career opportunities and the educational preparation which is needed. Required of all majors, including transfer students without a comparable course. To be taken fall quarter of the first year the student is enrolled as a major in the Department of Home Economics.

**HEC 136. INTRODUCTION TO PRESCHOOL.** *Two hours credit.*

An introduction to preschool philosophy, current trends, present legislation on schools for young children and the role of a qualified teacher.

**HEC 140. BASIC FOOD PREPARATION AND SERVICE.** *Four hours credit.*  
*(Two hours lecture, four hours laboratory.)*

Non-majors. A basic study in food selection and preparation for men and women students. Simple meals will be planned, prepared and served.

**HEC 141. FOOD SELECTION AND PREPARATION I.** *Four hours credit.*  
*(Two hours lecture, four hours laboratory.)*

Prerequisite, CHEM 104. The composition and nature of foods and scientific

principles underlying the selection and preparation of food products of standard quality. Food products are evaluated. Fundamentals of methods of food preservation.

**HEC 171. ART IN HOME LIVING.** *Two hours credit.*

A study designed to develop an appreciation and understanding of color and the other art elements of design with the application of art principles or guides to personal and home living. Students are encouraged to use creative ideas in solving art problems. Opportunities provided to improve aesthetic judgment in making everyday selections.

**HEC 181. TEXTILE FUNDAMENTALS.** *Five hours credit. (Three hours lecture, four hours laboratory.)*

A basic study of the fundamentals of fibers, yarns, fabric construction methods, and finishes as they relate to selection, use and care of textiles.

**HEC 190. FASHION SEWING.** *Three hours credit. (One hour lecture, four hours laboratory.)*

Non-majors and non-minors only. A laboratory course designed for students interested in clothing construction, emphasizing sewing techniques. Basic intermediate and advanced projects may be selected according to the student's ability and choice.

**HEC 191. CLOTHING SELECTION.** *Two hours credit.*

A study of the sociological, psychological and economic foundations of clothing selection with emphasis upon the application of art principles as related to the individual.

**HEC 192. FUNDAMENTALS OF CLOTHING CONSTRUCTION.** *Three hours credit. (One hour lecture, four hours laboratory.)*

Basic principles used in garment construction applied through actual construction of garments. Common fitting problems are studied.

**HEC 211. MANAGEMENT IN FAMILY LIVING.** *Three hours credit.*

A study of management in relation to successful home living. Family values, goals, decision making, managerial responsibilities, principles and techniques used in managing time, energy and money are stressed.

**HEC 221. FAMILY RELATIONSHIPS.** *Three hours credit.*

The relationship of the individual to his human contacts and the establishment of the successful American home are studied.

**HEC 242. PRINCIPLES OF FOOD PREPARATION II.** *Four hours credit. (Two hours lecture, four hours laboratory.)*

Prerequisites, CHEM 104 and HEC 141. Continuation of food preparation studies. Laboratory work is planned to show the relationship between scientific principles and food preparation processes. Food products are evaluated.

**HEC 251. NUTRITION I.** *Three hours credit.*

Study of the sources of nutrients in food and their relationship to health with application to individual needs and to current concerns in the nursing, dietetic and teaching professions.

**HEC 260. OCCUPATIONAL HOME ECONOMICS EDUCATION.** *Two hours credit.*

Designed to provide an overview of the occupational home economics program at the secondary, post secondary and college levels and to prepare the student for her first directed occupational experience in home economics.

**HEC 271. THE HOME AND ITS FURNISHINGS.** *Five hours credit.*

Prerequisite, HEC 171. A study of principles and information needed for solving housing problems with considerations relating to family needs, procedures for renting, buying and financing as well as basic furniture design, and the selection and arrangement of furnishings.

**HEC 293. INTERMEDIATE CLOTHING CONSTRUCTION.** *Four hours credit. (Two hours lecture, four hours laboratory.)*

Prerequisites, HEC 181, 191, 192. A costume of the latest fabrics is constructed using the method appropriate to the pattern and fabric.

**HEC 325. HOME NURSING.** *Two hours credit.*

This course is designed to develop the ability to give a simple type of nursing care to a member of the family who is ill, injured, or helpless because of age or infirmity. The principles involved in nursing procedures are stressed, the procedures demonstrated and the students are required to practice on each other.

**HEC 331. DEVELOPMENT OF THE INFANT AND TODDLER.** *Three hours credit.*

Prerequisite, recommend ZOO 156 for Preschool Majors. A study of growth patterns from conception through infancy and the third year. Includes prenatal and postnatal factors influencing early development; guidance and provision for care, and the responsibilities of adults for providing a favorable home environment; the effect of these factors on later years.

**HEC 333. DEVELOPMENT AND GUIDANCE OF THE PRESCHOOL CHILD.** *Four hours credit. (Three hours lecture, two hours laboratory).*

The physical, emotional and social growth processes as they apply in understanding the total development of the preschool years with appropriate guidance procedures emphasized. The functions, techniques and physical setting of the preschool are studied.

**HEC 334. PRESCHOOL CURRICULUM AND METHODS.** *Three hours credit.*

Taken in conjunction with HEC 335—Prerequisite, 333. A study of curriculum, including the selection of Art, Literature, Music, and Science for the individual child's development. Experience in planning curriculum programs. A study of specific methods and techniques in teaching Preschool.

**HEC 335. OBSERVATION AND PARTICIPATION IN PRESCHOOL.** *Three hours credit. (One hour conference, six hours laboratory.)*

Taken in conjunction with HEC 334—Prerequisite 333. Observation of specific methods and techniques relating to the teaching of Preschool. Practical laboratory observation and experience with preschool age children.

**HEC 343. MEAL PLANNING AND SERVICE.** *Four hours credit. (Two hours lecture, four hours laboratory.)*

Prerequisites, HEC 141, 242, CHEM 104. Individual planning and purchasing of food. Gracious serving of meals on three income levels involving time and energy management. The study of linens, china, glass, and silverware; their purchase and care.

**HEC 353. DIET THERAPY.** *Three hours credit.*

Prerequisite, HEC 251. A study of the fundamental principles involved in the treatment of disease through diet. Emphasis is given to modification of normal diet.

**HEC 362. DEMONSTRATION TECHNIQUES.** *Two hours credit. (One hour lecture, three hours laboratory.)*

Prerequisites, HEC 141, 192, 242, 293. Practice in the techniques of demonstrating before audiences. All phases of the Home Economics field will be used to furnish types of demonstrations.

**HEC 367. PRINCIPLES AND PRACTICES OF EVALUATION IN HOME ECONOMICS EDUCATION.** *Three hours credit.*

Prerequisites, EDCI 340, 341. Emphasis is upon the development of formal and informal evaluation devices for use in evaluating student growth and development in the home economics classroom. Each evaluation instrument is examined as to purpose and need within the educational setting. Consideration is also given to the interpretation of test scores.

**HEC 374. EQUIPMENT SELECTION AND MAINTENANCE.** *Four hours credit. (Three hours lecture, two hours laboratory.)*

Through individual reports, projects, field trips, demonstrations, and classroom discussions, a body of knowledge and criteria are developed by which equipment and utensils may be evaluated. Basic scientific principles of heat, mechanics, electricity, and light are studied.

**HEC 395. COSTUME DESIGN—FLAT PATTERN.** *Three hours credit. (One hours lecture, four hours laboratory.)*

Prerequisites, HEC 192, 293. Some basic problems are presented in flat pattern making. A personal master pattern is developed for each student. Creative problems are planned to develop skill in the application of art principles to costume.

**HEC 415. CONSUMER PROBLEMS OF THE FAMILY.** *Three hours credit.*

This course is designed to give college students a background of practical information and the applications concerning consumer and financial problems of the family.

**HEC 419. HOME MANAGEMENT PRACTICUM.** *Three hours credit.*

Prerequisites, HEC 141, 211, 242, 343. Application must be made one quarter in advance. Students live in the Home Management House for approximately five weeks where they put into practice desirable standards of home living. Upon approval of the instructor married students who maintain a home with husband and/or children may fulfill the requirements of the course with guidance and supervision in their own home.

**HEC 437. ADMINISTRATION OF PROGRAMS FOR YOUNG CHILDREN.** *Three hours credit.*

Prerequisite, HEC 334. The organization and management of various types of Child Care Centers. Specific emphasis is given to program planning, selecting and organizing equipment, and learning administrative procedures. (Major—take in conjunction with HEC 438.

**HEC 438. PRACTICUM IN PRESCHOOL TEACHING.** *Three hours credit. (One hour conference, six hours laboratory.)*

Prerequisites, HEC 333, 334, 335. The laboratory experience gives the students an introduction to student teaching through observation, demonstration and participation with preschool children under an experienced preschool teacher.

**HEC 439. PARENT EDUCATION.** *Three hours credit.*

This course deals with relationships between parents, children and teachers. Emphasis is on resources for meeting problems through cooperative interaction.

**HEC 445. EXPERIMENTAL FOOD STUDIES.** *Four hours credit. (Two hours lecture, four hours laboratory.)*

Prerequisites, HEC 141, 242. An opportunity to determine the effects of temperature, time, and different manipulations on foods. Commercial products are tested and compared with home methods of preparation. Special projects required.

**HEC 446. FOOD SERVICE ADMINISTRATION.** *Three hours credit.*

Prerequisites, HEC 141, 142, 343. Principles of operation of food systems, emphasizing financial and production controls; menu planning and evaluation; recipe standardization and technical operations.

**HEC 447. QUANTITY FOOD PURCHASING AND PREPARATION.** *Four hours credit. (One hours lecture, six hours laboratory.)*

Prerequisite, HEC 446. Meal planning, techniques of food purchasing and application of food preparation principles to large quantity food service. The facilities of student dining halls, university center, and the school lunch program are used as practice laboratories.

**HEC 448. ORGANIZATION AND MANAGEMENT OF FOOD SERVICE.** *Three hours credit.*

Prerequisites, HEC 446, 447, BUS 80. Principles of organization, personnel management and financial control; layout, selection and design; equipment selection; use of work measurement and data processing. Field trips.

**HEC 453. NUTRITION II.** *Three hours credit.*

Prerequisite, HEC 251. A review of the fundamentals of human nutrition is made. Emphasis given to recent developments in human nutrition. Application of principles of nutrition to community, state, national and world problems and needs. Readings and reports from current literature.

**HEC 456. INFANT AND CHILD NUTRITION.** *Three hours credit. (One hour lecture, four hours laboratory.)*

Prerequisites, HEC 251, 331. A study of the principles in nutrition for maternal, infant, and child health; and an experience in basic food preparation.

**HEC 463. INTRODUCTION TO CURRICULUM IN HOME ECONOMICS EDUCATION.** *Three hours credit.*

Prerequisites, EDF 365 and PSY 341. A study of purpose, content, and organization of curriculum. An emphasis will be placed on social and psychological influence on program development. Students will be involved in developing a unit.

**HEC 465. HOME ECONOMICS PROGRAMS FOR SPECIAL NEEDS.** *Three hours credit.*

Prerequisites, EDCI 340, 341. A study of the philosophy, procedures and techniques used in organizing programs teaching adults, and students with special needs, including rehabilitation. Students participate in a teaching experience.

**HEC 468. SENIOR SEMINAR IN HOME ECONOMICS EDUCATION.** *Two hours credit.*

Prerequisite SFE 468. Analysis and evaluation of student field experiences in home economics education.

**HEC 494. TAILORING.** *Four hours credit. (Two hours lecture, four hours laboratory.)*

Prerequisites HEC 192, 293. Opportunity for developing skill is presented in the construction of tailored suits.

**HUMANITIES (Administered by English Department)****\*HUM 201. INTRODUCTION. THE GREEK AND ROMAN PERIODS.** *Three hours credit.*

First quarter of humanities. The humanities throughout the year is a systematic historical study of the great philosophic ideas from Greek times to the present. HUM 201 offers an introduction to the various arts and considers the art and philosophy of the Greeks and Romans.

**\*HUM 202. THE MIDDLE AGES AND THE RENAISSANCE.** *Three hours credit.*

Following the same type of outline as Humanities 201, Humanities 202 is a study of the cultural background, the arts and the philosophy of the Middle Ages and Renaissance.

**\*HUM 203. THE EIGHTEENTH TO THE TWENTIETH CENTURY.** *Three hours credit.*

Following the sequence started in Humanities 201 and 202, this course makes an historical study of the cultural background, the arts and the philosophy of the modern world from the rationalism of the 18th century to the new ideas which seem to be forming 20th century art and thought.

**\*HUM 204. THE LITERATURE AND ARTS OF THE FAR EAST.** *Three hours credit.*

An introduction to the literature and some of the other arts of India, China, and Japan, in order that the student will not only gain an appreciation of these cultures, but also be able to see elements which are universal to mankind or which are influencing or are in conflict with the twentieth century western world.

**\*HUM 205. LITERATURE AND THE ARTS IN THE TWENTIETH CENTURY.** *Three hours credit.*

A comparative study of the response of thinkers, artists, and writers to the issues confronting man in the twentieth century.

**HUM 411. ADVANCED COURSE IN THE HUMANITIES.** *Four hours credit.*

Prerequisites, HUM 201, 202, and 203 or 204 or 205. The study of a specific great literary work in its setting of history, philosophic concepts, and contemporary arts.

**INDUSTRIAL ARTS****IA 118. GENERAL PLASTICS.** (Synthetic Materials). *Three hours credit.*

A general introduction to the field of plastics, emphasizing the study of materials and processes of the industry. Content includes the basic processes of molding, casting, thermoforming, machining, assembling and finishing.

**IA 141. GRAPHIC ARTS FUNDAMENTALS.** *Three hours credit.*

Experience with the fundamental operations used in school graphic arts shops. Information about tools, machines, and materials.

**IA 150. BENCH WOODWORK.** *Three hours credit.*

Development of basic skills and knowledge in planning and layout, lumber and lumbering, purchasing and measuring lumber and plywood, methods of fastening and adhering wood, sizing stock and wood joinery with hand tools and electric portable tools. Includes emphasis on the study of wood characteristics, safe working practices and care of hand and power tools.

**IA 161. PRINCIPLES OF DRAFTING.** *Three hours credit.*

Lettering, freehand sketching, geometric construction, orthographic projection, sectional views, and dimensioning in drafting.

**IA 164. INDUSTRIAL DESIGN.** *Three hours credit.*

The principles of design as related to materials, construction techniques, and their application to industrial arts problems and areas.

**IA 170. GENERAL METALS.** *Three hours credit.*

Basic metal shop practices, processes and materials with emphasis on bench metal, sheet metal, art metal, foundry and elementary metallurgy and testing.

**IA 180. GENERAL ELECTRICITY.** *Three hours credit.*

Elementary principles of electricity that are applicable to projects in the junior and senior high schools. Emphasis placed on magnetism, production of electricity, transformers, induction, capacitance, and resonant circuits.

**IA 190. INTRODUCTION TO POWER.** *Two hours credit.*

A study of energy sources and the machines that convert energy into useful work. Emphasis given to broad overview of entire field of power and its importance to technology.

**IA 210. GENERAL BOOKBINDING.** *Three hours credit.*

Development of basic skills in hand bookbinding applicable to elementary or junior high school arts programs.

**IA 216. GENERAL LEATHERCRAFT.** *Three hours credit.*

Development of designing, tooling, and carving skills in leathercraft, including the construction of tools and projects for industrial arts unit in general shop, and recreation and camp activities.

**IA 219. PLASTICS.** *Two hours credit.*

Emphasis on techniques, skills and design in the use of industrial plastics materials, including reinforcing, lamination, expandable, and foaming materials.

**IA 241. GRAPHIC ARTS.** *Two hours credit.*

The relationship of the processes used in school graphic arts shops to industry. Consumer information is developed and occupational opportunities are explored.

**IA 256. UPHOLSTERY.** *Two hours credit.*

Techniques and processes in the various types of upholstery for all grade levels.

**IA 257. WOODTURNING.** *Two hours credit.*

Basic skills and related techniques in faceplate and spindle woodturning.

**IA 261. PICTORIAL DRAFTING.** *Two hours credit.*

Object description and pictorial drawing. Emphasis is on auxiliary views, isometric, and perspective drawings.

**IA 272. GAS AND ELECTRIC WELDING.** *Three hours credit.*

An introductory course in the field of gas and electric welding, welding technology and heat treatment.

**IA 281. ELECTRO-MECHANICAL EQUIPMENT.** *Two hours credit.*

Emphasis placed on motors and electrical measuring devices as well as common principles of operation for basic semi-conductors in industry.

**IA 291. INTERNAL COMBUSTION AND RECIPROCATING ENGINES.**  
*Three hours credit.*

A study of two-cycle and four-cycle reciprocating engines. Emphasis placed on principles of operation, systems of basic engines, such as ignition (spark and compression), cooling, fuel, lubricating, and electrical.

**IA 315. GENERAL CRAFTS.** *Five hours credit.*

Basic techniques, construction and demonstration in industrial arts crafts with simple tools and inexpensive materials, including laboratory experiences in such areas as blockprinting, bookbinding, braiding, leather, metal crafts, mosaic, plastics, silk screening and woodcrafts.

**IA 320. COURSE ORGANIZATION IN INDUSTRIAL ARTS.** *Three hours credit.*

Criteria underlying the organization of a course of study in industrial arts. Techniques by which courses are developed or revised. Each student prepares a course of study in the field of his interest.

**IA 335. HISTORY AND PHILOSOPHY OF INDUSTRIAL ARTS.** *Three hours credit.*

A basic understanding of the history of industrial arts, with emphasis on developing an individual philosophy. A study of the conflicts and relationship of philosophy to actual practice in a functional program of industrial arts.

**IA 336. PRINCIPLES OF GENERAL SHOP ORGANIZATION.** *Five hours credit.*

Introduction to the concepts of organization and administration together with history, philosophy, and development of the general shop. Emphasis will be placed on objectives, program planning, equipment selection, and methods of teaching. Areas to be included are: bookbinding, leather, ceramics, and art metal.

**IA 342. PHOTOGRAPHY.** *Three hours credit.*

Fundamentals of camera, lens, photographic materials, and processing. Photography as a means of communication through picture planning and practical photography.

**IA 345. PUBLICATION PRODUCTION.** *Five hours credit.*

A study of printing as it relates to the field of journalism. The basic areas covered will be news photography, layout and design, and production. Time will be spent on practical applications of each of the three areas.

**IA 350. WOODWORKING TECHNOLOGY.** *Five hours credit.*

The study of woods, materials, and equipment related to the woodworking area. Laboratory emphasis is on woodworking tools and machines.

**IA 353. FURNITURE AND CABINET MAKING.** *Three hours credit.*

Design and construction of period and modern furniture, study of production methods of industry, upholstery, and woodfinishing.

**IA 354. WOODFINISHING.** *Two hours credit.*

Techniques and processes in woodfinishing. Experience with traditional and new types of materials. A study of the needs of public school shops in this area of work.



**IA 355. EQUIPMENT AND MAINTENANCE PROBLEMS IN WOOD.***Three hours credit.*

Upkeep and repair of woodworking tools and machines. Selection and purchase of woodworking tools, machines and supplies for a school shop.

**IA 362. WORKING DRAWINGS.** *Three hours credit.*

Deals with detail drawings, assembly drawings, piping drawings, electronic drawings, welding drawings, and simple duplicating processes such as diazo, ozalid, blueprinting, and xerography.

**IA 363. GRAPHIC SOLUTIONS.** *Two hours credit.*

Orthographic projection principles applied to graphic representation, solution of problems in space and developments and intersections.

**IA 371. ART METAL AND METAL SPINNING.** *Three hours credit.*

Elementary course in art metal work including tooling, etching, forming, piercing, enameling, spinning, and soldering of copper and aluminum.

**IA 373. JEWELRY DESIGN AND CONSTRUCTION.** *Three hours credit.*

An introduction to the basic processes in jewelry construction including soldering, casting, stone cutting, simple silversmithing, and use of appropriate equipment.

**IA 374. MACHINE TOOL OPERATION.** *Two hours credit.*

An introduction to machine tool operation including engine lathes, shapers, drill presses, surface grinders and precision measurement.

**IA 383. ELECTRONIC HARDWARE AND COMPONENTS.** *Two hours credit.*

A study of the manufacture, application and function of electronic hardware and components used in industry. Vacuum tubes, transistors, coils, and capacitors are discussed.

**IA 384. ELECTRONIC CIRCUITRY.** *Three hours credit.*

A study of the basic electronic circuits used in industry and some common applications of each. Such circuits as power supplies, amplifiers, oscillators, transmitters and receivers are considered.

**IA 391. EXTERNAL COMBUSTION ENGINES AND NUCLEAR POWER.***Three hours credit.*

A study of reciprocating steam engines and steam turbines and their generating plants. Study will include the principles of operation, design, construction of the various steam engines and generating plants. Emphasis will also be placed on nuclear energy and its application to the generation of steam by means of the nuclear reactors.

**IA 392. REACTION ENGINES.** *Two hours credit.*

A study of the various continuous combustion engines. Study will include gas turbines, jets, and rocket engines. Emphasis will be placed on their principles of operation, design, and construction as well as their applications.

**IA 417. INDUSTRIAL PLASTICS.** *Three hours credit.*

Development of skills and knowledge in the use of thermosetting and thermoplastic materials with emphasis on industrial applications including the designing and construction of molds and forms.

**IA 433. INDUSTRIAL MATERIALS.** *Three hours credit.*

A study of the origin of the materials used in industrial arts classes and processes involved in the manufacture of each material. Ways of presenting the related information and consumer knowledge of each material are considered.

**IA 443. THEORY AND PRACTICE IN OFFSET LITHOGRAPHY.** *Three hours credit.*

Includes copy preparation, camera and darkroom work, stripping and opaquing, plate making and offset press operation.

**IA 454. ELEMENTARY SCHOOL INDUSTRIAL ARTS.** *Three hours credit.* Development of basic skills through elementary work in wood, metals, and other materials. Adaptation of work to classroom or small shops with limited equipment.

**IA 461. ARCHITECTURAL DRAWING.** *Three hours credit.* Deals with the planning and drawing of a complete set of building plans with specifications. Emphasis placed on principles, practices, and techniques of house construction.

**IA 462. MACHINE DRAWING.** *Three hours credit.* Principles of designing machines. Materials, processes and procedures will be discussed. Such areas as limit and tolerance dimensions, types of fits, screw threads and fasteners, and cam and gear drawing are included.

**IA 471. ADVANCED ART METAL.** *Three hours credit.* An advanced study in art metal including experiences in metal tooling, etching, sinking, raising, enameling and spinning of aluminum, copper and brass.

**IA 473. ADVANCED JEWELRY AND LAPIDARY WORK.** *Three hours credit.* Designed to give advanced work in jewelry construction and silversmithing. Student experiences include work in design, lapidary, fabrication, and casting as it applies to jewelry.

**IA 485. RADIO COMMUNICATIONS.** *Three hours credit.* A study of the characteristics of the AM and FM radio and problems involved in servicing. The procedures, techniques, and problems of making and repairing printed circuits in electronic equipment are considered. Study of circuitry and alignment of AM-FM radio receivers and transmitters.

**IA 493. DIRECT ENERGY CONVERSION.** *Two hours credit.* A study of the means of direct energy conversion and the possible applications of such devices. Emphasis placed on thermionics, thermodynamics, solar and photo cell operation, fuel cell, nuclear, and other exotic power generating systems.

**IA 494. TRANSMISSION OF POWER.** *Three hours credit.* A study of the various methods of converting power into useful work. Study will include mechanical, hydraulic, and pneumatic transmission and the physical laws concerning this transmission. Emphasis will also be placed on mechanical drives, hydraulic and pneumatic circuits, pumps, valves, and other equipment used.

## INDIVIDUAL STUDIES

**IS 422. INDIVIDUAL STUDIES.** *Maximum of four hours credit.* Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed before credit is given, one with the instructor and one with the chairman of the department.

## INTERDISCIPLINARY COURSES

**ID 100. INDIVIDUAL STUDY SKILLS SEMINAR.** *Two hours credit.* Prerequisite, enrollment in the Special Needs Program. An individualized course designed to meet the specific needs, on any educational level, of each student in one or all of the following areas: reading efficiency, comprehension, writing, spelling, vocabulary, word-attack skills, skimming and scanning, listening techniques, note taking, general or specific content area study skills.

**ID 101. INDIVIDUAL STUDY SKILLS LEARNING LAB.** *Two hours credit.* Prerequisite, ID 100, and enrollment in the Special Needs Program. A course de-

signed to attack the specific weaknesses of each individual student and to develop the necessary study techniques essential for academic success. The Learning Lab will utilize the following techniques to attack the learning problems: tutoring, counseling, group discussions, resource lectures, use of instructional materials, reading machines, career development planning and an effective living program. General or specific content area study skills may be repeated.

**ID 350. RACE, POVERTY, AND CHANGE IN URBAN AMERICA.** *Three*  
This course is presented by the departments of Anthropology, Economics, Geography, Political Science, and Sociology introducing concepts relative to urban spatial structure, its uses, economics, dynamics, and political organizations, and the sociological and biological concepts of race.

**ID 375. HUMAN AND RACE RELATIONS.** *Four hours credit.*  
This course is designed to contribute to the student's awareness of social and race relations in the United States. Emphasis is given to the social positions, values and aspirations, and political organization of Blacks and Mexican Americans. An interdisciplinary approach is used, and the course is team taught.

## JOURNALISM

**JOUR 100. INTRODUCTION TO JOURNALISM.** *Two hours credit.*  
Orientation and analysis of the American mass media of newspapers, radio-television, magazines, and book publishing, as well as the related areas of advertising, public relations, communications research, and teaching.

**JOUR 101. BEGINNING PHOTOJOURNALISM.** *Two hours credit.*  
A practical, non-technical study of photography including the mechanics of cameras, dark room equipment, how to tell a picture story, photograph techniques with an emphasis upon composition, and use of the camera for school publications.

**\*JOUR 105. NEWSWRITING.** *Three hours credit.*  
Principles and practice in gathering, writing, and editing news and short feature articles; based both on commercial and educational news sources.

**\*JOUR 110. ADVANCED NEWSWRITING.** *Three hours credit.*  
Prerequisite, JOUR 105. Principles and practice in writing and editing news from assignment and beats; writing editorials; use of both commercial and educational news sources.

**JOUR 200. JOURNALISM INTERNSHIP.** *Maximum of three quarters, one hour credit per quarter.*

Practical experience, designed for knowledge basic to the journalist or journalism teacher adviser; laboratory work in one or more of these areas: newspaper, year-book, radio, publications for school and industry, photography, news service, and sponsorship of school publications, public relations, and advertising.

**JOUR 201. ADVANCED PHOTOJOURNALISM.** *Two hours credit.*  
The use of the camera in various picture taking situations; techniques of developing and printing.

**JOUR 250. EDITING AND LAYOUT.** *Four hours credit.*  
Principles and practice in editing copy for print, picture editing, writing headlines, layout for printed publications, management of news flow, use of editorial judgment; lecture and laboratory.

**JOUR 284. TECHNIQUES OF ADVERTISING.** *Three hours credit.*  
Planning copy, layout of advertisements for printed media and radio; placement of advertising.

**\*JOUR 297. FEATURE AND DEPTH WRITING FOR NEWSPAPERS.** *Two hours credit.*  
Analyzing, researching, and writing the longer feature and interpretive articles, with emphasis on current subjects usable in the local press.

**JOUR 301. METHODS OF TEACHING JOURNALISM IN THE SECONDARY SCHOOL.** (PTE) *Three hours credit.*

Instruction in advising the preparation and publication of school newspapers and in teaching scholastic journalism.

**JOUR 395. FUNDAMENTALS OF PUBLIC RELATIONS.** *Three hours credit.*  
Develop understanding of basic concepts of human relationships in school and business communication and study skills for successful relationships.

**JOUR 396. OPINION FORMATION, PROPAGANDA AND THE MEDIA.** *Three hours credit.*

Analysis of opinion and propaganda and the relationship of the media to opinion formation.

**\*JOUR 397. MASTER JOURNALISTS AND THEIR TIMES.** *Three hours credit.*

A concentration on the great American and British journalists, emphasizing their writings, standards of journalism, and their contributions to journalism and to society.

**\*JOUR 498. ETHICS AND LIBEL.** *Three hours credit.*

Study of current ethical and legal problems of the printed and broadcast media; designed for the newsman, publisher-manager, school administrator, and journalism teacher.

**\*JOUR 499. THE PRESS AND CURRENT AFFAIRS.** *Three hours credit.*

Examination of criticisms of the American print and broadcasting press, the ways the press covers and comments on current domestic and foreign news, and the influence of the media and top journalists on public affairs.

## MATHEMATICS

**MATH 100. ELEMENTARY SLIDE RULE.** *One hour credit.*

Principles of operation of the slide rule and illustrations of its application to problem solving in the physical sciences are covered.

**\*MATH 101. BASIC MATHEMATICS I.** *Three hours credit.*

The first of a two-course sequence which is particularly pertinent for the prospective teacher of arithmetic and presenting arithmetic and algebra from a modern approach. Topics include the natural numbers, integers, rational numbers, real numbers, relations, functions, and equations. Emphasis is placed upon understanding mathematical structures.

**\*MATH 102. BASIC MATHEMATICS II.** *Three hours credit.*

Prerequisite, MATH 101. A continuation of MATH 101.

**\*MATH 103. INFORMAL GEOMETRY.** *Three hours credit.*

Basic concepts of plane and solid geometry including points, lines, angles, planes, solids, congruence, similarity, parallelism, areas, volumes, polygons, and circles.

**\*MATH 115. EXPLORING MATHEMATICAL IDEAS I.** *Three hours credit.*

Designed for the non-mathematics major, this course has no mathematics prerequisites. The purpose of the course is to introduce, intuitively, ideas from several areas of mathematics including the language and notation of sets, elements of logic, elements of matrix algebra, the tools of calculus, and basic notions of computers.

**\*MATH 116. EXPLORING MATHEMATICAL IDEAS II.** *Three hours credit.*

Prerequisite, MATH 115. This course is a continuation of MATH 115 and extends the areas covered to the use of mathematics in model building, linear algebra concepts and tools, and other topics selected in view of the special interests of the class.

**MATH 123. INTERMEDIATE ALGEBRA.** *Five hours credit.*

Prerequisites, one year of high school algebra and one year of high school geometry. This is a course in algebra covering the elementary concepts of algebra through quadratic equations. Emphasis is placed on the function concept. Systems of linear equations are considered.

**MATH 124. COLLEGE ALGEBRA.** *Five hours credit.*

Prerequisite, MATH 123 or a full year of modern, second-year high school algebra. This course is basically a treatment of quadratic, exponential, and logarithmic functions. The systems of integers, rational numbers, real numbers, and complex numbers are included. Some topics from matrices and the theory of equations are included.

**MATH 125. PLANE TRIGONOMETRY.** *Five hours credit.*

Prerequisite, MATH 124. A combined course in analytic geometry and calculus. Emphasizes the circular functions and their applications. The inverse trigonometric functions and trigonometric identities are emphasized. Complex numbers are covered through DeMoivre's theorem.

**\*MATH 131. CALCULUS WITH ANALYTIC GEOMETRY I.** *Five hours credit.*

Prerequisite, MATH 125. A combined course in analytic geometry and calculus. Fundamental principles of beginning analytic geometry including different forms of the equations of a straight line are developed. Elementary phases of both differential and integral calculus, along with various applications of these subjects are considered.

**\*MATH 132. CALCULUS WITH ANALYTIC GEOMETRY II.** *Four hours credit.*

Prerequisite, MATH 131. A continuation of MATH 131.

**\*MATH 133. CALCULUS WITH ANALYTIC GEOMETRY III.** *Four hours credit.*

Prerequisite, MATH 132. A continuation of MATH 132.

**MATH 201. BASIC MATHEMATICAL LOGIC.** *Three hours credit.*

Prerequisite, MATH 132. A course designed to introduce the student to those tools and techniques of logic as applied to mathematics. Introduces terminology and basic form of logic along with concepts of truth value. Statement calculus and treatment of proof discussed. The restricted predicate calculus is analyzed and applications to mathematics are discussed.

**MATH 202. THEORY OF SETS.** *Three hours credit.*

Prerequisite, MATH 132. An introduction to the theory of sets from an axiomatic point of view. Topics included are properties of sets, relations, functions, finite and infinite sets, cardinal and ordinal numbers.

**\*MATH 234. CALCULUS WITH ANALYTIC GEOMETRY IV.** *Four hours credit.*

Prerequisite, MATH 133. A continuation of MATH 133.

**MATH 250. ELEMENTARY PROBABILITY THEORY.** *Four hours credit.*

Prerequisite, MATH 133. Discrete and continuous probability, conditional probability, Bayes theorem; one dimensional random variables and the expected values of random variables; Bernoulli, binomial, Poisson, geometric, hypergeometric and multinomial probability laws; probability distributions of uniform, normal, exponential, Gamma and Chi-squared type random variables.

**MATH 305. MATHEMATICS OF FINANCE.** *Five hours credit.*

Prerequisite, MATH 123. This course offers the student an opportunity to apply his elementary mathematics of arithmetic and algebra to problems of business. Such topics as simple and compound interest, annuities, installment buying, and life insurance are considered.

**MATH 322. INTRODUCTION TO MODERN ALGEBRA I.** *Four hours credit.*

Prerequisite, MATH 132. An introduction to basic topics in modern algebra including vector spaces, matrices, polynomials and general algebraic structures. Stress is placed on the characteristics of algebraic systems.

**MATH 323. INTRODUCTION TO MODERN ALGEBRA II.** *Four hours credit.*

Prerequisite, MATH 322. A continuation of MATH 322.

**MATH 325. MATRIX ALGEBRA.** *Four hours credit.*

**Prerequisite,** MATH 132. Students of this course will learn of the notation and terminology of matrices as well as the formal algebra, interpretation, and applications of matrices.

**MATH 341. INTRODUCTION TO MODERN GEOMETRY I.** *Four hours credit.*

**Prerequisite,** MATH 132. A course designed to prepare the prospective teacher of high school geometry in the way the subject matter will be covered in a modern course. The structure of geometry will be emphasized through the axiomatic approach. The basic ideas of points, lines and planes will be given along with primitive concepts and axioms needed to structure the geometry rigorously. Topics such as separation on curves and surfaces, congruence, measure, and parallelism will be covered.

**MATH 342. INTRODUCTION TO MODERN GEOMETRY II.** *Four hours credit.*

**Prerequisite,** MATH 341. A course which will give the prospective teacher of high school geometry an extension into the field of geometry beyond high school scope. Areas covered include constructions, use of loci in plane geometry and the theorems of Ceva, Menelaus, Stewart, Euler, and Ptolemy.

**\*MATH 351. INTRODUCTION TO STATISTICAL ANALYSIS.** *Three hours credit.*

**Prerequisite,** MATH 123 or consent of instructor. This is a service course in statistical inference and the techniques used in organizing data. Topics include frequency distributions, histograms, measures of central tendency, measures of dispersion, probability, distributions, point estimation, interval estimation and testing hypotheses.

**MATH 380. COMPUTER PROGRAMMING.** *Four hours credit. (Three hours lecture, two hours laboratory.)*

**Prerequisite,** MATH 124. This is a course in computer programming designed for for mathematics students in the arts and sciences and in the teaching professions. Topics will include arithmetic, specification, control and input-output statements, along with subroutine arrangements. Laboratory work will consist of the Fortran programming of select mathematical problems, chosen for their applicability to the secondary classroom and to the field of elementary numerical analysis. University of Northern Colorado IBM 360 computer system will be used for programming and operational purposes.

**MATH 401. FOUNDATIONS OF ARITHMETIC.** *Three hours credit.*

**Designed to provide opportunity for elementary and junior high teachers and supervisors to acquire the understandings of arithmetic essential for effective teaching.** Areas to be covered include the structure of our number system and operations in it, special numbers.

**MATH 403. STRUCTURE OF NUMBERS.** *Three hours credit.*

**Prerequisite,** MATH 132. A rigorous development of the real and complex numbers. Beginning with Peano's axioms for natural numbers, the integers are developed by extension. The rational and real number systems are then obtained as successive extensions. Complex numbers are structured from pairs of real numbers. The nature of isomorphism is stressed.

**MATH 432. ADVANCED CALCULUS I.** *Four hours credit.*

**Prerequisite,** MATH 234. The first course of a sequence of three courses which will extend the student of calculus and analysis into the mathematical rigor and logic of analysis. This course will cover the following topics: real numbers developed through the Dedekind cut definition, some introductory topological topics, limits, continuity, differentiability, and Riemann integral.

**MATH 433. ADVANCED CALCULUS II.** *Four hours credit.*

**Prerequisite,** MATH 432. A second course in a sequence of three courses. The topics to be covered in this course will be as follows: sequences and series, functions of several real variables and integrals of functions of several variables.

**MATH 434. ADVANCED CALCULUS III.** *Four hours credit.*

Prerequisite, MATH 433. The third course in a sequence of three courses. From the background built up in the first two courses, this course will consider certain special topics of application. Some of the topics to be considered will be chosen from the following: implicit functions; applications to geometry; the gamma and beta functions; line, surface, and space integrals; vector notation; Bessel functions; elliptic integrals.

**MATH 435. DIFFERENTIAL EQUATIONS I.** *Five hours credit.*

Prerequisite, MATH 234 or taken concurrently. A study of the theory and solution of differential equations. Ordinary and partial differential equations are treated along with numerous applications.

**MATH 436. DIFFERENTIAL EQUATIONS II.** *Five hours credit.*

Prerequisite, MATH 435. A continuation of MATH 435. Topics to be covered include series solutions of differential equations, systems of equations, partial differential equations, Fourier series and boundary value problems.

**MATH 481. COMPUTER MATHEMATICS I.** *Four hours credit. (Three hours hours lecture, two hours laboratory.)*

Prerequisite, MATH 234. An introduction to basic computer mathematics, including computer arithmetic, Boolean equations, arithmetic design criteria and programming routines. Stress will be placed on teaching computer methods for use in the junior and senior high schools. Laboratory work will consist of Fortran programming with application to computers.

**MATH 482. COMPUTER MATHEMATICS II.** *Four hours credit. (Three hours lecture, two hours laboratory.)*

Prerequisite, MATH 481. This is a continuation of MATH 481 designed to give teachers of high school and junior college mathematics a solid background in programming fundamentals, computer logic and computer systems analysis. Two hours laboratory per week will be directed toward programming University of Northern Colorado computers and computers at outside installations.

**MATH 483. COMPUTER MATHEMATICS III.** *Four hours credit. (Three hours lecture, two hours laboratory.)*

Prerequisite, MATH 482. This is a continuation of MATH 482, stressing applications of FORTRAN and ALGOL to mathematical problems. Both numerical and non-numerical applications will be covered. Language translators and compilers and assemblies will be covered as will the mathematics and logic of computer arithmetic units. The final goal of the three courses is to give teachers of mathematics a confidence in computer technology.

## MATHEMATICS EDUCATION

**MED 370. MATHEMATICAL INSTRUMENTS AND SURVEYING.** *Four hours credit.*

Prerequisite, MATH 125. A course designed to show the teacher of mathematics some of the techniques and instruments used in many of the practical problems of measurement. Instruments studied are the slide rule, the sextant, and various instruments used in land surveying.

**MED 464. HISTORY OF MATHEMATICS I.** *Three hours credit.*

Prerequisite, MATH 322 or 341. A general view of the development of mathematics through the 18th century. Particular attention is given to the history of arithmetic, algebra, geometry, and mathematical symbolism.

**MED 471. INSTRUCTIONAL MATERIALS IN SECONDARY SCHOOL MATHEMATICS.** *Three hours credit. (Two hours lecture, two hours laboratory.)*

Prerequisite, MATH 131. This course introduces the student into the rich areas of possible sources of instructional materials which can be used for instructional purposes in the secondary school. Areas studied will include aesthetic values of mathematics, instructional models, historical materials, classroom equipment, recreational materials, and calculating devices.

## MEDICAL TECHNOLOGY

This major is administered by the Department of Chemistry.

These courses are open only to majors in Medical Technology.

### **MTEC 450. URINALYSIS AND CLINICAL MICROSCOPY.** *Three hours credit.*

This is a fundamental course in urinalysis covering the characteristics of urine, qualitative tests for sugars, ketone (or acetone) bodies, and protein, quantitative tests for sugars and protein, and microscopic examination of urine. Kidney function tests, other chemical tests, pregnancy tests and tests on gastric and duodenal contents are included.

### **MTEC 451. BASAL METABOLISM AND ELECTROCARDIOGRAPHY.** *One hour credit.*

This course covers the principles and techniques of determining the basal metabolic rate and the theory and technique of electrocardiography.

### **MTEC 452. HEMATOLOGY.** *Nine hours credit.*

This course covers the methods of obtaining blood, determination of hemoglobin, red and white blood cell counts, hematocrit, study of blood smears, platelet count, reticulocyte count, coagulation, clot retraction, bleeding and prothrombin time, direct eosinophile count, fragility of erythrocytes, sedimentation rate of erythrocytes and bone marrow smears preparation and study.

### **MTEC 453. PRETRANSFUSION TESTS AND BLOOD BANK PROCEDURES.** *Five hours credit.*

This course covers selection and pretesting of donors, copper sulphate method of determining minimum hemoglobin, bleeding of donors, basic theory of blood factors, ABO grouping tests, Rh factor and Rho, (D) typing, cross-matching tests, subgroups A, irregular agglutinins, cold agglutinins, transfusion reactions, emergency transfusions, Rh antibody tests, and Coombs' test.

### **MTEC 454. CLINICAL CHEMISTRY.** *Thirteen hours credit.*

Urine, cerebrospinal fluid, feces and other biological materials are examined. Preparation of reagents and protein-free filtrates are studied. Colorimetry and photometry chemical tests include blood-sugar, nonprotein nitrogen, urea nitrogen, creatinine, creatine, uric acid, albumin, globulin, acid-base balance, carbon dioxide capacity, chloride, phosphorus, phosphatases, calcium, sodium, potassium, liver function.

### **MTEC 455. SEROLOGY.** *Three hours credit.*

Principles of serology and immunology, the Kahn test, other flocculation and precipitation tests, colloidal gold and mastic tests, the complement fixation reaction, agglutination and opsonocytaphagic tests, cold agglutinins are studied.

### **MTEC 456. MEDICAL MICROBIOLOGY.** *Twelve hours credit.*

Culture mediums, sterilization and disinfection, morphology and physiology of bacteria, stains, classification, relation of parasites to disease, techniques for parasitologic examinations, vaccines and filtrates, filtrable viruses, mycology techniques, the superficial fungi, and the deep mycotic infections are studied.

### **MTEC 457. HISTOLOGIC TECHNIQUE.** *Two hours credit.*

Fixation and hardening of tissue, clearing of tissues, paraffin infiltration and blocking of tissue, sharpening of microtome knife, sectioning of tissue and preparation of sections for staining, routine staining technique, decalcification, frozen sections, special or differential staining methods, histochemistry, technique of exfoliative cytology are studied.

## METEOROLOGY

Courses in meteorology are administered by the Department of Earth Sciences.



**\*MET 100. GENERAL METEOROLOGY.** *Four hours credit. (Three hours lecture, two hours laboratory.)*

This is a basic course in meteorology for non-earth science majors. The course deals with general information on weather observation, circulation of the atmosphere, condensation and precipitation, and climate. It is designed to present an overview of the field of meteorology and its relationships to aviation, commerce, and health. The course will fulfill the general education requirement in earth science.

**\*MET 201. PRINCIPLES OF METEOROLOGY I.** *Four hours credit. (Three hours lecture, two hours laboratory.)*

A study of the structure and composition of the atmosphere, with stress on the weather factors of temperature, pressure, humidity, and air movement at surface and aloft. Radiation, processes of cloud formation, stability of the atmosphere, and the general circulation of the atmosphere will be considered, as well as a discussion of meteorological instruments and the principles of their operation. Laboratory will be required for work with meteorological instruments, plotting and interpretation of various weather charts and maps. Students cannot receive credit for both MET 100 and 201.

**\*MET 202. PRINCIPLES OF METEOROLOGY II.** *Four hours credit. (Three hours lecture, two hours laboratory.)*

Prerequisite, MET 201. A continuation of the topics and principles developed in MET 201. Air masses and their modification, fronts, circulation in the tropics, hurricanes, tornadoes, and other types of severe weather, weather and climate modification, and some applications of meteorology will be considered.

**\*MET 320. CLIMATOLOGY.** *Three hours credit.*

Prerequisite, MET 100 or 202. The physical basis of climate will be considered briefly. Main consideration will be given to climatic classification, the regional distribution of climates around the world, with specific attention on the climates of Colorado, and to the relationships of climate to agriculture, housing, water resources, transportation, and other human activities.

**MET 330. PHYSICAL METEOROLOGY.** *Three hours credit.*

Prerequisite, MET 100 or 202. A study of radiation processes, the thermodynamics of moist air, condensation, and precipitation. Use of adiabatic diagrams and other charts. Atmospheric electricity and weather modification will also be considered.

**MET 440. SYNOPTIC METEOROLOGY.** *Four hours credit. (Two hours lecture, four hours laboratory.)*

Prerequisites, MET 201, 330. A study of the fundamental topics of synoptic meteorology, such as air mass development, fronts and frontogenesis, cyclones and anticyclones, long- and short-waves in the atmosphere, the jet stream, and the vertical structure of the atmosphere. Elementary analysis and forecasting exercises in the laboratory will apply these topics to actual weather situations. Maps and charts of the U.S. Weather Bureau will be considered.

**MET 450. SEVERE WEATHER PHENOMENA.** *Three hours credit.*

Prerequisite, MET 202. A study of the development and structure of thunderstorms, squall lines, tornadoes, and hurricanes.

## MEXICAN AMERICAN STUDIES

**\*MAS 300. THE CONTEMPORARY MEXICAN AMERICAN I.** *Three hours credit.*

Introduction to the history and life way of the Mexican American in the Southwest. Historical emphasis is on the Mexican period. Attention is given to traditional family patterns, religion, language, values, and behavior patterns as they have developed in the Southwest.

**\*MAS 301. THE CONTEMPORARY MEXICAN AMERICAN II.** *Three hours credit.*

Spanish settlement patterns, conflict and loss of lands. Spanish American War, entry into the 20th century. Emphasis is upon the rural to urban transition.

Mexican American perceptions of the socio-cultural environment in which he lives. Anglo perceptions of the Mexican American. The importance of cultural difference, cultural conflict and cultural shock, self-image, and group image-building.

**\*MAS 302. THE CONTEMPORARY MEXICAN AMERICAN III.** *Three hours credit.*

The Mexican American today. Current problems with regard to employment, education, and law enforcement are studied. Problems of assimilation, acculturation, and biculturalism, and the movement toward separatism are examined.

## MUSIC

**MUS 101. SIGHT-SINGING AND THEORY I.** *Four hours credit.*

Sight-reading of standard music materials, pitch and rhythmic dictation, symbols of music notation, staff, clefs, scale construction in major and minor keys, and intervals. Class meets for four days plus a fifth day of keyboard lab.

**MUS 102. SIGHT-SINGING AND THEORY II.** *Four hours credit.*

Prerequisite, MUS 101. Continuation of sight-reading, ear training, and dictation; elementary theory to include study of intervals and inversions, triads and inversions, construction of principal and secondary chords, melody writing, and elementary form study. Class meets for four days plus a fifth day of keyboard lab.

**MUS 103. SIGHT-SINGING AND THEORY III.** *Four hours credit.*

Prerequisite, MUS 102. Continuation of sight-reading, ear training and dictation; chords of seventh and ninth, cadences, analysis, and ear training of standard harmonic materials. Class meets for four days plus fifth day of keyboard lab.

**\*MUS 130. STRING ENSEMBLE.** *One hour credit.*

**\*MUS 131. BRASS ENSEMBLE.** *One hour credit.*

**\*MUS 132. WOODWIND ENSEMBLE.** *One hour credit.*

**\*MUS 133. PERCUSSION ENSEMBLE.** *One hour credit.*

**\*MUS 134. PIANO ENSEMBLE.** *One hour credit.*

**MUS 135. STAGE AND OPERA TECHNIQUES.** *Two hours credit.*

Study of proper selection of opera and operetta; its organization and procedures for casting and tryouts. Rehearsal procedures, scenery, lighting, costuming and makeup; advertising, tickets and programs, and other basics necessary to production of a public performance.

**\*MUS 140. MUSIC APPRECIATION.** *Two hours credit.*

A non-technical course aiming to increase the enjoyment and appreciation of music by the listener with little or no previous background. This course will be devoted largely to listening and discussion of the assigned listening.

**\*MUS 141. MUSIC LITERATURE AND STYLES I.** *Two hours credit.*

The twofold purpose of this course is to foster an appreciation for the best in music and to provide the student with basic music information in the fields of media, terminology, chronology, biography, repertoire and stylistic analysis.

**\*MUS 142. MUSIC LITERATURE AND STYLES II.** *Two hours credit.*

The twofold purpose of this course is to foster an appreciation for the best in music and to provide the student with basic music information in the fields of media, terminology, chronology, biography, repertoire and stylistic analysis.

**\*MUS 143. MUSIC LITERATURE AND STYLES III.** *Two hours credit.*

The twofold purpose of this course is to foster an appreciation for the best in music and to provide the student with basic music information in the fields of media, terminology, chronology, biography, repertoire and stylistic analysis.

**\*MUS 160. BEGINNING CLASS PIANO I.** *One hour credit.*

This is a course designed to fit the needs of the music major or non-major who does not have a background in piano. This includes reading skills, technique, and style necessary to the playing of simple accompaniments, community songs and other piano music used in the public schools.

**\*MUS 161. BEGINNING CLASS PIANO II.** *One hour credit.*

This is a course designed to fit the needs of the music major or non-major who does not have a background in piano. This includes reading skills, technique, and style necessary to the playing of simple accompaniments, community songs and other piano music used in the public schools.

**\*MUS 162. BEGINNING CLASS PIANO III.** *One hour credit.*

This is a course designed to fit the needs of the music major or non-major who does not have a background in piano. This includes reading skills, technique, and style necessary to the playing of simple accompaniments, community songs and other piano music.

**MUS 163. BEGINNING STRING INSTRUCTION I.** *One hour credit.*

A study, through performance, of the problems of string playing and the available literature for teaching in heterogeneous and homogeneous groups so that the student will be able, upon graduation, to establish string classes with full knowledge of the problems of string playing and their solution.

**MUS 164. BEGINNING STRING INSTRUCTION II.** *One hour credit.*

A study, through performance, of the problems of string playing and the available literature for teaching classes in heterogeneous and homogeneous groups so that the student will be able, upon graduation, to establish string classes with full knowledge of the problems of string playing and their solution.

**MUS 165. BEGINNING STRING INSTRUCTION III.** *One hour credit.*

A study, through performance, of the problems of string playing and the available literature for teaching classes in heterogeneous and homogeneous groups so that the student will be able, upon graduation, to establish string classes with full knowledge of the problems of string playing and their solution.

**\*MUS 170. INDIVIDUAL PERFORMANCE IN VOICE.** *One-three hours credit.***\*MUS 171. INDIVIDUAL PERFORMANCE IN PIANO.** *One-three hours credit.***\*MUS 172. INDIVIDUAL PERFORMANCE IN ORGAN.** *One-three hours credit.***\*MUS 173. INDIVIDUAL PERFORMANCE IN STRINGS.** *One-three hours credit.***\*MUS 174. INDIVIDUAL PERFORMANCE IN WOODWINDS.** *One-three hours credit.***\*MUS 175. INDIVIDUAL PERFORMANCE IN BRASS.** *One-three hours credit.***\*MUS 176. INDIVIDUAL PERFORMANCE IN PERCUSSION.** *One-three hours credit.***\*MUS 177. INDIVIDUAL INSTRUCTION IN COMPOSITION.** *One-three hours credit.***\*MUS 178. INDIVIDUAL PERFORMANCE IN HARP.** *One-three hours credit.***\*MUS 179. INDIVIDUAL PERFORMANCE IN GUITAR.** *One-three hours credit.*

**\*MUS 180. MIXED CONCERT CHOIR.** *One hour credit.*

Membership in the concert choir is limited to approximately 60 singers. This organization performs a wide range of choral literature from the classics to the music of contemporary composers. The organization is recognized widely for its excellence as a choral performing group. It is in demand throughout the region for concert appearances.

**\*MUS 181. ORATORIO CHORUS.** *One hour credit.*

Membership to the group of approximately 150 singers is open to all college students on an audition basis. The choir specializes in the performance of large choral masterworks such as Handel's "Messiah" and the "Creation" by Haydn.

**\*MUS 182. UNIVERSITY SINGERS.** *One hour credit.*

A select group of approximately 20 singers utilizing music specifically written for a chamber ensemble. Included in the performing repertoire are madrigals, motets, cantatas and selections from Broadway shows, folk songs, jazz and pop.

**\*MUS 183. WOMEN'S CONCERT CHOIR.** *One hour credit.*

The women's choir is open to all women students who enjoy singing the literature for women's voices. This group performs for many local community and college events. Elementary education majors are especially urged to apply for membership.

**\*MUS 184. VARSITY MEN'S GLEE CLUB.** *One hour credit.*

Membership is open to the entire male student body. A love of singing is the main requirement for registration. No formal audition is necessary. The Varsity Men's Glee Club affords an opportunity for men from all schools and departments to participate in the great tradition of men's ensemble singing while performing a wide range of literature before college and community audiences.

**\*MUS 185. OPERA WORKSHOP.** *One to three hours credit.*

Workshop offering practical experience in production of a musico-dramatic show. Techniques of acting, singing, directing, and other facets necessary for preparation of a show for public performance will be offered.

**\*MUS 186. CHORUS AND ORCHESTRA WORKSHOP.** *One hour credit.*

Conducted by authorities nationally known in their fields of specialization. The purpose of the workshop is to provide information about current important ideas in each field of knowledge.

**\*MUS 190. SYMPHONIC WIND BAND.** *One hour credit.*

The Symphonic Wind Band is limited in enrollment to approximately 80 members. This organization performs the best literature available for the band. Over the years this UNC band has become known throughout the region for its excellence as a concert organization. The Symphonic Wind Band presents many concerts during the year, and takes an annual tour.

**\*MUS 191. CONCERT BAND.** *One hour credit.*

The Concert Band is open to all band performers who wish a more limited band experience than is provided by the Symphonic Wind Band. This band studies, rehearses, and presents advanced forms of concert band literature.

**\*MUS 192. MARCHING BAND.** *One hour credit.*

Open to all men students regardless of major field who have had high school band experience. A study and practice of the fundamentals of drill and presentation of marching maneuvers and pageants at athletic events. Required during Fall Quarter for men in the instrumental music education program or in Symphonic Wind Band, Concert Band or Varsity Band.

**\*MUS 193. VARSITY BAND.** *One hour credit.*

Open to all students regardless of major who have had high school band experience. To provide music for athletic and college functions. To read material suitable for use by high school band.

**\*MUS 194. JAZZ ENSEMBLE.** *One hour credit.*

Membership in the Jazz Ensemble is limited to five trumpets, five trombones, five saxophones, and three rhythm players (piano, string bass, percussion). This

unit is concerned with jazz idiom music: show music, dance music, and concert jazz. The goal of this type of ensemble training is to give the student a thorough idiom in preparation for teaching at both the secondary and college levels. Members of Jazz Ensemble who are music majors must be enrolled in a major ensemble.

**\*MUS 195. CHAMBER BRASS CONSORT.** *One hour credit.*

A select performing ensemble of 15 to 20 brass students with added percussionists when necessary. Concentration is upon familiarization of literature for the brass instrumental media as well as upon development of musical sensitivity, phrasing, style and intonation.

**\*MUS 196. UNIVERSITY SYMPHONY ORCHESTRA.** *One hour credit.*

The University Symphony Orchestra is open to all students by audition. The organization performs and reads the standard repertoire of the modern symphony orchestra. Quarterly concerts are given on campus in addition to one tour taken yearly. The orchestra also participates in a Spring Quarter chorus and orchestra event.

**\*MUS 197. CHAMBER ORCHESTRA.** *One hour credit.*

A select group of approximately 20 string students chosen by audition from the membership of the Symphony Orchestra. The Orchestra performs and reads literature from the Baroque to the present day, specializing in material specifically designed for chamber orchestra.

**\*MUS 198. LABORATORY ORCHESTRA.** *One hour credit.*

A laboratory course to provide practice orchestra experience on stringed instruments. Orchestral materials and the use of them for continued development of string students will be discussed and demonstrated.

**MUS 201. ADVANCED SIGHT-SINGING AND THEORY I.** *Three hours credit.*

Prerequisite, MUS 103. A continuation of MUS 103. Written work will include cadences, inversions, diatonic modulations and all non-harmonic tones. Keyboard labs, harmonic dictation, and written theory will be correlated. Class meets three days a week plus one-half hour keyboard lab.

**MUS 202. ADVANCED SIGHT-SINGING AND THEORY II.** *Three hours credit.*

Prerequisite, MUS 201. A continuation of Music 201 but primary emphasis in the work in seventh chords, altered chords, and chromatic modulation. Class meets three days a week plus one-half hour keyboard lab.

**MUS 203. ADVANCED SIGHT-SINGING AND THEORY III.** *Three hours credit.*

Prerequisite, MUS 202. A continuation of Music 202 but primary emphasis in the written work will be placed upon studies of 20th century techniques, with student compositions performed and evaluated in class. Class meets three days a week plus one-half hour keyboard lab.

**\*MUS 204. MUSIC FUNDAMENTALS I.** *Two hours credit.*

A comprehensive study of the rudiments of music. Practice is given in simple ear training, music writing through dictation, rhythm work, syllable reading, and group singing. For non-music majors.

**\*MUS 205. MUSIC FUNDAMENTALS II.** *Three hours credit.*

This course takes up the study of (1) primary and secondary chords in relationship to sight singing in unison and part singing, playing chordal accompaniments on instruments, and creative composition; (2) singing, playing, and creating rhythmic patterns; and (3) expressive conducting of songs.

**MUS 206. MUSIC FUNDAMENTALS FOR DANCERS.** *Two hours credit.*

A course designed to present the fundamentals of melody, rhythm, form, harmony, and styles in music with special emphasis on the relations of dance and music. Practical application of the above will be stressed. For the dance minor and non-music major.

**MUS 210. INTRODUCTION TO MUSIC EDUCATION.** *Two hours credit.*

Prerequisite, MUS 103. An introduction course for prospective teachers of music covering the place of music in the school program, recent trends in school music, the qualifications of the music teacher, and a consideration of beginning instructional problems. For music majors only.

\***MUS 230. STRING ENSEMBLE.** *One hour credit.*

\***MUS 231. BRASS ENSEMBLE.** *One hour credit.*

\***MUS 232. WOODWIND ENSEMBLE.** *One hour credit.*

\***MUS 233. PERCUSSION ENSEMBLE.** *One hour credit.*

\***MUS 234. PIANO ENSEMBLE.** *One hour credit.*

**MUS 235. STAGE AND OPERA TECHNIQUES.** *Two hours credit.*

Study of proper selection of opera and operetta; its organization and procedures for casting and tryouts. Rehearsal procedures, scenery, lighting, costuming and makeup; advertising, tickets and programs, and other basics necessary to production of a public performance.

**MUS 240. HISTORY OF MUSIC I.** *Three hours credit.*

Prerequisites, MUS 101, 102, and 103. The historical change in music from earliest times to the end of the sixteenth century with emphasis on the changes in style.

**MUS 241. HISTORY OF MUSIC II.** *Three hours credit.*

Prerequisite, MUS 240. A study of historical changes which took place in music in the Baroque period (1600-1750) and the Classic period (1750-1800) with emphasis on changes caused by the new monodic style found in opera, and the beginning of instrumental music.

**MUS 242. HISTORY OF MUSIC III.** *Three hours credit.*

Prerequisite, MUS 241. A study of the musical changes caused by the Romantic, Post-Romantic and Impressionistic periods from 1800 to 1920.

\***MUS 260. INTERMEDIATE CLASS PIANO I.** *One hours credit.*

This is a course in functional piano designed to fit the needs of the music major or non-major who has a slight background in piano. In this course is included the teaching of reading skills, techniques, and style necessary to the playing of simple accompaniments, community songs and other piano music used in the public schools.

\***MUS 261. INTERMEDIATE CLASS PIANO II.** *One hour credit.*

This is a course in functional piano designed to fit the needs of the music major or non-major who has a slight background in piano. In this course is included the teaching of reading skills, techniques, and style necessary to the playing of simple accompaniments, community songs and other piano music used in the public schools.

\***MUS 262. INTERMEDIATE CLASS PIANO III.** *One hour credit.*

This is a course in functional piano designed to fit the needs of the music major or non-major who has a slight background in piano. In this course is included the teaching of reading skills, techniques, and style necessary to the playing of simple accompaniments, community songs and other piano music used in the public schools.

\***MUS 270. INDIVIDUAL PERFORMANCE IN VOICE.** *One-three hours credit.*

\***MUS 271. INDIVIDUAL PERFORMANCE IN PIANO.** *One-three hours credit.*

\***MUS 272. INDIVIDUAL PERFORMANCE IN ORGAN.** *One-three hours credit.*

\***MUS 273. INDIVIDUAL PERFORMANCE IN STRINGS.** *One-three hours credit.*

- \*MUS 274.** INDIVIDUAL PERFORMANCE IN WOODWINDS. *One-three hours credit.*
- \*MUS 275.** INDIVIDUAL PERFORMANCE IN BRASS. *One-three hours credit.*
- \*MUS 276.** INDIVIDUAL PERFORMANCE IN PERCUSSION. *One-three hours credit.*
- \*MUS 277.** INDIVIDUAL INSTRUCTION IN COMPOSITION. *One-three hours credit.*
- \*MUS 278.** INDIVIDUAL PERFORMANCE IN HARP. *One-three hours credit.*
- \*MUS 279.** INDIVIDUAL PERFORMANCE IN GUITAR. *One-three hours credit.*

**\*MUS 280.** MIXED CONCERT CHOIR. *One hour credit.*

Membership in the concert choir is limited to approximately 60 singers. This organization performs a wide range of choral literature from the classics to the music of contemporary composers. The organization is recognized widely for its excellence as a choral performing group. It is in demand throughout the region for concert appearances.

**\*MUS 281.** ORATORIO CHORUS. *One hour credit.*

Membership to the group of approximately 150 singers is open to all college students on an audition basis. The choir specializes in the performance of large choral masterworks such as Handel's "Messiah" and the "Creation" by Haydn.

**\*MUS 282.** UNIVERSITY SINGERS. *One hour credit.*

A select group of approximately 20 singers utilizing music specifically written for a chamber ensemble. Included in the performing repertoire are madrigals, motets, cantatas and selections from Broadway shows, folk songs, jazz and pop.

**\*MUS 283.** WOMEN'S CONCERT CHOIR. *One hour credit.*

The women's choir is open to all women students who enjoy singing the literature for women's voices. This group performs for many local community and college events. Elementary education majors are especially urged to apply for membership.

**\*MUS 284.** VARSITY MEN'S GLEE CLUB. *One hour credit.*

Membership is open to the entire male student body. A love of singing is the main requirement for registration. No formal audition is necessary. The Varsity Men's Glee Club affords an opportunity for men from all schools and divisions to participate in the great tradition of men's ensemble singing while performing a wide range of literature before college and community audiences.

**\*MUS 285.** OPERA WORKSHOP. *One to three hours credit.*

Workshop offering practical experience in production of a musico-dramatic show. Techniques of acting, singing, directing, and other facets necessary for preparation of a show for public performance will be offered.

**\*MUS 286.** CHORUS AND ORCHESTRA WORKSHOP. *One hour credit.*

Conducted by authorities nationally known in their fields of specialization. The purpose of the workshop is to provide information about current important ideas in each field of knowledge.

**\*MUS 290.** SYMPHONIC WIND BAND. *One hour credit.*

The Symphonic Wind Band is limited in enrollment to approximately 80 members. This organization performs the best literature available for the band. Over the years this UNC band has become known throughout the region for its excellence as a concert organization. The Symphonic Wind Band presents many concerts during the year, and takes an annual tour.

## 222 / COURSE DESCRIPTIONS

### **\*MUS 291. CONCERT BAND.** *One hour credit.*

The Concert Band is open to all band performers who wish a more limited band experience than is provided by the Symphonic Wind Band. This band studies, rehearses, and presents advanced forms of concert band literature.

### **\*MUS 292. MARCHING BAND.** *One hour credit.*

Open to all men students regardless of major field who have had high school band experience. A study and practice of the fundamentals of drill and presentation of marching maneuvers and pageants at athletic events. Required during Fall Quarter for men in the instrumental music education program or in Symphonic Wind Band, Concert Band or Varsity Band.

### **\*MUS 293. VARSITY BAND.** *One hour credit.*

Open to all students regardless of major who have had high school band experience. To provide music for athletic and college functions. To read material suitable for use by high school band.

### **\*MUS 294. JAZZ ENSEMBLE.** *One hour credit.*

Membership in the Jazz Ensemble is limited to five trumpets, five trombones, five saxophones, and three rhythm players (piano, string bass, percussion). This unit is concerned with jazz idiom music: show music, dance music, and concert jazz. The goal of this type of ensemble training is to give the student a thorough idiom in preparation for teaching at both the secondary and college levels. Members of Jazz Ensemble who are music majors must be enrolled in a major ensemble.

### **\*MUS 295. CHAMBER BRASS CONSORT.** *One hour credit.*

A select performing ensemble of 15 to 20 brass students with added percussionists when necessary. Concentration is upon familiarization of literature for the brass instrumental media as well as upon development of musical sensitivity, phrasing, style and intonation.

### **\*MUS 296. UNIVERSITY SYMPHONY ORCHESTRA.** *One hour credit.*

The University Symphony Orchestra is open to all students by audition. The organization performs and reads the standard repertoire of the modern symphony orchestra. Quarterly concerts are given on campus in addition to one tour taken yearly. The orchestra also participates in a Spring Quarter chorus and orchestra event.

### **\*MUS 297. CHAMBER ORCHESTRA.** *One hour credit.*

A select group of approximately 20 string students chosen by audition from the membership of the Symphony Orchestra. The Orchestra performs and reads literature from the Baroque to the present day, specializing in materials specifically designed for chamber orchestra.

### **\*MUS 298. LABORATORY ORCHESTRA.** *One hour credit.*

A laboratory course to provide practice orchestra experience on stringed instruments. Orchestral materials and the use of them for continued development of string students will be discussed and demonstrated.

### **MUS 301. COUNTERPOINT.** *Three hours credit.*

Prerequisite, MUS 203. A study of the five species of counterpoint through four parts (or voices); the invention, canon, and fugue; a seminar on the construction and form as applied to contrapuntal technique.

### **MUS 302. HOMOPHONIC FORMS.** *Three hours credit.*

Prerequisite, MUS 203. The purpose of this course is to acquaint the student with the structure of homophonic forms, beginning with the motif and continuing to the analysis of the sonata, rondo, and variation forms.

### **MUS 303. INSTRUMENTATION.** *Three hours credit.*

Prerequisite, MUS 203. A course planned to develop knowledge and skill in arranging and orchestrating for various combinations of instruments from a few instruments to a full symphony orchestra.

### **MUS 310. INTRODUCTION TO TEACHING ELEMENTARY GENERAL MUSIC. (PTE)** *Two hours credit.*

Student attends class three times per week, participating in class discussions



and demonstrations of teaching elementary music, and in addition spends a minimum of two hours per week observing in the Laboratory School and in the surrounding public schools.

**MUS 311. TEACHING JUNIOR HIGH SCHOOL GENERAL MUSIC.** (PTE) *Three hours credit.*

The object of this course is to combine methodology, observation, and some teaching in such a manner as to provide opportunity for the music major to gain insight into the musical, psychological, and humanistic aspects of teaching general music to junior high school students.

**MUS 312. INTRODUCTION TO TEACHING GENERAL MUSIC IN THE ELEMENTARY AND SECONDARY SCHOOLS.** *Three hours credit.*

This course is designed to give instrumental emphasis music majors insight into the importance and purposes of general music in the public schools and to help the student develop methodology and materials needed to teach general music from kindergarten through the 12th grade of high school.

**MUS 313. TEACHING INSTRUMENTAL MUSIC.** (PTE) *Three hours credit.*

This course will endeavor (1) to present the various aspects of instrumental music in the public schools, both physical and musical; (2) to assist the student in making a systematic preparation for the task of developing a well-rounded instrumental music program.

**MUS 314. SENIOR HIGH SCHOOL VOCAL METHODS AND MATERIALS.** *One hour credit.*

Prerequisite, MUS 324. An investigation and performance of choral literature from all periods of composition conducive for use in varying junior and senior high school vocal situations. Each student will be required to develop an extensive annotated bibliography of various literature types.

**MUS 315. MUSIC AND RECREATION.** *Two hours credit.*

The following aspects of recreational music will be stressed: singing and leading of community songs; formation, training, and operation of community performance groups; learning to play some of the simple social instruments and becoming proficient in teaching others how to listen to music intelligently. For non-music majors.

**MUS 316. MUSIC METHODS AND MATERIALS FOR ELEMENTARY TEACHERS (PTE).** *Two hours credit.*

Prerequisite, MUS 101 or 204. A comprehensive methods course for the elementary classroom teacher covering the teaching of singing, rhythm, music reading, creative activities and music listening. A list of recorded music and song literature for each grade will be developed by the class. Grade placement for all aspects of the music program will be studied.

**MUS 317. MUSIC LITERATURE FOR ELEMENTARY GRADES.** *Three hours credit.*

Music major prerequisite, MUS 310. Non-music major prerequisites, MUS 204, 316. A course designed to further acquaint the classroom teacher and music supervisor with the music literature and instructional aids used in the elementary grades. Collections are made of: (1) songs; (2) rhythmic activities; (3) listening lessons; (4) elementary chorus selections; and (5) program and assembly materials. For both elementary classroom teachers and music supervisors.

**MUS 318. IMPROVEMENT OF INSTRUCTION IN MUSIC READING.** *Three hours credit.*

Prerequisites, MUS 210, 204, and 316. A complete analysis of the program in music reading in the elementary grades. Includes an evaluation of basic methods and materials, curriculum building in music reading, and a survey of published materials suitable for classroom use.

**MUS 319. MUSIC ACTIVITIES FOR CLASSROOM TEACHERS.** *Three hours credit.*

Activities in music for children requiring a minimum of musical skill on the part of the teacher. Includes a study of such activities as playing and reading music with simple melody instruments, the use of the autoharp for song accompaniment, the rhythm band, the construction of simple instruments, and the teaching of songs and rhythmic activities through the use of the phonograph.

**MUS 320. INSTRUMENTAL TECHNIQUES AND CONDUCTING I.** *One hour credit.*

Prerequisites, MUS 101, 102, 103. The technique, practice and principles of instrumental conducting. The development of effective hand and baton technique. Drill and examples of the various meter patterns, tempo, style, dynamics, musical terms, study and preparation of the musical score. Extensive experience in interpretation of materials using the laboratory band and orchestra.

**MUS 321. INSTRUMENTAL TECHNIQUES AND CONDUCTING II.** *One hour credit.*

Prerequisite, MUS 320. The techniques and practice of instrumental conducting. The development of hand and baton technique. Meter patterns, tempo, style, dynamics, musical terms, study and preparation of the musical score. Extensive experience in interpretation of materials using the laboratory band and orchestra.

**MUS 322. INSTRUMENTAL TECHNIQUES AND CONDUCTING III.** *One hour credit.*

Prerequisite, MUS 321. The techniques and practice of instrumental conducting. The development of hand and baton technique. Meter patterns, tempo, style, dynamics, musical terms, study and preparation of the musical score. Extensive experience in interpretation of materials using the laboratory band and orchestra.

**MUS 323. CHORAL TECHNIQUES AND CONDUCTING I.** *One hour credit.*

Prerequisites, MUS 101, 102, 103, 141, 142, and 143. This course is designed to develop a basic conducting technique for the choral musician. Meter patterns, preparatory beats, cueing and releases are studied and applied. Ideas relative to tone production diction, blend, balance and intonation are discussed. Musical scores are prepared and conducted.

**MUS 324. CHORAL TECHNIQUES AND CONDUCTING II.** *One hour credit.*

Prerequisite, MUS 323. This is a continuation of the work begun in 166. Stress is placed on the mastery of some of the larger, more complex scores. Irregular beat patterns, up-beat pickups and other advanced technical problems are studied and methods for solving them developed.

**MUS 325. TEACHING MUSIC APPRECIATION.** *Three hours credit.*

Music major prerequisites, MUS 210 and 310. Non-music major prerequisites, MUS 316 or 310. Developing a music listening program for schools covering methods of teaching, recorded materials and the construction of a graded program. The published recorded material suitable for both elementary and high school students is studied, as well as reference and textbooks dealing with music appreciation.

**MUS 326. THE SCHOOL MUSIC PROGRAM FOR THE HANDICAPPED.** *Three hours credit.*

A course designed to present a music program for the various handicapped children who are part of the public schools: the mentally retarded, the culturally handicapped, the blind, the hard of hearing, emotionally disturbed, and the physically handicapped.

\*MUS 330. STRING ENSEMBLE. *One hour credit.*

\*MUS 331. BRASS ENSEMBLE. *One hour credit.*

**\*MUS 332. WOODWIND ENSEMBLE.** *One hour credit.*

**\*MUS 333. PERCUSSION ENSEMBLE.** *One hour credit.*

**\*MUS 334. PIANO ENSEMBLE.** *One hour credit.*

**\*MUS 335. STAGE AND OPERA TECHNIQUES.** *Two hours credit.*

Study of proper selection of opera and operetta; its organization and procedures for casting and tryouts. Rehearsal procedures, scenery, lighting, costuming and makeup; advertising, tickets and programs, and other basics necessary to production of a public performance.

**\*MUS 340. SURVEY OF HISTORY AND LITERATURE OF JAZZ.** *Two hours credit.*

A survey of the history and literature of jazz music from its beginnings to the present. This course is open to all students.

**\*MUS 341. MUSIC AND THE RELATED ARTS.** *Two hours credit.*

A study of the relationship of music, painting, architecture, poetry, dance, drama, sculpture, film, with emphasis on the humanistic values of the arts and their impact on the philosophical and social problems of our time. Technical analysis will be restricted to a minimum, while meaning and interpretation will be stressed. This course is open to all students.

**\*MUS 342. AMERICAN NEGRO MUSIC PRIOR TO 1860.** *Two hours credit.*

This course is designed to survey the history and literature of American Negro music before the Civil War: the West African beginnings, the process of combining with the European musical traditions of colonial America, and the subsequent nineteenth century development of American Negro musical forms, i.e., spirituals, work songs, shouts, corn songs, and hollers. This course is open to all students.

**MUS 360. VOICE CLASS.** *One hour credit.*

For beginning voice students, particularly elementary majors and majors in instrumental music. Course includes fundamentals of singing, interpretation and solo repertoire.

**MUS 361. FLUTE CLASS.** *One hour credit.*

To develop a teaching knowledge of the flute, its individual problems, its functions and its possibilities. To acquaint the prospective teacher with the pedagogic and concert literature, to develop an understanding of the problems of tone production and to acquire sufficient skill to demonstrate the instrument.

**MUS 362. CLARINET AND SAXOPHONE CLASS.** *One hour credit.*

To develop a teaching knowledge of the clarinet and saxophone families, their specific problems, their functions and their possibilities. To acquaint the prospective teacher with the pedagogic and concert literature and to develop sufficient skill to demonstrate the instruments.

**MUS 363. DOUBLE REED CLASS.** *One hour credit.*

To develop a teaching knowledge of the oboe and bassoon, their individual problems, their functions, and their possibilities. To acquaint the prospective teacher with the pedagogic and concert literature, to develop an understanding of the reed and to acquire sufficient skill to demonstrate these instruments.

**MUS 364. TRUMPET AND FRENCH HORN CLASS.** *One hour credit.*

A concentrated course in trumpet and French horn to develop a teaching knowledge of the instruments and to develop enough playing skill to demonstrate good tone, technique, and breath control.

**MUS 365. LOW BRASS CLASS.** *One hour credit.*

To develop a teaching knowledge of trombone, baritone, and tuba. To acquire sufficient skill for purposes of demonstration.

**MUS 366. PERCUSSION CLASS.** *One hour credit.*

To develop a teaching knowledge of percussion instruments, their possibilities, their functions, their difficulties and how to best overcome them, to acquire sufficient skill for purposes of demonstration.

**MUS 367. BRASS AND PERCUSSION CLASS.** *One hour credit.*

This course is required of all music majors with vocal, piano, and general music emphasis (BA in Music Education). The fundamentals of brass and percussion instruments and brass and percussion training literature will be covered.

**MUS 368. STRING CLASS.** *One hour credit.*

To develop a teaching knowledge of the characteristics of the strings, their resources, their difficulties and how best to overcome them. To study the basic principles of string performance and to acquire some technical facility by daily practice.

**MUS 369. WOODWIND CLASS.** *One hour credit.*

This course is required of all music majors with vocal, piano, and general music emphasis (BA in Music Education). The fundamentals of woodwind instruments and training literature for woodwinds will be covered.

\***MUS 370. INDIVIDUAL PERFORMANCE IN VOICE.** *One-three hours credit.*

\***MUS 371. INDIVIDUAL PERFORMANCE IN PIANO.** *One-three hours credit.*

\***MUS 372. INDIVIDUAL PERFORMANCE IN ORGAN.** *One-three hours credit.*

\***MUS 373. INDIVIDUAL PERFORMANCE IN STRINGS.** *One-three hours credit.*

\***MUS 374. INDIVIDUAL PERFORMANCE IN WOODWINDS.** *One-three hours credit.*

\***MUS 375. INDIVIDUAL PERFORMANCE IN BRASS.** *One-three hours credit.*

\***MUS 376. INDIVIDUAL PERFORMANCE IN PERCUSSION.** *One-three hours credit.*

\***MUS 377. INDIVIDUAL INSTRUCTION IN COMPOSITION.** *One-three hours credit.*

\***MUS 378. INDIVIDUAL PERFORMANCE IN HARP.** *One-three hours credit.*

\***MUS 379. INDIVIDUAL PERFORMANCE IN GUITAR.** *One-three hours credit.*

\***MUS 380. MIXED CONCERT CHOIR.** *One hour credit.*

Membership in the concert choir is limited to approximately 60 singers. This organization performs a wide range of choral literature from the classics to the music of contemporary composers. The organization is recognized widely for its excellence as a choral performing group. It is in demand throughout the region for concert appearances.

\***MUS 381. ORATORIO CHORUS.** *One hour credit.*

Membership to the group of approximately 150 singers is open to all college students on an audition basis. The choir specializes in the performance of large choral masterworks such as Handel's "Messiah" and the "Creation" by Haydn.

\***MUS 382. UNIVERSITY SINGERS.** *One hour credit.*

A select group of approximately 20 singers utilizing music specifically written for a chamber ensemble. Included in the performing repertoire are madrigals, motets, cantatas and selections from Broadway shows, folk songs, jazz and pop.

**\*MUS 383. WOMEN'S CONCERT CHOIR.** *One hour credit.*

The women's choir is open to all women students who enjoy singing the literature for women's voices. This group performs for many local community and college events. Elementary education majors are especially urged to apply for membership.

**\*MUS 384. VARSITY MEN'S GLEE CLUB.** *One hour credit.*

Membership is open to the entire male student body. A love of singing is the main requirement for registration. No formal audition is necessary. The Varsity Men's Glee Club affords an opportunity for men from all schools and divisions to participate in the great tradition of men's ensemble singing while performing a wide range of literature before college and community audiences.

**\*MUS 385. OPERA WORKSHOP.** *One to three hours credit.*

Workshop offering practical experience in production of a musico-dramatic show. Techniques of acting, singing, directing, and other facets necessary for preparation of a show for public performance will be offered.

**\*MUS 386. CHORUS AND ORCHESTRA WORKSHOP.** *One hour credit.*

Conducted by authorities nationally known in their fields of specialization. The purpose of the workshop is to provide information about current important ideas in each field of knowledge.

**\*MUS 390. SYMPHONIC WIND BAND.** *One hour credit.*

The Symphonic Wind Band is limited in enrollment to approximately 80 members. This organization performs the best literature available for the band. Over the years this UNC band has become known throughout the region for its excellence as a concert organization. The Symphonic Wind Band presents many concerts during the year, and takes an annual tour.

**\*MUS 391. CONCERT BAND.** *One hour credit.*

The Concert Band is open to all band performers who wish a more limited band experience than is provided by the Symphonic Wind Band. This band studies, rehearses, and presents advanced forms of concert band literature.

**\*MUS 392. MARCHING BAND.** *One hour credit.*

Open to all men students regardless of major field who have had high school band experience. A study and practice of the fundamentals of drill and presentation of marching maneuvers and pageants at athletic events. Required during Fall Quarter for men in the instrumental music education program or in Symphonic Wind Band, Concert Band or Varsity Band.

**\*MUS 393. VARSITY BAND.** *One hour credit.*

Open to all students regardless of major who have had high school band experience. To provide music for athletic and university functions. To read material suitable for use by high school band.

**\*MUS 394. JAZZ ENSEMBLE.** *One hour credit.*

Membership in the Jazz Ensemble is limited to five trumpets, five trombones, five saxophones, and three rhythm players (piano, string bass, percussion). This unit is concerned with jazz idiom music: show music, dance music, and concert jazz. The goal of this type of ensemble training is to give the student a thorough idiom in preparation for teaching at both the secondary and college levels. Members of Jazz Ensemble who are music majors must be enrolled in a major ensemble.

**\*MUS 395. CHAMBER BRASS CONSORT.** *One hour credit.*

A select performing ensemble of 15 to 20 brass students with added percussionists when necessary. Concentration is upon familiarization of literature for the brass instrumental media as well as upon development of musical sensitivity, phrasing, style and intonation.

**\*MUS 396. UNIVERSITY SYMPHONY ORCHESTRA.** *One hour credit.*

The University Symphony Orchestra is open to all students by audition. The organization performs and reads the standard repertoire of the modern symphony orchestra. Quarterly concerts are given on campus in addition to one tour taken yearly. The orchestra also participates in a Spring Quarter chorus and orchestra event.

**\*MUS 397. CHAMBER ORCHESTRA.** *One hour credit.*

A select group of approximately 20 string students chosen by audition from the membership of the Symphony Orchestra. The Orchestra performs and reads literature from the Baroque to the present day, specializing in materials specifically designed for chamber orchestra.

**\*MUS 398. LABORATORY ORCHESTRA.** *One hour credit.*

A laboratory course to provide practice orchestra experience on stringed instruments. Orchestral materials and the use of them for continued development of string students will be discussed and demonstrated.

**MUS 401. IMPROVISATION.** *Two hours credit.*

Improvisation is one of the most natural forms of musical expression. The course starts with simple vocal and rhythmical improvisations and proceeds to group improvisation, using prepared charts which indicate mood, tempo, form, and the structural role, leading or accompanying, of each instrument.

**MUS 402. POLYPHONIC FORMS.** *Three hours credit.*

A study of the forms, techniques and literature of the 17th, 18th, and 19th century polyphonic music.

**MUS 403. ACOUSTICS OF MUSIC.** *Three hours credit.*

A study of (1) basic concepts; (2) harmonic motion, transmission of sound, interference; (3) hearing, resonance, pitch, quality, temperament; (4) acoustical properties of string, wind and percussion instruments; and (5) electronic musical instruments.

**MUS 410. METHODS AND MATERIALS FOR CLASS VOICE INSTRUCTION.** *Two hours credit.*

Organization of the voice class, a study of voice production problems, procedures and techniques such as posture, breath control, resonance, and interpretation through proper diction. Attention will be called to certain advantages to be gained through a class type of instruction.

**MUS 411. METHODS AND MATERIALS FOR CLASS INSTRUMENTAL INSTRUCTION.** *Three hours credit.*

A course designed to give the student practical experience in the organization and teaching of heterogeneous wind instrument classes. The course will stress the improvement of teaching methods and the creation of original materials for class work.

**MUS 412. INSTRUMENT REPAIR AND CARE.** *Two hours credit.*

Study of the care and repair of band and orchestral instruments. Practical experience in instrument repairs which requires a minimum amount of equipment, skill and time.

**MUS 413. PHILOSOPHICAL AND PSYCHOLOGICAL FOUNDATIONS IN MUSIC EDUCATION.** *Three hours credit.*

An introduction to important philosophical and psychological thought which has influenced music education.

**MUS 422. INDIVIDUAL STUDIES IN MUSIC.** *One to four hours credit.*

Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed before credit is given, one with the instructor and one with the chairman of the department.

**\*MUS 430. STRING ENSEMBLE.** *One hour credit.***\*MUS 431. BRASS ENSEMBLE.** *One hour credit.***\*MUS 432. WOODWIND ENSEMBLE.** *One hour credit.***\*MUS 433. PERCUSSION ENSEMBLE.** *One hour credit.***\*MUS 434. PIANO ENSEMBLE.** *One hour credit.*

**\*MUS 435. STAGE AND OPERA TECHNIQUES.** *Two hours credit.*

Study of proper selection of opera and operetta; its organization and procedures for casting and tryouts. Rehearsal procedures, scenery, lighting, costuming and makeup; advertising, tickets and programs, and other basics necessary to production of a public performance.

**MUS 440. LITERATURE OF THE PIANOFORTE.** *Three hours credit.*

Prerequisite, piano performance Level II or above. This course is designed to provide a systematic examination of keyboard literature from the English and French schools of the 17th century to the contemporary period. Special emphasis will be placed on detailed study of representative works of Bach, Beethoven, and composers of the Romantic and Modern periods.

**MUS 441. CHORAL LITERATURE TO 1750.** *Three hours credit.*

A study of the stylistic trends, musical characteristics and performance practice of choral music written before 1750.

**MUS 442. CHORAL LITERATURE FROM 1750.** *Three hours credit.*

A study of the stylistic trends, musical characteristics and performance practice of choral music written after 1750.

**MUS 443. INSTRUMENTAL LITERATURE.** *Three hours credit.*

A study of instrumental literature for school groups. The high school band and orchestra, materials for class and individual instruction, and small instrumental ensembles.

**MUS 444. MARCHING BAND TECHNIQUES.** *Two hours credit.*

A workshop to provide materials and suggestions to band directors and prospective band directors. To assist with the planning of individual football shows and pageantry.

**MUS 445. VOCAL REPERTOIRE: GERMAN ART SONG.** *Two hours credit.*

A course in performance of nineteenth and twentieth century German Art Song, with particular emphasis upon style, technical requirements and diction.

**MUS 446. VOCAL REPERTOIRE: FRENCH ART SONG.** *Two hours credit.*

A course in performance of nineteenth and twentieth century French Art Song, with particular emphasis upon style, technical requirements and diction.

**MUS 447. VOCAL REPERTOIRE: ITALIAN SONG.** *Two hours credit.*

A course in performance of songs and airs before the nineteenth century, with particular emphasis upon style, technical requirements and diction in English, Italian, French and German.

**MUS 448. COLLEGIUM MUSICUM.** *One hour credit.*

This performing group is concerned with little performed music of all types. The goal of the organization is to give the student experience in preparing and performing early music, music for unusual media and experimental music of all types. Admission with the approval of the instructor.

**MUS 449. HISTORY OF MUSICAL INSTRUMENTS.** *Three hours credit.*

A study of the development of musical instruments from the distant past to the present. Specific notice will be made of their growth into families of instruments and their usage in musical practice.

**MUS 460. PRINCIPLES OF VIOLIN AND VIOLA TEACHING.** *Two hours credit.*

This is a laboratory course which includes observation and participation and instruction in group and individual violin and viola.

**MUS 461. PRINCIPLES OF PIANO TEACHING I.** *Two-three hours credit.*

Prerequisite, piano performance Level II or above. A laboratory course including observation and participation in group and individual piano instruction. The beginning pianist and individual differences. Readiness and normal progress defined. Musicianship and music reading approached through piano study. Basic keyboard techniques. Criteria for selecting teaching materials.

**MUS 462. PRINCIPLES OF PIANO TEACHING II.** *Two hours credit.*

Prerequisite, MUS 461. Studio procedures. Demonstrations of specific musical and technical problems and their possible solutions. Guided teaching. Keyboard experience in the school music program. Individual differences in sight-reading ability, musicianship, and literature and materials.

**MUS 463. PRINCIPLES OF PIANO TEACHING III.** *Two hours credit.*

Prerequisite, MUS 462. Studio management. Piano teaching as a profession. Class members will assume responsibility for teaching one or more pupils at beginning and intermediate levels with clinical study of problems involved. Adjudication. Public performance. Recital planning. Basic teaching repertory and representative styles.

**\*MUS 470. INDIVIDUAL PERFORMANCE IN VOICE.** *One-three hours credit.*

**\*MUS 471. INDIVIDUAL PERFORMANCE IN PIANO.** *One-three hours credit.*

**\*MUS 472. INDIVIDUAL PERFORMANCE IN ORGAN.** *One- three hours credit.*

**\*MUS 473. INDIVIDUAL PERFORMANCE IN STRINGS.** *One-three hours credit.*

**\*MUS 474. INDIVIDUAL PERFORMANCE IN WOODWINDS.** *One-three hours credit.*

**\*MUS 475. INDIVIDUAL PERFORMANCE IN BRASS.** *One-three hours credit.*

**\*MUS 476. INDIVIDUAL PERFORMANCE IN PERCUSSION.** *One-three hours credit.*

**\*MUS 477. INDIVIDUAL INSTRUCTION IN COMPOSITION.** *One-three hours credit.*

**\*MUS 478. INDIVIDUAL PERFORMANCE IN HARP.** *One-three hours credit.*

**\*MUS 479. INDIVIDUAL PERFORMANCE IN GUITAR.** *One-three hours credit.*

**\*MUS 480. MIXED CONCERT CHOIR.** *One hour credit.*

Membership in the concert choir is limited to approximately 60 singers. This organization performs a wide range of choral literature from the classics to the music of contemporary composers. The organization is recognized widely for its excellence as a choral performing group. It is in demand throughout the region for concert appearances.

**\*MUS 481. ORATORIO CHORUS.** *One hour credit.*

Membership to the group of approximately 150 singers is open to all college students on an audition basis. The choir specializes in the performance of large choral masterworks such as Handel's "Messiah" and the "Creation" by Haydn.

**\*MUS 482. UNIVERSITY SINGERS.** *One hour credit.*

A select group of approximately 20 singers utilizing music specifically written for a chamber ensemble. Included in the performing repertoire are madrigals, motets, cantatas and selections from Broadway shows, folk songs, jazz and pop.

**\*MUS 483. WOMEN'S CONCERT CHOIR.** *One hour credit.*

The women's choir is open to all women students who enjoy singing the literature for women's voices. This group performs for many local community and university events. Elementary education majors are especially urged to apply for membership.



**\*MUS 484. VARSITY MEN'S GLEE CLUB.** *One hour credit.*

Membership is open to the entire male student body. A love of singing is the main requirement for registration. No formal audition is necessary. The Varsity Men's Glee Club affords an opportunity for men from all schools and divisions to participate in the great tradition of men's ensemble singing while performing a wide range of literature before university and community audiences.

**\*MUS 485. OPERA WORKSHOP.** *One to three hours credit.*

Workshop offering practical experience in production of a musico-dramatic show. Techniques of acting, singing, directing, and other facets necessary for preparation of a show for public performance will be offered.

**\*MUS 486. CHORUS AND ORCHESTRA WORKSHOP.** *One hour credit.*

Conducted by authorities nationally known in their fields of specialization. The purpose of the workshop is to provide information about current important ideas in each field of knowledge.

**\*MUS 490. SYMPHONIC WIND BAND.** *One hour credit.*

The Symphonic Wind Band is limited in enrollment to approximately 80 members. This organization performs the best literature available for the band. Over the years this UNC band has become known throughout the region for its excellence as a concert organization. The Symphonic Wind Band presents many concerts during the year, and takes an annual tour.

**\*MUS 491. CONCERT BAND.** *One hour credit.*

The Concert Band is open to all band performers who wish a more limited band experience than is provided by the Symphonic Wind Band. This band studies, rehearses, and presents advanced forms of concert band literature.

**\*MUS 492. MARCHING BAND.** *One hour credit.*

Open to all men students regardless of major field who have had high school band experience. A study and practice of the fundamentals of drill and presentation of marching maneuvers and pageants at athletic events. Required during Fall Quarter for men in the instrumental music education program or in Symphonic Wind Band, Concert Band or Varsity Band.

**\*MUS 493. VARSITY BAND.** *One hour credit.*

Open to all students regardless of major who have had high school band experience. To provide music for athletic and university functions. To read material suitable for use by high school band.

**\*MUS 494. JAZZ ENSEMBLE.** *One hour credit.*

Membership in the Jazz Ensemble is limited to five trumpets, five trombones, five saxophones, and three rhythm players (piano, string bass, percussion). This unit is concerned with jazz idiom music: show music, dance music, and concert jazz. The goal of this type of ensemble training is to give the student a thorough idiom in preparation for teaching at both the secondary and college levels. Members of Jazz Ensemble who are music majors must be enrolled in a major ensemble.

**\*MUS 495. CHAMBER BRASS CONSORT.** *One hour credit.*

A select performing ensemble of 15 to 20 brass students with added percussionists when necessary. Concentration is upon familiarization of literature for the brass instrumental media as well as upon development of musical sensitivity, phrasing, style and intonation.

**\*MUS 496. UNIVERSITY SYMPHONY ORCHESTRA.** *One hour credit.*

The University Symphony Orchestra is open to all students by audition. The organization performs and reads the standard repertoire of the modern symphony orchestra. Quarterly concerts are given on campus in addition to one tour taken yearly. The orchestra also participates in a Spring Quarter chorus and orchestra event.

**\*MUS 497. CHAMBER ORCHESTRA.** *One hour credit.*

A select group of approximately 20 string students chosen by audition from the membership of the Symphony Orchestra. The Orchestra performs and reads literature from the Baroque to the present day, specializing in materials specifically designed for chamber orchestra.

**\*MUS 498. LABORATORY ORCHESTRA.** *One hour credit.*

A laboratory course to provide practice orchestra experience on stringed instruments. Orchestral materials and the use of them for continued development of string students will be discussed and demonstrated.

\*May be used by non-music majors as part of the 60 hours of required General Education.

## **NURSING**

**NURS 100. HISTORY OF NURSING.** *Two hours credit.*

An introduction to the historical development of nursing with emphasis on current trends.

**NURS 300. BASIC PRINCIPLES OF NURSING.** *Ten hours credit.*

An introduction to the application of biological, natural, and social science concepts in patient care. Emphasized is the theoretical framework of the nursing process. Technical nursing skills and the employment of these skills within the intervention phase of nursing are also included.

**NURS 301. INTRODUCTION TO PHARMACOLOGY.** *Three hours credit.*

Introduces the student to the general principles of clinical pharmacology, administration of drugs and methods of computing dosages of drugs and solutions. General mathematical ability is a prerequisite, since accurate computation of drug dosages is required.

**NURS 302. MATERNITY NURSING.** *Ten hours credit.*

Prerequisites, NURS 300, 301. A study of nursing care of mothers and infants. A developmental and family-centered approach with emphasis on the normal aspects of the reproductive cycle. Physiological, psychological and socio-cultural concepts basic to maternal and infant health are considered. Guided practice includes nursing care during pregnancy and throughout the hospital maternity experiences for mothers and infants.

**NURS 303. MEDICAL-SURGICAL NURSING.** *Ten hours credit.*

Prerequisites, NURS 300, 301. A study of concepts essential for effective nursing care of adults requiring medical or surgical treatment because of illness or accident. Includes nursing measures used in prevention, treatment and rehabilitation. Guided participation in the operating room and medical and surgical units. Emphasis is on the application of appropriate knowledge and skills in identifying and meeting individual nursing needs.

**NURS 304. COMMUNITY MENTAL HEALTH NURSING.** *Ten hours credit.*

Prerequisites, NURS 300, 301. A study of psychiatric theory and application of nursing process to persons with behavior deviations. Content includes psycho-social development theories, inter-personal concepts, treatment modalities, and prevention of mental illness. Continues the study of emotional needs of persons, dynamics of human behavior, and interviewing skills. Major emphasis is on the therapeutic counselor role of the nurse in institutions and community settings. Supervised clinical experience is included.

**NURS 305. HUMAN RELATIONS IN NURSING.** *Three hours credit.*

A study of principles and concepts of communication, interpersonal relations, group processes and leadership skills basic to effective nursing.

**NURS 400. COMMUNITY NURSING.** *Ten hours credit.*

Prerequisites, NURS 302, 303, 304. An introduction to the philosophy and principles of Community Nursing. Responsibilities and activities of the nurse in a generalized Community Nursing program are studied. Emphasis is given to the role of the nurse in family and community health service. Guided Community Health Nursing field practice is provided in Organized Health Departments.

**NURS 401. PUBLIC HEALTH SCIENCES.** *Three hours credit.*

A general study of concepts derived from the field of Public Health which includes an introduction to Public Health Administration, environmental sanitation, biostatistics, and epidemiology. Concurrent with NURS 400.

**NURS 402. NURSING OF CHILDREN.** *Ten hours credit.*

Prerequisites, NURS 302, 303, 304. A study of the child as an individual and as a member of a family unit. Emphasis is placed upon normal growth and development and includes recognition of the effects of pathology on the child from infancy through adolescence. The concept of nursing process (assessment, planning, intervention, evaluation) is the theoretical framework utilized.

**NURS 403. ADVANCED MEDICAL-SURGICAL NURSING.** *Eleven hours credit.*

Prerequisites, NURS 302, 303, 304. A study of nursing care of patients with complex medical and/or surgical disorders. Planning nursing care and patient management are emphasized. Concepts of team nursing are introduced. Participation in team nursing is included in the clinical practice.

**NURS 404. TRENDS IN NURSING.** *Three hours credit.*

Prerequisites, NURS 302, 303, 304 or permission of instructor. A study of trends, problems and issues in present-day nursing. Contemporary social forces are studied in relation to their influence on the development of nursing. Emphasis is on the responsibilities of the professional nurse in an increasingly complex system of health and medical care.

## OCEANOGRAPHY

Courses in oceanography are administered by the Department of Earth Sciences.

**\*OCN 100. GENERAL OCEANOGRAPHY.** *Three hours credit.*

This course is an introductory study of the biological, chemical, geological, and physical aspects of the oceans and the ocean basins.

**\*OCN 201. PRINCIPLES OF OCEANOGRAPHY.** *Three hours credit.*

A descriptive treatment of the physical properties of sea water, the general character of water masses and ocean currents, waves, tsunamis, the sea as a biological environment, and some geological aspects of ocean basins.

## PHILOSOPHY

**\*PHIL 230. PROBLEMS AND METHODS OF PHILOSOPHY.** *Three hours credit.*

An introduction to the major themes, figures and epochs in philosophy, with emphasis on the nature of the philosophic endeavor, and the methodological alternatives available for the treatment of philosophic issues.

**\*PHIL 301. HISTORY OF WESTERN PHILOSOPHY I.** *Three hours credit.*

Ancient and medieval philosophy from the Presocratics to Aquinas. The emergence of philosophical cosmology from mythopoeic cosmogony; the Socratic ethical turn; Plato; Aristotle; Hellenism; and the Christian reconciliations.

**\*PHIL 302. HISTORY OF WESTERN PHILOSOPHY II.** *Three hours credit.*

Modern philosophy from Descartes through Kant. Emphasis is given to the Cartesian relation to the classical tradition; the turn to subjectivity; rationalism; empiricism; the transcendental turn; the influences of mathematics, the natural sciences and religious belief.

**\*PHIL 303. HISTORY OF WESTERN PHILOSOPHY III.** *Three hours credit.*

Recent philosophy, including German Idealism, the Hegelian synthesis, and its breakdown (Kierkegaard, Marx, Nietzsche), Bergson, American Philosophy (James, Royce).

**\*PHIL 310. ETHICS AND VALUE-THEORY.** *Three hours credit.*

A consideration of selected problems in normative and critical ethics, from early Greek to contemporary thought, with emphasis on the notions of personal responsibility and the "good life".

## 234 / COURSE DESCRIPTIONS

**\*PHIL 320. LOGIC IN PRACTICE.** *Three hours credit.*

A practical study of the uses of deductive and inductive logic, including consideration of the nature of concepts, propositions, and arguments as instruments of knowledge.

**\*PHIL 401. CHRISTIAN EXISTENTIALISM.** *Three hours credit.*

Delineation of existential philosophy with emphasis on its effects upon Christian theology. Such thinkers as: Kierkegaard, Jaspers, Maritain, Marcel, Buber, Charadin and Tillich are considered.

**\*PHIL 402. ORIENTAL RELIGIONS.** *Three hours credit.*

A survey of the religions of the Orient: China (Sinc religion, Confucianism, Moism, Taoism, Zen Buddhism); Japan (Shintoism, Japanese Buddhism); India (the Vedas, the Upanishads, Jainism, Buddhims, Yoga).

**\*PHIL 403. CONTEMPORARY CHRISTIAN THOUGHT.** *Three hours credit.*

A study of the contributions and challenges of the social sciences to Christian theology. Practical social issues (revolution, racism, peace, ecology, urban problems) will be emphasized.

**\*PHIL 410. CONTEMPORARY PHILOSOPHICAL MOVEMENTS.** *Three hours credit.*

A consideration of philosophy in the twentieth century, including Phenomenology (Husser, Heidegger), Existentialism (Sartre, Jaspers, Camus, Marcel), Analysis (Russell, Moore, Wittgenstein), Positivism (Carnap, Ayer).

**\*PHIL 420. SOCIAL PHILOSOPHY.** *Three hours credit.*

Classical and contemporary social thought with emphasis on the principles of democracy, fascism, Marxism, and utopianism.

**\*PHIL 430. THEORIES OF TRUTH.** *Three hours credit.*

Examination of classical and contemporary theories of the meaning and criteria of truth, including such topics as truth and time, certitude, artistic truth, religious truth, lies.

**\*PHIL 440. METAPHYSICS.** *Three hours credit.*

Examination of such concepts as Being, substance, causation, reality, process, in the light of recent and contemporary thought, including the sceptical and positivist stances.

## PHYSICS

**\*PHYS 150. PRINCIPLES OF PHYSICS.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

An introduction to the basic concepts of physics, including mechanics, thermodynamics, wave motion, electricity and magnetism, and atomic and nuclear physics. Not open to physics majors or minors. Recommended as a substitute for SCI 103.

**PHYS 255. ELEMENTS OF COMPUTER PROGRAMMING.** *Three hours credit. (Two hours lecture, three hours laboratory.)*

Prerequisite, MATH 123 or equivalent. A non-theoretical applied course in elementary computer programming, designed to cover the primary methods of computer programming with the object of the student learning sufficient programming techniques to solve problems in his major area of study. A large portion of this course will involve the student programming and operating the 360 computer system. *Not recommended for students with previous programming training.*

**\*PHYS 260. INTRODUCTORY PHYSICS—MECHANICS.** *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisite, MATH 123 or consent of instructor. The first quarter of the introductory course treats classical and modern mechanics in a manner which requires a minimum of mathematical skills.

**\*PHYS 261. INTRODUCTORY PHYSICS—HEAT, SOUND, AND LIGHT.***Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisite, PHYS 260. The second quarter of the introductory course treats classical and modern heat, sound, and light in a manner which requires a minimum of mathematical skills.

**\*PHYS 262. INTRODUCTORY PHYSICS—ELECTRICITY AND MAGNETISM.** *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisite, PHYS 260. The third quarter of the introductory course treats classical and modern electricity and magnetism in a manner which requires a minimum of mathematical skills.

**PHYS 263. RADIATION PHYSICS.** *Three hours credit. (Two hours lecture, three hours laboratory.)*

Prerequisite, PHYS 150, 262, or consent of instructor. A course in the detection and evaluation of the various atomic and nuclear radiations. Topics to be covered include elementary atomic and nuclear theory, types of radiation, detectors, error analysis, and detection systems.

**PHYS 265. GENERAL PHYSICS—MECHANICS.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, MATH 132 or taken concurrently. The first quarter of the general course in physics treats of the laws, principles, and generalizations of mechanics.

**PHYS 266. GENERAL PHYSICS—ELECTRICITY.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisites, PHYS 265, MATH 133 or taken concurrently. The second quarter of the general course in physics treats of the principles, laws, and generalizations in electricity.

**PHYS 267. GENERAL PHYSICS—SOUND, LIGHT, AND HEAT.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisites, PHYS 265, MATH 133. The third quarter of the general course in physics treats of the laws, principles, and generalizations concerning sound, light, and heat.

**PHYS 268. MODERN PHYSICS.** *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisite, PHYS 267. A general course of the concepts in physics formulated since 1900 including an elementary presentation of atomic and nuclear physics.

**\*PHYS 364. ELEMENTARY PHOTOGRAPHY.** *Three hours credit. (Two hours lecture, two hours laboratory.)*

Prerequisite, consent of instructor. An introductory course covering the basic elements of photography. Topics include developing, printing and enlarging, and the use of photography in the teaching of science.

*Not recommended for students with previous photography laboratory experience.*

**PHYS 361. ELECTRICAL MEASUREMENTS.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisites, PHYS 267 and MATH 133. A study of Kirchhoff's Laws and their application, components of AC circuits, and the solution of AC circuits by use of the vector method and complex number method.

**PHYS 365. MECHANICS I.** *Four hours credit.*

Prerequisites, PHYS 255, 267 and MATH 133. First course of a sequence of two courses. Topics covered include Newton's Laws, statics of particles and rigid bodies, work and energy, particle motion in a constant field and one dimensional oscillatory motion.

**PHYS 366. ELECTRICITY AND MAGNETISM I.** *Four hours credit.*

Prerequisites, PHYS 255, 267 and MATH 133. First course of a sequence of two courses. An advanced study in electric fields, electric potential, magnetic fields and induced electromotive force.

**PHYS 367. OPTICS I.** *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisites, PHYS 255, 267, MATH 133 . A study of geometric optics including the theory of thin lenses, thick lenses, spherical mirrors, lens aberrations, and a survey of optical instruments.

**PHYS 460. SOUND.** *Three hours credit.*

A study of sound waves, their nature, propagation, and modes of combination. Includes supporting mathematical instruction and demonstration of basic instrumental measurements. Not open to physics majors or minors.

**PHYS 462. ELECTRONICS I.** *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisite, PHYS 361. A continuation of PHYS 361. Topics to be covered include simple diodes, triodes, power supplies, simple amplifiers, simple detectors, types of amplifiers, R. F. circuitry and an introduction to transistor theory.

**PHYS 465. MECHANICS II.** *Three hours credit.*

Prerequisites, PHYS 365, MATH 234. Second course in a sequence of two courses. Topics covered include motion of systems of particles, rigid body motion in a plane and in three dimensions, central field motion, accelerated reference systems.

**PHYS 466. ELECTRICITY AND MAGNETISM II.** *Three hours credit.*

Prerequisites, PHYS 366, MATH 234. Second course in a sequence of two courses. A course which deals with the theory of dielectrics, the magnetic properties of matter and an introduction to electromagnetic theory.

**PHYS 468. ATOMIC PHYSICS.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisites, PHYS 268, 365, MATH 234. A study of modern physics concepts including the electron and its properties, energy levels, quantum numbers, X-rays, and elementary aspects of relativity and quantum physics.

**PHYS 469. NUCLEAR PHYSICS I.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisites, PHYS 268, 365, MATH 234. A study of the nucleus of the atom including nuclear processes, decay schemes, sub-atomic particles and high energy reactions.

## POLITICAL SCIENCE

**\*PSCI 100. NATIONAL GOVERNMENT OF THE UNITED STATES.** *Five hours credit.*

Origin and adoption of the Constitution, basic principles of the American constitutional system, the machinery of popular control, and the structure of the national government. Not open to students taking PSCI 101 or PSCI 102.

**\*PSCI 101. UNITED STATES GOVERNMENT I.** *Three hours credit.*

An introduction to the foundations of the United States national political system. Democratic theory, majoritarianism and constitutionalism will be discussed. The roles of the electorate, interest groups, political parties, and civil liberties will be analyzed. Not open to students taking PSCI 100.

**\*PSCI 102. UNITED STATES GOVERNMENT II.** *Three hours credit.*

Prerequisite, PSCI 101. A study of the formal policy-making agencies of the United States government. The role and function of Congress, the Presidency and the Judiciary will be analyzed. The latter part of this course will focus on the making of United States foreign policy. Not open to students taking PSCI 100.

**\*PSCI 103. UNITED STATES GOVERNMENT III.** *Three hours credit.*

Prerequisite, PSCI 101 or permission of the instructor. In the first part of this course the national problems and government programs in the fields of business, labor, agriculture, the general economy, and social disorganization will be studied. Problems of Federalism will be studied. The second half of the course will focus on state and local government.

**\*PSCI 200. LEGISLATIVE PROCESSES.** *Three hours credit.*

Prerequisites, PSCI 100 or PSCI 101 and 102. A survey of American legislative systems and processes. The structure and organization of legislatures and the process of statute law-making.

**\*PSCI 201. STATE AND LOCAL GOVERNMENT.** *Five hours credit.*

Prerequisite, PSCI 100 or PSCI 101 and 102. The organization of state, county, and municipal governments.

**\*PSCI 210. EUROPEAN POLITICAL SYSTEMS.** *Four hours credit.*

A comparative functional analysis of the political systems of selected European nations, including Great Britain, France, West Germany, and the Union of Soviet Socialist Republics.

**\*PSCI 220. INTERNATIONAL RELATIONS.** *Four hours credit.*

A study of the power relationships existing in a world of sovereign nation states.

**\*PSCI 300. PUBLIC OPINION AND PRESSURE GROUPS.** *Four hours credit.*

A study and analysis of the nature and role of public opinion and pressure groups in American politics. This course analyzes the techniques used in forming, manipulating, and measuring public opinion, and studies the process by which pressure groups use and compete with public opinion in the formation of public policy.

**\*PSCI 301. PROBLEMS IN UNITED STATES GOVERNMENT.** *Three hours credit.*

Prerequisites, PSCI 100 or PSCI 101, and 102. The constitutional and extra-constitutional factors affecting the legislative process, the conduct of administration, the budgetary and fiscal policies of the government, and the control of foreign relations.

**\*PSCI 302. THE PRESIDENT AND THE BUREAUCRACY.** *Three hours credit.*

An intensive examination of the role of the President and the Federal bureaucracy in the national political system. Emphasis is placed on the concepts and techniques of presidential leadership and the Executive branch's relationship with Congress, the Judiciary and the public. Sources of constitutional authority and power, and problems of contemporary Presidential policy making are examined.

**\*PSCI 320. AMERICAN FOREIGN POLICY.** *Three hours credit.*

An analysis of recent and contemporary problems of American foreign policy.

**\*PSCI 330. POLITICAL BELIEF-SYSTEMS I.** *Three hours credit.*

The ethical study of politics constitutes a persistent strain in intellectual history. Answers to such questions as the nature of authority and obligation are extracted from a reading of the original sources. Greek, Roman and medieval thinkers will be read.

**\*PSCI 331. POLITICAL BELIEF-SYSTEMS II.** *Three hours credit.*

Prerequisite, PSCI 330 or permission of instructor. A continuation of Political Belief-Systems I. This course will focus on late medieval and early modern thinkers.

**\*PSCI 332. POLITICAL BELIEF-SYSTEMS III.** *Three hours credit.*

Prerequisites, PSCI 330 and 331 or permission of instructor. This quarter of Political Belief-Systems concentrates on modern thinkers. Democratic, socialist, fascist and communist answers as to what values ought to be pursued will be examined.

**\*PSCI 400. POLITICAL PARTIES.** *Three hours credit.*

Prerequisites, PSCI 100 or PSCI 101 and 102. The organization and techniques of political parties in the United States, the voting behavior of the electorate and the problems relating to the machinery of representative democracy.

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**\*PSCI 401. MINORITY POLITICS.** *Three hours credit.*

A study of the political techniques and strategies by which ethnic, racial, religious, and economic minority groups have achieved socio-economic goals through the political system. Electoral and non-electoral politics will be evaluated.

**\*PSCI 410. GOVERNMENT AND POLITICS OF ASIA.** *Four hours credit.*  
A comparative study of major political systems of Asia, including China, Japan, India and Indonesia.

**\*PSCI 411. GOVERNMENT AND POLITICS OF LATIN AMERICA.** *Four hours credit*  
A comparative study of the political systems of Latin America.

**\*PSCI 412. THE POLITICS OF THE DEVELOPING AREAS.** *Four hours credit.*

A study of the politics of developing areas, with particular emphasis on Africa, Asia and the Middle East; concepts of development, modernization and nation-building.

**\*PSCI 413. POLITICAL SYSTEMS OF SUB-SAHARAN AFRICA.** *Four hours credit.*

Analysis of major types of political systems in Sub-Saharan Africa with case studies of selected countries exemplifying each type. Special problems of multi-racial and multicultural societies.

**\*PSCI 414. GOVERNMENT AND POLITICS OF THE SOVIET UNION.** *Four hours credit.*

An intensive inquiry into the institutions and processes of the government of the Soviet Union.

**\*PSCI 420. FOUNDATIONS OF INTERNATIONAL POLITICS.** *Four hours credit.*

Prerequisite, PSCI 220. An intensive investigation into the theories and processes of international politics.

**\*PSCI 421. THE UNITED NATIONS.** *Three hours credit.*

The background and organization of the United Nations. Includes a detailed study of the six organic bodies of the United Nations and its subsidiary agencies.

**\*PSCI 422. SOVIET FOREIGN POLICY.** *Three hours credit.*

An analysis of recent and contemporary problems of the relations of the Soviet Union with Western, neutralist, and non-Soviet communist nations.

**\*PSCI 423. REGIONAL AND SUPRANATIONAL POLITICAL ORGANIZATIONS.** *Four hours credit.*

Prerequisite, PSCI 220. An analysis of some regional and supranational political organizations, such as the North Atlantic Treaty Organization and the European Economic Community, and an evaluation of the role and significance of these organizations in international politics.

**\*PSCI 430. AMERICAN POLITICAL BELIEF-SYSTEMS.** *Three hours credit.*

Prerequisites, five quarter hours in United States national government and a course in political philosophy or permission of instructor. An analysis of the United States contribution to thought on such subjects as authority and obligation in civil society. Special attention will be paid to the themes of majoritarianism, constitutionalism and civil disobedience.

**PSCI 440. NDEA CIVICS INSTITUTE.** *Eight hours credit.*

An institute for junior high school teachers of civics with two years of teaching experience. The institute will run 8 weeks and will include lectures and seminars in the development of political conceptualization. Special sessions will be held in methodology and materials for teaching political concepts.



**\*PSCI 450. RESEARCH AND INQUIRY IN POLITICAL SCIENCE.** *Three hours credit.*

Prerequisites, PCSI 100 or PSCI 101 and 102. A study in the use of scientific method in political science. Special attention will be focused on research methods and materials and the use of library facilities and bibliographies.

## PSYCHOLOGY

**\*PSY 120. GENERAL PSYCHOLOGY.** *Three hours credit.*

A basic course in which psychological principles, methods, theories and research findings are studied. Attention is given to perception, cognition, maturation, motivation, learning, individual differences, mental health and their physiological correlates. Practical applications are made to give each student opportunities to modify his behavior.

**\*PSY 121. GENERAL PSYCHOLOGY AND HUMAN PERFORMANCE.** *Three hours credit.*

Prerequisite, PSY 120. A foundation course in psychology designed to extend the understanding of human behavior through application of psychological theories, constructs, principles, and research findings to situational settings involving groups such as individual and group differences, vocational and occupational profiles, industrial relations, group motivation, syndromes of abnormality.

**PSY 122. EXPLORATION SEMINAR IN PSYCHOLOGY I.** *Maximum six hours credit. (One hour per quarter for freshmen and sophomore years.)*

Prerequisite, majors only. A seminar required for all psychology majors. Formal meetings will be held once each week for three consecutive quarters. Areas of personal concern to the students as they relate to course work and other experiences in psychology **will be** discussed.

**\*PSY 131. HUMAN GROWTH AND DEVELOPMENT.** *Five hours credit.*

Prerequisite, PSY 120. An introduction to basic concepts of growth and development. Prerequisite, PSY 20. An introduction to basic concepts of growth and development. The course considers the individual from conception to senescence. Emphasis is placed on developmental tasks, both physiological and psychological, which are identified throughout the lifetime of an individual.

**\*PSY 161. GROUP PROCESS AND HUMAN RELATIONS.** *Three hours credit.*

Prerequisite, major only. A required freshman seminar for undergraduate psychology majors designed to give students an understanding of principles which undergird human relations in groups. Personal involvement and group processes is an important aspect of the course.

**PSY 201. PRINCIPLES AND PHILOSOPHIES OF GUIDANCE.** *Three hours credit.*

A general introduction to guidance; a study of the guidance activities, and their use in industry, business, the classroom, and the professions.

**PSY 266. INDUSTRIAL PSYCHOLOGY.** *Three hours credit.*

Students will study the basic methods used by psychologists in selection, placement, training, and motivation of industrial personnel. They will examine the psychological factors involving inter-personal relations influencing morale, production, job satisfaction, etc.

**PSY 270. INTRODUCTION TO MEASUREMENT AND EVALUATION.** *Three hours credit.*

Prerequisite, majors only. A course designed to develop understanding of the essential concepts of measurement and evaluation. Emphases are placed on constructing, interpreting, and using teacher-made and standardized tests with attention to determination, meaning, and application of fundamental statistical concepts to problems dealing with measurement and evaluation. Provision is made for guided study of available instruments in student's major field.

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### **PSY 271. INTRODUCTION TO MEASUREMENT AND EVALUATION.**

*Three hours credit.*

A course designed to develop understanding of the essential concepts of measurement and evaluation. Emphases are placed on constructing, interpreting, and using teacher-made and standardized tests with attention to determination, meaning, and application of fundamental statistical concepts to problems dealing with measurement and evaluation. Provision is made for guided study of available instruments in student's major field.

### **PSY 275. INTRODUCTION TO EXPERIMENTATION IN PSYCHOLOGY.**

*Five hours credit.*

Prerequisites, PSY 270, 271, majors only. This is a course designed to introduce the student to experimental and other psychological research. It is concerned with the basic principles and concepts involved in conducting effective experimentation and research, and provides practical experience in reviewing, conducting and reporting psychological research.

### **PSY 322. EXPLORATION SEMINAR IN PSYCHOLOGY II.** *Maximum six hour credit. (One hour per quarter for junior and senior years when on campus.)*

Prerequisites, majors only. A seminar required for all psychology majors. Formal meetings will be held once each week for three consecutive quarters. Areas of personal concern to the students as they relate to course work and other experiences in psychology will be discussed.

### **PSY 330. CHILD AND ADOLESCENT PSYCHOLOGY.** *Three hours credit.*

A course designed to assist prospective teachers to understand and guide the physical, mental, social, and emotional development of children and youth. Total psychological development from infancy to maturity is emphasized.

### **PSY 340. PSYCHOLOGY OF PERCEPTION AND LEARNING.** *Five hours credit.*

Considers basic theoretical and research evidence concerning learning and perception. Attitudes and understandings are developed concerning the application of psychological principles to the educative process. The relationship between human learning and perceptual-cognitive processes is explored.

### **PSY 341. EDUCATIONAL PSYCHOLOGY, (PTE).** *Five hours credit.*

Prerequisite PSY 120. A course designed to assist prospective teachers to build competence in understanding and guiding physical, mental, social, and emotional development from infancy to adulthood and in understanding and utilizing the teaching-learning process through applications of principles of learning, motivation, readiness, transfer, individual differences and evaluation.

### **PSY 342. TEACHING LEARNING PROCESS.** *Three hours credit.*

An introduction to basic concepts of teaching and learning. Considers opportunities for teaching in nursing. Emphasis is on teaching health and self-care measures to individuals, families and groups.

### **\*PSY 350. PSYCHOLOGY OF THE HEALTHY PERSONALITY.** *Three hours credit.*

Modern humanistic and existentially oriented psychological research and commentary regarding positive mental health and healthy personality development will be studied. Concepts such as self-actualization, self-realization, self-fulfillment, the fully-functioning self, personal adequacy, becoming, and the human potential for freedom and growth explored by approaching the basic question of *What Can Man Become?*

### **\*PSY 355. MENTAL HYGIENE AND EMOTIONAL ADJUSTMENT.** *Three hours credit.*

Psychological principles, theories, and practices are examined and applied to individual, school, family, and community mental health problems.

### **PSY 363. SOCIODRAMA.** *Two hours credit.*

How to use sociodrama. The topics studied are producing a sociodrama, purposes of the sociodrama, types and use of the sociodrama.

**PSY 364. SOCIOMETRY.** *Two hours credit.*

The measurement of interpersonal relations in small groups; measurement of social status, social adjustment, leadership and morals. Sociometric organization of elementary and secondary school classrooms.

**PSY 365. PSYCHOLOGY OF PREJUDICE.** *Three hours credit.*

A course designed to assist students to understand in depth the basic causes of prejudice and the learning of prejudicial behavior. Experiences are provided for greater understanding of people and the processes for diminishing the degree of prejudice by the individual.

**PSY 422. INDIVIDUAL STUDIES.** *Maximum of four hours credit.*

Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed before credit is given, one with the instructor and one with the chairman of the department.

**PSY 424. PSYCHOLOGY: FIELD EXPERIENCE.** *Five to fifteen hours credit.*

Prerequisite, Advanced standing and permission of instructor, majors only. Either full time experience for one quarter or part-time experience for extended quarters working with professionals in any one or more of the field offices of the many helping professions where field experience programs have been contracted.

**PSY 425. SEMINAR: PSYCHOLOGICAL ISSUES.** *Three hours credit.*

This is one of the culminating experiences in the major or minor. Students will study, report, and discuss psychological issues and problems which they identify in their class observation and study experiences. They will also review and discuss research findings and conduct small research projects of their own.

**\*PSY 458. ABNORMAL PSYCHOLOGY.** *Three hours credit.*

Prerequisites, PSY 350 or 355. The course is designed to give an understanding of abnormal behavior, its causes, symptoms, characteristics, classifications and prevention.

**PSY 475. EXPERIMENTATION IN PSYCHOLOGY.** *Three hours credit.*

This is a course designed to introduce the student to experimental and other psychological research. It is concerned with the basic principles and concepts involved in conducting effective experimentation and research, and provides practical experience in reviewing, conducting, and reporting psychological research.

## READING (Elementary Education)

**EDRD 130. COLLEGE READING STUDY SKILLS.** *Two hours credit.*

A course designed to enable college students to develop proficiency in the reading study skills required of them in regular college courses. As differentiated from a remedial course, the course develops skills, which will include flexibility in reading and promote vocational growth and reading skills.

**EDRD 131. SPEED READING.** *Two hours credit.*

A course designed for college students and mature readers to increase their rate of reading and to develop flexibility in reading rates through completion of various reading exercises.

**EDRD 310. IMPROVEMENT OF INSTRUCTION IN READING IN THE ELEMENTARY SCHOOL.** (PTE) *Three hours credit.*

A detailed consideration of the content to be taught and the methods and materials to be used in the teaching of reading from kindergarten through the sixth grade.

**EDRD 314. IMPROVEMENT OF INSTRUCTION IN LITERATURE IN THE ELEMENTARY SCHOOL.** (PTE) *Two hours credit.*

A survey of children's literature that is appropriate for grades through the sixth. Chief emphasis on modern selections. Consideration of interests and abilities governing the choice of literature in the first six grades.

**EDRD 411. APPROACHES TO READING INSTRUCTION.** (PTE) *Three hours credit.*

Prerequisite, EDRD 310 and EDFE 450 or permission of instructor. This course is designed to acquaint students with various approaches to reading instruction in the elementary school, including basal readers, language experience, individualized, augmented alphabet, phonic, linguistic, and programmed approaches. Objective observation and evaluation will be incorporated among course activities.

**EDRD 420. READING IN THE SECONDARY SCHOOL.** *Three hours credit.*  
Suggested for English majors, undergraduates preparing to be secondary content area teachers, and graduate students with no background in reading instruction. Course content: Reading theory, concept of reading level, reading as skills development, detection of individual differences in reading ability, scope and sequence of skills development, reinforcement of reading skills.

**EDRD 422. INDIVIDUAL STUDIES.** *Maximum of four hours credit.*  
Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed before credit is given, one with the instructor and one with the chairman of the department.

**EDRD 440. PRACTICUM IN DIAGNOSTIC ORAL READING.** *One hour credit.*

Prerequisite, enrollment in or completion of EDRD 411 or 420. A practicum designed to develop sensitivity to the use of oral reading for diagnostic purposes. A student will spend 20 hours listening to taped readings on electronic notebooks of an entire class or on remedial students.

## RESEARCH AND STATISTICAL METHODOLOGY

**RSM 403. INTRODUCTORY STATISTICAL METHODS.** *Three hours credit.*  
(Not equivalent to RSM 604.)

Basic statistical concepts and techniques; comprehension of research and literature in education and the other behavioral sciences using elementary statistical methods.

## SCHOOL OF EDUCATIONAL CHANGE AND DEVELOPMENT

**SECD 122. HUMAN ISSUES OF THE 20TH CENTURY.** *Three hours credit.*  
A study of the human issues of the 20th century important to young people who have elected a teacher education program. Newspaper cartoons selected by students will be used to stimulate study and discussion. Faculty will be invited to discuss the issues with the students.

**SECD 130. FIELD EXPERIENCE.** *Three hours credit.*  
The purpose of this course is to help students develop an instructional theory functional in inner city schools. Lectures and discussions will be used to aid in the forming of the theory. Students will be given ample opportunities to visit and apply their theoretical background in inner city schools.

## SCIENCE

These courses are taught by the appropriate departments.

**\*SCI 103. PHYSICAL SCIENCE.** *Three hours credit.*  
The study of physical science principles of atomic structure, nuclear energy, the source, relationship, and use of the electromagnetic radiations and their social implication in modern civilization.

**\*SCI 104. BIOLOGICAL SCIENCE.** *Three hours credit.*

This is a course designed to acquaint beginning students with the modern day concepts of the cell and protoplasm; animal and plant reproduction; and genetic transmission of hereditary traits.

**\*SCI 105. EARTH SCIENCE.** *Three hours credit.*

Units of study are organized to help students develop a better understanding and appreciation of their environment. Basic concepts are developed concerning the Universe, the Earth, its materials and landscapes, and the weather.

**SCI 300. HISTORY OF BIOLOGY.** *Three hours credit.*

The study of the development of the biological sciences from Byzantium and Egyptian period to modern day. The study of the evaluation of biological thought and scientific methodology serve as a basis for gathering insights into men's modern cultural heritage.

**SCI 301. HISTORY OF THE PHYSICAL SCIENCES.** *Three hours credit.*

The study of the development of the basic concepts and principles of the physical sciences from the Greeks to the modern period stressing its contribution to our cultural heritage and the evaluation of science as an activity of men.

**\*SCI 303. ELEMENTARY BIOLOGICAL SCIENCE.** *Three hours credit.*  
*(Two hours lecture, three hours laboratory.)*

A content course that emphasizes basic understanding of animal and plant life. Films, laboratory experiences, field work, visual aids, museum study and reading materials are used to develop the concepts. This course not applicable to a graduate science major.

**\*SCI 309. SCIENCE FOR ELEMENTARY TEACHERS.** *Three hours credit.*  
*(Two hours lecture, three hours laboratory.)*

A subject matter course for elementary majors presenting science concepts and information for elementary teachers. Areas may include light, heat, sound, simple machines, and the interrelationships of things to the physical environment.

## SCIENCE EDUCATION

**SCED 151. INTRODUCTORY SCIENCE FIELD EXPERIENCES.** *Two hours credit. (Maximum six hours credit.)*

A course which provides prospective science teachers with practical experiences in the classroom and community during their freshman, sophomore, and junior years.

**SCED 276. TESTING AND EVALUATION IN K-12 SCIENCE.** *Three hours credit.*

This course will provide students with a survey, analysis, design and trial use of evaluation and measurement devices appropriate for use in assessing the achievement of curricular objectives in K-12 science teaching. Students will examine several instruments including achievement, attitude, rating scales, questionnaires, judgment scales of products, interviews, controlled-observation techniques, sociometric techniques, anecdotal records, stereographic reports and sound tape recordings.

**SCED 350. OBSERVATION AND PARTICIPATION IN ELEMENTARY SCHOOL SCIENCE.** *Three hours credit.*

A concentrated experience in elementary science. The student actively participates in the classes in which he observes, and studies classroom teaching procedures and methods. One hour of conference required.

**SCED 440. INTRODUCTION TO STUDENT TEACHING IN THE SECONDARY SCHOOL—SCIENCE.** (PTE) **Two hours credit.**

Student is assigned to a specific class in his major or minor area under supervision in the Laboratory School. He will meet with the class and the supervising teacher five days per week and arrange for one additional conference hour.

**SCED 441. METHODS OF TEACHING IN THE SECONDARY SCHOOL—SCIENCE.** *Three hours credit.*

Prerequisite to student teaching. Taken in the department in which student teaching is done. Includes curriculum and classroom organization, testing and evaluation, procedures and materials, relationship of the subject area to the total secondary program. Teaching techniques are a point of emphasis.

**SCED 470. TEACHING SCIENCE IN THE ELEMENTARY SCHOOL.** (PTE) *Three hours credit. (Two hours lecture, three hours laboratory.)*

The purpose of this course is to develop a knowledge of objectives, methods, and materials which the teacher will need for providing learning activities, and for teaching a functional elementary science program. Laboratory activities are included.

## SOCIOLOGY

**\*SOC 100. PRINCIPLES OF SOCIOLOGY.** *Five hours credit.*

A study of social organization, culture, socialization, social stratification, associations, collective behavior, population and ecology with detailed applications to the functioning of society in the United States today.

*All of the following Sociology courses have as a prerequisite SOC 100 or equivalent.*

**\*SOC 120. MARRIAGE AND THE FAMILY.** *Four hours credit.*

A functional approach to education for marriage and family life, including anticipating marriage, what it means to be married, the making of a family and the nature of family life yesterday, today and tomorrow.

**\*SOC 145. SOCIAL PROBLEMS.** *Three hours credit.*

Designed to help the student understand some of the complex problems of our society from a sociological frame of reference. The student will look at such things as poverty, slums, wars, alcoholism, mental illness, drug addiction and prostitution, in the context of American society.

**\*SOC 210. SOCIAL MOVEMENTS.** *Three hours credit.*

A study of the nature of those deviant groups concerned with major social problems. Explores the reasons for people joining, remaining in, and defecting from various unconventional political, economic, religious, and cultist organizations and the effect of these movements on society's processes, goals, and values.

**\*SOC 221. THE AMERICAN WOMAN.** *Three hours credit.*

This course is designed to focus on the changing status of the American woman and its effects on our society. Will study the woman as a daughter, wife, mother, career girl and explore the varieties of roles and effects upon the matrix of our society.

**\*SOC 223. SOCIOLOGY OF RELIGION.** *Three hours credit.*

A comparative study of the world's major religions, their origins and historical development, their doctrines, literature, customs, and relations to society.

**\*SOC 230. WORLD POPULATION PROBLEMS.** *Four hours credit.*

Various theories of population are examined. Methods of discovery are investigated and critical variables including fertility, mortality, and migration are analyzed. The general problem of population is related to major sociological variables to indicate the web of interdependency.

**\*SOC 232. THE COMMUNITY.** *Three hours credit.*

Common features of all communities and differences among communities due to size, ecology, occupation, distinctive history and cultural heritage are examined. The community is seen as a network of interacting social systems comprised of meaningful social groupings, family, religion, economy, local government, health, welfare services, and recreation.

**\*SOC 240. CRIMINOLOGY.** *Four hours credit.*

A general survey of criminal behavior including theories of causation, types of crime, extent of crime, law enforcement, criminal justice, punishment and treatment.

**\*SOC 245. PROBLEMS OF INTERGROUP RELATIONS.** *Four hours credit.*

A course dealing with the evidence as to all types of intergroup relations; race, nationality, minority groups, income groups, urban and rural groups, and with methods of teaching and measuring intergroup relations.

**\*SOC 310. SOCIAL PSYCHOLOGY.** *Three hours credit.*

A study of social communication in human groups, the identification of mutually dependent elements in the human group and the study of the human group as an organic whole. The case study approach is used. Emphasis is given to leadership.

**\*SOC 321. POLITICAL SOCIOLOGY.** *Three hours credit.*

A sociological analysis of the state as a social organization, the nature and conditions of its legitimacy, the nature of political systems and political behavior in a societal context, and of the interrelationships of political and societal phenomena.

**\*SOC 325. SOCIOLOGY OF MEDICINE.** *Three hours credit.*

A systematic attempt to relate sociological concepts to the fields of physical health and illness. An overview of socio-cultural aspects of the institution we know as "Medicine." The community and medical care, which will include medical education, the hospital as a social institution, concepts of medical practice.

**\*SOC 333. SOCIAL STRATIFICATION.** *Three hours credit.*

Presentation of a unified portrait of the class system of present-day America. Course seeks a description of the realities of the American class system, an analysis of the verified knowledge based on systematic research, and treatment of the topic of mobility central to the American open-class system.

**\*SOC 337. SOVIET SOCIETY TODAY.** *Four hours credit.*

A sociological analysis of the Soviet Union's social institutions, social problems, and value systems, specifically considering the Communist ideology in theory and practice as revealed in examining the structure, function, and problems of the family, social stratification, nationalities, education, science, the arts, and social welfare programs.

**\*SOC 340. JUVENILE DELINQUENCY.** *Four hours credit.*

Prerequisite, SOC 240. The problem of delinquency is approached from the sociological, psychological, and legal points of view. Several sociological theories are proposed as possible causes of delinquency. The various methods by which the delinquent is rehabilitated in correctional institutions are discussed.

**\*SOC 345. ETHICS, MORALITY, AND RACISM.** *Three hours credit.*

A course devoted to the study of ethics, morality, and racism. It is intended that the material be approached on the basis of dialogue and confrontation in an attempt to deal with the burgeoning racist attitudes on the part of all people.

**\*SOC 433. FORMAL ORGANIZATIONS.** *Three hours credit.*

A sociological approach to the study of formal organizations. Course includes the theories of formal organizations, nature and types of organizations, the social structure of work groups, and the processes of communication within organizations.

**\*SOC 435. SOCIO-CULTURAL CHANGE.** *Three hours credit.*

Presentation of theories of change. Analysis of change as the product of interaction of several factors. Discussion of the effects of technology on change and problems of measurement of change. The processes of change in the underdeveloped countries will be introduced and comparisons with the developed nations will be made.

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### **\*SOC 445. SOCIAL CONFLICT.** *Four hours credit.*

Analysis of the nature of social conflict, its origins, functions, dysfunctions, and how conflict is resolved or accommodations made to it.

### **\*SOC 447. SOCIAL DEVIANCE.** *Four hours credit.*

A study of social deviancy, particularly in terms of the types, sources, functions, dysfunctions and social control mechanisms that operate relative to these departures from conformity.

### **\*SOC 450. HISTORY OF SOCIAL THOUGHT.** *Five hours credit.*

A systematic and historical development of social thought from primitive folk thinking to contemporary theories of society and social relations.

### **\*SOC 451. CONTEMPORARY SOCIOLOGICAL THEORIES.** *Three hours credit.*

This survey of contemporary sociological theories with particular emphasis on the theories of Parsons, Merton, Homans, Mills and Levy will relate contemporary theories to the thoughts of classical European and American sociologists.

### **\*SOC 460. SOCIAL RESEARCH I.** *Four hours credit.*

The course focuses upon the scientific method as it applies to sociology and the social sciences. Methods and techniques of research, as well as study designs relevant to sociology, are examined.

### **\*SOC 461. SOCIAL RESEARCH II.** *Four hours credit.*

Prerequisite, SOC 460 or equivalent. A continuation of introductory statistics with special emphasis on applied problem solving utilizing both parametric and non-parametric measurements. Also covered are statistics relating to scale verification, concepts of statistical applications, and theories of levels of significance.

## SOCIAL STUDIES EDUCATION

### **SSED 431. INSTRUCTIONAL MATERIALS FOR THE SOCIAL STUDIES IN THE JUNIOR HIGH SCHOOL.** (PTE) *Two hours credit.*

Study of instructional materials for junior high school social studies. Attention will be given to collateral, supplementary, and source materials, historical literature, audio-visual aids, graphic materials, community resources, current news media, music, creative activities, and techniques of evaluation.

### **SSED 445. SECONDARY SCHOOL SOCIAL STUDIES CURRICULUM WORKSHOP.** (PTE) *Two hours credit.*

A workshop designed for secondary school teachers of the social studies who desire a knowledge of social studies curriculum research, theory and practice.

## SPECIAL EDUCATION

### **EDSE 100. EDUCATION OF EXCEPTIONAL CHILDREN.** *Three hours credit.*

A survey of the characteristics and educational needs of impaired and gifted children. Designed as an overview of the field for undergraduate students in special education, general education, nursing, counseling and other related personnel.

### **EDSE 150. THE STRUCTURE OF LANGUAGE.** *Three hours credit.*

A syntactical and morphological approach to language as it applies to the hearing impaired child. Stress will be placed on the understanding of the structure of the English language. An introduction to some of the approaches used in teaching language to deaf children will be included.

### **EDSE 160. INTRODUCTION TO SPEECH CORRECTION.** *Three hours credit.*

A survey of identifying characteristics, causes, diagnosis and treatment pertaining to the common speech disorders.



**EDSE 210. INTRODUCTION TO MENTAL RETARDATION.** *Four hours credit.*

Prerequisite, EDSE 100 or 602. A study of the social, emotional, physical, and mental characteristics of the mentally retarded child. Methods of classifying, diagnosing and treating retarded children will be discussed from medical, psychological, sociological, and educational points of view.

**EDSE 211. EDUCATION OF SEVERELY MENTALLY RETARDED CHILDREN.** *Three hours credit.*

Organization of special class and school programs for severely mentally retarded children. Diagnosis and classification. Development of teaching materials and techniques. Community organizations and parent education.

**EDSE 250. PATHOLOGY AND INTRODUCTION TO EDUCATION OF DEAF AND HARD OF HEARING.** *Three hours credit.*

History and philosophy of education of the deaf. Structure of the ear and causes. Problems in organization, support, and maintenance of programs for deaf and hard-of-hearing children. Presentation of types of instruction given in various schools, the oral method, the combined method, the Rochester method, and the acoustic method.

**EDSE 251. SPEECH FOUNDATIONS FOR THE DEAF AND HARD OF HEARING.** *Three hours credit.*

Study of the theories of speech production, the bases of respiration phonation, articulation and resonance. Ear training and analyses of speech sounds will comprise the bulk of the course.

**EDSE 265. ACOUSTICS OF SPEECH.** *Three hours credit.*

Physics of sound, the physical characteristics of speech sounds and their relation to the speech mechanism.

**EDSE 266. SPEECH AND LANGUAGE DEVELOPMENT.** *Three hours credit.*

Normal language development in children together with aspects of the genetic and linguistic bases of speech.

**EDSE 267. THE AUDITORY AND SPEECH MECHANISMS.** *Four hours credit.*

The speech and hearing mechanisms in terms of development, structure and physiology.

**EDSE 290. ORIENTATION TO REHABILITATION AND RELATED SERVICES.** *Three hours credit.*

A course which provides the basic introduction to rehabilitation, social welfare, employment service, corrections, and related services. An orientation to the field experience and the position of the Rehabilitation and Related Service major in current society; a study of the impact of past, current, and pending legislation upon this profession.

**EDSE 302. COUNSELING PARENTS OF EXCEPTIONAL CHILDREN.** *Three hours credit.*

This course is designed to present the techniques of working with parents of special education, general education, nursing, counseling and other related personnel.

**EDSE 304. INTRODUCTION TO MEASUREMENT OF THE HANDICAPPED.** *Three hours credit.*

This course is designed to develop an understanding of the results of educational tests. Emphasis is on understanding problems encountered in testing children who are visually, acoustically, orthopedically, mentally handicapped or speech defective, and interpretation of test results in light of the various handicaps.

**EDSE 309. INTRODUCTION TO SPECIAL EDUCATION STUDENT TEACHING.** (PTE) *Two hours credit.*

A course designed to provide the special education student with direct participation in classrooms for the handicapped under the supervision of a master teacher. The experience will consist of four hours per week in the special education laboratory school and one additional hour per week in arranged conference.

**EDSE 357. SPEECH READING.** *Three hours credit.*

Speech reading theory and practice. Some educational problems of the speech reading teacher. Methods used for the instruction of children and adults. Correlation with auditory training, reading, and speech correction. Different approaches used with hard-of-hearing children and the deaf.

**EDSE 358. AUDITORY TRAINING AND HEARING AIDS.** *Two hours credit.*

Emphasis is placed on methods of developing auditory discrimination in hearing impaired children through various techniques aimed to support the speech development program; in addition, a study of individual and group amplification instruments for utilizing all residual hearing will be undertaken.

**EDSE 360. ARTICULATION DISORDERS I.** *Four hours credit.*

Prerequisite: EDSE 160 or consent of instructor. Causation, diagnosis and treatment of individuals with problems of articulation and delayed speech.

**EDSE 361. VOICE DISORDERS I.** *Three hours credit.*

Prerequisite: EDSE 160 or consent of instructor. Causation, diagnosis and treatment of voice disorders, particularly those of children.

**EDSE 362. STUTTERING I.** *Three hours credit.*

Prerequisite: EDSE 160 or consent of instructor. Causation, diagnosis and treatment of stuttering, especially stuttering in children.

**EDSE 363. INTRODUCTION TO ORGANIC DISORDERS.** *Three hours credit.*

Prerequisite: EDSE 160 or consent of instructor. Causation, diagnosis and treatment for the speech disorders associated with cleft palate, cerebral palsy and aphasia in children and adults.

**EDSE 364. CLINICAL PRINCIPLES.** *Three hours credit with one hour of credit being earned for each of three consecutive quarters.*

Prerequisite: Concurrent enrollment in EDSE 360, 361, 362 and 363. Clinical principles, procedures, clinical forms and clinical rules. Observation and participation in diagnosis and treatment arranged.

**EDSE 370. BASIC AUDIOLOGY.** *Three hours credit.*

Measurement of hearing with pure tone techniques and interpretation of test results in terms of physical, social, and educational handicap.

**EDSE 371. SPEECH AUDIOMETRY I.** *Three hours credit.*

Prerequisite EDSE 370. Materials and techniques employed in standard speech audiometry and hearing aid evaluations.

**EDSE 372. ADVANCED AUDIOMETRY.** *Three hours credit.*

Prerequisite: EDSE 371. Theory and practice of advanced pure tone and speech testing. A consideration of the instrumentation necessary for such testing, the interpretation of audiometric findings with special emphasis on the effects of hearing loss on communication.

**EDSE 391. SEMINAR: PROBLEMS IN SOCIAL AND REHABILITATION SERVICES.** *Three hours credit.*

An approach to the major social problems involved in rehabilitating the handicapped and/or disadvantaged individual in our society. The role of the community as it attempts to solve these problems are considered.

**EDSE 394. PRACTICUM IN SOCIAL AND REHABILITATION SERVICES.** *Up to eight hours credit.*

Individual observation and supervised experience in working with clients of service agencies. Individual observation and supervised experience in providing services to clients of state and local offices of social service and rehabilitation agencies.

**EDSE 412. CURRICULUM DEVELOPMENT AND METHODOLOGY FOR MENTALLY RETARDED: ELEMENTARY LEVEL.** *Four hours credit.*

Prerequisites, EDSE 100 or 601, 210. This course will have as its main purpose the development of integrated experience-units for elementary level mentally

retarded children. Experience-centered units will be built around the following three areas: occupational, economic, and social. The course will consist of reading, lecture, observation, experimentation and meetings.

**EDSE 413. CURRICULUM DEVELOPMENT AND METHODOLOGY FOR THE MENTALLY RETARDED: SECONDARY LEVEL.** *Four hours credit.*

Prerequisites, EDSE 100 or 602. 210. Emphasis is placed on content, methods and materials appropriate for teaching junior and senior high school classes for mentally retarded youngsters.

**EDSE 422. INDIVIDUAL STUDIES.** *Maximum of four hours credit.*

Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed before credit is given, one with the instructor and one with the chairman of the department.

**EDSE 451. SPEECH DEVELOPMENT FOR DEAF AND HARD OF HEARING.** *Maximum of six hours credit.*

Presentation of various methods commonly used in speech development of intelligible speech. Integration of speech with other language arts. Importance of pre-school programs and parent education.

**EDSE 452. LANGUAGE DEVELOPMENT FOR DEAF AND HARD OF HEARING.** *Maximum of six hours credit.*

Development of language comprehension through speech-reading and reading. Systems of teaching language to the deaf. Principles of grammar essential to the use of any system of language instruction. Development of functional language usage in both oral and written forms. The meaning and importance of an integrated language arts program.

**EDSE 453. METHODS OF TEACHING CONTENT SUBJECTS TO THE DEAF.** *Three hours credit.*

Prerequisite EDSE 250. The use of the communication skills as applied in all content subject areas will be explored. Special techniques, developmental as well as corrective, will be demonstrated. Wherever possible, special multi-media approaches will be used.

**EDSE 455. METHODS OF TEACHING READING TO THE DEAF AND HARD OF HEARING.** *Three hours credit.*

Prerequisite EDSE 250. Relationships between expressive and receptive communication skills will be basic premises. Development of techniques for teaching reading readiness skills, reading skills, and remedial reading skills for hearing impaired children will be used. All reading skills will be directed toward making the hearing impaired child an independent reader.

**EDSE 459. UNDERGRADUATE SEMINAR IN EDUCATION OF THE DEAF AND HARD OF HEARING.** *Three hours credit.*

The course is designed to recapitulate problems encountered in the student field experience. Discussions will be centered around the language and speech problems of the hearing impaired child, and upon the student teacher and the classroom dynamics.

**EDSE 460. PUBLIC SCHOOL SPEECH PATHOLOGY.** *Three hours credit.*

Prerequisite: EDSE 364 or consent of instructor. Organizational procedures, use of clinical materials, and administrative policies relevant to speech correction programs in public school settings.

**EDSE 464. CLINICAL PRACTICES IN SPEECH PATHOLOGY.** *Maximum of twelve hours credit with two credit hours earned per quarter.*

Prerequisite: EDSE 364 or consent of instructor. Observation and performance of supervised diagnosis and therapy.

**EDSE 467. DIAGNOSIS IN SPEECH PATHOLOGY.** *Three hours credit.*

Prerequisite: EDSE 364. Techniques of clinical diagnosis and evaluation of persons with speech and language disorders.

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**EDSE 474. PRACTICUM IN AUDIOLOGY.** *Maximum of six hours credit.*  
Prerequisite: EDSE 372 or consent of instructor. Observation and performance of supervised diagnosis and therapy.

**EDSE 475. AUDITORY DISORDERS IN CHILDREN.** *Three hours credit.*  
Identification audiometry and differential diagnosis of children with suspected auditory disorders.

**EDSE 494. SUPERVISED FIELD PRACTICE IN REHABILITATION AND RELATED SERVICES.** *Fifteen hours credit.*

A supervised field practice will constitute an integral portion of the total education and training program for the undergraduate major in Rehabilitation and Related Services. Supervised field practice consists of a minimum of 400 clock hours of work, lasting at least one full term of approximately 10 weeks. It will attempt to integrate the academic knowledge into a practical setting where the student can become totally involved in providing services to persons seeking help from various agencies.

**EDSE 501. WORKSHOP IN SPECIAL EDUCATION.** *One to six hours credit.*  
A workshop designed for teachers and administrators. This course is designed to facilitate specific disability areas and will be so designated with each workshop offered. The content will include current issues, problems, programs, and topics of national and local interest.

**EDSE 520. INTRODUCTION TO THE EDUCATION OF SOCIALLY AND EMOTIONALLY DISTURBED CHILDREN.** *Three hours credit.*  
An introduction to concepts, practices, and trends in education for emotionally disturbed and socially maladjusted children, an orientation to the dynamics, personality characteristics and needs of emotionally handicapped and socially maladjusted children is provided.

**EDSE 526. INTRODUCTION TO TEACHING LEARNING DISABLED CHILDREN.** *Three hours credit.*  
Overview of the field of learning disabilities including concepts, practices, and trends.

**EDSE 530. CARE AND PATHOLOGY OF THE PHYSICALLY HANDICAPPED.** *Three hours credit.*  
Prerequisite, EDSE 100 or 602. A course designed for teachers of physically handicapped children. Problems will be discussed in the following areas: vision, hearing, speech, orthopedics, epileptics and miscellaneous. Observation hours are required.

**EDSE 531. PROBLEMS OF TEACHING THE PHYSICALLY HANDICAPPED.** *Three hours credit.*  
Methods of teaching physically handicapped children; evaluation of techniques and teaching procedures with the various types of physically handicapped children; study of available material, curriculum planning, and aids used in the education of the physically handicapped child. Some time will be given to counseling of parents and organizing of parent groups. Observation hours are required.

**EDSE 540. SURVEY OF EDUCATION OF THE VISUALLY HANDICAPPED.** *Three hours credit.*  
Educational, social and emotional implications of visual disability. Overview of history, and current practices in educational and rehabilitation planning. Organization and implications of various education services—pre-school through college. A review of private and public agencies, their philosophies, and programs.

**EDSE 542. PRINCIPLES OF EDUCATION OF THE PARTIALLY SEEING.** *Three hours credit.*  
Identification, classification, and methods of program organization; principles of preparation, selection, effective use of instructional materials for children with limited vision. Adaptation of the school environment considered. Observation, discussion, and administration of the Snellen Vision Screening test presented.

**EDSE 543. BEGINNING BRAILLE.** *Three hours credit.*

History of development of braille and other systems of reading used by the blind. Mastery of literary braille code development and use of special materials; slate and stylus techniques presented; introduction to Nemeth Code of Mathematics.

**EDSE 544. ELEMENTARY METHODS FOR THE BLIND.** *Three hours credit.*

Special instructional techniques in teaching reading through braille; use of audio and dimensional aids; current practices in arithmetic, language, arts, music, physical education, efficient living skills; orientation and mobility foundations. Materials preparation, adaptation of commercial devices emphasized.

**EDSE 545. SECONDARY METHODS FOR THE BLIND.** *Three hours credit.*

Curriculum, adaptations and special methods; problems of adjustment and expansion of the operational environment. Use of guidance, counseling and vocational rehabilitation agency services in life planning for the senior high school blind student. Pre-adult and adult special services. Review of special legislation and typical services available to the young blind adult.

**EDSE 563. NEUROLOGICAL BASIS FOR SPEECH AND HEARING.** *Four hours credit.*

Anatomy and physiology of the nervous systems controlling the speech and hearing mechanisms, together with theories of control.

**EDSE 568. SPEECH AND LANGUAGE DEVELOPMENT FOR MENTALLY RETARDED.** *Three hours credit.*

Prerequisite: EDSE 160. Relationship of speech and language to mental retardation. Diagnosis and therapeutic measures used in the development of speech and language for the mentally retarded.

**EDSE 573. THE AUDITORY MECHANISM.** *Three hours credit.*

Detailed study of the human ear, the processes of audition, and the abnormalities and diseases of the hearing mechanism.

**EDSE 580. EDUCATION OF CHILDREN WITH SPECIAL ABILITIES.** *Three hours credit.*

Basic organization of programs for the education of the gifted child; classification and testing; curriculum adjustments and principles of teaching the gifted; exploring creative activities; guidance and evaluation of student programs.

**EDSE 590. INTRODUCTION TO VOCATIONAL REHABILITATION COUNSELING.** *Three hours credit.*

An orientation to the rehabilitation process including a survey of history, principles, philosophy and legal aspects of rehabilitation and related fields. Rehabilitation as a concept of integrated service is stressed and an understanding of the objectives and the organizational basis of rehabilitation programs is provided.

**EDSE 591. COMMUNITY RESOURCES FOR REHABILITATION, GUIDANCE AND COUNSELING.** *Three hours credit.*

Designed to acquaint the student with an understanding of the need for community resources. Provides the student with techniques for evaluating the effectiveness of available resources, and the knowledge and skills required to develop community resources needed for the implementation of rehabilitation, guidance and counseling services.

**EDSE 593. INTERVIEWING TECHNIQUES IN SOCIAL AND REHABILITATION SERVICES.** *Three hours credit.*

The theory and practice of interviewing as applied in social and rehabilitation services is explored and discussed. Emphasis will be placed on interview techniques that enable the individual to elicit accurate information and getting access to material otherwise unavailable, reduce bias, and not restrict or distort the flow of communication. Demonstration and practice will be an integral part of the instructional process.

**EDSE 596. CASEWORK TECHNIQUES IN THE SOCIAL AND REHABILITATION SERVICES.** *Three hours credit.*

This course will provide the student with an understanding in depth of the principles and techniques involved in casework procedures in social and rehabilitation service agencies. It will also develop proficiency in casework techniques and processes.

## **SPEECH COMMUNICATION AND JOURNALISM**

**\*SP 110. PRINCIPLES OF SPEECH COMMUNICATION.** *Three hours credit.*  
A lecture and performance course in fundamentals of voice production, oral reading and public speaking.

**\*SP 120. SURVEY OF SPEECH COMMUNICATION.** *Three hours credit.*  
A systematic survey of all major areas in the field of speech communication with attention to the interdisciplinary nature of this branch of learning.

**\*SP 130. VOICE AND SPEECH IMPROVEMENT.** *Three hours credit.*  
A study of the use of the speaking voice and the elements of clean articulation with particular attention to individual needs.

**\*SP 140. PRINCIPLES OF MASS COMMUNICATION.** *Three hours credit.*  
An introductory study of the techniques and theories of mass communication, including printed and electronic media, and its significance in contemporary society.

**\*SP 150. PUBLIC SPEAKING.** *Three hours credit.*  
Prerequisite, SP 110. A second course in speech. Emphasis is placed on the preparation, organization, and presentation of various types of speeches.

**\*SP 170. ORAL INTERPRETATION.** *Three hours credit.*  
The student is given an opportunity to read aloud in various forms of literature and is aided in gaining skill in an artistic presentation.

**\*SP 210. LABORATORY FORENSICS.** *Maximum of three hours credit.*  
Students registering for more than one hour of credit must have permission of director of forensics and must devote at least fifteen hours a week to the program. No student may earn more than a total of eight hours in Speech 210.

**\*SP 212. ARGUMENTATION THEORY.** *Three hours credit.*  
A systematic study of argumentation theory during which both informal and formal applications of theory and logical discourse will be discussed.

**\*SP 230. INTRODUCTION TO PHONETICS.** *Three hours credit.*  
The science of speech sounds with special application to the use of phonetics in speech instruction in elementary and secondary schools.

**\*SP 240. RADIO PRODUCTION AND PRACTICES.** *Three hours credit.*  
*(Two hours lecture, two hours laboratory.)*  
This course is designed to survey all basic radio production processes. Considerable practical laboratory experience in the studios of a broadcast station.

**\*SP 300. PARLIAMENTARY LEADERSHIP TRAINING.** *Two hours credit.*  
The course deals with (1) a study of the qualities necessary in a person who presides at meetings and (2) a study of the rules which govern procedure in organized groups along with practice in the application of those rules.

**\*SP 302. GROUP DISCUSSION.** *Three hours credit.*  
Principles and practice in organizing, conducting, and participating in all forms of public discussion including round-tables, symposiums, and forums.

**\*SP 310. ACADEMIC DEBATE.** *Three hours credit.*  
Prerequisite, SP 212. This course is designed primarily to provide students with a better understanding of the intricacies of intercollegiate academic debating and the opportunity for practical experience in team debating.

**\*SP 350. SPEECH COMPOSITION.** *Three hours credit.*

This course consists of the study of the techniques involved in the writing of speeches. Several speeches are studied analytically and speeches are then written to be memorized.

**\*SP 400. THEORIES OF GROUP PROCESS.** *Three hours credit.*

Prerequisite, SP 302. A systematic overview of current theory and knowledge of discussion as derived and synthesized from significant experimental investigation.

**\*SP 420. GENERAL SEMANTICS.** *Four hours credit.*

A study of the relationship between language, thought, and behavior as developed in the writings of Alfred Korzybski, S. I. Hayakawa, Wendell Johnson and others. The course is interdisciplinary in nature.

**\*SP 440. INTRODUCTION TO TELEVISION PRODUCTION.** *Four hours credit. (Two hours lecture, four hours laboratory.)*

Prerequisite, SP 240. An introductory study of the basic principles, procedures, and techniques of television production, including practical laboratory experience with production equipment and facilities.

**\*SP 452. AMERICAN PUBLIC ADDRESS (to 1890).** *Three hours credit.*

An historical and critical study of representative American speakers and speeches of the period.

**\*SP 454. AMERICAN PUBLIC ADDRESS (1890 to Present).** *Three hours credit.*

An historical and critical study of representative American speakers and speeches of the period.

**\*SP 456. THE RHETORIC OF SOCIAL PROTEST.** *Three hours credit.*

An analytical and critical study of the rhetoric of social protest in America with special emphasis on racial agitation.

**\*SP 460. PERSUASION.** *Three hours credit.*

A study of advocacy with special emphasis on the techniques used in communication and the implications for the listener and reader.

**SP 480. SPEECH FOR THE CLASSROOM TEACHER.** *Four hours credit.*

A course designed to increase the personal effectiveness of the teacher in the classroom with emphasis on the improvement of instructional speaking. Not for speech majors or minors.

**SP 490. WORKSHOP IN SPEECH COMMUNICATION.** *Three hours credit.*

An opportunity to study cooperatively the problems involved in teaching speech communication. The area or areas to be covered in any one workshop will be determined by the interests and needs of the group or by previous announcement.

## STUDENT FIELD EXPERIENCES

**EDFE 260. OBSERVATION IN COOPERATING SCHOOLS.** *One to four hours credit.*

Open to individual students of any level or department. Credit granted on basis of one hour per 25 classroom observation hours. Student-instructor co-planned observational experiences in a variety of local or distant school situations. Evaluation consists of oral reporting periodically, filing a final log, and estimation of insight growth of the student. S-U final mark.

**EDFE 270. TEACHING AIDE.** *One to four hours credit.*

Open to individual students of any level or department. Credit based on one hour per 20 actual hours in the classroom. Placement in local or nearby cooperating schools. Experience consists of a regular, steady assignment in a single teaching station all quarter, not to exceed 10 hours a week. Experience is guided by the principal and teacher; includes bit teaching, tutoring and classroom routine management under close supervision. Evaluation is by S-U mark and is based on behavioral observation of student progress in insight, planning, adaptation and bit instruction.

**EDFE 380. SIMULATION OF TEACHING.** *Three hours credit. PTE.*  
Prerequisite to EDFE 451, 452, 461 or 462. Consists of a variety of simulation materials and activities. Thought and action centers on school-like problems. Evaluation is by S-U mark and is based on participation, tests and oral and written reporting.

**EDFE 420. SPECIAL EDUCATION STUDENT TEACHING: ELEMENTARY.** *Eighteen hours credit. PTE.*

Designed to allow students the opportunity to bridge the gap between theory and practice in the teaching of handicapped children on the elementary level. Opportunity is provided for the student to use special methods, materials and techniques and to progressively assume the responsibilities related to teaching. S-U final mark.

**EDFE. 430. SPECIAL EDUCATION STUDENT TEACHING: SECONDARY.** *Eighteen hours credit. PTE.*

Designed to allow students the opportunity to bridge the gap between theory and practice in the teaching of handicapped children on the secondary level. Opportunity is provided for the students to use special methods, materials and techniques and to progressively assume the responsibilities related to teaching. S-U final mark.

**EDFE 440. PRESCHOOL STUDENT TEACHING.** *Eighteen hours credit. PTE*  
Provides for the practical application, under supervision, of the principles of learning and the techniques of instruction in the classroom. S-U final mark. Specially designed for preschool level experience.

**EDFE 450. ELEMENTARY STUDENT TEACHING.** *Eighteen hours credit. PTE.*

Provides for the practical application, under supervision, of the principles of learning and the techniques of instruction in the elementary classroom. S-U final mark.

**EDFE 451. HALF-DAY INTERNSHIP: ELEMENTARY.** *Eighteen hours credit. (6 hours each for three consecutive quarters). PTE.*

Half-day, all-year elementary internship. Salary, full-staff status. Opportunity for continued employment on second salary step. In lieu of regular student teaching requirement. Prerequisites: EDEM 310 and EDEF 380 (or equivalents). Apply before March 1. S-U final mark.

**EDFE 452. FULL-DAY INTERNSHIP: ELEMENTARY.** *Eighteen hours credit. (6 hours each for three consecutive quarters.) PTE.*

Prerequisites: EDEM 310 and EDEF 380 (or equivalents). A full-day, full year teaching internship in an elementary classroom. Salaried, full-staff status with opportunity for continued employment on second salary step. In lieu of regular student teaching requirement. Apply by March 1. Assignment possibilities: state-wide. S-U final mark.

**EDFE 553. ADVANCED STUDENT TEACHING: ELEMENTARY.** *Three to Eighteen hours credit. PTE.*

Opportunity for a student who has had student teaching, intern or provisional field experience to meet certification needs or to receive additional field experience upon EDFE staff recommendation. Could be a partial term classroom experience during any of the four college quarters. Focuses on up-dating and refining classroom methods in the elementary classroom. S-U final mark.

**EDFE 460. SECONDARY STUDENT TEACHING.** *Eighteen hours credit. PTE.*

Provides for the practical application, under supervision, of the principles of learning and the techniques of instruction in the secondary school classroom. Must be limited to the PTE and departmentally approved teaching subject area(s). S-U final mark.

**EDFE 461. HALF-DAY INTERNSHIP: SECONDARY.** *Eighteen hours credit. (6 hours each for three consecutive quarters). PTE.*

Half-day, all-year secondary classroom teaching internship in approved teaching subject area(s) only. Salary, full-staff status. Opportunity for continued employment on second salary step. In lieu of regular student teaching requirement. Pre-requisites: EDEM 310 and EDFE 380 (or equivalents). Apply by March 1. S-U final mark.



**EDFE 462. FULL-DAY INTERNSHIP: SECONDARY.** *Eighteen hours credit.* (6 hours each for three consecutive quarters.) PTE.

Prerequisites: EDEM 206 and EDFE 380 (or equivalents). A full-day, full-year teaching internship in the secondary classroom in the approved subject area(s) only. Salaried, and full-staff status. Opportunity for continued employment on second salary step. In lieu of regular student teaching requirement. Apply by March 1. Assignment possibilities: statewide. S-U final mark.

**EDFE 563. ADVANCED STUDENT TEACHING: SECONDARY.** *Three to Eighteen hours credit.* PTE.

Designed to meet certification or recommended additional field experience needs of secondary students **after** regular student teaching, interning, or actual provisional teaching experiences. Could be a partial term classroom experience during any of the four college quarters. S-U final mark.

## THEATRE ARTS

**\*THEA 110. INTRODUCTION TO STAGECRAFT.** *Three hours credit.*  
A study of the arts of stagecraft, the vocabulary and materials of the scene.

**\*THEA 160. ACTING II (INTERNALS).** *Four hours credit.*  
The beginning course in the basic principles of acting and dramatic production. The emphasis of the course is on the primary needs of acting: concentration, motivation, and believability.

**\*THEA 170, 171, 172. STAGE MOVEMENT I, II, III.** *Three hours credit.*  
(*Required in the acting sequence.*)

Prerequisite: THEA 160, or permission of instructor. A laboratory class in the development of the actor's basic tools, his body and his voice. Emphasis is placed upon skills needed to communicate various styles of acting, movement in period costume, stage fighting, and essentials or choreographed movement for non-dancers.

**\*THEA 210. STAGECRAFT.** *Three hours credit. (Two hours lecture, two hours laboratory.)*

Prerequisite: THEA 110. This course deals specifically with the problems, methods, and materials used in staging the play, with particular emphasis on stage construction and painting techniques.

**\*THEA 220. BEGINNING STAGE COSTUMING.** *Three hours credit. (Two hours lecture, two hours laboratory.)*

An introduction to the techniques of basic costuming for the theatre: the role of the costumer, pattern and construction, and a familiarity with materials and practices relating to play production.

**\*THEA 230. INTRODUCTION TO THE THEATRE.** *Three hours credit.*

An introductory course to the theatre which gives a comprehensive outline of the living stage, its players and craftsmen, and its place in society from primitive theatre to contemporary American and European theatres.

**\*THEA 240. BEGINNING PLAY DIRECTION.** *Four hours credit.*

Prerequisite: THEA 110 and THEA 160. A basic course in the principles of directing a play. The major focus of the course is on contemporary theories and practices of play direction, with practical experience in directing scenes and exercises.

**\*THEA 260. ACTING II (EXTERNALS).** *Three hours credit.*

Prerequisite: THEA 160. The second course in the principles of acting. The primary focus of the course is on observation, character analysis and research, and the use of the actor's voice and body for external characterization.

**\*THEA 261. STAGE MAKE-UP.** *Two hours credit. (One hour lecture, two hours laboratory.)*

A basic course designed to acquaint the student with the principles of the art of stage make-up.

**\*THEA 280. CREATIVE DRAMATICS.** *Three hours credit. (Laboratory arranged.)*

A lecture and laboratory course in dramatics for elementary and secondary school teachers. This course includes the contributions of creative dramatics to education and demonstrations of procedures best adapted to work in children's dramatic activity.

**\*THEA 310. BEGINNING SCENE DESIGN.** *Three hours credit. (Two hours lecture, two hours laboratory.)*

Prerequisite: THEA 110. An introductory course in the fundamentals of scene design. The study includes the basic principles of design and color and their application to scenic design.

**\*THEA 320. STAGE COSTUMING.** *Four hours credit.*

Prerequisite: THEA 220, or permission of instructor. A study of costume design for the theatre. Emphasis is given to a survey of historical styles of costumes used in the theatre from the primitive times to the present and to the principles of contemporary design procedures.

**\*THEA 340. TECHNIQUES OF PLAY DIRECTION.** *Three hours credit. (Laboratory arranged.)*

Prerequisite: THEA 240, or permission of instructor. A production course in directing the one-act play for public performance. Particular attention will be given to planning and scheduling a theatrical production and handling the problems of the student director.

**\*THEA 350, 351, 352. SUMMER THEATRE WORKSHOP I, II, III.** *Five hours credit each.*

Prerequisite: acceptance by the Theatre Arts Staff. Workshop in techniques of acting and technical work as observed and practiced in the daily rehearsal periods of The Little Theatre of the Rockies. Students must spend six to eight hours per day in rehearsals, either as actors or technical assistants. Work in the Summer Theatre Workshop (THEA 350, 351, 352) may be used by Theatre Arts majors in lieu of THEA 210 or THEA 260 in the major sequences.

**\*THEA 353. THEATRE PRODUCTION.** *Two hours credit. (Four hours laboratory.)*

Prerequisite: acceptance by the Theatre Arts staff director. A laboratory class in the production and presentation of theatre before live audiences. The emphasis in the course is on a unification of practical problems for all aspects of theatre production through four performances. Double period, two days a week.

**\*THEA 380. CHILDREN'S THEATRE PRODUCTION.** *Three hours credit. (Laboratory arranged.)*

Prerequisite: THEA 280, or permission of instructor. A basic production course in the methods and procedures of producing good theatre for children. Study of the literature in the field, technical problems, and the educational values of theatre for children will be emphasized.

**\*THEA 390. READERS THEATRE.** *Three hours credit.*

Prerequisite: SP 170, or permission of instructor. A course designed to acquaint the student with the principles and production techniques of Readers Theatre.

**\*THEA 410. ADVANCED SCENE DESIGN.** *Three hours credit.*

Prerequisite: THEA 210 and THEA 310, or permission of instructor. A study of the techniques and problems of scenic design. The esthetic, as well as the practical problems of the designer are presented.

**\*THEA 411. STAGE LIGHTING.** *Two hours credit. (One hour lecture, two hours laboratory.)*

An introduction to lighting theory and lighting design applicable to staging practices.

**\*THEA 412. ADVANCED STAGING TECHNIQUES.** *Four hours credit.*

Prerequisite: THEA 210 and THEA 310. The study and practice of the latest trends and developments in scenic design, staging methods, and techniques. Special attention is directed toward stage management, care and maintenance of equipment, and materials. Emphasis is upon the stage mechanics and materials of the modern theatre.

**\*THEA 430. HISTORY OF THE THEATRE I.** *Three hours credit.*

A seminar study of European theatre and its development from the beginnings until the end of the Middle Ages, including the primitive origins of theatre and the development of Oriental theatres.

**\*THEA 431. HISTORY OF THE THEATRE II.** *Three hours credit.*

A seminar study of European theatre and its development from the Italian Renaissance until the close of the 18th century.

**\*THEA 432. HISTORY OF THE THEATRE III.** *Three hours credit.*

A seminar study of American and European theatre and its development from the beginning of the 19th century to the present.

**\*THEA 440. PRACTICUM IN PLAY DIRECTION.** *Two hours credit. (Four hours laboratory arranged.)*

Prerequisite: THEA 340. A practicum in advanced play directing which will give the student an opportunity to cast, rehearse, and direct one or more laboratory productions under the supervision of the theatre staff.

**THEA 441. INDIVIDUAL PRACTICUM IN ADVANCED PLAY DIRECTION.** *Four hours credit.*

Prerequisite: THEA 440, or permission of instructor. An individual practicum in directing a full-length play. Two copies of a well-written paper, defending the purpose and success of the production, and one neat promptbook will be filed with the department, one copy of the paper with the practicum adviser. This course is open only to senior majors in play direction and qualified graduate students.

**\*THEA 460. SERIOUS STYLES OF ACTING.** *Two hour credit. (Four hours laboratory.)*

Prerequisite: THEA 260. An advanced laboratory course in acting, concentrating on Greek tragedy, Elizabethan and Jacobean tragedy and history, the serious drama of the Spanish Renaissance, French neo-classic tragedy, 19th century Romantic drama, Ibsen and Strindberg.

**\*THEA 461. COMIC STYLES OF ACTING.** *Two hours credit. (Four hours laboratory.)*

Prerequisite: THEA 260. An advanced laboratory course in acting, concentrating on Greek and Roman comedy, farce comedy in the Medieval and Renaissance periods, Commedia dell'Arte, Elizabethan and Jacobean comedy, French neo-classic comedy, English comedy of the Restoration and 18th century, and 19th century farce and comedy.

**\*THEA 462. PROBLEMS IN ACTING CONVENTIONS.** *Two hours credit. (Four hours laboratory.)*

Prerequisite: THEA 260. An advanced laboratory course in acting, concentrating on stage dialects and the conventions needed to act such modern dramatic forms as naturalism, expressionism, impressionism, symbolism, "theatre of the absurd," "theatre of cruelty," happenings, and other modern experimental forms.

**THEA 480. SENIOR SEMINAR IN DRAMATIC PRODUCTION.** *Two hours credit.*

Prerequisite: PTE. Emphasis will be upon problems of major concern to the prospective teacher-director. Reports and discussion will focus on areas related to the teaching of theatre.

## VOCATIONAL EDUCATION

**VE 210. CAREER OPPORTUNITIES SEMINAR IN VOCATIONAL EDUCATION.** *One hour credit.*

This course is a seminar regarding teaching career opportunities in vocational and technical education and is designed for freshmen, sophomores, or transfer students. State credential requirements for vocational teachers in the areas of home economics, business-office education, distributive education, health occupations education, etc., will be discussed.

**VE 290. DIRECTED OCCUPATIONAL EXPERIENCES.** *Eight hours maximum credit.*

Prerequisite, Prospective vocational education teacher. Approved work experience is required for vocational credentials. Credit may be received for approved and/or supervised occupational experience related to the student's major area. The credits are registered after the work has been completed satisfactorily.

**VE 296. DIRECTED OCCUPATIONAL INTERNSHIP.** *Twelve hours maximum credit.*

Prerequisite, Prospective vocational education teacher. This course will provide undergraduate students the opportunity to acquire paid work experience through an off-campus internship related to their specific area of vocational education. The internship must be approved by the student's major adviser and planned cooperatively with the Coordinator for Occupational Experiences. Arrangement for occupational internships must be completed two quarters prior to the off-campus experiences.

**VE 310. FOUNDATIONS OF VOCATIONAL AND TECHNICAL EDUCATION.** (PTE) *Two hours credit.*

This course is to be taken concurrently with VE 311 and is a study of vocational-technical education, legislation, state policies, programs, and recent developments in the total field of occupational education. The course is a prerequisite for enrollment in vocational courses with higher catalog numbers.

**VE 311. HISTORY OF VOCATIONAL EDUCATION—A LABORATORY APPROACH.** (PTE) *One hour credit.*

This is the laboratory experience for students enrolled in VE 310: The student schedules his time in the Career Development Center utilizing the multimedia-material prepared by the Department of Vocational Education on the history of vocational education. Students are assisted and evaluated by the instructor on an individual basis. The course content covers the basic philosophy and principles of vocational education and the major historical milestones and vocational education.

**VE 412. COOPERATIVE EDUCATION AND COORDINATION TECHNIQUES.** *Three hours credit.*

Prerequisites, VE 310 and VE 311. This required course for vocational teachers provides the student with an analysis of coordinated work experience programs and describes the specific duties of a teacher-coordinator. Actual problems encountered in coordinating the school program with on-the-job experiences are elucidated.

**VE 414. VOCATIONAL YOUTH ORGANIZATIONS.** *Two hours credit.*

Prerequisites, VE 310 and VE 311. This is a course which provides both in-class study of the organization and maintenance of a successful vocational youth organization and the actual participation in a Colorado vocational youth organization. The State Plan requires all vocational teachers to be involved in youth organizations, therefore, this course will give the enrollee an opportunity to understand the purpose and function of such organizations as VICA, DECA, FHA, FBLA, OEA, etc.

**VE 416. ADULT VOCATIONAL EDUCATION.** *Three hours credit.*

Prerequisites, VE 310 and VE 311. The course includes a brief overview of the organization and administration of post-secondary and adult occupational programs. Students are introduced to existing adult vocational programs through examination of current curricula for specific adult programs, field trips, and guest speakers.

**VE 424. OCCUPATIONAL ANALYSIS.** *Two hours credit.*

This course is to be taken concurrently with VE 425. Specific instruction in the techniques of occupational analysis and program development, as it relates to individualizing occupational instruction, are covered in this course.

\*Off-campus enrollees in VE 310 may take this phase by correspondence.

**VE 425. PROGRAM DEVELOPMENT—A LABORATORY EXPERIENCE.***Three hours credit.*

Prerequisites, VE 310 and VE 311, (to be taken concurrently with VE 424. This course is organized so that the student can complete the laboratory experience with individualized learning packets utilizing multimedia materials. The student progresses at his own rate with a set of guideposts for evaluations. When the student completes this laboratory experience concurrently with the course on Occupational Analysis, he will have developed a meaningful job-task learning packet for a specific occupation.

**VE 430. VOCATIONAL EDUCATION FOR LEARNERS WITH SPECIAL NEEDS.** *Three hours credit.*

Prerequisites, VE 310 and VE 311. Emphasis is placed on the understanding of the characteristics and unique needs of learners described by the Vocational Education Acts of 1963 and 1968 as "persons with special needs." These are students who have academic, socio-economic, or other handicaps that prevent them from succeeding in vocational education programs. The rationale for and the development of special vocational education programs and field experiences are important aspects of this course.

**VE 480. SEMINAR IN VOCATIONAL EDUCATION.** *Four hours maximum credit.*

Prerequisites, VE 310 and VE 311. This seminar is primarily concerned with independent study and specific guided research in the development of vocational education thought. The participants will meet for regular discussions.

**VE 485. LABORATORY EXPERIENCES IN VOCATIONAL EDUCATION.** *Twelve hours maximum credit.*

Prerequisite, Instructor's permission. This course is a laboratory experience to improve the student's technical skills and knowledge in a specific occupational field. This experience will aid the individual in his development as a vocational educator. The program is designed for the individual.

## ZOOLOGY

Courses in zoology are administered by the Department of Biological Sciences.

**\*ZOO 105. GENERAL ZOOLOGY.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

An introduction to animal biology through the use of selected topics chosen for their contemporary interest and utility as basic material in zoology. Relevance to man of the subjects covered is stressed. Will substitute for SCI 104. Credit not allowed for biology majors.

**\*ZOO 121. MAMMALIAN ANATOMY.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisite, ZOO 105. A study of injected laboratory mammals in which techniques of dissection and laboratory procedures are emphasized. Skeletal structure, musculature, and the morphology of organs of respiration, circulation and digestion are considered.

**\*ZOO 156. ELEMENTS OF HUMAN PHYSIOLOGY-ANATOMY.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

A class in beginning human physiology stressing the regulatory mechanisms that maintain normal body function. Emphasis is placed on broad, general biological principles as they apply to structure and function. Not open to biology majors and minors.

**\*ZOO 250. HUMAN PHYSIOLOGY.** *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, ZOO 105 or BIO 101, 103, recommended ZOO 121 and CHEM 281. A detailed presentation of the functions of the organ systems of the human body. Emphasis is placed on the mechanisms involved with the maintenance of normal function.

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**\*ZOO 304. ORNITHOLOGY.** *Three hours credit.*

In this course classroom, museum, and field projects are concerned with the habits, habitats, life histories, migration activities, behavior patterns, and economic importance of birds. Students will have an opportunity to learn to identify birds in the field. Field work required.

**ZOO 316. ENTOMOLOGY.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisites, BIO 101, 103. The study of the principal orders of insects. Specimens are collected locally and prepared by the student for classification and study. The role of insects as vectors in transmission of diseases and some control measures are considered in the latter parts of the course.

**ZOO 325. COMPARATIVE MORPHOGENESIS OF THE VERTEBRATES I.** *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisites, BIO 101, 102, 103. A study of the comparative developmental processes and fundamental principles of vertebrate embryology as they relate to the development and ultimate structure of the vertebrate organ systems. Developmental anatomy and adult morphology of the sharks through mammals are considered for laboratory study.

**ZOO 326. COMPARATIVE MORPHOGENESIS OF THE VERTEBRATES II.** *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisites, BIO 101, 102, 103, ZOO 325. A study of the comparative developmental processes and fundamental principles of vertebrate embryology as they relate to the development and ultimate structure of the vertebrate organ systems. Developmental anatomy and adult morphology of the sharks through mammals are considered for laboratory study.

**ZOO 340. ANIMAL ECOLOGY.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisites, BIO 101, 102, 103. The principles of governing animal relationship with their environment. Distribution, food supply, migratory movements, and territorial requirements will be emphasized. Field work required.

**ZOO 412. GENERAL PARASITOLOGY.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisites, BIO 101, 103. A study of the symbiotic relationships of parasitism as exemplified by typical parasites of man, domesticated and wild animals. Life cycles, pathology, systematics, and host-parasite relationships are stressed.

**ZOO 441. FAUNISTICS.** *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisites, BIO 101, 103. An advanced taxonomy and ecological survey of the local fauna of Colorado with special emphasis on amphibians, reptiles, and mammals. This will include field trips, collection, and classification of the local fauna, and a study of the habits, habitats, and life histories of the local species under the ecological conditions that govern their distribution. Collecting permits are needed.

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 MARGARET E. EVERETT, Ph.D. .... *Chairman, Department of Physical  
 Education for Women*  
 GEORGE H. SAGE, Ed.D. .... *Chairman, Department of Physical Education  
 for Men*  
 J. MAX SHIRLEY, Ed.D. .... *Chairman, Department of Recreation*

### School of Music

- JAMES E. MILLER, Ph.D. .... *Dean, School of Music*  
 ROBERT JAMES, Ed.D. .... *Administrative Assistant to the Dean of the  
 School of Music*  
 EDWIN BAKER, M.M. .... *Chairman, Department of Brass and Percussion*  
 DALE DYKINS, M.Mus. .... *Chairman, Department of Theory and Composition*  
 KENNETH EVANS, Ph.D. .... *Chairman, Department of Woodwinds*  
 JOHN FLUKE, Ed.D. .... *Chairman, Department of Music Education*  
 DON GARLICK, D.M.A. .... *Chairman, Department of History and Literature*  
 RUPERT GOODBROD, M.A. .... *Chairman, Department of Piano and Organ*  
 HOWARD MICKENS, M.M. .... *Chairman, Department of Strings*  
 CLAUDE SCHMITZ, M.A. .... *Chairman, Department of Voice*

### School of Nursing

- L. ELAINE MCMINN, M.S. .... *Dean, School of Nursing*

## **Aerospace Studies**

LT. COL. JOHN C. BROWN, M.S. .... *Chairman, Division of Aerospace Studies*

### **Center for Special and Advanced Programs**

MEARL W. GRABILL, JR., M.A. .... *Executive Director, Center for Special and  
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ROBERT H. TAYLOR, M.A. .... *Associate Director, Center for Special and  
Advanced Programs*

# INSTRUCTIONAL STAFF

1970-1971

- WALLACE AAS, B.S., Moorhead State Teachers College; M.A., University of Northern Colorado.  
*Associate Professor of Physics; Chairman, Department of Physics*  
On Leave Summer Quarter, 1971
- KATHERINE ABBOTT, B.A., University of Illinois.  
*Instructor in Physical Education*
- PAUL DAMIAN ABELL, B.S., M.S., Colorado State University.  
*Instructor in Business*
- BARBARA J. ADAMS, B.S., M.S., Oklahoma State University; Ed.D., University of Northern Colorado.  
*Assistant Professor of Anthropology*
- FRANCIS W. ADAMS, B.S., Kansas State Teachers College; M.Ed., University of Kansas; M.A., San Fernando Valley State College.  
*Instructor in Special Education*
- WILLIAM T. AGAN, B.A., M.A., San Francisco State College.  
*Assistant Professor of English*  
On Leave Fall, Winter, and Spring Quarters, 1970-71
- VERNE AHLBERG, A.B., Macalaster College; M.A., Columbia University.  
*Associate Professor of Speech*  
Will retire September 30, 1971.
- FRANK W. ANDERS, B.S., University of California, Berkeley; M.S., U.S. Naval Post Graduate School.  
*Assistant Professor of Mathematics*
- DARRELL E. ANDERSON, A.B., York College; Ph.D., University of Nebraska.  
*Associate Professor of Psychology*
- HUGO A. ANDERSON, JR., A.B., University of Chicago; M.S., Colorado State University.  
*Assistant Professor of Business; Acting Chairman, Department of Finance and Insurance*
- JAMES FLIPSE ANDERSON, Ph.B., University of Wisconsin; M.A., Ph.D., University of Colorado.  
*Assistant Professor of Economics*
- VIOLETA S. ANDERSON, B.A., York College; M.A., University of Northern Colorado.  
*Instructor in College Student Personnel Work*
- PATRICIA A. APPLGATE, B.A., State College at Iowa; M.A., Colorado State University.  
*Assistant Professor of English*
- DEAN A. ARNOLD, B.A., Eastern Illinois University; M.A., Stanford University; Ph.D., University of Chicago.  
*Professor of History*
- WILLIAM RAMON ARNOLD, B.S., Oregon College of Education; M.Ed., Ed.D., University of Oregon.  
*Assistant Professor of Elementary Education*
- ROBERT W. AYLWARD, B.S., University of Wyoming; M.A., University of Northern Colorado.  
*Instructor in Physical Education*
- KAREN S. BABICH, B.S., University of Washington; M.S., Rutgers University  
*Assistant Professor of Mental Health Nursing*
- ELMER V. BACHENBERG, B.A., Nebraska State College; M.S., University of Illinois.  
*Assistant Professor of Library Science; Head Catalog Librarian*
- GUNTHER F. A. BAER, B.Ed., University of Cape Town; M.A., M.Ed., University of the Witwatersrand; Dr. utriusque iuris, University of Heidelberg.  
*Assistant Professor of German*  
On Leave Fall and Winter Quarters, 1970-71.
- EDWIN D. BAKER, B.M., M.M., Indiana University.  
*Associate Professor of Music; Chairman, Department of Brass and Percussion*  
On Leave Fall Quarter, 1970.
- MARSHA K. BAKER, A.B., University of Northern Colorado.  
*Temporary Instructor in the Laboratory School*
- RICHARD F. BALL, B.S., State Teachers College, Pennsylvania; M.A., University of Northern Colorado.  
*Professor of Art*  
On Leave Fall Quarter, 1970.

RICHARD P. BARASCH, B.A., M.A., University of California at Los Angeles.

*Instructor in Sociology*

JERRY N. BARHAM, B.S., Arkansas A & M College; M.S., Ed.D., Louisiana State University.

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*Professor of Educational Administration*

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*Associate Professor of Music*

JAMES HENRY BARTON, B.S., Tennessee Technological University; M.S., Memphis State University.

*Instructor in Geography*

PAOLO G. BARUCCHIERI, B.A., Liceo Academia of the Republica de Italia; M.A., University of Northern Colorado; M.A., University of Wisconsin.

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*Student Personnel Work*

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PIERRE BETHOUX, A.B., M.A., University of Grenoble.

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*Temporary Instructor in Psychology Counseling and Guidance*

AGNES M. BIEGEL, B.S.N., Loyola University; M.S.N., Catholic University of America.

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HOWARD LAWRENCE BLANCHARD, B.A., University of Northern Iowa; M.S., Drake University; Ed.D., University of Northern Colorado.

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On Leave Winter Quarter, 1971.

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*Instructor in Music*

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On Leave Summer Quarter, 1971

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*Assistant Professor of Education; Chairman, Department of Foundations of Education*

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**WILLIAM S. CORDINER, B.A., M.A.,** University of Wyoming.

*Assistant Professor of Fine Arts*

**JOSEPH A. COREY, B.S., M.A.,** American International College.

*Assistant Professor of Business Marketing*

**ALFRED EMILE CORNEBISE, A.B.,** Wayland College; M.A., Texas Technological College; Ph.D., University of North Carolina.

*Assistant Professor of History*

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*Associate Professor of Library Science; Reference Librarian*

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**NEAL M. CROSS, B.A., M.A.,** University of Northern Colorado; Ed.D., Stanford University.

*Professor of English*

*On Leave Fall, Winter and Spring Quarters, 1970-71*

**ROBERT J. CROUSE, B.S., M.A.,** Western Michigan University.

*Instructor in Special Education*

**RACHEL FAY CULLOR, A.B., M.A.,** University of Northern Colorado.

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**JOHN A. DAMGAARD, JR., B.A.,** Colorado College; M.B.A., University of Michigan; Ed.D., University of Utah.

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*Associate Professor of Education*

**RAYMOND L. DEBOER, B.A.,** Augustana College; M.A., Ed.D., University of Denver.

*Professor of Speech Communication*

**RUTH M. DEBOER, B.A.,** Hope College; M.A., Bowling Green State University.

*Instructor in Speech Communication*

**WANDA A. DEBOER, A.B.,** Friends University; M.A., University of Northern Colorado.

*Instructor in Business*

**DONALD GILMORE DECKER, B.S.,** Michigan State Normal; M.A., University of Northern Colorado; Ph.D., Columbia University.

*Professor of Science Education  
On Leave Summer Quarter, 1971*

**NELLIE M. DENNING, B.A., M.A.,** University of Northern Colorado.

*Instructor in Anthropology*

**JOHN L. DIETZ, B.S.,** University of Nebraska; M.A., University of Northern Colorado; Ph.D., Syracuse University.

*Assistant Professor of Geography*

**RICHARD DARBY DIETZ, B.S.,** California Institute of Technology; Ph.D., University of Colorado.

*Assistant Professor of Astronomy*

**HELEN R. DOBELL, A.B.,** University of New Mexico; M.S., Illinois State University.

*Instructor in Physical Education*

**JAMES FRANCIS DOYLE, A.B.,** University of Wisconsin; M.F.A., University of Iowa.

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*Assistant Professor of Business-Statistics*

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*Assistant Professor of Physics*

DONALD D. ELLIOTT, B.S. in Chem., B.S. in Bus., M.S., Ph.D., University of Colorado.

*Assistant Professor of Mathematics; Chairman, Department of Mathematics*

On Leave Summer Quarters, 1971.

CYNTHIA SUE ENGLISH, B.A., University of Alabama; M.A., University of Denver.

*Instructor in Special Education*

KATHLEEN Y. ENSZ, A.B., Pomona College; M.A., University of California, Berkeley.

*Instructor in French*

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*Assistant Professor of Education*

WILLIAM REINTZ ERWIN, JR., B.S., M.S., North Texas State University; Ed.D., University of Houston.

*Professor of Industrial Arts*

On Leave Summer Quarter, 1971

KENNETH G. EVANS, B.A., M.A., University of Northern Colorado; M.F.A., Ph.D., State University of Iowa.

*Associate Professor of Music; Chairman, Department of Woodwinds*

MARGARET ELIZABETH EVERETT, B.S., University of Wisconsin; M.A., Ph.D., State University of Iowa.

*Professor of Physical Education; Chairman, Department of Physical Education for Women*

On Leave Summer Quarter, 1971.

JOHN A. EWALD, B.A., M.A., University of Northern Colorado.

*Temporary Instructor in the Laboratory School*

GEORGE E. FAY, B.A., University of Missouri; M.A., University of Michigan; Ph.D., Interamerican University.

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*Assistant Professor of Education*

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*Associate Professor of Education*

On Leave Fall Quarter, 1970.

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*Assistant Professor of English*

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*Professor of Mathematics*

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*Associate Professor of English*
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*Professor of English*
- SAM F. FREEMAN, B.A., Ph.D., University of Oklahoma.  
*Professor of English*
- ARMANDO FREYRE, B.Lit., Instituto de la Habana; M.A., University of Denver; LL.D., Universidad de la Habana.  
*Instructor in Spanish*
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*Assistant Professor of Spanish*
- ROSEMARY FRI, B.S., University of California, Los Angeles; M.A., University of Northern Colorado.  
*Assistant Professor of Physical Education*  
On Leave Winter Quarter, 1971.
- RICHARD KENT FRY, B.S., M.S., Ph.D., Kansas State University.  
*Associate Professor of Physics*
- JOHN D. FUELBERTH, A.B., Wayne State College; M.A., Ph.D., University of Nebraska.  
*Assistant Professor of Mathematics*  
On Leave Fall, Winter, Spring and Summer Quarters, 1970-71
- JOHN BARTON FULBRIGHT, B.A., Adams State College; M.A., Ed.D., University of Northern Colorado.  
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*Associate Professor of Botany*
- JOHN F. GARCIA, B.A., Western State College; M.S., Kansas State College.  
*Assistant Professor of Education*  
On Leave Fall, Winter, Spring and Summer Quarters, 1970-71.
- SAMUEL G. GARCIA, A.B., M.A., University of Northern Colorado.  
*Assistant Professor of Music*  
On Leave Fall, Winter, Spring and Summer Quarters, 1970-1971.
- ROBERT G. GARDNER, B.S., Eastern New Mexico University; M.S., University of New Mexico.  
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- DON GARLICK, B.F.A., University of Oklahoma; M.M., D.M.A., University of Rochester.  
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On Leave Summer Quarter, 1971.
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*Assistant Professor of Drama*

NICHOLAS A. GLASER, B.A., B.Ed., Pacific Lutheran University; M.Ed., Ed.D., University of Oregon.

*Associate Professor of Elementary Education*

DAVID GLASSMAN, B.Ed., M.A., University of Toledo.

*Assistant Professor of Education*

HARLEY F. GLIDDEN, B.S., Buena Vista College, Iowa; M.A., Iowa University; Ph.D., Nebraska University.

*Professor of Science*

Will retire September 30, 1971.

DERRYL FABER GOES, B.M.E., Fort Hays Kansas State College; M.A.T., Colorado State University.

*Assistant Professor of Music*

ANNE GOFF, B.S., University of Illinois; M.S., Ph.D., Southern Illinois University.

*Assistant Professor of Psychology, Counseling and Guidance*

RUPERT M. GOODBROD, B.F.A., University of Nebraska; M.S., Columbia University; M.A., Julliard School of Music.

*Professor of Music; Chairman, Department of Piano and Organ*

Will retire September 30, 1971.

CECILLE JOYCE GRABLE, A.B., M.A., University of Northern Colorado.

*Temporary Instructor in Home Economics*

BERNADINE T. GRAHAM, B.A., M.A., Ed.S., University of Northern Colorado.

*Instructor in Psychology, Counseling and Guidance*

ROBERT S. GRAHAM, B.A., Queen's University; M.A., Ph.D., University of Colorado.

*Professor of French*

BETTY JEAN GREEN, B.A., University of Northern Colorado; M.A., University of Denver; Ed.D., University of Northern Colorado.

*Assistant Professor of Special Education*

ARLEEN GREER, B.A., M.L.S., University of California.

*Instructor in Library Science; Assistant Reference Librarian*

JAMES B. GREER, B.A., Texas Christian University; M.A., University of Denver.

*Associate Professor of Library Science; Acquisitions Librarian*

SHARON D. GRIGGS, B.S., Troy State University; M.L.S., George Peabody College for Teachers.

*Instructor in Educational Media*

THOMAS GROOM, B.A., Eastern New Mexico University; M.A., University of Northern Colorado.

*Assistant Professor of Social Studies*

LELLOINE GUNNING, B.S., Southwestern State College; M.A., Eastern New Mexico University.

*Assistant Professor of Elementary Education*

On Leave Fall Quarter, 1970.

DAVID MATHEW HAAS, A.B., West Virginia University; M.A., University of Colorado.

*Temporary Instructor in Fine Arts*

MARY E. HAIGHT, B.M., M.M., University of Nebraska.

*Instructor in Music*

JOSEPHINE L. HALL, B.S., Northern Illinois State Teachers College; M.A., University of Denver.

*Associate Professor of Educational Media*

MABEL B. HALLAN, B.A., St. Olaf College; M.S., Indiana University.

*Assistant Professor of Maternity Nursing*

MARVIN HARRY HALLDORSON, B.S., B.A., M.B.A., University of Denver; Ph.D., University of Northern Colorado.

*Assistant Professor of Business*

MICHAEL T. HAMERLY, A.B., M.A., University of Washington; Ph.D., University of Florida.

*Instructor in History*

ROBERT GLENN HAMERLY, B.S., Western Illinois State College; M.S., University of Illinois; Ph.D., Colorado State University.

*Associate Professor of Physics*

ROBERT G. HAMMOND, B.Ed., Illinois State University; M.A., University of Northern Colorado; Ed.D., University of Missouri.

*Professor of Industrial Arts; Chairman, Department of Industrial Arts*

THOMAS G. HANSELMANN, B.A., M.A., University of Wyoming.

*Instructor in English*

- BEATRICE E. HANSEN, B.S.**, Northwestern Missouri State Teachers College; M.A., Teachers College, Columbia University.  
*Assistant Professor of Business*
- RICHARD J. HARDY, B.S.**, University of Utah; M.A., Teachers College, Columbia University; Ed.D., University of Utah.  
*Associate Professor of Health and Safety*
- F. ROBERT HARKAI, B.S.**, Western Michigan University.  
*Instructor in Speech Communication*
- MARJORIE L. HARKNESS, B.S.**, University of Minnesota; M.A., Ed.D., University of Northern Colorado.  
*Professor of Elementary Education*
- ROBERT C. HARRIS, B.A., M.A.**, University of Northern Iowa.  
*Assistant Professor of Business*
- JOHN W. HARRISON, B.S.**, California Institute of Technology; M.A., University of Denver; Ph.D., University of Colorado.  
*Professor of English*  
On Leave Fall, Winter and Spring Quarters, 1970-71.
- WILLIAM F. HARTMAN, B.A.**, Nebraska State College, Chadron; M.A., Ed.D., University of Northern Colorado.  
*Professor of Journalism*  
On Leave Spring Quarter, 1971.
- IRVIN Y. HASHIMOTO, A.B.**, Stanford University; M.A., University of Wisconsin.  
*Instructor in English in the Laboratory School*
- J. GILBERT HAUSE, B.A., M.A.**, University of Northern Colorado; Ed.D., University of Colorado.  
*Professor of College Student Personnel Work*
- ERIC N. HAVILL, B.A.**, Oberlin College; M.A., University of New Mexico.  
*Instructor in English*
- RICHARD O. HAYES, A.B.**, University of California; M.S., University of Utah; Ph.D., Cornell University.  
*Research Associate Professor*
- MARY K. HECKMAN, B.S., M.S.**, University of Colorado.  
*Assistant Professor of Nursing*
- JEAN A. HEDBERG, B.S.**, Wisconsin State University; M.A., University of Northern Colorado.  
*Instructor in Physical Education*
- BEATRICE B. HEIMERL, B.A.**, St. Cloud State College; M.A., University of Minnesota; Ed.D., University of Northern Colorado.  
*Assistant Professor of Research and Statistical Methodology; Chairman, Department of Research and Statistical Methodology*
- RAMON P. HEIMERL, B.S., B.Ed.**, St. Cloud State College; M.A., Ph.D., University of Minnesota.  
*Professor of Business*
- NORMAN L. HEIMGARTNER, B.S.**, State University of New York at Buffalo; M.A., Teachers College, Columbia University; Ed.D., University of Northern Colorado.  
*Assistant Professor of Elementary Education*
- ROBERT L. HEINY, B.S.**, Colorado College; M.S., Ph.D., Colorado State University.  
*Assistant Professor of Mathematics*
- HOPE H. HEISER, B.A.**, Bradley University; M.A., University of Wisconsin.  
*Instructor in English*  
On Leave Fall Quarter, 1970.
- WILLIAM C. HEISS, JR., B.S.**, University of Illinois; M.A., Columbia University.  
*Associate Professor of Health and Physical Education*
- DUANE E. HENDERSON, B.S., M.Ed.**, Colorado State University; Ed.D., University of Northern Colorado.  
*Assistant Professor of Psychology, Counseling and Guidance*
- PEGGY E. HENRY, B.S.**, Northwest Missouri State College; M.A., University of Northern Colorado; Ph.D., University of Iowa.  
*Assistant Professor of Elementary Education*
- DOUGLAS L. HERBSTER, B.S.**, Midland College, Nebraska; M.A., University of Northern Colorado.  
*Temporary Instructor in Education*
- ARCHIE D. HESS, A.B., M.A.**, Colorado College; Ph.D., Cornell University.  
*Research Professor; Chief, Encephalitis Laboratory, Public Health Service*
- GARY T. HICKLING, A.B.**, University of California at Los Angeles; M.M., Manhattan School of Music.  
*Assistant Professor of Music*

KATHLEEN HILDRETH, B.A., Purdue University; M.S., University of North Carolina, Greensboro.

*Instructor in Physical Education*

MILDRED C. HILLESTAD, B.Ed., Wisconsin State College; M.Bus.Ed., University of Colorado; Ph.D., University of Minnesota.

*Professor of Business; Coordinator of Graduate Studies*

TYRUS HILLWAY, B.A., Willamette University; M.A., University of California; Ph.D., Yale University.

*Professor of Higher Education*  
On Leave Fall, Winter and Spring Quarters, 1970-71.

JOSEPH EDWARD HIMMEL, B.A., North Central College; M.M., Northwestern University.

*Associate Professor of Music*

BENNIE F. HIX, B.A., University of Northern Colorado.

*Instructor in Business and Athletics*

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*Assistant Professor of Library Science; Assistant Catalog Librarian*

KENNETH E. HOGAN, B.A., Ottawa University; M.A., Ed.D., University of Northern Colorado.

*Professor of Education; Chairman, Department of Higher Education*

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*Professor of Education*

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*Instructor in Education*

KENNETH D. HOPKINS, B.A., University of Minnesota; M.A., University of Washington.

*Assistant Professor of Geology*

SAMUEL R. HOUSTON, B.A., University of California at Los Angeles; M.A., California State College, Los Angeles; M.S., University of Oregon; Ph.D., University of Northern Colorado.

*Assistant Professor of Research and Statistical Methodology*

DALE B. HOWARD, B.S., University of Idaho; M.A., University of Oklahoma.

*Instructor in Geography*

RAYMOND C. HOWARD, B.S., University of Montana; M.S., Western Montana College; Ed.D., University of South Dakota.

*Assistant Professor of Psychology*

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*Associate Professor of Nursing, Fort Logan Mental Health Center*

DWAN B. HUCKABEE, B.S., Mississippi State University; M.A., University of Denver.

*Instructor in Library Science*

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*Assistant Professor of English; Chairman, Department of English*

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*Assistant Professor of Special Education*

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*Associate Professor of Elementary Education*

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*Assistant Professor of Maternity Nursing*

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*Instructor in Speech Communication*

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*Professor of Music*

KENT LEE JACKSON, A.B., M.A., University of Northern Colorado.

*Temporary Instructor in Education*

MICHAEL JACOBS, A.B., M.A., University of Rochester.

*Assistant Professor of Education*

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LARRY A. JAMES, B.S., M.A., University of Northern Colorado.  
*Instructor in Recreation*

M. LYNN REES JAMES, B.S., M.S., Brigham Young University; Ph.D., University of Utah.  
*Associate Professor of Chemistry*

ROBERT STEVEN JAMES, B.M.E., M.M., Northwestern University; Ed.D., University of Northern Colorado.  
*Associate Professor of Music*

WILLIAM RICHARD JAMIESON, B.A., M.A., University of Northern Colorado.  
*Instructor in Music*

ALEX JARDINE, B.A., M.A., Indiana State Teachers College; Ed.D., Teachers College, Columbia University.  
*Professor of Education*

DAVID L. JELDEN, B.A., Nebraska State Teachers College; M.A., University of Northern Colorado; Ed.D., University of Missouri.  
*Professor of Industrial Arts*

BETTY EARLENE JOHNSON, B.S. Eastern Montana College; M.A., University of Wyoming.  
*Instructor in Arts*

DANA F. JOHNSON, B.F.A., Ed.D., University of Kansas.  
*Associate Professor of Fine Arts*

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*Professor of Industrial Arts*

HAROLD W. JOHNSON, B.Ed., M.Ed., Central Washington State College.  
*Instructor in Special Education*

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*Assistant Professor of Education*

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*Associate Professor of Mathematics*

H. AUDRIE JOHNSTON, B.A., Kansas Wesleyan University; M.A., Fort Hays State College.  
*Assistant Professor of Mathematics*  
On Leave Fall, Winter, and Spring Quarters, 1970-71.

DOROTHY CAMERON JONES, B.A., M.A., Wayne State University; Ph.D., Colorado University.  
*Associate Professor of English*

LOIS W. JONES, B.A., University of Northern Colorado.  
*Instructor in Home Economics*

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*Associate Professor of Special Education*

MARCIA LYNN JORGENSEN, A.B., St. Olaf College; M.A., Washington State University.  
*Instructor in Home Economics*

ZAH I. KAMAL, B.S., M.S., Colorado State University; Ph.D., Washington State University.  
*Assistant Professor of Sociology;*  
*Chairman, Department of Sociology*

GERALD E. KARRE, B.A., M.A., University of Northern Colorado.  
*Instructor in Instrumental Music*

IDAHLYNN KARRE, A.B., M.A., University of Northern Colorado.  
*Temporary Instructor in the Laboratory School*

EDWARD A. KEARNS, B.A., M.A., University of Arizona.  
*Assistant Professor of English*

KEVIN C. KEARNS, B.S., Washington University; M.A., Ph.D., St. Louis University.  
*Associate Professor of Geography;*  
*Chairman, Department of Geography*  
On Leave Summer Quarter, 1971.

LOUISE J. KELLER, B.S., Kansas State College, Pittsburg; M.S., Kansas State Teachers College, Emporia; Ed.D., Montana State University.  
*Associate Professor of Vocational Education;*  
*Chairman, Department of Vocational Education*

EDWARD JAMES KELLY, B.A., Defiance College; M.A., Ph.D., State University of Iowa.  
*Professor of Elementary Education*

ROBERT EMMETT KELLY, B.A., M.A., Fresno State College.  
*Instructor in Physical Education*

- CALVIN EDWARD KENNEDY, B.S., Southeastern Oklahoma State College; M.S., Oklahoma State University; Ph.D., University of Nebraska, C.P.A.  
*Associate Professor of Business; Chairman, Department of Accounting*
- NEWELL C. KEPART, A.B., M.A., University of Denver; Ph.D., University of Iowa.  
*Guest Professor of Special Education*
- FRANK E. KEPELER, B.S., University of Illinois; M.A., University of Nebraska.  
*Instructor in German; Chairman, Department of Foreign Languages*
- DUNCAN R. KERKHAM, B.A., University of British Columbia; M.A., University of Indiana.  
*Assistant Professor of History*
- LEROY RAYMOND KERNS, B.A., M.A., University of Northern Colorado; Ed.D., University of Colorado.  
*Professor of Education*  
On Leave Summer Quarter, 1971
- LEWIS KIDDER, B.S., Kansas State University; M.D., University of Kansas.  
*Associate Professor of Medical Technology; Director, Department of Psychology, Weld County General Hospital*
- RITA B. KIEFER, A.B., Notre Dame College; M.A., University of Notre Dame.  
*Instructor in English.*
- RALPH ROY KING, B.A., M.A., University of Northern Colorado; Ed.D., University of Denver.  
*Professor of Music*
- WILFORD R. KING, A.B., M.A., Ed.D., Stanford University.  
*Assistant Professor of Education*
- BERNARD C. KINNICK, B.A., St. John's University; M.A., University of North Dakota; Ed.D., Auburn University.  
*Associate Professor of Psychology and Counseling; Chairman, Department of College Student Personnel Work*
- WALTER W. KLEIN, A.B., Pomona College.  
*Assistant Professor of Political Science*
- RAY B. KNAPP, A.B., Los Angeles State College; Ph.D., University of Southern California at Los Angeles.  
*Associate Professor of Political Science*
- ALEXANDER W. KNOTT, A.B., M.A., Ph.D., University of Colorado.  
*Assistant Professor of History*
- JEAN LEWIS KOCH, B.S., M.N., Montana State University.  
*Instructor in Nursing*
- WILLIAM GEORGE KOCH, B.S., University of Notre Dame; M.A., Montana State University; Ph.D., University of Illinois.  
*Professor of Chemistry*
- OLIVER PAUL KOLSTOE, A.B., State Teachers College, North Dakota; M.S., University of North Dakota; Ph.D., State University of Iowa.  
*Professor of Special Education*
- EUGENE DE VERE KOPLITZ, B.S., Wisconsin State College; M.S., Ph.D., University of Wisconsin.  
*Professor of Psychology, Counseling and Guidance*
- CAROLYN JO KOSTELECKY, A.B., California State College at Long Beach; M.Ed., Colorado State University.  
*Temporary Instructor in Education*
- GABOR KOVACS, B.A., Air Force Academy, Hungary; M.A., Western Michigan University.  
*Assistant Professor of Library Science; Circulation Librarian*  
On Leave Summer Quarter, 1971.
- ROGER A. KOVAR, B.S., Doane College; Ph.D., University of Wyoming.  
*Assistant Professor of Chemistry*
- EDWARD KRAFFT, B.S., Concordia Teachers College; M.A., Washington University.  
*Instructor in Elementary Education*
- JOHN WILLIAM KRAMER, A.B., University of Denver; M.A., University of Northern Colorado.  
*Instructor in Psychology, Counseling and Guidance*
- NORMAN B. KRIMBILL, B.S., M.Ed., South Dakota State University.  
*Instructor in Geography*
- BEVERLY J. KROSKY, B.S., Colorado State University; M.A., University of Northern Colorado.  
*Instructor in Home Economics*
- ROY T. KROSKY, B.A., M.A., University of Northern Colorado; Ph.D., University of Denver.  
*Assistant Professor of Education*

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- JOHN M. KRUGER, B.S., Western Michigan University; M.A., University of Northern Colorado.  
*Instructor in Industrial Arts*  
On Leave Fall Quarter, 1970.
- KAREN R. KRUPAR, B.S., Northern State College; M.A., Ph.D., University of Denver.  
*Assistant Professor of Speech Communication*
- JAMES J. KUZMANOVICH, B.S., Rose Polytechnic Institute; Ph.D., University of Wisconsin.  
*Temporary Assistant Professor of Mathematics*
- JACK JOSEPH LABONDE, B.A., M.A., University of Northern Colorado.  
*Assistant Professor of Health and Safety Education*
- JOYCE LACKIE, B.S., Illinois University; M.A., University of Illinois.  
*Instructor in English*
- FRANK P. LAKIN, B.A., M.A., University of Northern Colorado; Ed.D., Oregon State University.  
*Professor of Psychology*  
On Leave Summer Quarter, 1971.
- J. MELVIN LANE, B.A., State College of Iowa; M.A., University of Northern Colorado.  
*Instructor in Special Education*
- ROBERT W. LARSON, B.A., M.A., University of Denver; Ph.D., University of New Mexico.  
*Professor of History*
- WILLIAM J. LAYNE, B.A., Morehead State University; M.A., Brigham Young University; Ph.D., Northwestern University.  
*Assistant Professor of Theatre Arts*
- GEORGE LEACH, B.A., M.A., M.S., University of Texas.  
*Assistant Professor of Education*
- KI LYUN LEE, A.B., Korea University; M.A., University of Washington.  
*Temporary Instructor in Theatre Arts*
- PAUL L. LEHRER, B.S., University of Cincinnati; M.A., Ohio State University; Ph.D., University of Nebraska.  
*Professor of Geography*
- REBECCA LEONARD, B.S., Utah State University; M.A., Purdue University.  
*Instructor in Speech Communication*
- A. JUANITA LEWIS, B.S., West Texas State College; M.A., Ph.D., University of Iowa.  
*Professor of Elementary Education*
- VIRGIL Y. LINDAHL, A.B., Wayne State Teachers College, Wayne; M.A., University of Northern Colorado; P. E. Director, Indiana University.  
*Professor of Physical Education; Chairman, Department of Inter-collegiate Athletics*  
On Leave Summer Quarter, 1971.
- IVO E. LINDAUER, B.S., Colorado State University; M.A. University of Northern Colorado; Ph.D., Colorado State University.  
*Assistant Professor of Botany*
- SANFORD A. LINSCOME, B.M.E., McNeese State College; M.M., University of Illinois; D.M.A., University of Texas at Austin.  
*Assistant Professor of Music*  
On Leave Summer Quarter, 1971.
- JOHN E. LODER, B.A., Bard College; M.F.A., Pratt Institute.  
*Instructor in Art*
- JOHN E. LOFTIS III, A.B., University of the South; M.A., Ph.D., Emory University.  
*Assistant Professor of English*
- HELEN L. LOGAN, A.B., University of Michigan.  
*Instructor in the Laboratory School*
- WILLIAM L. LOGAN, B.A., University of Michigan.  
*Assistant Professor of Psychology, Counseling and Guidance*
- ROBERT L. LONGWELL, B.A., University of Nebraska; M.A., University of Northern Colorado.  
*Associate Professor of English and Speech*
- DAVID L. LONSDALE, B.A., M.A., Ph.D., University of Colorado.  
*Assistant Professor of History*
- ALVIN L. LOWREY, B.M., University of Kansas; M.S., University of Illinois.  
*Instructor in Music*
- BETTY L. LOWRY, B.A., M.A., University of Northern Colorado; Ph.D., University of Iowa.  
*Professor of Elementary Education*
- J. MAX LUBBERS, B.A., M.A., University of Northern Colorado.  
*Associate Professor of Industrial Arts*



JEANE L. LUERE, B.A., B.S. M.A.,  
Ohio State University.  
*Assistant Professor of English*

ARNO H. LUKER, LL.B., B.S., J.D.,  
University of South Dakota; M.A.,  
Michigan State College; Ed.D., Univer-  
sity of Northern Colorado.  
*Professor of Psychology,  
Counseling and Guidance;  
Chairman, Department of  
Psychology, Counseling and  
Guidance*

DONALD M. LUKETICH, B.S.E., Ar-  
kansas State College; M.S., University  
of Illinois; Ed.D., University of North-  
ern Colorado.  
*Associate Professor of Education*

DALE J. LUNDEEN, B.S., Western Mich-  
igan University; M.A., Indiana Uni-  
versity; Ph.D., University of Minne-  
sota.  
*Professor of Special Education*

RICHARD C. LUSTER, B.S., M.A., Kan-  
sas University.  
*Instructor in Fine Arts*

CAROL L. LUTEY, B.S., M.A., Univer-  
sity of Minnesota; Ph.D., Michigan  
State University.  
*Professor of Psychology,  
Counseling and Guidance*

DONALD A. MACFARLANE, A.B., M.A.,  
Brigham Young University.  
*Temporary Instructor in Fine Arts*

ORALIE MCAFEE, B.A., Oklahoma  
State University; M.A., University of  
Northern Colorado.  
*Instructor in Education*

DANIEL C. MCALEES, B.A., Albright  
College; M.A., Ph.D., Michigan State  
University.  
*Associate Professor of Special  
Education*

PATRICK W. McCARY, B.A., M.A.,  
Ph.D., Michigan State University.  
*Assistant Professor of Student  
Personnel—Counseling*

JAMES E. McCLURG, B.S., M.S., Uni-  
versity of Michigan.  
*Assistant Professor of Science  
Education*  
On Leave Winter Quarter, 1971.

ALLEN WAYNE McCONNELL, B.S.,  
M.S., University of North Dakota,  
C.P.A.  
*Assistant Professor of Business—  
Accounting*

VERNA P. McDONALD, B.A., Randolph-  
Macon Woman's College; M.A., Uni-  
versity of Colorado.  
*Instructor in the Laboratory School*

HAROLD L. MCKAIN, JR., B.S., Central  
Missouri State College; M.E., Univer-  
sity of Oklahoma; Ph.D., State Uni-  
versity of Iowa.  
*Assistant Professor of  
Physical Education*  
On Leave Summer Quarter, 1971.

ROZEMA E. MCKAIN, A.B., M.A., Uni-  
versity of Northern Colorado.  
*Instructor in the Laboratory School*

WARREN J. McMILLEN, B.A., M.A.,  
University of Northern Colorado.  
*Assistant Professor of Physical  
Education*

L ELAINE McMINN, B.S., University  
of Tulsa; M.S., Western Reserve Uni-  
versity.  
*Professor of Nursing*

CHARLES R. MCNERNEY, B.A., M.A.,  
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*Assistant Professor of Mathematics*

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*Instructor in Economics*

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ity of Nevada; B.F.A., Chicago Art  
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Colorado.  
*Professor of Art; Chairman,  
Department of Fine Arts*

GLENDA A. MAURICE, B.M., Texas  
Wesleyan College; M.M., Manhattan  
School of Music.  
*Instructor in Music*

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STEVE J. MAZURANA, B.A., University of Miami; M.A., Indiana University.  
*Assistant Professor of Political Science*

MARCUS K. MEILAHN, B.S., Lakeland College; Ph.D., Arizona State University.  
*Assistant Professor of Chemistry*

ANTHONY MENK, B.A., State Academy of Music, Berlin; M.A., University of Northern Colorado.  
*Assistant Professor of Music*

JAMES DALE MERCER, B.A., University of Northern Colorado.  
*Instructor in the Social Studies*

CHARLES A. MEYER, B.A., Wagner College; M.A., University of Arizona.  
*Assistant Professor of English*  
On Leave Fall, Winter and Spring Quarters, 1970-71

HOWARD M. MICKENS, B.S., Bowling Green State University; M.M., Northwestern University.  
*Associate Professor of Music; Chairman, Department of Strings*

BARBARA H. MICKEY, B.A., M.A., Ph.D., Indiana University.  
*Associate Professor of Anthropology*

JOHN R. MICKEY, B.S., Kansas State Teachers College, Emporia.  
*Assistant Professor of Anthropology; Chairman, Department of Anthropology*

DELIA PAULINE MIKKELSON, A.B., M.A., University of Arizona.  
*Instructor in Theatre Arts*

GARY EVAN MILLER, B.A., M.A., University of Northern Colorado.  
*Assistant Professor of Education*

JAMES E. MILLER, B.M., Michigan State College; M.A., University of Northern Colorado; M.F.A., Ph.D., State University of Iowa.  
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On Leave Summer Quarter, 1971.
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*Professor of Drama*

On Leave Fall Quarter, 1970.

MARCIA I. WILLCOXON, B.A., M.A., University of Minnesota.

*Instructor in History*

On Leave Fall Quarter, 1970.

LAURA O. WILLIAMS, B.A., Randolph-Macon Woman's College; M.A., University of Northern Colorado.

*Assistant Professor of Education*

Will retire August 31, 1971.

GARY G. WILLOUGHBY, B.A., M.A., University of Colorado.

*Assistant Professor of Sociology*

NELL E. WILSON, B.A., Texas Technological College; M.A., Ph.D., University of Colorado.

*Assistant Professor of English*

SHARON ROSE WILSON, A.B., Colorado State College; M.A., Purdue University.

*Instructor in English*

ALBERT M. WINCHESTER, B.A., Baylor University; M.A., Ph.D., University of Texas.

*Professor of Biology*

MARIAN G. WITWER, B.A., University of Michigan; M.A., University of Colorado.

*Assistant Professor of English*

DALE E. WOERNER, B.S., Kansas State University; M.S., Ph.D., University of Illinois.

*Professor of Chemistry*

ELAINE V. WOLFE, B.S., California State College; M.Ed., Pennsylvania State University; Ph.D., University of Pittsburgh.

*Assistant Professor of Elementary Education*

RICHARD R. WOLFE, B.S., Thiel College; M.S., Westminster College; Ph.D., University of Pittsburgh.

*Associate Professor of Special Education*

WELBY BURDETTE WOLFE, B.A., M.A., University of Northern Colorado; Ed.D., Columbia University.

*Professor of Drama; Chairman, Department of Theatre Arts*

ERNEST J. WOODS, B.A., Ottawa University; M.A., University of Northern Colorado.

*Associate Professor of Mathematics Education*

THURMAN N. WRIGHT, B.A., University of Northern Colorado; M.A., Dir. of P.E., Indiana University.

*Associate Professor of Physical Education*

On Leave Summer Quarter, 1971.

CAROLYN D. YELTON, B.S., University of Northern Colorado; M.S., University of Colorado.

*Instructor in Nursing of Children*

ALICE M. YETKA, B.S., University of Minnesota; M.A., Ed.D., University of Northern Colorado.

*Associate Professor of Business*  
On Leave Fall Quarter, 1970.

VINCENT ZIMMER, B.A., M.A., University of Wyoming.

*Instructor in Physical Education*

ROBERT A. ZIMMERMAN, B.S., Purdue University; M.S., Ph.D., Oregon State University.

*Research Associate Professor; Chief, Streptococcal Unit, Public Health Service*

# Laboratory School Assignments

## Ernest Horn Elementary School—College High School

BOYD N. LAMARSH, Ed.D., Director of the Laboratory School; Chairman of Curriculum Development for Laboratory School.

LYNN SETTJE, Ph.D., Associate Director, Student Personnel.

MARSHA K. BAKER, M.A., Supervisor and Instructor in Mathematics.

GEORGE E. BROUGHTON, M.A., Supervisor and Instructor in Industrial Arts.

SHIRLEY MAY CARRIAR, Ed.D., Supervisor and Instructor in Secondary School English.

CHARLES M. CHAPMAN, A.B., Instructor in Secondary English and Humanities.

JOHN A. EWALD, M.A., Supervisor and Instructor in Fine Arts.

MICHAEL WILLIAM FLANNIGAN, Ed.D., Director of Counseling and Guidance.

MARY L. FUQUE, M.A., Supervisor and Instructor in Vocal Music.

ROBERT G. GARDNER, M.A., Supervisor and Instructor in Mathematics.

THOMAS LEE GROOM, M.A., Supervisor and Instructor in Secondary School Social Studies.

LELLOINE GUNNING, M.A., Intermediate Continuum Supervisor and Instructor.

IRVIN Y. HASHIMOTO, M.A., Supervisor and Instructor in Secondary English.

NORMAN LOUIS HEIMGARTNER, Ed.D., Primary Continuum Supervisor and Instructor.

BENNIE R. HIX, B.A., Instructor in Business and Athletics.

BERNICE E. HUNN, Ed.D., Primary Continuum Supervisor and Instructor.

H. AUDRIE JOHNSTON, M.A., Supervisor and Instructor in Secondary School Mathematics.

LOIS W. JONES, B.A., Supervisor and Instructor in Home Economics.

GERALD E. KARRE, M.A., Supervisor and Instructor in Intermediate School and School Instrumental Music.

IDAHLYNN KARRE, M.A., Supervisor and Instructor in English and Drama.

LEROY R. KERNS, Ed.D., Supervisor and Instructor in Secondary Science.

EDWARD KRAFFT, M.A., Intermediate Continuum Supervisor and Instructor.

HELEN L. LOGAN, A.B., Intermediate Continuum Supervisor and Instructor.

ROBERT LEROY LONGWELL, M.A., Supervisor and Instructor in Secondary School Speech and English.

VERNA P. McDONALD, M.A., Supervisor and Instructor in French and German.

ROZEMA MCKAIN, M.A., Supervisor and Instructor in Business.

PAULA E. MURPHY, B.S., Temporary Instructor in 6th Grade.

ROSE K. SHAW, M.S., Supervisor and Instructor in Mathematics.

JOSEPH LESLIE SHOEMAKER, Ed.D., Chairman of Curriculum Development in Secondary School Science; Supervisor and Instructor in Secondary School Science.

CONNIE K. STELLJES, M.A., Supervisor and Instructor in Spanish.

JOHN H. SWAIM, M.A., Supervisor and Instructor in Social Studies.

DORRIS E. TRIGG, M.S., Primary Continuum Supervisor and Instructor.

RICHARD UKENA, A.B., Supervisor and Instructor in Social Studies.

MARILYN KAY WEISS, M.A., Supervisor and Instructor in Girls' Health and Physical Education.

ERNEST JUDSON WOODS, A.M., Chairman of Curriculum Development in Secondary School Mathematics; Supervisor and Instructor in Secondary School Mathematics.

## Emeritus Faculty

- WINFIELD DOCKERY ARMENTROUT, A.B., A.M., Ed.D., LL.D. Appointed, 1920; Emeritus since 1955.  
*Vice President Emeritus*
- RALPH THOMAS BISHOP, A.B., A.M. Appointed, 1917; Emeritus since 1955.  
*Professor Emeritus of Industrial Arts*
- IRENE ENGLE BOGAN, A.B., B.S. Appointed, 1946; Emeritus since 1964.  
*Associate Professor Emeritus of Library Science*
- JOHN EDGAR BOTHELL, A.B., M.A., Ed.D. Appointed 1949; Emeritus since 1970.  
*Professor Emeritus of Education*
- EDITH B. BRUMMER, B.S. Appointed, 1956; Emeritus since 1965.  
*Assistant Professor Emeritus of Library Science*
- JOHN WILLIAM BUNN, B.S., A.M., Appointed 1956; Emeritus since 1963.  
*Professor Emeritus of Health Education*
- MARTIN CANDELARIA, A.B., A.M., Ed.D. Appointed, 1948; Emeritus since 1963.  
*Professor Emeritus of Spanish*
- JEAN CAVE, B.S., A.M. Appointed, 1921; Emeritus since 1961.  
*Professor Emeritus of Physical Education*
- JOHN ELBERT CHADWICK, A.B., A.M. Ph.D. Appointed, 1924; Emeritus since 1962.  
*Professor Emeritus of Music*
- LUCY ROSENQUIST CHAMBERLAIN, Ph.B., A.M. Appointed, 1923; Emeritus since 1949.  
*Associate Professor Emeritus of Elementary Education*
- AMBROSE OWEN COLVIN, B.C.S., A.M., Ph.D. Appointed, 1918; Emeritus since 1947.  
*Professor Emeritus of Business Education*
- RICHARD G. ELLINGER, A.B., A.M. Appointed, 1927; Emeritus since 1962.  
*Professor Emeritus of Art*
- ROSE WILMA FARRAR, A.B., A.M. Appointed, 1938; Emeritus since 1962.  
*Professor Emeritus of Business Education*
- KENNETH W. FINDLEY, B.S., M.A., Ph.D. Appointed 1962; Emeritus since 1970.  
*Professor Emeritus of Education*
- GEORGE G. GATES, B.A., M.A., Ed.D., Appointed, 1946; Emeritus since 1969.  
*Professor Emeritus of English*
- CATHERINE CRATES GIBERT, A.B., A.M. Appointed, 1922; Emeritus since 1959.  
*Professor Emeritus of Foreign Languages*
- HENRY TRUSTMAN GINSBURG, B.Mus., A.B., A.M., D.Mus. Appointed, 1931; Emeritus since 1958.  
*Professor Emeritus of Music*
- LYMAN BEECHER GRAYBEAL, B.S., A.M., Ed.D. Appointed, 1950; Emeritus since 1960.  
*Professor Emeritus of Education*
- RHODA FOSS HALL, B.S., M.A. Appointed, 1945; Emeritus since 1967.  
*Professor Emeritus of Home Economics*
- JOHN WILLIAM HANCOCK, A.B., M.A. Appointed, 1932; Emeritus since 1966.  
*Professor Emeritus of Physical Education*
- EZRA CLARENCE HARRAH, A.B., A.M., Ph.D. Appointed, 1926; Emeritus since 1954.  
*Professor Emeritus of Zoology*
- M. LUCILE HARRISON, Ph.B., A.M. Appointed, 1926; Emeritus since 1963.  
*Professor Emeritus of Elementary Education*
- JOSEPHINE MARY HAWES, A.B., A.M. Appointed, 1917; Emeritus since 1946.  
*Professor Emeritus of English*
- FRED LOUIS HERMAN, A.B., A.M. Appointed, 1922; Emeritus since 1960.  
*Professor Emeritus of Physics*
- EDNA MARY HOYDAR, B.M., M.M. Appointed, 1937; Emeritus since 1962.  
*Professor Emeritus of Public School Music*
- HELEN BARBARA HUNT, B.S., M.S. Appointed, 1949; Emeritus since 1959.  
*Associate Professor Emeritus of Home Economics*

FRANK COVERT JEAN, A.B., A.M., Ph.D., Sc.D. Appointed, 1921; Emeritus since 1945.

*Professor Emeritus of Biology*

WINFIELD LEROY KNIES, A.B., M.B.A. Appointed, 1922; Emeritus since 1957.

*Associate Professor Emeritus of Business Education*

PAUL CHARLES LEBORNE, A.B., M.A. Appointed 1960; Emeritus since 1970.

*Instructor Emeritus in Foreign Languages*

HELEN LANGWORTHY, A.B., M.A., Ph.D. Appointed, 1933; Emeritus since 1965.

*Professor Emeritus of Speech and Drama*

JESSIE EMILY LATHAM, A.B. M.A., Appointed 1949; Emeritus since 1968.

*Professor Emeritus of Health Education*

ROSE EILEEN LEACOCK, B.S., M.A. Appointed, 1945; Emeritus since 1968.

*Professor Emeritus of Fine Arts*

ELIZABETH LEHR, B.A., A.M. Appointed, 1926; Emeritus since 1959.

*Associate Professor Emeritus of Elementary Education*

CHARLES WILLIAM McLAIN, B.S., M.S., Ed.D. Appointed, 1951; Emeritus since 1963.

*Professor Emeritus of Educational Psychology and Guidance*

FLORENCE MARGUERITE MEYER, A.B., A.M. Appointed, 1930; Emeritus 1960.

*Associate Professor Emeritus of English*

ESTEL ELGAR MOHR, B.S., M.A., Ed.D., Appointed 1926; Emeritus since 1970.

*Professor Emeritus of Public School Music*

ARTHUR D. MOINAT, B.S., M.S., Ph.D. Appointed, 1950; Emeritus since 1967.

*Professor Emeritus of Botany*

VERA LANORE NEWBURN, B.S., M.S. Appointed, 1926; Emeritus since 1964.

*Professor Emeritus of Home Economics*

HOWARD D. NINEMIRES, A.B., M.A., Appointed, 1952; Emeritus since 1968.

*Professor Emeritus of Education*

DALE ORIOUS PATTERSON, A.B., M.A., Ph.D. Appointed, 1947; Emeritus since 1965.

*Professor Emeritus of Mathematics*  
ORA BROOKS PEAKE, A.B., A.M., Ph.D. Appointed, 1919; Emeritus since 1949.

*Professor Emeritus of History*

KENNETH FREDERICK PERRY, A.B., M.A., Ph.D., Appointed, 1927; Emeritus since 1968.

*Professor Emeritus of Industrial Arts*

PAULINE C. POGUE, B.A., M.A. Appointed, 1928; Emeritus since 1969.

*Professor Emeritus of History*

ALBERTA ELOISE REITZE, A.B., M.S. Appointed, 1950; Emeritus since 1966.

*Associate Professor Emeritus of Education*

WILLIAM ROBERT ROSS, B.S., M.S. Ph.D.; Sc.D., LL.D. Appointed, 1942; Emeritus since 1964.

*President Emeritus*

EDITH MARIE SELBERG, A.B., A.M. Appointed, 1926; Emeritus since 1962.

*Professor Emeritus of Biology*

OSCAR W. TOLLEFSON, B.S., M.A., Ph.D. Appointed, 1956; Emeritus since 1969.

*Professor Emeritus of Geology*

SYLVESTER ROY TOUSSAINT, B.A., M.A., Ph.D. Appointed, 1938; Emeritus since 1967.

*Professor Emeritus of Speech*

OLIVER LEONARD TROXEL, B.S., A.M., Ph.D. Appointed, 1929; Emeritus since 1958.

*Professor Emeritus of Education*

GLEN CORBIN TURNER, A.B., M.A., M.B.A., D.P.S. Appointed, 1940; Emeritus since 1968.

*Professor Emeritus of Business Administration*

LEE R. WEST, B.S., M.A. Appointed, 1929; Emeritus since 1968.

*Professor Emeritus of Geography*

GRACE HANNAH WILSON, A.B., A.M., Ph.D. Appointed, 1915; Emeritus since 1953.

*Professor Emeritus of Education.*

LESLIE DAY ZELNY, B.S., A.M., Ph.D. Appointed, 1946; Emeritus since 1963.

*Professor Emeritus of Sociology*

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