

June

Provost Office

Under-graduate

University of
Northern Colorado

Bulletin

1981 1982



Undergraduate Bulletin

University
of
Northern
Colorado

1981 - 1982

Greeley, Colorado 80639

The University of Northern Colorado does not discriminate on the basis of race, color, creed, national origin, sex, age, individual handicap or veteran status in the recruitment and admission of students, the recruitment and employment of faculty and staff, and the operation of any of its programs and activities, as specified by federal laws and regulations. The designated coordinator for University compliance with Section 504 of the Rehabilitation Act of 1973 is the Associate Dean of Students. The Affirmative Action Officer of the University is the Director of Personnel and Equal Employment Opportunity.

NOTE: Courses in this Bulletin are subject to change without notice. Also, all rates quoted are subject to a provision that the University reserves the right to change tuition, fees and other charges without notice.

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Guide to Campus Offices

Post Office Address:

University of Northern Colorado
Greeley, Colorado 80639

Telephone:

(Area Code 303) 351-1890

Admissions

Admissions Office, Carter Hall

Affirmative Action

Affirmative Action Office, Carter Hall

Bulletins and Catalogs

Visitor's Center and Bookstore,

University Center

Continuing Education and

Independent Study

Center for Continuing Education and

Independent Study, 1015 20th St. (356-2442)

Counseling Services

Counseling and Testing Center, 103 Gray Hall
(351-2497)

Fee Payments

Accounting Office, Carter Hall

Financial Assistance and Student

Employment

Financial Aids Office, Carter Hall

Graduate Program Information

Graduate Office, Carter Hall

Housing

Housing Office, Gordon Hall (351-2721)

Off-Campus Classes

Center for Continuing Education,
1009 20th St. (356-2442)

Editor's Note: By the time you receive this catalog, five of the offices will be ready to move into renovated Carter Hall. We do not have number for rooms, areas or telephones yet. You may be sure there will be a building directory, and our campus operators will do their best to help you locate offices and personnel.

University Calendar

Summer, 1981

Pre-session and 10-Week Session

Mon., June 15

Registration and classes begin for 1-week (June 15-19) pre-session and 10-week session (June 15 - Aug. 21)

Tues., June 16

Classes begin for 10-week session

Fri., June 19

Last day of classes for 1-week pre-session

Regular Sessions*

Mon., June 22

Registration for 8-week session (June 22 - Aug. 14)

Tues., June 23

Classes begin for 8-week session

Fri., July 3

No classes

Fri., Aug. 14

Last day of classes for 8-week session

Sat., Aug. 15

Commencement

Post-session

Mon., Aug. 17

Classes begin for post-session

Fri., Aug. 21

Last day of classes for post-session and 10-week session

Interim Session

Mon., Aug. 24 through Fri., Sept. 11

Registrations for courses within the interim session will be conducted during the first day of classes in the classroom assigned to the course.

Fall, 1981

Thurs. and Fri., Sept. 17 - 18

New Faculty, GA, TA, meetings

Tues. and Wed., Sept. 22 - 23

Fall Registration

Thurs., Sept. 24

Classes begin

Wed., Nov. 25

Classes dismissed 12 noon, Thanksgiving Break

Mon., Nov. 30

Classes resume

Fri., Dec. 11

Last day of classes

Sat., Dec. 12

Commencement, quarter ends

Winter, 1982

Mon. and Tues., Jan. 4 - 5

Registration

Wed., Jan. 6

Classes begin

Fri., Mar. 19

Last day of classes

Sat., Mar. 20

Commencement, quarter ends

Spring, 1982

Mon., Mar. 29

Registration

Tues., Mar. 30

Classes begin

Mon., May 31

No classes

Tues., June 8

Mon. - Fri., June 8-12

Final Exam Days

Last day of classes

Sat., June 13

Commencement

**One-week, two-week and other short term courses are offered during the regular session. Consult the Summer 1981 Bulletin for the specific beginning and ending dates of courses.*

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General Information

Introduction

The University of Northern Colorado seeks to provide its students with a broad general education as well as preparation for selected occupations and pre-professional education. Throughout the educational process the University focuses on the needs and welfare of its students. Historically, a principal emphasis at the University has been upon preparing students for careers in education.

A wide variety of program offerings are organized within eight undergraduate schools and colleges of the University: The College of Arts and Sciences, College of Education, College of Performing and Visual Arts, School of Business, School of Educational Change and Development, School of Health, Physical Education and Recreation, School of Industrial Technology and Home Economics, and School of Nursing. Advanced programs are offered through the Graduate School, and an Air Force Reserve Officers program is available through the Division of Aerospace Studies.

The academic calendar is arranged on the quarter system. Quarters are of equal length beginning in September, January, March and June. Students are permitted to enter the University at the start of any quarter and continue their studies through all four quarters. Year-round study allows completion of the usual four-year baccalaureate program within three years.

Location. The University is located in a residential area in Greeley, Colorado, a city with a population of about 66,000 situated 30 miles east of the front range of the Rocky Mountains. Greeley, at an elevation of 4,648 feet above sea level, lies approximately 50 miles north of Denver and 50 miles south of Cheyenne, Wyoming. The climate is dry and relatively mild.

History. The history of the University of Northern Colorado is closely related to that of the Union Colony, which later became the city of Greeley. The Colony was organized in 1870 by a group of settlers from New York and New England under the leadership of Nathan Meeker and with the encouragement of Horace Greeley, famous editor of the New York *Tribune*. The name of the town was

changed from Union Colony to Greeley in honor of the famous newspaperman.

When the Colony was 18 years old a movement was begun to establish a Normal School to supply teachers for the state. The law creating the first State Normal School, UNC's beginning, was signed on April 1, 1888. The cornerstone of the original building, Cranford Hall, now demolished, was laid on June 13, 1890, and classes started October 6, 1890. Certificates were granted upon completion of a two-year course of study.

In 1911, the name was changed by the state legislature to Colorado State Teachers College. The institution was then offering a four-year program and granting the Bachelor of Arts degree. Graduate work was first offered in 1913, with master's degrees conferred at the June, 1914 commencement. In 1929, graduate work was extended to the doctoral level, and in 1934 the first doctor of philosophy degree was awarded. Other degrees, including the doctor of education, the specialist in education, and the doctor of arts, were approved later.

In 1935 the name Colorado State College of Education was adopted to recognize the fully developed graduate program as an integral part of the institution. Another name change took place in 1957, when the legislature shortened the name to Colorado State College. Meanwhile, professional programs in such fields as business, medical technology, music, and nursing had been developed. In recognition of the institution's broadened functions and extensive undergraduate and graduate programs, the name was changed to the University of Northern Colorado in May, 1970.

On July 1, 1973, legislation creating a separate governing board for the University of Northern Colorado became effective. The University, formerly one of the several institutions of higher education controlled by the Trustees of State Colleges in Colorado, is now governed by the Trustees for the University of Northern Colorado, a board of seven members appointed by the Governor of the state and one student advisory member elected by the UNC student body. Funds for

the operation are derived from appropriations of the state legislature, student tuition and fees, special federal grants, and various private gifts.

Accreditation and Affiliation. The University is a member of and accredited by the North Central Association of Colleges and Secondary Schools (since 1916).

Various of its academic programs have special accreditation 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), and National League of Nursing (1966).

The institution holds membership in 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, National Association for Business Teacher Education, American Assembly of Collegiate Schools of Business, and other educational organizations.

Campus. The physical facilities of the University consists of 17 academic buildings, 23 residence halls and apartments for students, a number of other permanent or temporary buildings used as service buildings, faculty apartments, athletic facilities, faculty offices, and sorority or fraternity houses. The campus, approximately 240 acres, is one-half mile south of downtown Greeley and is divided into the East Campus, Central Campus, and Darrell Holmes Campus.

The Darrell Holmes Campus, also known as West Campus, is the newest of the UNC campuses. All but two buildings of the Darrell Holmes campus have been constructed within the last ten years, and further development is planned for this area. A major addition in 1970 was the James A. Michener Library. Lawrenson Hall, the 17-story apartment-style residence hall, opened in 1972. The Butler-Hancock Physical Education Facility opened in January of 1975.

The University also owns an 80-acre mountain campus with five buildings located near the city of Estes Park, and another 80-acre tract south of Greeley.

University Structure and Faculty

College of Arts and Sciences

Robert O. Schulze, Dean

John A. Beel, Associate Dean

Ivo E. Lindauer, Associate Dean

The College of Arts and Sciences offers courses in 18 departments leading to the Bachelor of Arts degree. It is also responsible for the administration of a variety of interdisciplinary programs, such as Environmental Studies and Women's Studies, in which degrees may be earned. The College offers a large number and variety of service courses in support of degree programs in other schools and colleges and of the University's General Education program. They are designed to give broad, diversified educational opportunities in the liberal arts and provide groundwork for preparation in professions such as law, medicine, and teaching, and for graduate work in the scholarly disciplines.

Each student regularly admitted to the College of Arts and Sciences is required to complete General Education requirements as specified in this catalog. The student must also select a major disciplinary or interdisciplinary area. Those wishing to be recommended for certification to teach in secondary schools must also complete the Professional Teacher Education courses as prescribed by the College of Education.

Anthropology Department

Francis W. Denning, Jr., Chairperson

Professors: Fay, B. Mickey

Associate Professors: Higgins, Kettel, J. Mickey, Wanner

Assistant Professors: Ayer, F. Denning, N. Denning, Haug

Biological Sciences Department

John K. Gapter, Chairperson

Professors: Buss, Gapter, Harmon, Lindauer, Plakke, Rich, Richards, Schmidt, Thomas, Thorpe

Associate Professors: Fitzgerald, Heimbrook, Peeples

Assistant Professor: Olmsted

Black Studies Department

Robert L. Dillingham, Jr., Chairperson

Assistant Professors: Dillingham, Hill

Chemistry Department

James O. Schreck, Chairperson

Professors: Beel, Fields, James, Koch, Kovar, Meilahn, Pringle, Schreck, Tomasi, Woerner

Communication Department

Dennis E. Warnemunde, Chairperson

Professors: Crawford, Holley

Associate Professors: Camp, Karre, Ross, Warnemunde

Assistant Professors: Bethel, Hale, Hamer, Hess, R. Trapp

Instructors: Sauro, J. Trapp

Earth Sciences Department

Richard A. Slater, Chairperson

Professors: Cobb, R. Dietz, Shropshire

Associate Professors: Hackett, Hopkins, Slater

Assistant Professor: Nesse

Economics Department

Aroop Mahanty, Chairperson

Professors: Mahanty, Trainer

Associate Professor: Anderson

Assistant Professors: Garrison, Patille, St. Aubyn, Tsoucatos

English Department

John E. Loftis III, Chairperson

Professors: Boyle, Brand, Brewer, Carriar, Doyle, Frease, Harrison, Huff, Jones, Myers

Associate Professors: Agan, Applegate, Finnegan, E. Kearns, Kiefer, Lackie, Loftis, Luere, Manley, C. Meyer, Peercy, Princic, Rea, Santos, Varner, N. Wilson, S. Wilson

Assistant Professors: Bowles

Foreign Languages Department

Lynn A. Sandstedt, Chairperson

Professors: Brown, Owechko, Sandstedt

Associate Professors: Ensz, Hoffman, Keppeler

Assistant Professors: Cordova, Evans, Glew, T. Rodriguez, Zeller

Instructor: Mainati

Geography Department

Steven L. Scott, Chairperson

Professors: J. Dietz, K. Kearns, Lehrer

Associate Professors: Cole, Collins, Ormrod, Scott

Assistant Professor: Kutsche

History Department

Stephen T. Powers, Chairperson

Professors: Arnold, Boeck, Byerly,

Cornebise, Larson, Rothaus, Rowe

Associate Professors: Clough, Edgerton,

Knott, Lonsdale, Powers, Worrall

Assistant Professor: Broussard

Mathematics Department

Robert L. Heiny, Chairperson

Professors: Bosch, Cavanagh, Elliott,

Heiny, Johnson, McNerney, Popejoy,

Richardson, D. Schmidt, Schweers, Tolar

Associate Professors: Johnston, Rumford

Assistant Professors: Anders, Veed

Mexican American Studies Department

Alfonso Rodriguez, Chairperson

Associate Professors: Leal, A. Rodriguez

Assistant Professor: Lopez

Philosophy Department

Thomas K. Trelogan, Chairperson

Associate Professor: Hodapp

Assistant Professors: Blanke, Shaw, Temkin, Trelogan

Physics Department

Wallace Aas, Chairperson

Professors: Aas, Fadner, Fry, Hamerly

Assistant Professor: Lightsey

Political Science Department

Richard Perchlik, Chairperson

Professors: Bookman, Perchlik

Associate Professors: Knapp, Mazurana, Watson

Science Education Department

Leslie W. Trowbridge, Chairperson
 Professors: Crockett, Olson, Trowbridge
 Assistant Professor: Davies

Sociology Department

John Vonk, Chairperson
 Professors: Cleere, Schulze, Stein, Vonk
 Associate Professors: Jennison, Kamal, Trahan
 Assistant Professors: Fox, Howard, Jones, Marshall, Musick, O'Connor, Willoughby

College of Education

Arthur R. Partridge, Dean
 Robert L. Johnson, Associate Dean
 Duane E. Henderson, Associate Dean
 Donald W. Chaloupka, Assistant Dean
 The College of Education is a professional college offering specialized degree programs in education for the preparation of elementary school teachers, special education teachers, educational media personnel, and other educational specialists. These programs include offerings on the undergraduate level leading to the Bachelor of Arts and Bachelor of Science degrees.

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, the College of Education provides selected components of the general education program.

College Student Personnel Administration Department

Norman T. Oppelt, Chairperson
 Professors: Bowen, Giebler, Kinnick, Nelson, Oppelt, Smart, Stutler
 Associate Professors: Best, Kuncel
 Assistant Professors: Fontaine, Selden

Curriculum and Instruction Department

James Stoffler, Chairperson
 Professors: Broderius, Krosky, Rosales, Stoffler

Associate Professor: Melendez
 Assistant Professor: Molina

Graduate Vocational Teacher Education (Area of Emphasis)

Professors: Bennett, Keller

Educational Administration Department

Emmett A. Ritter, Chairperson
 Professors: Luketich, Montgomery, Ritter, Schroeder, Whitehead
 Assistant Professor: Chavez

Educational Field Experiences Department

Robert C. Richardson, Director
 Professors: D. Adams, Cochran, Febinger, Fielder, Johnson, Richardson, Warner
 Associate Professors: G. Burns, Cox, Erickson, Weltner
 Assistant Professor: Ousley

Educational Media Department

D. Harold Bowman, Chairperson
 Professors: Bowman, L. Green, D. E. Seager

Associate Professor: Gibbons

Outdoor Education (Area of Emphasis)

Professor: Cyphers

Elementary Education and Reading Department

Douglas S. Burrton, Chairperson

Professors: W. Arnold, Broderius, D. Brown, A. Burrton, D. Burrton, Glaser, Henry, Lewis, Lowry, Nebel, Wolfe
 Associate Professors: J. Cordova, R. VerVelde

Assistant Professors: P. Brazee, P. Garcia, Good, Mullen, M. Oreskovich, Pearson, J. Stevenson, M. VerVelde

Foundations of Education

David Roat, Chairperson
 Distinguished Professor: Combs
 Professors: Cordell, Jacobs, Roat, Turner
 Associate Professors: Clute, Glassman
 Assistant Professors: Luna, Wissot

Higher Education Department

Kenneth Hogan, Chairperson
 Professor: Hogan

Psychology Department

Michael J. Gimmestad, Chairperson
 Professors: Bear, Blake, Brown, Flannigan, Gimmestad, Koplitz, Lutey, Montgomery, Morris, Norton, Osorno, Poston, Praul, Rave, Schenkman, Shaw, Stutler, Tate, Welch
 Associate Professors: Bolocofsky, Carter, Case, Copeland, Obrzut, Ormrod, Ramirez, Ward, Zellner

Assistant Professors: Barnard, Cooney, Kontos, Medeiros

School of Special Education and Rehabilitation

Robert S. Sloat, Director
 Dennis A. Gay, Associate Director
 Professors: Bowen, Carvajal, Cronin, Eldredge, Gay, B. Gearheart, Gonzales, Hull, Jones, B. Kolstoe, O. Kolstoe, Lane, Lundeen, Millslagle, Napier, Owens, Reinert, Sloat, Tuttle, Weishahn, Wolfe

Associate Professors: Baker, DeRuiter, C. Gearheart, Gilbert, Resnick, Swanson, Traynor, Uhrig, Underwood

Assistant Professors: Anderson-Wright, Bottenberg, Childs, Crais, Gates, Gilbert, Huang, Kaley, Kappan, Kitzhoffer, Martin, Olson, Reed, Scalia, Sileo, Swafford
 Instructors: Cleeland, Lucero

Statistics and Research Methods Department

Robert Lynch, Chairperson
 Professors: B. Heimerl, Houston, Schmid, D. Shaw
 Associate Professor: Lynch

College of Performing and Visual Arts

James E. Miller, Dean

The College of Performing and Visual Arts consists of the Fine Arts Department, School of Music and Theatre Arts Department, each of which offers comprehensive curriculum. The three branches of the College work cooperatively in interdisciplinary areas involving more than one art form such as opera, musical theatre and multi-media productions.

Fine Arts Department

Richard Munson, Chairperson
 Professors: Cordiner, D. Johnson, Moody, Schumacher
 Associate Professors: Barucchieri, Blubaugh, Carlisle, Haas, Luster, Munson,

MacFarlane, Myers, Turner, Shin

Assistant Professors: Coronel, Hoover

School of Music

James E. Miller, Director
 Robert C. Ehle, Assistant Director
 Academic Departments
 Brass and Percussion: Edwin Baker, Chairperson

History and Literature: James Upton, Chairperson

Music Education: Elza Daugherty, Chairperson

Piano and Organ: Walter Schenkman, Chairperson

Strings: Howard Skinner, Chairperson

Theory and Composition: Dale Dykins, Chairperson

Voice: Charmaine Coppom, Chairperson

Woodwind: Loren Bartlett, Chairperson
 Professors: Aitken, Baker, Bartlett, Copley, Dykins, Ehle, Evans, Graham, Himmel, Linscome, Mickens, J. Miller, Pfund, Rhoads, Schenkman, Schmitz, Skinner, Upton

Associate Professors: Anderson, Bourassa, Coppom, Corporon, Goes, Herrick, Jamieson, Robinson, R. Smith, W. Smith

Assistant Professors: Bailey, Daugherty, Greenberg, Hamann, Haun, Jothen, Lehnert, Sobaje, Wallace

Instructor: Bundock

Theatre Arts Department

Ronald B. Gloekler, Chairperson
 Professors: Girault, Norton, Willcoxson
 Associate Professors: Van Loo, X. Johnson
 Assistant Professors: Gloekler, Stach

School of Business

Ramon P. Heimerl, Dean

R. Bruce Garrison, Associate 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 a Bachelor of Arts degree in business teacher education and journalism.

Academic Departments**Accounting****Administrative Services and Communications****Business Teacher Education****Finance and Insurance****General Business****Management****Marketing****Journalism**

Professors: Bitter, Bohrer, Clithero, Damgaard, Duff, Halldorson, Heimerl, Kennedy, McConnell, Palmer, Renshaw, W. Stewart, Teglovic, Waterman

Associate Professors: Allen, D. Anderson, Clinton, DeBoer, Dierks, Donnel, Douglas, Dubois, Elsea, Folger, Garrison, Guseman, Harris, Jacques, Levenson, Melanson, Saam, Shade

Assistant Professors: Caron, Droegemueller, Gottko, Hoffman, Jaouen, O. Johnson, Motz, Rodriguez, T. Smith, J. Stewart, Suroviak, West

Instructors: Elton, Freese, Peek, N. Smith, Toombs, Turley

School of Educational Change and Development

Donald M. Luketich, Dean

The School of Educational Change and Development provides students who desire to pursue an individually designed program the opportunity to do so. Consult the program description for further information about the School of Educational Change and Development.

School of Health and Physical Education and Recreation

Robert A. Montgomery, Dean

The four primary functions of the School of Health, Physical Education and Recreation are: (1) The professional preparation of teachers, coaches, supervisors, and administrators of Health and Physical Education. (2) The professional preparation of recreation leaders and administrators. (3) The professional preparation of Allied Health Specialists. (4) The provision of activity classes as a service to the general education of students.

Academic Departments Health and Safety Education Physical Education Recreation

Professors: Barham, Behling, Cody, Cooke, Everett, Lindahl, Malumphy, McKain, Phillips, Rossi, Sage, Shirley, Steffy, Van Anne

Associate Professors: Blasi, Heiss, LaBonde, Parkos, Van Dinter, Wright

Assistant Professors: Barnes, Benich, Carlisle, Fri, Gaeta, Gustafson, Hederg, Howard, Hurley, James, Kotowski, McMillen, Minton, Mosser, Petroff, Rollins

Instructors: Bowers, Delk, Harrison, Libera, Martindell, Tresvan, Vogt

Affiliate Professors: Cloyd Arford, M.D., Donald Cook, M.D., James Wheeler, M.D.

School of Industrial Technology and Home Economics

William R. Erwin, Jr., Dean

The School of Industrial Technology and Home Economics offers a four-year undergraduate program of studies in the areas of Home Economics, Industrial Arts and Technology, and Vocational Teacher Education Foundations: Special Needs and



Health Occupations. The departments offer majors that prepare the students for the teaching profession and non-teaching pursuits.

Home Economics Department Marilyn Burns, Chairperson

Professor: Taylor

Associate Professors: Burns, Egeness, Krosky, Peiffer, Sorensen, Wirick

Assistant Professors: Brink, Frye, Kliever, Schick

Industrial Arts and Technology Department

D. L. Jelden, Chairperson

Professors: Erwin, Hammond, Jelden, Lubbers, Olson, Roy

Associate Professors: Kruger, Lloyd, Morimoto

Vocational Teacher Health Occupations Department

Dora Johnson, Chairperson

Associate Professor: Johnson

Instructor: Gibson

Vocational Teacher Education Foundations and Special Needs Department

Robert Welch, Chairperson

Associate Professor: Welch

Assistant Professor: Hartley

School of Nursing and Gerontology

Phyllis Drennan, Dean

A 13-quarter program leading to the bachelor of science degree is offered to prepare qualified students as professional nurses and to provide 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; as well as examinations of all other states.

Professors: Drennan, Payton

Associate Professors: Biegel, Bossart, Hurlock, Quayhagen, Sawatzky

Assistant Professors: Baird, Hale, Hallan, Heckman, Kinnick, Malkiewicz, Martin, Richter

Instructors: Baker, Barry, Canclini, Foster, Kerns, Manteuffel

Gerontology

Associate Professors: Dawson, Murphey

Department of Aerospace Studies

Col. Thair D. Layne, Chairperson

Both two-year and four-year Air Force ROTC programs are offered at the University of Northern Colorado, where candidates are educated to assume duties as Air Force second lieutenants upon graduation. AFROTC graduates normally go on active duty with the USAF. Initial assignments may include flight training for pilots and navigators, missile training, or other technical or management training depending on the individual's assignment.

Assistant Professors: Maj. Charles R. Abernathy, Capt. Lonnie R. Conell

Interdisciplinary Programs

Environmental Studies

Charles E. Olmsted III, Coordinator

Women's Studies

Marcia I. Willcoxon, Coordinator

The Center for Continuing Education

Robert O. Singer, Dean

C.O. Haeker, Assistant to the Dean

John A. Ketchum, Assistant to the Dean

Robert H. Taylor, Assistant to the Dean

The Center houses all off-campus programs in one administrative unit.

Off-Campus Classes. Provides credit, Continuing Education Units, and non-credit hours to educators, other professionals, and anyone desiring to improve their skills. These classes are scheduled upon request after approval by appropriate University officials for school districts, corporate entities and others seeking educational services or cultural enrichment.

Individual Studies. An individual enrolled on campus may not take an IS 422/622 through off-campus. If not enrolled on campus, the student may take an IS 422/622 through off-campus. If enrolling for individual study the student must obtain the instructor's, advisor's and dean's signatures of approval on the IS form obtainable at the Center. These guidelines also include EDFE 501.

Independent Study Courses. Multi-media learning packages and correspondence courses are provided for students wishing to earn university credits who cannot attend classes on or off the campus. Certain courses are delivered in cooperation with the media. A student cannot earn a degree from the University through independent study. UNC policy states that a student may earn and apply a maximum of 45 quarter hours of credit toward a bachelor's degree through correspondence, learning package, or off-campus courses. However, the student should first determine with the advisor

whether the course is applicable to the degree pursued.

External Degree Programs. The University, through the Center for Continuing Education and in association with the UNC/CSAP Foundation, Inc., endeavors to meet the educational needs of a mature, career-oriented off-campus audience through the external degree program. Its major purpose is the design and delivery of high quality, on-site degree programs. This format enables students to obtain quality education without undue interference with fulltime employment. Degrees earned in this fashion are awarded by the University and do not differ in this respect from resident degrees.

For detailed information, address inquiries to the Dean, Center for Continuing Education, University of Northern Colorado, Greeley, Colorado 80639, or call (303) 356-2442. Students must obtain a copy of the current Independent Study Bulletin or off-campus advertising for complete information and regulations concerning independent study, off-campus courses, and external degree programs.

Bachelor's Degree Requirements

All students pursuing work for the bachelor's degree must complete satisfactorily (1) At least 60 quarter hours of courses designated as general education and (2) All courses required by the school or department in which a student elects a major or minor. (See specific major and minor program requirements.) In addition, students may select other courses to meet the minimum requirements for graduation of 180 quarter hours. A faculty advisor from the department of the student's major subject is assigned to assist in program planning.

Every student must pass an English writing competency examination for graduation. This examination must be passed at least one quarter prior to the quarter the student graduates. The requirement may not be challenged or waived. The examination may be taken anytime, but students are normally expected to sit for the examination before the end of the first quarter of their junior year. The examination is evaluated on a satisfactory-unsatisfactory basis and may be retaken any number of times.

General Education

Definition

It is the conviction of the University of Northern Colorado that its graduates should possess a broad base of experience partially acquired through exposure to a wide panorama of subject areas.

It seeks to provide opportunities for wide knowledge, with understanding of the ways in which knowledge is acquired and the unity between bodies of knowledge.

UNC believes students should know the interrelationships between the peoples of the world and between humans and the environment, and understand how aesthetic, moral, ethical and value judgments affect life experiences.

The General Education program aims to develop students' abilities to communicate effectively, and stimulate them to seek lifelong learning.

Two areas—information and skills—are defined to achieve these aims. Information areas provide ideas, concepts, and bodies of knowledge to form a basis for evaluating and participating in a changing world. Skills areas encompass and enhance abilities to understand and communicate ideas, concepts, and knowledge accurately and effectively.

Requirements

General Education at the University of Northern Colorado is a program of 60 quarter hours selected from nine components or

categories (a-b-c-d-e-f-g-h-i). The 60 hours required in general education allow the student to choose a variety of courses outside the major field to strengthen and enhance the bachelor's degree.

All courses acceptable for general education credit are identified by a letter preceding the prefix, course number and title in the "Course Descriptions" of this catalog. Thus, a-MATH 101 "Fundamental Mathematical Skills" indicates that this course may be taken to satisfy the basic computational skills requirements; d-FA 108 "Drawing for Non-Majors" may be taken to partially satisfy Category d of the general education requirements.

Courses required for the major but not carrying the major prefix may count for both general education and the major. Up to six quarter hours of courses carrying the major prefix may count for both general education and the major requirements providing such courses carry a category designation.

To fulfill the 60 quarter hours required in general education, all students will complete the following requirements:

I. Foundations of General Education.

Complete the requirements as follows:

A. One 3 quarter hour approved course in Computational Skills or demonstrated competency. Courses to be selected from the following:

a-MATH 101 Recommended for students with little or no high school mathematics.

a-MATH 123 Recommended for students with one year of high school algebra.

a-MATH 192¹ For elementary education majors and special education majors only.

a-PHIL 101 Recommended background: one year of high school algebra.

a-SRM 203 Recommended background: one year of high school algebra.

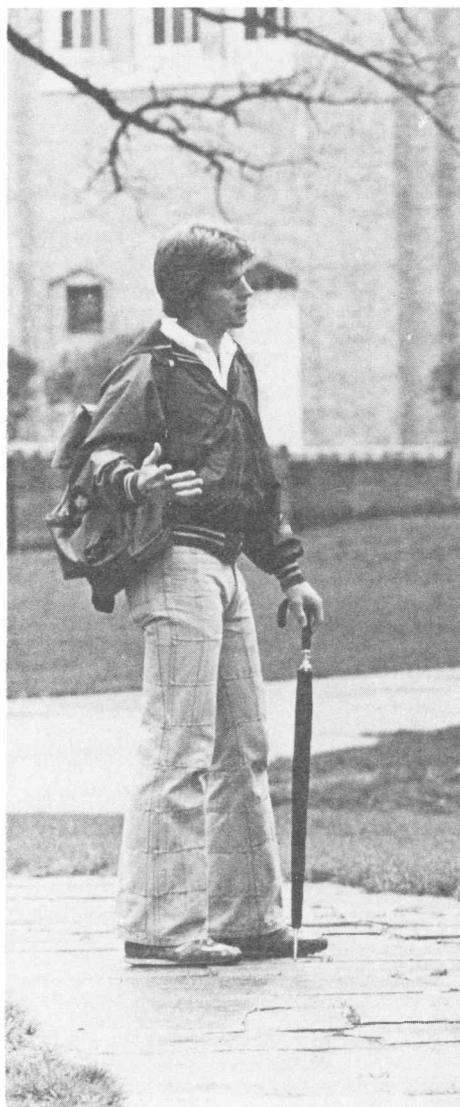
Successful completion of any other MATH course, carrying a general education designation, of at least three hours credit (with the exception of MATH 117, MATH 180, MATH 280, and MATH 191¹) will indicate demonstrated competency and will exempt the student from the Computational Skills requirement.

B. One 3 quarter hour course in Basic Composition or demonstrated competency. Only one course may be taken to satisfy this requirement: b-ENG 101.

C. One 3 quarter hour approved course in Intermediate Composition. A list of courses which can be used to satisfy this requirement will be published in the Schedule of Classes and/or will be available with pre-registration materials. Courses will be identified with a lower case "c" before the prefix and course number.

A student may be exempted from taking a portion of the Foundations of General Education component by complying with one or more of the following conditions: (1) Possess an Associate of Arts or an Associate of Science degree from an accredited junior college; (2) Pass a challenge examination in

¹For elementary education or special education majors only, successful completion of both MATH 191 and MATH 192 will satisfy the basic computational skills requirement. These courses are required for the elementary education major.



one or two of the Foundations of General Education areas. Exemption, but not necessarily credit, will be made for the Foundations areas successfully challenged (credit may be granted where a credit examination is the basis for the challenge); (3) Present an ACT score of 26.0 or higher in mathematics and/or English. A student exempted from taking courses in Foundations of General Education component for this reason would take a comparable amount of elective credit. See III.

II. Categories. Compete the required two courses from each of the following categories:

D. Arts and Applied Language Studies. Two courses, carrying different prefixes² (e.g., d-MUS, d-FA), are required. A student may take for general education purposes three foreign language skill building courses (d) commensurate with their ability and background.

E. Professional and Applied Studies. Two courses, carrying different prefixes² (e.g., e-HPER, e-IA), are required.

F. Social and Behavioral Sciences. Two courses, carrying different prefixes² (e.g., f-GEOG, f-ECON), are required.

G. Humanities and Integrative Studies. Two courses, carrying different prefixes² (e.g., g-MAS, G-PHIL), are required.

H. Sciences. Two courses carrying different prefixes² (e.g., i-COMM, i-PSY), are required.

I. Human Interaction. Two courses carrying different prefixes² (e.g., i-COMM, i-PSY), are required.

III. Complete the general education program quarter hour requirements. Any elective hours remaining to reach the total hours may be satisfied with courses carrying a category designation from anywhere in the general education program.

Courses not preceded by a category designation (e.g., BUS 292 "Business Statistics II") in the catalog may not be taken to satisfy general education requirements. Methods courses, field experience courses, independent studies, and graduate level courses (i.e., 500 level and up) will not count for general education credit. No course can satisfy more than one general education category simultaneously.

The general education program is intended to be distributed over a four-year period.

Junior College Transfers. Those who transfer from two-year colleges with associate of arts or associate of science degrees will receive full credit for such work and are excused from further general education requirements.

Transfers who have completed equivalent programs in general education, as determined by the Admissions Office, will also be excused. All others will be held to the general education requirements.

Institutional Programs

Honors Program

Tomas N. Santos (English), Acting Director

Admission Requirements. A student who has completed 45 quarter hours of course work at UNC, and who shows evidence of outstanding academic ability may be invited to participate in the honors program on the basis of departmental recommendation.

Transfer students who have completed 45 quarter hours of work and who wish to participate in the honors program may apply for admission after the first, second, or third quarter of work at UNC. These students must be recommended by two faculty members in their field and must possess a 3.25 cumulative grade point average or better.

A student who has completed 45 quarter hours at UNC and has attained a 3.25 cumulative grade point average may apply for admission to the honors program at any time during the sophomore year.

Recommendations from two faculty members in the specific discipline should accompany the request. All applications are reviewed by the director of the honors program and the department or school concerned.

Program Enrichment. The program of an honors student is individually planned. An honors student may be excused from certain required courses, except those which may be necessary for teacher certification.

Sophomore Honors. During the sophomore year, each academic department participating in the honors program offers 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 to three hours of credit. The content and activities of the course vary from one department to another. Each academic department provides the kind of activity that will enrich the educational experience of the honor student in the particular discipline. Basically, the course is structured in terms of the student's needs and interests.

Junior Honors. In the junior year each honors student enrolls in Honors 351: Junior Honors Project. The aim of the course is to increase familiarity with the literature and/or current issues in the student's field. The department, school or college concerned may assign the student to an individual professor or to a seminar group. This course carries regular university credit of one to three hours each quarter.

Senior Honors. In the senior year each honors student enrolls in Honors 451: Senior Honors Research Project or Thesis. The course carries one to three hours of credit each quarter. During the senior year the student will gain assistance with a project or thesis from a chosen professor or one

assigned by the department. The professor advises the student concerning different aspects of the subject or project for study. An acceptable written report must be handed in at least three weeks before the honors student is to be graduated.

International Education and Exchange Programs. Honors students are encouraged to investigate the opportunities provided by the University to study in foreign countries. Detailed information may be obtained at the Office of International Education.

Student Review. Cumulative grade averages of honors students shall be reviewed at the end of each academic year. An honors student is expected to register for a full-time program and to maintain better than a 3.25 cumulative average as well as a comparable average in the major and minor fields.

Graduation with Honors. Graduating seniors completing the required honors work as specified by the various departments, schools, or colleges will be graduated "With Honors." To be graduated with honors, each student must complete a thesis or a creative project. Participants in the honors program who graduate in the upper six percent of their class will be graduated with the appropriate designation.

Each honors student is required to submit the title of the honors thesis or project to the office of the director of the honors program 12 weeks before graduation.

Special designations are given students who are graduated in the upper six percent of their class. The top two percent will be graduated *Summa Cum Laude*, the next two percent will be graduated *Magna Cum Laude*, and the next two percent will be graduated *Cum Laude*.

UNC Program for Comparative Studies in Italy

Beginning in the summer of 1974, the University officially inaugurated its study abroad program housed in "La Poggerina," located 41 kilometers from Florence, Italy. The Program is operated two quarters per year: summer and fall. The major study opportunities of the undergraduate program include studio and museum experiences in the fine arts, historic and comparative analysis of Renaissance and contemporary periods through various departments at UNC, as well as Italian language offered through the Foreign Language Department. Other departmental courses will be available each quarter. "La Poggerina" is a converted and modernized resident center with facilities

²When two or more departments share a common prefix (BUS, MUS, HPER) courses selected from two different departments will satisfy the requirement. Thus, e-HPER 299 "Community Health" (from the Health Education Department) and e-HPER 108 "Gymnastics" (from the Physical Education Department) would satisfy the Category e requirements. Students should check with departments to determine the departmental origin of specific courses.

including classrooms, art studios, gallery, dormitory accommodations, dining room, student lounge and recreation area.

For further information on programs and courses, see the appropriate department section and course listings or contact the program office for current information. Potential participants requesting complete information and application forms should contact UNC Program for Comparative Studies in Italy, Frasier Hall 205, 351-2826.

Laboratory School

A department within the College of Education, the Laboratory School is a comprehensive elementary and secondary education program for grades kindergarten through high school. The elementary school includes 75 pupils in the primary continuum, grades K-2; 75 in the intermediate continuum, grades 3-5; 150 in the middle school continuum, grades 6-8; and 300 in grades 9-12.

The primary role and mission of the Laboratory School is to provide a clinical experience for the pre-student teacher. This experience enables the pre-student teachers to be actively involved in the classroom environment of the elementary/secondary students before they enter the field as student teachers. Students who take clinical experience in the Laboratory School must have certain time periods available, and these vary with each course. It is recommended that students inquire about times at least one quarter in advance. PTE program information is available from the Assistant Director for Teacher Education, 351-2196.

Parents who wish information on enrollment and fees for Laboratory School pupils may call the Director, 351-2116.

Pre-Professional Programs

The following information is provided for those students whose goals will require studies in professional school such as clinical, counseling and school psychology; law; engineering; dentistry; medicine; optometry; pharmacy and veterinary medicine. Pre-professional course work in each of these areas is available at UNC. Admission to these professional schools is very competitive and requires careful planning. To optimize chances for admission, pre-professional students should work very closely with a special advisor for their program. These advisors are knowledgeable about the requirements for admission, application procedures and selection factors and will direct the student's program to meet the specific requirements of the professional schools as well as the degree program at UNC. General information about each of these programs is listed below. For further information and for assignment of an academic advisor, students should see the following person:

Pre-Clinical Programs in Psychology: A recommended course list is available upon request from the Department of Psychology, McKee Hall 248. For additional information and advisement, see Dr. David Bolocofsky, McKee Hall 248 (351-2731).

Pre-Law: A Pre-Law Guide and recommended course list are available upon request. Richard J. Crawford, Department of Communication, Candelaria 16 (351-2501).

Pre-Engineering: Two-year program for engineers after which the student will transfer to an engineering school to complete the degree. Information available from Wallace Aas, Department of Physics, Ross 43 (351-2961).

Pre-Health Professions: Information regarding dentistry, medicine, optometry, pharmacy, veterinary medicine, dental hygiene, physical therapy, and physician assistant is available from Gordon Tomasi, Chairman, Pre-Health Professions Committee, Department of Chemistry, Ross 138 (351-2559).

General Information

Pre-Clinical Program in Psychology: This program is designed for students planning careers in clinical psychology, school psychology, counseling, and related mental health fields. Normally these professions require graduate-level preparation. Although each graduate school sets its own specific requirements, the courses in the Pre-Clinical emphasis are generally required for admission to graduate study. It should be noted that the courses in this emphasis represent a basic level of preparation, and students are encouraged to acquire additional training in consultation with the faculty advisor. See program requirements for the Psychology Major for specific course requirements.

Pre-Law: Law schools do not recommend a specifically designed major for pre-law students. A good pre-law curriculum can be structured around any non-teaching major offered within the College of Arts and Sciences or Business Administration.

Pre-Engineering: Course of study for pre-engineers is as follows:

(1) One year general chemistry (CHEM 104 or 106, 105 or 107, 111)

(2) Mathematics through calculus (MATH 131, 132, 133)

(3) One year calculus-level general physics (PHYS 265, 266, 267)

(4) Electives in general education which will transfer to the engineering school of the student's choice.

This program can be modified depending upon the engineering school and type of engineering selected by the student. Information regarding appropriate electives is obtained from the student's advisor in the Department of Physics.

Pre-Health Professions: Each professional school sets its own specific requirements but certain generalizations are possible:

(1) Two to four years of undergraduate study is generally expected prior to admission to most professional schools. No specific undergraduate major is required although

most students major in one of the biological sciences or chemistry.

(2) Minimum course requirements for most health professions are as follows: One year in each of the following areas: (BIO 101, 102, 103), English (composition and speech classes), general chemistry (CHEM 104 or 106, 105 or 107, and 111), mathematics (MATH 124, 125, 130), organic chemistry (CHEM 332, 333, 334), and physics (PHYS 260, 261, 262, or 265, 266, 267). These courses represent minimum preparation and additional courses especially in biology (a second year including some cellular biology and genetics) and mathematics (additional calculus and statistics) are encouraged and in some cases required. Schools of veterinary medicine require a minimum of two years of biology and often at least a semester of biochemistry.

Professional Teacher Education (PTE)

Admission

The following are the minimal requirements for application to PTE:

1. 45 quarter hours of college study.
2. 2.30 cumulative grade point average.
3. Speech/hearing test, Self-Assessment Battery, and attendance at an information seminar.

The following are the requirements students must complete before being given full admission to PTE:

1. Documented evidence of 40 contact hours of educational field experience (use EDFE 270, 2 hours, or equivalent).
2. Recommendation of the major department.
3. Demonstration of competencies in computation and composition.

Proficiency in written English and in computation may be achieved by one of the following methods:

- a. Pass the proficiency tests in these two areas as they are administered during the orientation seminars for Professional Teacher Education.
- b. Pass MATH 101, Fundamental Mathematics Skills, 3 hours, with a grade of "S". Pass ENG 101, Elementary Composition I, 3 hours, with a grade of "C" or higher.
- c. Pass the equivalent of MATH 101 and ENG 101 with grades of "C" or higher.
- d. Have received at least a "26" on the mathematics/English portion of the ACT.

Demonstrate competencies in educational media skills achieved by successful completion of checkout system with Educational Media department, or successful completion of EDEM 410.

Note. Graduation from a program of PTE also requires a minimum 2.30 cumulative grade point average.

Application to the PTE program should be made at the beginning of the quarter and all forms must be received by the PTE Office before the second Friday of that quarter. (It takes the remainder of the quarter to process applications.) The forms require a declaration of major because recommendation for

entrance to the PTE program and later for certification can be made in a major area only. If a student has a double major, application must be made for each. If a student changes majors or adds a second major, application must be made again for each new area.

The required professional education courses which are listed below are open only to students who have been fully, probationally, or tentatively (in the case of transfer students with more than 60 hours), admitted to PTE. Transfer students may receive some exemptions based on evaluation of transcripts from colleges previously attended.

PSY 347	Developmental Psychology for Teachers	3-4
PSY 348	Learning Processes in Education (Prereq: PSY 347)	3-4
EDF 366	Foundations of Education	4
EDF 367	Philosophy of Education	3
EDSE 405	Handicapped Students in the Regular Classroom (Graduate students who are experienced teachers use EDSE 506, Seminar in Mainstreaming Handicapped Students in the Regular Classroom, in lieu of EDSE 405.)	3
EDSE 406	Working with Handicapped Students in the Elementary School or	2
EDSE 407	Working with Handicapped Students in the Secondary School	2
EDRD 420	Reading in the Secondary School (Elementary Education and Special Education majors take EDRD 310)	3
EDLS 360, 361, 362, or 363	Clinical Experience (or departmental equivalent). Methods of Teaching (Check major for requirement)	2
EDFE 444	Supervised Teaching	18
	Hours credit:	44

Note. For majors in Special Education, none of EDSE 405-406-407 are required. For students in appropriate program areas, the following are acceptable substitutes for EDSE 406 or EDSE 407:

EDEC 463	Diagnostic Teaching in Early Childhood	
EDSE 306	Identification of Learning Disabilities in Early Childhood	
FA 348	Art for the Handicapped Student (FA 648 Art and the Handicapped Student, for graduate students)	
HPER 432	Adapted Physical Education	
HPER 438	Physical Education for the Mentally Impaired	
HPER 439	Physical Education for the Physically Handicapped	
IAT 459	Industrial Arts for Special Needs Students	
MUS 414	Music for Students with Special Needs	
VTEF 430	Vocational Education for Learners with Special Needs	
SCED 360	Science for the Handicapped	

PTE Enrollment Options

In order to help insure continuity in the program of PTE, students enroll in the PTE courses in one of the following ways:

The "Block" Option

1st Quarter

PSY 347	3-4
EDF 366	4
EDSE 405	3
EDRD 420	3
	13

2nd Quarter

PSY 348	3-4
EDF 367	3
EDSE 406/7	2
EDLS 360-3	2
...(Methods)	3
	13

3rd Quarter

EDFE 444	18
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Specified Departmental Majors Option

Certain major departments have arranged for the option listed below. Check with the major department to gain full information.

1st Quarter

PSY 347	3-4
EDF 366	4

2nd Quarter

PSY 348	3-4
EDF 367	3

3rd Quarter

...(Methods)	3
EDLS 360-3	2
EDSE 405	3

4th Quarter

EDSE 406/7	2
EDRD 420	3

5th Quarter

EDFE 444	18
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Substitutions and Electives

1. The Professional Education Committee may determine that certain requirements listed above may be met by other means. Check with major department for special accommodations.

2. The following courses in education are among the recommended electives. Check with advisor for further information.

EDF 345	Foundations of Human Interaction	3
EDF 385	Law and the Classroom Teacher	3
PSY 346	Human Effectiveness in Education	3
EDEM 410	Introduction to Educational Media	2
EDAD 520	School Law I (Open to qualified juniors and seniors)	3

Supervised Teaching. Application forms and information are available in the Educational Field Experiences Office, 27 McKee. Forms must be picked up four to six weeks before the application due-dates. Winter assignment due-date is November 1; Spring assignment due-date is February 1; and Summer and Fall assignment due-dates are May 1. (Students wishing to student teach in the summer should contact the EDFE Office as early as the preceding Fall.)

Student Teaching assignments are made in cooperating schools in Colorado and out-of-state with the approval of the Director of Educational Field Experiences under the policies of the Professional Education Committee and in cooperation with academic departments. Students should be prepared to move to the area of their assignment regardless of campus or personal commitments.

The following requirements must be met before a student may report to the field assignment: (1) Full PTE admission in the

student's major field, (2) clearance (a current TB test on file) by the UNC Health Center, and (3) compliance with all specific department requirements for entering student teaching.

Certification. Upon satisfactory completion of a program of teacher education and any additional requirements imposed by state law, a student is eligible for institutional recommendation to the State Commission on Teacher Education and Certification for certification in the state of Colorado. Near the end of the quarter in which the program is to be completed, the student should complete application forms in the College of Education office in McKee Hall. Applications are processed as soon as official transcripts, ordered by the applicant, are received from the Registrar showing completion of the program and the degree conferred.

Vocational Teacher Education

Robert F. Barnes, Director

Students who plan a teaching career in Vocational Education in Colorado must meet credentialing requirements set by the Colorado State Board for Community Colleges and Occupational Education as published in the State Plan. The University of Northern Colorado is recognized by this state agency for the training of vocational teachers in Business and Office Education, Distributive Education, Home Economics Education, Health Occupations Education, and Special Needs. Students should refer to the following sections of this catalog for detailed information related to specific Vocational Teacher Education Program Areas.

Business and Office Education
Distributive Education
Home Economics Education
Health Occupations Education
Several generic Vocational Teacher Education courses are taught at the undergraduate level; refer to Vocational Teacher Education

Credentialing Requirements. Every program has two elements in its program credentialing requirements: Work Experience, and Formal Education. Students may be eligible to receive credit for additional work experience at a 2 to 1 ratio through the Supervised Work Experience Program. Inquiries should be made to the VTEF office, 351-2932. Each student should consult the teacher educator within the program area to obtain detailed information concerning credentialing requirements. To apply for a Colorado Vocational Education Credential, see the Vocational Credentialing Officer in Michener Hall, Main Level.

Professors: Bennett, Keller
Associate Professors: Barnes, Burns, Dierks, Johnson, Peiffer, Renshaw, Robins, Sorensen, Welch, Wirick
Assistant Professors: Brink, Donnel, Hartley
Instructor: Gibson
Vocational Credentialing Officer: Hollingsworth

Admission

The Office of Admissions is responsible for recruitment, selection and admission of all qualified undergraduate students including freshman, transfer and foreign students.

Admission to the University is selective. It is based upon an evaluation of a number of criteria. The Admissions Office uses information such as secondary school grades, previous college work, the trend and quality of high school or college performance, and results from the ACT or SAT examination, to assess the probability of an applicant's academic success at the University.

Admission Policy

Freshmen

A high school graduate or a person holding a high school equivalency certificate may be admitted to UNC if the transcript accompanying the application for admission indicates the ability to meet the academic standards of the University.

Minimal requirements for freshman admission 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 individually 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 (ACT) or the Scholastic Aptitude Test (SAT).

Transfers

Undergraduate students who seek admission to the University as transfer students must have at least a "C" average in their previous college work and be in good standing at the college or university from which they are transferring.

Minimal requirements for transfer admission are:

1. Together with an Application for Admission and the non-refundable \$10 application fee, applicants must submit two *official* transcripts from each college or university previously attended. No portion of an applicant's previous collegiate record can be disregarded. Should the applicant fail to list all institutions previously attended, admission to UNC may be cancelled.
2. Transfer applicants who have completed less than 20 semester hours or 30 quarter hours at other institutions must also submit an official copy of the high school transcript with two *official* copies of all college or university transcripts.
3. *Official* copies of transcripts brought to the Admissions Office by applicants will be accepted for evaluation and the awarding of

credit. Unofficial and/or service copies of transcripts will *not* be accepted or substituted for required official copies. All *official* copies from each previously attended institution must be received prior to admission of an applicant.

Transfer Credit

A maximum of 135 quarter hours of academic credit is accepted from accredited four-year institutions. Students must have a minimum residence of 45 quarter hours on the UNC campus — this does not include UNC off-campus courses. Students graduating from a junior college or transferring two years of college work may require more than two years at UNC 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 UNC, graduation in two additional years is possible. Credit earned at a junior college after completion of the sophomore year or beyond 96 quarter hours of credit will not be transferable.

A student who has earned an Associate of Arts Degree, or has completed equivalent programs in general education as determined by the UNC Admissions Office, will receive full credit for such work and is excused from further general education requirements.

The University of Northern Colorado does not accept credit from other colleges and universities in which grades below "C" have been earned. Credit for "D's" is accepted if such grades are an integral part of the Associate of Arts degree.

Many specialized courses do not transfer to UNC.

Any college work earned more than 15 years before the baccalaureate degree is granted at UNC may be applicable toward a degree at the discretion of the major and minor departments.

Previous grade point averages are used for admission purposes only and are not carried forward to the student's academic record at UNC. The student will begin a new grade point average that will not be combined with any previous grade point average earned.

UNC allows no transfer of credit from institutions not regionally accredited by the Association of Colleges and Secondary Schools.

Credit for Military Service School Experience.

Certain credit may be awarded to veterans of military service who have attended military service schools. This credit is evaluated by the Office of Admissions according to suggested guidelines by the American Council on Education.

Admission Procedures

Freshmen

1. Applications and support credentials may be submitted at any time during the

senior year of high school but must be received no later than three weeks prior to the quarter for which the student wishes to enroll. Individuals should submit applications as early as possible, since enrollments may be limited.

2. An Application for Admission may be obtained from a high school principal or counselor. Out-of-state students may write to the Office of Admissions at UNC to obtain an application.

3. Complete the Application for Admission and have the high school counseling office attach a transcript to the application. Send the application, transcript and a \$10.00 non-refundable transcript and evaluation fee to the Office of Admissions at the University.

4. An applicant should take the American College Test (ACT) or the Scholastic Aptitude Test (SAT) and have examination results forwarded to UNC. An October or December test date is recommended.

5. Students planning to major in Nursing or Music will be required to submit an additional application for admission to those schools. The second application and instructions will be sent by the Admissions Office upon receipt of inquiry or application for admission to the University. Auditions are also required of all applicants to the School of Music.

6. Upon receipt and evaluation of the application for Admission and academic support material, an admissions decision will be made. Applicants who provide the Admissions Office with all required credentials at time of application will be notified of their admission status within four weeks.

Transfers

1. In order to insure an evaluation for admission, all applications and two official transcripts from each college or university attended must be submitted no later than three weeks prior to the quarter the student wishes to enroll.

2. Students planning to major in nursing or music will be required to submit an additional application for admission to those schools. The second application and instructions will be sent by the Admissions Office upon receipt of inquiry or application for admission to the University. Auditions are also required of all applicants to the School of Music.

3. Transfer applicants must comply with all requirements stated under the *Admissions Policy* section referring to transfer students.

Medical Examination

Prior to final admission and following a medical examination by a qualified practitioner, a report shall be submitted in an acceptable format of the student's health status to the UNC Student Health Service. Such information is necessary to provide better medical care at UNC, to insure the health of others in the community and to assist the student in progressing toward educational goals.

Division of Student Affairs

Gerald E. Tanner, Vice President
 Margi Mainquist, Assistant to the Vice President
 Bernard Kinnick, Assistant Vice President/
 Health, Counseling, and Placement Services
 Mearl Kerns, Assistant Vice President/
 Student Financial Resources
 James Bowen, Dean of Special Programs and Services
 Jean Schober, Dean of Student Resources
 Charles Selden, Registrar
 Wayne Kuncel, Assistant Vice President/
 Student Life
 Tom Yates, Director/Department of Public Safety

The Vice President for Student Affairs coordinates all of the activities of the departments in the area of Student Affairs. The Division of Student Affairs assists students in all classroom and non-class activities and provides academic support services necessary to carry out the goals of the University. Faculty and staff members assigned to Student Affairs work in the following areas: Center for Human Enrichment, Counseling and Career Center, Department of Public Safety, Financial Aids, Food Services, Health Center, Housing, Office of International Student Services, Placement Center, Registrar and Records, Resources for Disabled Students, Scholastic Standards, Student Conduct, Student Employment, Student Life, Student Resource Center, University Bookstore, University Center, and Veterans Services.

The Division of Student Affairs is responsible for supporting the educational mission of the University and for serving as a developer of life experience learning through: provision of opportunities for the development of human values, responsible citizenship, and self direction; provision of timely, accurate data and research to the University community to facilitate decision-making regarding students, participation in the formulation, interpretation, implementation, and evaluation of institutional policy, goals and objectives, and services.

The Office of the Vice President for Student Affairs administers and coordinates the Division of Student Affairs.

The Office of the Vice President deals with personal misconduct and discipline. Most cases are handled upon referral or in conjunction with the Department of Housing and upon referral from the Department of Public Safety. All appeals not resolved at the proper level will be referred to this office. Appeals, organizational review, policy review and information for Student Affairs, legal information, references and recommendations are also included.

Academic Freedom, Rights and Responsibilities of Students

Policies and procedures have been established which reflect the University's concern for student freedom, rights, and responsibilities. Essentially, students can expect protection of freedom of expression, protection against improper disclosure of beliefs and associations, protection against improper academic evaluation, and protection of the student's right to due process in academic and disciplinary proceedings. The student can also expect to be held responsible for performance and conduct in the classroom, on the campus, and in the community.

For further information, students may obtain a copy of the *Academic Freedom, Rights and Responsibilities of Students* document from the offices of the Dean of Students, Student Services Center, or Campus Ombudsman.

Citizenship Standards

University of Northern Colorado students neither gain nor lose any of the rights or responsibilities of other citizens by virtue of their student status. They are subject to the same federal, state, and local laws as non-students, and they are the beneficiaries of the same safeguards of individual rights as non-students.

Students have equivalent responsibility with the faculty for study and learning and for conducting themselves with academic integrity in a manner compatible with the University's function as an educational institution. The University expects its students, as well as its faculty and staff, to respect the rights and privileges of other people and the freedom to teach and to learn without disruption.

Specific rights, responsibilities and codes of conduct are listed in the following university documents: Administrative Handbook; Student Handbook; Statement of Academic Freedom, Rights and Responsibilities of Students; Residence Hall Contract and Handbook; and Statement of Vehicle Regulations.

Information concerning student rights and responsibilities are communicated through administrative, faculty and/or student committees, groups and organizations of the University community by meetings, publications and contracts. It is the student's obligation to behave as a responsible citizen and to abide by the University's stated rules and regulations. Counseling, guidance and admonition, as well as disciplinary proceedings, are used to develop responsible student conduct. Student conduct involving minor infractions of University regulations will subject the student to disciplinary probationary action by the University. Student conduct involving major infractions of University regulations may subject the student to suspension or expulsion from the institution.

International Students

A foreign student who applies for admission to the University must meet the English proficiency requirements as well as academic and financial requirements before being fully admitted. The English proficiency requirements must be met in one of the following ways:

1. Submit either a TOEFL score of 520 or above with a score no less than 52 on any of the three sections or the Michigan Test of English Language with a score of no less than 85.

2. Complete satisfactorily the *advanced level* (109 English language schools) at an intensive English language school acceptable to UNC. The final scores or proficiency report should be sent to the Office of Admissions, University of Northern Colorado, at least 45 days prior to the quarter the student wishes to enroll if the student is outside the continental limits of the United States, or 15 days if the student is in the U.S.A. A student's admission is not complete until the proficiency report is received. It is the student's responsibility to submit the report or to see that it is submitted.

Individual schools or departments of the University may have higher proficiency requirements than those stated above. International students should check with the school or department or the International Student Advisor if they are in doubt about special requirements.

The application for admission and *all related credentials*, except for English proficiency scores or reports as stated above, must be received by UNC no later than 90 days prior to the quarter the student wishes to enroll.

New Student Orientation

UNC's student orientation program, *Preface*, is also administered by the Office of Admissions. Newly accepted students receive information and assistance to facilitate entrance to the UNC community. Summer orientation and registration sessions provide the student with an academic advisor and registration for fall quarter. Students who will reside on campus are invited to participate in housing orientations which include overnight accommodations in a residence hall on the evening preceding each summer session date. All information regarding orientation will be mailed to new students via a *Preface* Newsletter.

Registrar and Records

The Office of Registrar and Records is responsible for (1) student registrations (including schedule changes), (2) graduation checks (initiated by students when they have accumulated 135 quarter hours of credit), (3) classification of students for tuition purposes, and (4) maintenance of student records (including transcript production). The Office is located in Frasier 118. The Registration Center is located in the University Center 247.

Academic Credit. The normal undergraduate course load for a quarter is 15 hours of academic credit. Prior to the beginning of the quarter, students may register for a maximum of 18 academic credit hours. At the beginning of the quarter and ending with the last day for adding courses, students who have 2.75 or higher cumulative grade point averages may enroll for additional hours with approval from the Student Resource Center. Students who carry an overload (in excess of 18 academic credit hours) will be required to pay non-refundable tuition surcharges on a per credit-hour basis. It is recommended that students desiring to take more than 18 hours seek prior departmental academic counseling. Students who have less than 2.75 cumulative grade point averages may not take in excess of 18 academic hours.

All credit toward graduation is computed in "quarter credit hours." The term "one quarter hour" means a course is offered for one hour, one day a week through a quarter of approximately ten weeks.

Courses offered Fall, Winter, Spring and Summer quarters will carry the credit designated in the catalog. Students who register for "No Credit" must pay the appropriate tuition and fees. No audit or visitor cards are issued.

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 "I" incomplete; "W" approved withdrawal; "UW" unauthorized withdrawal. The work to remove an "I" is to be completed and the official grade change card received in the Records Office by the last day of the succeeding quarter of attendance, or within one year, whichever occurs first. If the process has not been completed within the time limitation, the "I" remains on the record and is computed as an "F" in the student's grade average. "NR" indicates no report and means that the coursework has not been completed. A grade of "S" or "U" indicates satisfactory or unsatisfactory work and is not computed in the student's grade average. The grade of "UW" is not computed in the student's grade average.

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.

Course Numbers. The course numbers are divided into three groups:

1. Lower Division: (a) 100 level courses for freshman students, (b) 200 level courses for sophomore students.

2. Upper Division: 300-499 level courses for junior and senior students.

3. Graduate Division: 500-700 are graduate courses. (a) Qualified juniors and seniors may be admitted to 500 level courses by special permission; (b) *no undergraduates may be admitted to 600 or 700 level courses.*

Courses using department prefixes or ID prefix numbered 198, 298, 398, 498, 598, 698, or 798 are new or experimental courses that have been approved through proper University procedures but on which action was not completed in time for publication in the current catalog. The course will be designated by title and a course description will be published in the subsequent catalog under the appropriate department with a different assigned number. Cross reference may be made by checking identical titles. Distinction of each course will be made by title as is the case for designating workshops.

All academic departments will maintain files of course descriptions for courses ending "98".

Course Work May Count for Next Degree. Students in the last quarter of academic study for one degree may register for graduate courses that are in excess of the requirements for that degree when application for admission to the next higher degree program has been filed prior to the final quarter. If admitted, the student *must* complete a Petition to Count Work on the Next Higher Degree in the quarter *prior* to enrolling in the course(s). Students will be held for final examinations in the courses taken for the next higher degree.

Late Enrollment. No student will be permitted to enroll in a course after the first week of Fall, Winter, Spring and Summer quarters.

Schedule Changes. Students may change their schedule by the drop-add procedure at the Registration Center. No classes may be added to a student's schedule after the add deadline posted in the Schedule of Classes.

Schedule of Classes. The University publishes a Schedule of Classes listing courses offered Fall, Winter and Spring Quarters. Courses offered Summer Quarter are listed in the *Summer Bulletin*.

Withdrawal from Class. When a student registers for a class, the student is considered to be a member of that class. To withdraw from the class, the student must obtain the signature of the faculty member teaching the class on the schedule change form. If the faculty member refuses to sign the schedule change form, the student should contact the Student Resource Center. The last day to withdraw from a course is the mid-point of the course. Withdrawal deadlines for each quarter are posted in the Schedule of Classes. The schedule change form is turned in at the Registration Center (UC 247).

A faculty member *may drop* a student who does not attend the first two class hours. It is the student's responsibility to notify the instructor if he or she cannot attend the first two meetings. *Since not all instructors will exercise this option, a student cannot rely on*

this process to be dropped from a class.

Complete Withdrawal from the University. A student may make a complete withdrawal from the University anytime during the quarter. Students who wish to completely withdraw from school during the quarter must initiate and complete the withdrawal at the Student Resource Center in the University Center. Students who make a complete withdrawal from the University will be charged a withdrawal fee through the end of the 4th week of the quarter. After such time, a student will be assessed full tuition and fees without refund. Please refer to the Fees and Expenses section of this catalog. Financial Aid students who withdraw from the University of Northern Colorado during an academic term for which they received aid, may be required to repay to the Financial Aid Account amounts equivalent to the proportion of the remainder of the academic term.

Class Status. A student is a freshman until completion of 45 quarter hours of credit, and is a sophomore after successful completion of 45 quarter hours of credit until successful completion of 90 quarter hours of course credit. A student is a junior after successful completion of 90 quarter hours of credit until successful completion of 135 quarter hours of credit. A senior is a student after successful completion of 135 quarter hours until graduated with a baccalaureate degree. To apply for a student teaching assignment, a student must have a cumulative grade point average of 2.30.



Credit by Examination. The University of Northern Colorado offers hour credit and/or course exemption by examination for certain courses designated by the various departments. The University recognizes the College Entrance Examination Board's Advanced Placement Program, the College Level-Examination Program (CLEP).

Students who judge their current academic proficiency in a specific course to be of high quality and desire to receive credit in the course without pursuing normal classroom activities, may receive credit under the following conditions:

1. The specific course has been approved for a challenge examination by the academic department which administers the course.
2. Student must enroll in course and pay appropriate tuition and fee assessments.
3. Student must seek approval to challenge course from the course instructor and must satisfactorily complete the exam designed and administered by the instructor or department.
4. The challenge exam must be given within the first two weeks of the quarter in which the specific course is offered.
5. If the student passes the challenge exam, class credit and the grade earned on the exam will be entered on the classroll and submitted upon completion of the quarter. The credit and grade will be granted and the student will not be required to attend remaining class sessions.
6. Should the student fail the exam or receive a grade unsatisfactory to the student, the options are to either remain in the class or meet the course/instructor requirements, or withdraw from the course prior to the established withdrawal deadline for that quarter.

7. Individual departments decide whether or not they follow this policy.

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.

Individual Studies. Individual studies are available in most disciplines. This type of 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 limited to four hours per quarter.
2. The approved ID/IS registration form used may be obtained in the Registrar's Office. Applicant must have the approval evidenced by signature of instructor who will direct the study, student's advisor, and department chairperson of the department in which the study is to be done. It is suggested that a student consult the instructor prior to registration.

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. The 45 hours must include some work in the major field to be

determined by the college, school or department. Course work taken through UNC correspondence and off-campus courses, cannot be counted as residence credit. 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.

Release of Student Information

The University has designated the following information as "directory information" under 348(a)(5)(B) of the Family Educational Rights and Privacy Act of 1974. Directory information concerning students at the University will be released during the current school year (Fall through Summer) *without the prior consent of the student* as permitted by law unless within ten (10) days after the beginning of the quarter a student has notified the Registrar's Office, located in Frasier Hall, Room 118, that such information should not be released without his or her consent. This notification must be made each year during which the student is registered. "Directory information" at the University of Northern Colorado is as follows: (a) name, address, and phone listing; (b) date and place of birth; (c) major field of study; (d) participation in officially recognized activities and sports; (e) dates of attendance; (f) degrees and awards received; (g) all recent educational agencies or institutions attended; and (h) weight and height of members of athletic teams.

Graduation Requirements

1. A student must meet the General Education Requirements, Professional Teacher Education (if applicable), major and minor requirements as required by the academic schools or departments of the University.
2. A student must have earned 180 quarter hours of credit.
3. A student must have minimum residence of 45 quarter hours on the University of Northern Colorado campus. In addition, 30 of the last 45 credit hours of a degree program must be earned in on-campus courses at the University of Northern Colorado.
4. Every student must pass an English writing competency examination for graduation. This examination must be passed at least one quarter prior to the quarter the student graduates. The requirement may not be challenged or waived. The examination may be taken anytime, but students are normally expected to sit for the examination before the end of the first quarter of their junior year. The examination is evaluated on a satisfactory-unsatisfactory basis and may be retaken any number of times.
5. 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.
6. 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.

7. A student must have a University of Northern Colorado cumulative grade point average of at least 2.00 the quarter before graduation. Graduation from a teacher education program requires a University of Northern Colorado cumulative grade point average of at least 2.30 the quarter before graduation.

8. The student must apply for graduation, and the 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.

9. The undergraduate bulletin used on first classification may be used for a period of six years. After six years students must re-apply for graduation, have their records re-evaluated and must meet all requirements in the current bulletin.

10. 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 bulletin and a minor from another bulletin.

11. All graduating students must participate in graduation exercises unless formally excused. Graduating students may obtain forms in the Registrar's Office for requesting an excuse from Graduation Exercises.

12. Any college work earned more than 15 years prior to the time the baccalaureate degree is granted at the University of Northern Colorado may be applicable toward a degree at the discretion of the major and minor departments.

13. It is the student's obligation to keep the Registrar's Office informed at all times of any change in graduation plans, such as, change in the proposed quarter of graduation after the application was filed or change of address.

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" (2.00) in the courses taken for the second baccalaureate degree. Graduation from a teacher education program requires a University of Northern Colorado cumulative grade point average of 2.30 the quarter before graduation. 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.

Bachelor's Degree Requirements

All students pursuing work for the bachelor's degree must complete satisfactorily (1) at least 60 quarter hours of

courses designated as general education (exceptions are specified in the catalog under the appropriate major) and (2) all courses required by the school or department in which a student elects a major or minor. (See specific major and minor program requirements.) In addition, students may select other courses to meet the minimum requirements for graduation of 180 quarter hours. A faculty advisor from the department of the student's major subject is assigned to assist in program planning.

Scholastic Standards

Academic Advising. All students at the University will work with faculty members in defining and developing their academic programs. While some academic departments do not require their students to obtain advisement prior to each quarter's registration, all faculty of the University are expected to be available to advise students.

Students should check with the chairman of their department to be assigned a faculty advisor. Students who have not yet declared a major should contact the Student Resource Center, located in University Center 206, to be assigned to an advisor.

Attendance. Regular attendance in all classes will be assumed and encouraged. The instructor will determine the relationship between class attendance and the objective of the class. A student may be dropped by the instructor if that student does not attend the first two class hours. The Student Resource Center *does not* approve student requests for class or examination absences. Any requests for absence from class must be arranged between the instructor and student.

The instructor has the responsibility to inform students of class attendance policies and how they relate to the students' grades. The student also has the responsibility of knowing the policies in each course.

Computing Grade Averages. The University uses an alphabetical grading system, "A", "B", "C", "D", "F". Each of these letters of the grading 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" has a value of one (1) point; and no points are given for an "F". Other marks used are "S" satisfactory; "U" Unsatisfactory; "W" approved withdrawal; "UW" unauthorized withdrawal and "I" for incomplete.

To compute a quarterly grade point average, divide the total number of hours attempted for that quarter into the total number of points earned for that quarter. For example, 15 hours attempted into 40 hours total grade points earned equals a 2.66 grade point average.

To compute the cumulative grade point average, divide the total number of hours attempted into the total points earned, for example, 45 total hours earned over three quarters into 100 total grade points earned over three quarters equals a 2.22 cumulative grade point average. Grades of "S" indicate credit earned but not computed in the grade average.

Recognition of Academic Excellence

Dean's List of Distinction. A student may be placed on the Dean's List of Distinction by carrying a minimum of 12 hours and achieving a 3.75 or above grade point average for each quarter of the academic year (Fall, Winter, and Spring). *Cumulative grade point averages are not considered.*

Dean's Honor Roll. A student may be placed on the Dean's Honor Roll by carrying a minimum of 12 hours and achieving between a 3.50 and 3.74 grade point average for each quarter of the academic year (Fall, Winter, and Spring). *Cumulative grade point averages are not considered.*

Graduation with Honors. A student may be graduated with honors on the basis of a cumulative grade point average calculated the quarter preceding graduation. To be considered for honors based on a cumulative grade point average, a student must have completed 75 quarter hours of credit at the University of Northern Colorado prior to the quarter of graduation. The GPA's will be designated as follows:

1. The top two percent of the graduating class: *Summa Cum Laude*,
2. The next two percent of the graduating class: *Magna Cum Laude*,
3. The next two percent of the graduating class: *Cum Laude*.

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 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", "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. If a student repeats a course previously taken at the University of Northern Colorado, both the first and second grade received 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 return and continue his or her studies at the University of Northern Colorado.

"Probation" is an intermediate status between good standing and suspension or dismissal and refers to any student whose university 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. No notation is made on the official transcript.

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

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

Freshman students are required to maintain a cumulative grade point average of 1.50 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 1.50 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 average of 2.00 by the close of their sophomore year. A sophomore achieving less than 2.00 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 2.00 at the close of the sophomore year may be suspended.

A junior or senior student will be placed on academic probation whenever their cumulative or quarterly average is less than 2.00 based on the courses taken at this University. A junior or senior student attaining less than 1.75 in a quarter or less than 2.00 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. Such students may not seek approval until after the lapse of one academic quarter, not including summer quarter.

Readmission of Students Who Have Been Dismissed for Academic Reasons. A student who has been required to withdraw from UNC for academic reasons may petition for readmission after the lapse of at least one quarter, not counting summer quarter.

Petition for readmission must be made in writing to the Chairperson, Committee on Scholastic Standards, Registrar's Office. The petition must include a detailed account of the profitable use of time since leaving UNC, and good reasons for believing that the previous record will be improved if readmission is allowed. This is a letter of petition, not a formal application for readmission. Any such student who has attended another institution(s) since dismissal from UNC must furnish an official transcript from each institution attended in the interim.

Academic Appeals Board. The purpose of the Academic Appeals Board is to provide the student with means for appealing any academic decision considered unwarranted or capricious. Before initiating these

procedures, and between any of the appeals steps outlined below, the student may and is encouraged to seek advice from the academic advisor or from any of the persons in the Student Resource Center, or the University Ombudsman.

It is further recommended that prior to submitting an appeal to the Academic Appeals Board an attempt at mediation between student and instructor be pursued with the aid and advice of the University Ombudsman. It is assumed at this stage the Ombudsman could serve as an impartial third party.

Procedure:

Step 1 — The student who has a specific academic problem should first discuss the problem with the instructor of the class where the problem originated.

Step 2 — If the student does not feel that the initial conference with the instructor has resolved the problem, the student should then request a conference with the instructor's Department Chairman. (If the instructor involved is the Department Chairman, the student should schedule the Step 2 conference with the instructor's Academic Dean.) In matters concerning departmental policy, the student should take the problem directly to the Department Chairman.

Step 3 — If the student is not satisfied with the results of the Step 2 conference, the case may be appealed to the Academic Appeals Board, by filing a written request for a hearing through the office of the Vice President for Academic Services.

Student Financial Resources

The University of Northern Colorado offers a wide variety of financial aids for deserving and needy students. These awards are designed to assist needy students in meeting the financial requirements of their education.

The availability of financial assistance is subject to the financial resources available to the University.

All students seeking financial assistance are required to submit an ACT Family Financial Statement (FFS). The FFS must be mailed to American College Testing Program in Iowa City. The deadline date for receipt of the processed FFS from ACT in Iowa City is March 31. Applications received after March 31 will be considered late applications and will be processed pending availability of funds. Due to processing time of the FFS in Iowa City, the student should complete the ACT FFS prior to the end of February to insure that the processed FFS is received by the Aid Office prior to the March 31 deadline.

Loans. The University participates in the National Direct Student Loan Program, Colorado Guaranteed Student Loan Program, Nursing Student Loan Program, and its own Short-Term Loan Program. Loan applicants must show financial need and at least average academic potential. Address all inquiries to the Office of Financial Aid, University of Northern Colorado.

Employment. Federal and State College Work-Study awards are available to qualified students for on-campus employment. In order to determine eligibility, students are required to submit the ACT Family Financial Statement. The University rate of pay is based on the minimum wage law, with consideration given to types of skills required on the job.

Students desiring part-time employment, other than work-study, must obtain a work permit from the Office of Financial Aid before they can accept employment in any area of the University.

The University also endeavors to assist students in securing off-campus employment. Off-campus hours and rates are determined by the individual employer.

Grants. Students completing the ACT Family Financial Statement (FFS) will automatically be considered for all "need based" grant programs awarded by the Office of Financial Aid. In addition, students completing the FFS may indicate on this form their desire to be considered for the Basic Educational Opportunity Grant (BEOG).

Withdrawal Repayment. Students who withdraw from the University of Northern Colorado during an academic term for which they have received financial aid, may be required to repay to the Financial Aid Account, amounts equivalent to the proportion of the remainder of the academic term left to be completed upon withdrawal from the University.

Additional information available upon request from the Financial Aid Office.

Veterans

Students with military service should contact the UNC Veterans Office to establish eligibility for state and federal veterans' benefits. Two photocopies of separation papers (DD-214) are usually required. Servicemen's dependents receiving VA benefits should also see the Veterans Office.

Important: VA regulations require students who withdraw from a course to report their last date of attendance immediately to the Veterans Office. The VA will not consider a student has satisfactory academic progress under the GI Bill when the student fails or withdraws from all courses when enrolled in two or more courses.

Awards and Scholarships

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.

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 has been enrolled in the University for at least one year.

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.

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, University of Northern Colorado.

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. The scholarship is awarded to a Colorado resident whose father is deceased.

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.

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 University 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.

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.

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 to the Associate Dean, Arts and Sciences, the University of Northern Colorado.

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.

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. This 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.

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 the University as a full-time undergraduate student. Normally, a scholarship is not awarded before the sophomore year.

Mary A. Morrison Scholarship Fund. This fund was established by family and friends of Mary A. Morrison, a retired Greeley teacher. The scholarship is awarded to an incoming Spanish-surnamed freshman student pursuing a degree in education. The recipient will be selected on the basis of need and high probability of success in completing the requirements for a teaching certificate. The scholarship is to cover the cost of fees for the freshman year.

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 freshman 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 \$2,000 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.

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.

Tony D. Vaughan Memorial Scholarship. This fund was established to assist special education majors during their junior or senior year. Selection of the recipient is made by the Scholarship Committee, with recommendations from the School of Special Education and Rehabilitation.

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 expenses at the University of Northern Colorado.

Air Force ROTC University Scholarship Program. The Air Force ROTC offers a number of scholarships to selected students. These scholarships are available to well-qualified students. Benefits include full tuition, laboratory expenses, incidental fees, and an allowance for books. In addition, the scholarship provides \$100 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.

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.

All inquiries should be directed to the Chairman, Department of Aerospace Studies.

Alpha Delta Kappa Scholarship. This fund was established by the Colorado Alpha Delta Kappa Sorority and the local Alpha

Delta Kappa Chapters to assist deserving Junior, Senior, or Graduate women who are residents of the State of Colorado, maintaining at least a 3.0 grade average, and preparing for a career in teaching.

Student Life

Student Life combines the areas of residence halls, University Center facilities, educational programming, activities programming, food services, and conference planning.

Housing

The University of Northern Colorado provides a variety of housing accommodations for students. On-campus accommodations are provided for approximately 3,150 single students in 14 residence halls. There are 12 specially designed rooms in Harrison Hall for disabled students. Ninety-eight University-owned furnished apartments, including 3 modified units for the disabled, are provided for married students on an annual basis. Summer Quarter use of residence hall facilities provides an additional 280 units for families.

Residence Requirements in Brief. Any undergraduate student enrolled, including the summer, is subject to the University housing regulations.

All freshman students must live in University residence halls for their first academic year with the following exceptions:

1. Students commuting from parents' or guardians' homes.
2. Married students.

If special needs conflict with this University requirement, write to the Director of Housing, Gordon Hall, Greeley, Colorado 80639. This letter should include the student's name, Social Security number, and detailed information regarding the reasons for the request.

The freshman residency requirement is consistent with the philosophy that a student's living environment is an important part of personal and academic development. For students on campus, the residence hall program attempts to provide the support and guidance necessary to successful adjustment to the University community. Together with the combined efforts of residence hall staff, faculty, other University staff, and the individual student, the University attempts to provide a climate conducive to the accomplishments of a student's educational objectives.

Residence Halls. The housing staff at the University of Northern Colorado strives to provide comfortable, wholesome, pleasant living conditions, healthy and appealing food, and an opportunity to enhance the educational experience of students who live in the residence halls. Group living in a University setting is a unique learning experience. Interaction with people from other geographical areas, ethnic groups and religions provides an opportunity to broaden perspectives. The opportunity, in a secure setting, to compare life styles and values with

other individuals and groups is a vital element in the maturation process of every student.

Most rooms are designed for two students. They are fully furnished, including draperies and wastebaskets. Students may add to their room furnishings with small belongings from home. All students provide their own towels, washcloths, pillows, blankets, mattress pads, bed linens, irons, ashtrays, and clothes hangers. All residence halls have recreation rooms, lounges, study areas, cleaning equipment, personal laundry facilities and ironing boards.

Residence Hall Regulations. Regulations applicable to residence hall living attempt to provide ample opportunity for personal growth and self-discipline. Group living requires certain guidelines that apply to all and residents are involved to a large measure in determining the local regulations by which they will live.

Students are not required to maintain hours. After closing hours (11:00 p.m.), residence halls are accessible through night clerks.

Staff. An intensively trained staff is provided in each residence hall to assist students. The Hall Director is an experienced housing professional chosen through a detailed selection process, is trained in the areas of administration, counseling, facilitation, advising, and referral. The Resident Assistant is an upperclass student carefully chosen for leadership ability, a successful academic record, and a desire to assist fellow students.

Residence Hall Student Government. The resident hall student government structure functions on two levels to assess and meet the needs of the residents on campus. First, every residence hall council is comprised of representatives from each floor living unit. It deals not only with the issues, policies and projects, but also with social, educational, and cultural programming according to the needs and interests of students in the halls. Second, each residence hall sends representatives to the master level student government, the Inter-Residence Hall Council (IRHC) and its two sub-committees, the Developmental Programming Council (DPC) and the Hall Improvements Committee (HIC). These three groups coordinate the efforts of the eight residence hall governments.

Food Service. Meals prepared in dining halls are served cafeteria style. University food staff plan menus that give proper emphasis to nutrition, quality and quantity. At least two choices of main courses, including a vegetarian entree, a salad bar and desserts are offered at noon and evening meals. Special diets or menus are not provided. Three meals a day are served Monday through Saturday. Breakfast and dinner are served on Sundays and official University holidays. No refunds are made for meals missed. Additional servings of most items are available at all meals.

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 beginning of Fall Quarter. Separate contracts for Summer Quarter housing are available. Room reservations for the next school year are made at the end of winter term for students already on campus who wish to return to the residence halls. In all except Turner and Lawrenson Halls, room and meals are included. Apartment hall residents as well as students living off campus may contract individually for meals at adjacent dining facilities on either a full or partial board plan. Optional 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 marry* after entering the contractual agreement. The contract is binding throughout the full academic year. In exceptional cases, where a student's circumstances have radically changed after entering the contract, the student may petition the area Assistant Director of Housing 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 the contract.*

Students withdrawing from the University prior to the end of the contract period forfeit the entire deposit. Any student graduating prior to the end of the contract period will receive the entire \$100 advance payment/deposit in approximately 60 days after check-out, provided all monies owed to the University are paid.

Application for Housing. Applications are automatically mailed to all new single undergraduate students after they have been admitted to the University. An advance payment/deposit of \$100 must be paid with the contract 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 housing deposit refunds is as follows:

A \$50 refund will be made to academic year applicants who cancel their housing contract on or before August 30. Applicants who contract during the year starting with the Winter, Spring, or Summer Quarters are subject to the cancellation deadline dates below:

November 30 for Winter Quarter applicants.

February 28 for Spring Quarter applicants.
May 30 for Summer Quarter applicants.

Notice received after these dates in each quarter or no notice to forego attendance at the University results in a full forfeiture of the deposit. A housing deposit for a student who is assigned to University housing will be held during all consecutive reservation periods and the full period of residence. The advance payment/deposit will be credited to Spring Quarter charges provided terms of the contract have been fulfilled.

Rates. Rates are established on a room and board basis and vary slightly depending upon hall location and size of room. Changes are authorized by the UNC Board of Trustees.

The University reserves the right to change rates prior to the beginning of any academic quarter.

Married Student Housing. Student family housing is available for the full-time student with a spouse and no more than two children. There are 98 two-bedroom furnished apartments, some modified to accommodate disabled students.

Off-Campus Housing. The Off-Campus Renters Information Service provides bulletin board assistance in obtaining available facilities in the Greeley area. Current listings of private rooms, apartments, houses, mobile homes, and rentals to share are posted daily at the office in the University Center. Students are also encouraged to contact local newspapers for assistance. The University does not inspect nor approve off-campus housing. It is expected that landlords who list with the Renters Information Service will abide by the Colorado Fair Housing Act of 1959.

The Off-Campus Renters Information Service also provides assistance and referral in landlord/tenant disputes. General renter information and publications are also available. Students will benefit most by using these services before they rent and before signing any lease or contract. Prospective UNC students are welcome to write or call (303) 351-2172, for information. A visit to the Greeley area prior to enrollment is strongly encouraged to complete a housing search before the beginning of the school term.

Student Activities

All campus organizations must apply each year through the student government to the Student Activities Office for charter approval. When organizations are recognized through the chartering process, facilities of the campus designated for such purposes may be used by the groups.

Student Activities Office. The Student Activities Office acts as the primary coordinator of activities outside the classroom. The Office and Student Activities Area are administered by the Director of the University Center and Campus Activities.

The Student Activities Area includes offices of student government, University Program Council, Black Student Union, United Mexican-American Students, Book Market, Mirror, legal counsel, CoPIRG, student publications, and the Student Resources Center. Services include mailboxes and storage space for student organizations; free manual typewriter and ditto machine use; and display case space scheduling. A Student Activities Area Sign Shop provides poster and publicity service to University individuals/groups for modest fees.

University Program Council. The University Program Council is the primary student programming group on campus. Operating through a committee system, students present a schedule of activities of an educational, social, recreational, or entertainment nature. Program committee areas include films, leisure activities, lectures, concerts, residence hall programs, art exhibits, cultural arts, minority programs,

and publicity. The organization also works with the various student clubs/organizations in presenting special interest activities. Membership is open to all students through an application process.

Student Government. Student government and activities are administered by the members of the Student Representative Council in cooperation with the Student Activities Office.

Membership in the UNC student body entitles students to attend most cultural, social, dramatic and athletic events at a reduced charge. Facilities of the University Center are available to all members.

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, cross country, field and track, wrestling, swimming, gymnastics, tennis and golf. Competition is afforded with women from other colleges in basketball, volleyball, track and field, field hockey, softball, tennis, golf, gymnastics, and swimming. Gunter Hall, Butler-Hancock Hall, Jackson Field, and the Holmes Campus athletic fields provide the facilities for the major indoor and outdoor sports.

The University is a member of the National Collegiate Athletic Association, and is bound by the rules of that body in governing eligibility of athletes and the conduct of students at or in connection with athletic events.

Intramural programs. 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 participate in these programs. Indoor and outdoor facilities are available for evening and weekend recreational use by students.

Forensics. Students have an opportunity to participate in a comprehensive program for intercollegiate debate and individual events. The University is a member of the Colorado-Wyoming Forensic Association and has the Colorado Beta Chapter of Pi Kappa Delta, national forensic society. Under faculty supervision, students participate in regional and national programs and contests.

Publications. Interested students have an opportunity for expression in three student publications: the *Mirror* (a tri-weekly newspaper) the *Colorado North Review* (a general interest and literary magazine) and the *Cache La Poudre* (the annual campus yearbook).

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 Psi Omega, national drama fraternity;
Gamma Theta Upsilon, national geography honorary;
Lambda Sigma Tau, national science fraternity;
³Phi Sigma Iota, national foreign language fraternity;
³Phi Alpha Theta, national history fraternity;
Phi Mu Alpha Sinfonia, national music fraternity;
Pi Kappa Delta, national forensic fraternity;
³Pi Omega Pi, national business education fraternity;
Kappa Delta Pi, national education fraternity;
Delta Pi Epsilon, national business education fraternity (Alpha chapter);
Pi Mu Epsilon, national mathematics fraternity.
The following honorary and service fraternities are for men:
Arnold Air Society, honorary AFROTC society;
Epsilon Pi Tau, national honorary fraternity in industrial arts;
Kappa Kappa Psi, national band fraternity;
Phi Delta Kappa, national professional education fraternity.

Women's honorary and service organizations include:

Angel Flight, national service auxiliary of Arnold Air Society;
Chandelle, junior honorary;
Delta Omicron, national music fraternity;
Mortar Board, senior honor society;
Pi Lambda Theta, national education fraternity;
Spur, national service fraternity;
Tau Beta Sigma, national band fraternity;
Theta Pi Theta, home economics honorary.

Social Organizations. At the University of Northern Colorado there are eleven social sororities and nine social fraternities.

Sororities are: Alpha Delta Pi, Alpha Gamma Delta, Alpha Xi Delta, Alpha Phi, Alpha Sigma Alpha, Delta Zeta, Sigma Kappa, Sigma Gamma Rho, Sigma Sigma Sigma, Alpha Kappa Alpha, Delta Sigma Theta, and Zeta Phi Beta.

Fraternities are: Alpha Zeta Omega, Lambda Chi Alpha, Sigma Alpha Epsilon, Sigma Chi, Sigma Phi Epsilon, Tau Kappa Epsilon, Phi Beta Sigma, Omega Psi Phi, and Delta Chi.

All students are eligible to pledge when they have matriculated. To be eligible for initiation, students must maintain at least a 2.0 cumulative grade point average.

Panhellenic Council, composed of two representatives from each sorority, is the coordinating agent for its respective groups, governs pledging and initiation and maintains a high plane of inter-sorority relations on the campus. The council sponsors several awards to the member organizations including awards for high scholastic achievement. All of the fraternities on campus have representation in the Interfraternity Council which acts as an

organizational body for fraternity activities. The Greek Council, composed of the presidents of each fraternity and sorority, is the coordinating agent among the Greeks. It fosters cooperation and sponsors total Greek activity.

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, including an ecumenical campus ministry at the Agape House at 2204 11th Avenue.

University Center

The University Center houses staff members offering a variety of services and activities for the entire University community. Besides lounges and study areas throughout the building, the University Center offers a Recreation Area, Food Services, Bookstore, Copy Center, Music Lounge, Patio Art Gallery, Information Desk and meeting room facilities. The University Center also houses the Activities Area, Visitors Center, Student Resource Center, Faculty Senate Office and a variety of student government offices and services.

Visitor's Center

The Visitor's Center is located in the University Center and is an Office of Admissions extension. The center provides a complete array of University publications and program information, drop-in and scheduled individual and group tour services, and referral services to other University offices, faculty, and staff. The Center also coordinates all major programs for prospective and incoming students.

Student Resource Center

Located in Room 206 of the University Center, the Student Services Center is a multi-purpose agency to provide many of the functions of Student Services divisions in one central facility. It is an information and problem-solving center, serving faculty as well as students. It is an academic-advising center for all students who have not declared a major. Students placed on academic probation are counseled in the Student Resource Center. Tutorial services and study skills information are also available. The Center distributes campus materials, and processes forms such as change of major and change of address.

Special Programs and Services

The Dean of Special Programs and Services is responsible for the coordination of

³Members of the Association of College Honor Societies

special programs which deal with select populations of students. These programs are identified as the Center for Human Enrichment, Non-Traditional Students, International Student Services, and Resources for the Disabled. Approximately 2,000 students receive support from these special programs.

Center for Human Enrichment

The Center for Human Enrichment (CHE) is a supportive services program for undergraduate students. An outgrowth of the University's concern for the admission, retention, and graduation of all capable students, the program provides intensive and individualized services in the following areas: academic advising; personal counseling; career guidance; tutorial services; academic development classes (reading, writing, math, and study skills); University orientation; and special interest classes.

Students are eligible for CHE if they meet several of the following criteria:

1. Have academic need, as verified through high school transcripts, (GPA and class rank) and ACT scores.
2. Have financial need, as determined by HEW Office of Education income guidelines.
3. Have potential for success in post-secondary education.
4. Come from an environment characterized by severe rural isolation.

Program participants are referred by the Office of Admissions, although individual student requests for services are welcomed. The Center is located in Candelaria Hall, Room 225.

International Student Services

The International Student Services Office under the direction of the International Student Advisor assists international students from their first inquiries, until their arrival on campus, throughout their entire academic programs, and return to their countries. This responsibility includes counseling and advising for the international student's total needs whether personal or academic. A variety of services includes: issuance of appropriate immigration forms; money requests to consulates and home country sponsors; letters of support for visits to students by family members and friends; academic advising and personal counseling; assistance in applying for drivers' licenses; communication with consulates, embassies, and other sponsors; work with the Greeley Friends of International Students in home hospitality programs; and cooperation in a Cross-Cultural Classroom program. The International Student Advisor, representing UNC, participates in regional and national activities of the National Association for Foreign Student Affairs.

Non-Traditional Students Program

The program for non-traditional students in the Center for Human Enrichment serves undergraduate students 25 and over who, in many ways, may differ from traditional students.

The purpose of the program is to identify

the unique needs of the older than average undergraduate and to provide supportive services. Support services, both formal and informal, include: individual and group counseling, career guidance, tutorial service, academic advising, study skills development, group workshops and activities, information and referral, scheduling assistance, and a monthly newsletter.

Resources for the Disabled

The Office of Resources for the Disabled provides assistance to the physically disabled in their pursuit of higher education. The various resources available through this office include counseling, academic aids, interpreters, reader service, Learning Laboratory, transportation, assistance with registration, orientation and mobility, and housing information.

Counseling is provided on a one-to-one basis and in small groups for pre-admission assistance, academic concerns, and personal needs. The Learning Laboratory has equipment available such as a Visual-Tek to magnify printed matter, tape recorders, Braille typewriter, electric typewriters, loaner wheelchairs, a battery charger, and study areas. Vans equipped with wheelchair lifts are available to provide transportation to and from the University and between classes. There is a charge for this service. The School of Health, Physical Education and Recreation coordinates adapted physical education and recreation programs that include such sports as swimming, wheelchair basketball, archery, bowling, roller skating, track events, tennis, and skiing. All academic programs are accessible to the disabled. In addition, specially equipped science labs are available in biology, physics, and chemistry.

Department of Public Safety

The Department of Public Safety is the University law enforcement agency, staffed by full-time, certified professional Peace Officers. The Department handles all traffic, with the exception of parking, on campus, and investigates criminal incidents that occur on campus. The Department also conducts crime prevention information programs. It is responsible for providing a safe and secure environment for the University community and provides a wide range of services to the student, faculty, and staff. Among these services are lost and found, providing engraving tools to identify personal items, and security surveys of off-campus housing. All public safety officers are certified emergency medical technicians and the department should be called when a medical emergency occurs.

The Department is operational 24 hours a day and will respond to all calls for service or assistance. It also serves as the University Information Center. Emergencies and all criminal incidents should be promptly reported to the Department by calling 351-2245.

Health, Counseling and Placement Services

The Vice President for Health, Counseling and Placement Service coordinates this division.

Counseling and Career Center

Counseling services are available free of charge for all students of the University. Well qualified counseling psychologists provide assistance to students in dealing with a wide variety of problems.

Concerns commonly discussed by students who come to the Counseling Center include: (1) personal problems, (2) academic planning, (3) career planning, (4) marriage counseling, (5) personality and vocational test data, and (6) study skills problems.

The Center's staff also sponsors encounter and personal growth groups, life planning seminars, test and speech anxiety reduction programs, career planning workshops, assertive training, relaxation groups, and others as requested.

The Counseling Center is the institutional testing center for CLEP, ACT, SAT, GRE, PEP, GED, Miller Analogies, and the UNC department challenge program. A Career Information Center and Women's Resource Center are located in the Counseling and Career Center as well. *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 a particular time. The Counseling Center is located in Gray 103. Phone: 351-2496.

Health Services

Student Health Services. A program of health services is available for meeting health needs and promoting optimum health to facilitate the students' progress toward educational and career goals. This is accomplished by providing medical and mental health services, preventive medicine, health education and counseling, and access to and coordination with local medical facilities within the limits of available resources. All full-time students currently enrolled in the University (10 hours or more) have paid full health services fees and are entitled to receive all of the health services during the term they are enrolled. Part-time students have paid a partial health fee and are eligible to receive a portion of the available health services. A brief description of the program follows: The Student Health Center (on-campus outpatient clinic) provides an initial source of help for any student who has a known or suspected health problem. Examples of benefits provided are services by physicians, mental health professionals, registered nurses, first aid, immunizations, gynecological and family planning services, and administration of allergy medications. A supplemental off-campus program of medical services is available through a contract with the Weld County Medical Society which includes office calls and diagnostic laboratory services.

Student Health Insurance Plan. A health insurance plan is provided for all students registered for 10 hours or more. Enrollment is automatic fall, winter and spring only and the premium is included in student fees. This basic plan provides primary coverage for accidents and sicknesses including benefits for hospital room and board, outpatient laboratory and x-ray, surgical procedures, doctor's visits in-hospital, etc. within the terms of the policy. Also included is major medical policy with coverage for large medical bills. Enrolled students may also purchase this insurance for eligible dependents upon request during the week of registration. Students may waive the insurance if proof of current enrollment in a comparable accident/sickness insurance plan can be shown. Proof consists of a letter from the insurance company, insurance agent, or employer. This letter must show the name of the insurance company and address; policy number, if available; student's name; and current coverage. A letter from the policyholder (person paying the premium) showing the above information will also be accepted at the time a waiver is requested. To complete the waiver process, the student must present the above information to Student Health Center personnel during registration or in the Student Health Center the first five days of the quarter and sign the Student Health Insurance Waiver and Enrollment form. *This must be completed on or before the last day to pay tuition fees. Petitions for late waivers may be considered on an individual basis until five days prior to the second billing. After this date, no additional waivers will be made.*

A complete description of the services available at the Student Health Center and a summary of the insurance plan including the waiver process are listed in the Student Health Services and Insurance brochure. Copies are made available at registration. Additionally, they can be obtained by contacting the Student Health Center. Phone, 351-2412.

Placement

The Placement Center is located in Tobey-Kendel, Room 305, and provides service to the student, the employer, and the University. A file of credentials can be established for graduating seniors, alumni, and for students who have a college degree and complete at least one hour of course work at our University. Enrollment is not required, but highly recommended.

Employment is not guaranteed. University students and Placement Center enrollees are offered counseling service and other assistance which will aid them in reaching career decisions based on a full appreciation of individual potential. Included in our facilities are seven private rooms for personal interviewing and a library section which contains files of materials relating to vacancies and prospective employers.

Campus Ombudsman

Within any institution, and particularly large institutions, people have problems, people become frustrated, people have complaints, and some people feel they have been aggrieved. Although there are appropriate offices, channels, and procedures designed to deal with almost every conceivable issue, people sometimes feel that these offices have not helped to solve their problems, addressed their complaints, or rectified situations when they feel they have been aggrieved. Since this University recognizes that these things sometimes occur, an Ombudsman Office has been established.

An Ombudsman is a person designated to remain outside the normal functions of the institution. Thus, an ombudsman on a university campus does not teach classes nor assign grades, does not make policy nor enforce rules and regulations, etc. Therefore, in almost all situations the ombudsman is an independent and an impartial third party.

The functions of the Ombudsman, depending on the circumstances, are clarification of problem issues, research and investigation, mediation, facilitation of policy development and change, etc. However, the Ombudsman assumes no actual authority to alter or reverse decisions, but the Ombudsman's independence and impartiality, coupled with the privilege of free inquiry, provide a viable, informal, and personal approach to problem solving.

If unsure as to which office is designed to deal with a problem or if a student has exhausted the appropriate channels and still feels needs have not been adequately met, contact the Campus Ombudsman by calling 351-2889 or by writing to the Office of the Ombudsman, University of Northern Colorado, Greeley, Colorado 80639.

Parking Services

The Department of Parking Services is responsible for the enforcement of the campus parking regulations. Decal sales, fine payments, and hearings are handled through this office.

Parking on the University of Northern Colorado campus requires a properly displayed decal. Decals are valid for a specific lot and may be purchased on a first-come, first-served basis at the Parking Services office. Limited meter parking is available at the University Center.

Motorpool permits may be purchased by two or more drivers for carpooling. Decals are also available for permanently handicapped and wheelchair drivers. Health permits are available for temporary disabilities.

Fines are imposed for violation of the parking regulations with the amount of the fine based on the seriousness of the violation. Fines may be paid or hearing applied for at the Parking Services office. Uncleared notices are billed to student accounts with an added penalty fee. For more information,

contact University Parking Services, 1027 20th Street, 351-2131.

Performing Arts

The Little Theatre of the Rockies, the Opera Theatre and the Dance Program present a wide variety of programs in theater, musical theater, and dance during the academic year. All students may audition and/or participate in all production activities by attending tryouts, held at the beginning of each quarter. For fall quarter auditions in theater see the general tryout information under the degree program in the Department of Theatre Arts. For further information call the Performing Arts box office: 351-2200.

Qualified students are eligible to participate in the University choirs, bands, orchestra, small ensembles and the Greeley Philharmonic Orchestra. For further information call the School of Music: 351-2678.

Speech/Language Pathology and Audiology Clinics

Good speech/language and hearing are considered necessary for the preparation of future professionals in all fields. The Speech/Language Pathology and Audiology Clinics provide assessment and treatment services for the students and faculty of the University.

The Speech/Language Pathology and Audiology Clinics are fully accredited for the provision of professional services by the American Boards of Examiners in Speech Pathology and Audiology of the American Speech and Hearing Association. The Speech/Language Pathology Clinic located in Bishop-Lehr Hall, Room 147, provides complete assessment and treatment services for the wide range of speech/language problems found within the general categories of articulation, voice, stuttering and language. Services available do not include teaching English as a second language. For further information, please call 351-2012.

The Audiology Clinic, located in McKee Hall, Room 58, provides a full range of services for the assessment of hearing disorders and (re)habilitative treatment for those who possess hearing loss. Services include standard hearing assessment, all special hearing tests for site of lesion, hearing aid evaluations, hearing aid analysis, speech reading/auditory training, counseling regarding hearing impairment, noise measurement and evaluation, ear protection from noise, and other such services. For further information, please call 351-2734.

Libraries

Michener Library, the main University library, is located on the Darrell Holmes Campus and provides the materials and services necessary for student and faculty research and study.

The library materials collection, comprised of a total of over 1,200,000 units, or approximately 500,000 volume equivalents, is housed largely in the Michener Library.

The Library holdings contain representative collections of literature in the fields of

knowledge taught at the University; also, bound periodicals, government documents, pamphlets and reference materials in the variety formats, such as print, microforms, filmstrips, slides, maps, phonograph records and tapes, braille writing, videotapes and cassettes.

The stacks are open to all students and other patrons. Individual and group study facilities are located in or near all stack areas.

UNC students, with proper identification, may borrow books from any state-supported college or university in Colorado, and the University of Denver. Students borrowing from these colleges are bound by the regulations of the lending institutions.

Computerized retrieval service is available at the Reference Service Desk. Interlibrary Loan Services, also part of the Reference Department, borrows library materials for UNC students that are not readily available in the UNC library.

Tours and special instruction in library use are available on request.

The Multimedia Services, located on the lower level of the Michener Library include: Microforms Reading and Storage; Educational Resources Center, which contains educational materials such as textbooks, curriculum guides, and testing materials for the student preparing to teach; special Reserve Book Facility and Reading Area; and Services to the Handicapped.

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

The Laboratory School Library (K-6 and 7-12) is located in Bishop-Lehr Hall. The best of children's and young adult literature has been gathered in approximately 16,100 volumes, together with other learning media, for the Laboratory School student and faculty use. College students preparing to teach also find this facility an important resource.

Media Services

Assistance to faculty in the location, acquisition, production, duplication, and utilization of educational media materials and equipment is available from the Educational Materials Services (EMS) office, located in the Michener Library, L171 South.

In addition to film rental services, EMS maintains a permanent library of films, videotapes, and other media materials, and is the central coordinating agency for all audio-visual equipment on the UNC campus.

A professional staff and facilities are available for the original production and/or duplication of audio-visual teaching materials including television programs, tape/slide programs, audio tape materials, graphic art materials, and overhead transparencies.

An engineering staff is available for maintenance of audio-visual equipment and consultation on design and installation of audio-visual equipment and audio-visual systems.

In cooperation with the Department of Educational Media, EMS offers consultant



services for all faculty on the design, development, and utilization of educational technology systems and devices.

EMS must approve all departmental requests for audio-visual equipment and materials prior to purchase.

Bureau of Business and Public Research

The Bureau's primary mission is to provide research and consultative services to business and government organizations. It has been officially designated by the U.S. Department of Commerce as a Census Summary Tape Processing Center. The Bureau has assumed responsibility for establishing and coordinating the development of a regional planning data depository for the northern Colorado area.

Insurance Institute

This Institute formulates insurance courses and programs in cooperation with the School of Business and insurance industry and coordinates these courses and programs. Special emphasis is placed on undergraduate work in insurance, general seminars for

professional improvement, and on in-service training for insurance industry personnel in academic work leading to advanced professional designations.

Fees and Expenses

All rates quoted below are subject to a provision that the University reserves the right to change tuition, fees and other charges without notice. As with all state-supported institutions, the tuition rates are affected by legislative action which may not be finalized until late spring of any given year.

Revised information concerning tuition and fees may be available prior to registration. Contact the Student Resource Center, University Center, University of Northern Colorado, Greeley, Colorado 80639. (303) 351-2796.

ESTIMATED TUITION (Effective June 1, 1981)	1981-82 Colorado Resident	
	Under-graduate	Graduate
9 credit hours or less, tuition per credit hour	\$ 23	\$ 24
10-18 credit hours (full-time), total tuition	225	236
Tuition per credit hour above 18	15	18
	Non-Resident of Colorado	
9 credit hours or less, tuition per credit hour	\$ 99	\$ 104
10-18 credit hours (full-time), total tuition	988	1038
Tuition per credit hour for each credit hour above 18	66	69
ESTIMATED FEES (a)	All Students	
9 credit hours or less, fees per credit hour	\$ 7	
10 or more credit hours:		
Student Service Fees	68	
Health Insurance (b)	46	
Total	\$114	
COPIRG fee	\$ 2	

(a) University, Student, and Health Services Fees are committed for the support of student activities programs, the Student Health Center, and the Student Representative Council. No part of these fees is remitted to those students who may not desire to make use of any or all of the privileges provided. Students will receive a Certificate of Registration upon completion of step 3 of the registration process. This Certificate of Registration will be required for University events. Student Services Fees for full-time Summer students may be set at a rate lower than the academic year.

(b) Health insurance coverage is required for all students who register for ten academic hours or more each quarter, *except summer*. Details of this coverage may be obtained from the Student Health Center. Students who are currently enrolled in a comparable health and accident program may request a waiver of the UNC student health insurance plan. For information regarding this waiver procedure, see the student health program description in this catalog.

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 Law Title 23, Article 7, Colorado Revised Statutes 1973, as amended. Administrative procedures fix status *before or at the time of registration*. If, following a registration, the status conferred on a student is questioned for revision, appeal may be made during the first five days of classes 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.

Tuition for courses offered through continuing education is assessed separately from on-campus tuition and fees, and on a different schedule as mandated by the Colorado Commission on Higher Education.

Incidental Extra Fees Applicable Under Specified Conditions

Certified statement of issuance of teaching certificate and/or diploma \$1

Deferral fee (based on amount deferred)

Amount Deferred		Amount	
Deferred	Fee	Deferred	Fee
\$ 25 - \$ 99	\$2.50	\$300 - \$499	\$ 7.50
100 - 299	5.00	500 & over	10.00

Late payment fee (based on past due balance)

Amount Owed		Amount	
Owed	Fee	Owed	Fee
\$ 25 - \$ 99	\$ 5.00	\$500 - \$599	\$17.50
100 - 199	7.50	600 - 699	20.00
200 - 299	10.00	700 - 799	22.50
300 - 399	12.50	800 - 899	25.00
400 - 499	15.00	900 & over	27.50

Meal ticket replacement	\$5
Official transcript of University records, per copy	\$2
Optional student health insurance* coverage summer quarter only (if a student was not enrolled full-time — for more than nine credit hours — Spring Quarter, 1981 he or she does not have health insurance coverage for the Summer Quarter of 1981.)	\$48.20
Special program fees such as bowling, skiing, field trips, golf	At Cost
Special tests by the Counseling Center	At Cost
Library identification card replacement	\$1
Transcript evaluation fee for application for the baccalaureate and master's degrees and graduate student certification program	\$10

Fees for Music Instruction

Individual music lessons, per quarter hour for non-music majors	\$7.50
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Placement Center Charges

(The placement year begins September 1 and ends August 31)

Initial enrollment	\$15
Re-enrollment	\$15
First and subsequent copies of credentials mailed when applicant has not re-enrolled, per copy	\$2

Residence Hall Charges

Rates may be changed subject to the approval of the Board of Trustees in July 1981 to become effective Fall Quarter, 1981. Students planning to live in a residence hall for Fall Quarter will be notified during August 1981 of any rate adjustment.

	1980-81 ⁵ QUARTERLY RATES PER STUDENT
RESIDENCE HALL WITH ROOM AND BOARD (Occupancy: 2 persons per room)	
Harrison	\$635
McCowen, Wilson, Wiebking	\$625
Belford, Tobey-Kendel, Sabin, Snyder	\$609
Cross, Hadden, Hays, Troxel	\$603
RESIDENCE HALLS, APARTMENT STYLE, WITHOUT BOARD	
Turner Hall	\$304
Lawrenson Hall	
2-Person efficiency apartment	\$327
4-person apartment	\$344

Board service only is available at the residence halls on a quarterly contract basis for students living in Turner Hall, Lawrenson Hall or off campus.

FAMILY FACILITIES

	1980-81 ⁵ MONTHLY RATES PER FAMILY
Student Family Apartments, East Campus leased on 12-month contract (includes furnishings & utilities)	\$182

Additional family facilities including furnishings and utilities, are available in Lawrenson Hall Summer Quarter only and are limited to the student and three (3) dependents per family.

Policy on Reassessment, Refunds and Withdrawals

Adjustments in tuition or fees are permitted after registration only under specified conditions. A change in a course of study resulting in a change of registered hours during the period ending with the last day for adding classes will result in a reassessment of tuition and fees. Tuition and fees will not be adjusted after the last day for adding classes.

To be eligible for a refund of any kind upon withdrawal from school the student must present a formal, approved Withdrawal Clearance form at the Accounts Receivable Office. Refunds are not prorated; rather, they are made in terms of the policy statements below and the residence halls lease.

Refunds allowed against paid tuition and student services fees upon withdrawal are

provided as follows:

On programs of nine credit hours or less, the student will be assessed a \$15 withdrawal fee if withdrawal occurs during the first week of the term, \$30 if withdrawal occurs during the second week, \$45 if withdrawal occurs during the third week, and \$60 if withdrawal occurs during the fourth week. If the total tuition and fees are less than the withdrawal fee, the lesser amount will be charged. If a student withdraws after the fourth week of the term, the student will be required to pay the full amount of tuition and student services fees.

On programs of ten or more credit hours, the student will be assessed a \$25 withdrawal fee if withdrawal occurs during the first week of the term, \$50 if withdrawal occurs during the second week, \$75 if withdrawal occurs during the third week, and \$100 if withdrawal occurs during the fourth week. If a student withdraws after the fourth week of the term, the student will be required to pay the full amount of tuition and student services fees.

Refunds allowed against assessed quarterly board and room charges, apartment rentals, and the housing deposit are permitted under the terms of the housing lease. The Housing Office, when consulted at withdrawal, will provide information on the computations applied.

Incidental fees and health insurance are not refunded for any cause at anytime.

If individual refund circumstances warrant review, contact the Director of Accounting Services.

Payment of Student Accounts

Any student who enrolls in the University is responsible for the payment of tuition, fees, housing, food service, or any other charges and should be *prepared to pay the full amount at the beginning of the term*.

Each student's financial obligation to the University must be paid prior to the end of the fifth day of classes before registration is considered final (Step 4 of the registration process). This payment is to be completed at the Cashier's Office in Frasier Hall through one of the following methods or combination thereof:

1. Payment in full.
2. Payment through financial aid.
3. Payment through the deferral plan of at least 50 percent of the total current bill plus a deferral fee on the unpaid balance as shown in this catalog.
4. Payment by a sponsor (not financial aid).

Two additional statements of account will be mailed to the student's local address if any additional charges are incurred. Every student is required to notify the Registrar's Office promptly of any change in his or her local address or permanent mailing address.

A student with a current quarter past due financial obligation to the University is

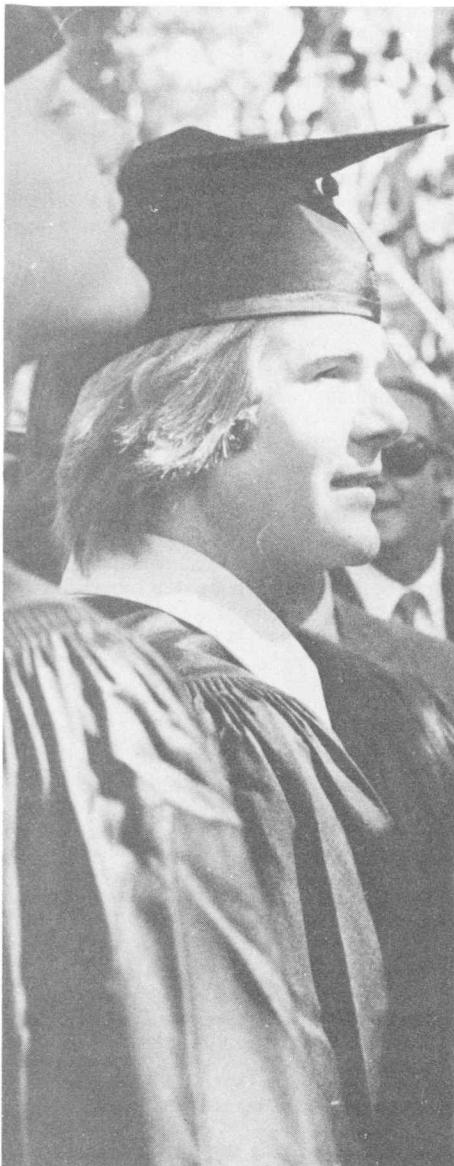
⁴This insurance can be obtained only by requesting coverage at registration or at the Student Health Center during the first week of the quarter.

⁵At the time of printing, the 1981-82 rates had not been set.

subject to a late payment fee as indicated in the list of fees shown in this catalog.

The University will not register a student, release a diploma, provide a transcript, nor provide placement services or other University services to any student or former student who has any financial obligation to the University (other than a loan not yet due).

Any student who presents to the University a check that is not accepted for payment by the bank, because of insufficient funds, nonexistence of an account, or other reason for which the student is responsible, is charged a fee of \$8. A notice of this fee and the amount of the "bad check" placed on the student's account is mailed to his or her local address or to his or her permanent mailing address. A "bad check" presented in payment of tuition, fees, and housing charges will be considered as a nonpayment and may result in withdrawal of a student's enrollment.



Undergraduate Major, Minor, and Non-Degree Programs – 1981 - 82

TE - Teacher Education*
LA - Liberal Arts

Aerospace minor-LA
Anthropology major-LA
Anthropology minor-LA
Biological Sciences major-LA and TE
Biological Sciences minor-LA and TE
Black Studies major-LA
Black Studies minor-LA
Botany major-LA
Business Administration minor-LA
Business Administration-LA
(*emphasis in Accounting*)
Business Administration major-LA
(*emphasis in Finance*)
Business Administration major-LA
(*emphasis in General*)
Business Administration major-LA
(*emphasis in Insurance*)
Business Administration major-LA
(*emphasis in Industrial Management
and Technology*)
Business Administration major-LA
(*emphasis in Management Administration*)
Business Administration major-LA
(*emphasis in Management Information
Science*)
Business Administration major-LA
(*emphasis in Small Business Management*)
Business Administration major-LA
(*emphasis in Marketing*)
Business Administration major-LA
(*emphasis in Office Administration*)
Business: Secretarial, two year non-degree
program
Business Teacher Education major-TE
(*emphasis in Distributive Education*)
Business Teacher Education major-TE
(*emphasis in Office Education*)
Chemistry major-LA and TE
Chemistry minor-LA and TE
Chemistry minor for Medical Technology-LA
Child and Family Studies:
Preschool Education
Child and Family Studies:
Child Life Activities
Child and Family Studies:
Family and Community Services
Communication major-TE
(*Emphasis in PTE*)
Communication major-LA
(*emphasis in Human Relationship*)
Communication major-LA
(*emphasis in Mass Media*)
Communication major-LA
(*emphasis in Law and Public Policy*)
Communication major-LA
(*emphasis in Organization*)
Communication minor-LA and TE
Communication minor for El. Ed.-TE
Dance Education minor-TE
Earth Sciences major-LA
(*General Earth Sciences program*)
Earth Sciences major-LA
(*Geology program*)

Earth Sciences major-LA
(*Meteorology program*)
Earth Sciences major-LA and TE
Earth Sciences minor-LA and TE
Economics major-LA
Economics minor-LA
Economics Education minor-TE
Educational Field Experiences-non-degree
program
Educational Media minor-TE
Elementary Education major-TE
Elementary Education, Bilingual-Bicultural
major-TE
Elementary Education, Early Childhood
major-TE
Elementary Science minor-TE
English major-LA and TE
English minor-LA and TE
Environmental Studies minor-LA
Fine Arts major-LA and TE
Fine Arts minor-LA
Florence Program-non-degree program
French major-LA and TE
French minor-LA and TE
Geography major-LA
Geography minor-LA
German major-LA and TE
German minor-LA and TE
Gerontology major-LA
Health Education major-TE
(*emphasis School Health*)
Health Education major-LA
(*emphasis Community Health*)
Health Education minor-TE
(*emphasis School Health*)
Health Education minor-LA
(*emphasis Community Health*)
Health Occupations-TE
History major-LA and TE
History minor-LA and TE
Home Economics, Dietetics major-LA
Home Economics Education major-TE
Home Economics, Family Life and Consumer
Education major-LA
Home Economics, Food and Nutrition
major-LA
Home Economics, Vocational Home
Economics major-TE
Home Economics minor-TE
Home Economics minor in Business-LA
Home Economics minor in Science-LA
Humanities minor-LA
Individualized Education Program-LA
Industrial Arts major-LA and TE
Industrial Arts minor-LA and TE
Interdisciplinary Studies major-LA and TE
Journalism major-LA
(*emphasis in News-editorial*)
Journalism major-TE
(*emphasis in Teacher Ed.*)
Journalism major-LA
(*emphasis in Management Relations*)
Journalism minor-TE
Junior High/Secondary School Science
Major-TE
Mathematics major-LA and TE
Mathematics minor-LA and TE
Medical Technology major-LA

*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.

Mexican American Studies major-LA
 Mexican American Studies minor-LA and TE
 Middle School Ed. major-TE
 Music major-LA
 (emphasis in Instrumental)
 Music major-LA
 (emphasis in Piano)
 Music major-LA
 (emphasis in Theory/Composition)
 Music major-LA
 (emphasis in Vocal)
 Music Education major-TE
 (emphasis in Instrumental)
 Music Education major-TE
 (emphasis in Vocal, Piano and General)
 Music/Theatre major-LA
 Music minor-LA
 Nursing major-LA
 Outdoor Education, Environmental Education
 minor-TE
 Philosophy major-LA
 Philosophy minor-LA
 Physical Education major-TE
 Physical Education minor-TE
 (emphasis in Coaching)
 Physical Education minor-TE
 (emphasis in Secondary)
 Physical Education minor-TE
 (emphasis in Elementary)
 Physical Education minor-TE
 Physical Science major-TE
 Physics major-LA and TE
 Physics minor-LA and TE
 Political Science major-LA
 Political Science minor-LA
 Pre-School minor-TE
 Psychology major-LA
 Psychology minor-LA
 Recreation major-LA
 Rehabilitation & Related Services major-LA
 Russian minor-LA and TE
 Russian-Soviet Studies minor-LA
 School of Educational Change & Development
 major-LA and TE
 Social Science major-LA and TE
 Sociology major-LA
 Sociology minor-LA
 Spanish major-LA and TE
 Spanish minor-LA and TE
 Special Education major-TE
 (emphasis in Acoustically Handicapped)
 Special Education major-LA and TE
 (emphasis in Audiology)
 Special Education major-TE
 (emphasis in Mental Retardation)
 Special Education major-LA
 (emphasis in Speech Pathology)
 Theatre Arts major-LA and TE
 Theatre Arts minor-LA and TE
 Vocational Teacher Education
 non-degree program
 Women's Studies minor-LA
 Zoology major-LA

Aerospace Studies

Administered by the Department of
 Aerospace Studies

Aerospace Studies Minor

Requirements for a minor are completion
 of 12 hours of the General Military Course

and 18 hours of the Professional Officer
 Course, for a total of 30 hours.

AFROTC Curriculum

Four-Year. The four-year program requires student participation in the General Military Course (GMC) and the Professional Officer Course (POC), each requiring 6 quarters. During the second year of the GMC, qualified cadets may apply for membership in the POC. Cadets selected by the professor of Aerospace Studies 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) college degree requirements.

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 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, (3) six quarters of undergraduate/graduate academic work, and (4) college degree requirements. Testing information is available at the AFROTC office.

Flight Instruction Program. Students selected for Pilot Training receive 25 hours of flight instruction during the senior year of the POC. Students possessing private flying licenses are excluded from this portion of training.

General Military Course

The General Military Course is a two-year program open to all full-time undergraduate students. Air Force uniforms and textbooks are furnished. Veterans, participants in Junior ROTC, participants in Civil Air Patrol and former members of service academy preparatory schools and service academies may request waiver of portions of the GMC. Also, the GMC may be compressed into one year to accommodate students entering out-of-phase.

Freshman enroll in the following courses:

AS 110	U.S. Military Forces in the Contemporary World I	2
AS 111	U.S. Military Forces in the Contemporary World II	2
AS 112	U.S. Military Forces in the Contemporary World III	2

Sophomores enroll in the following courses:

AS 210	The Development Growth of Air Power I	2
AS 211	The Development Growth of Air Power II	2
AS 212	The Development Growth of Air Power III	2

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. Additionally, POC cadets must successfully complete a course in mathematical reasoning prior to commissioning. The professor of Aerospace Studies selects the most highly qualified applicants for enrollment. Leadership Laboratory is arranged within the cadet corps on an individual basis.

Required Professional Officer Courses:

AS 310	Concepts of Air Force Leadership and Management I	3
AS 311	Concepts of Air Force Leadership and Management II	3
AS 312	Concepts of Air Force Leadership and Management III	3
AS 410	Security Forces in America I	3
AS 411	Security Forces in America II	3
AS 412	Security Forces in America III	3
AS 403	Flight Instruction ⁷	3

Staff. Air Force Personnel are assigned by Headquarters, United States Air Force. The professor of Aerospace Studies and instructional staff are officers with diversified experience.

AFROTC College Scholarship program. The program includes full tuition, fees, reimbursement for all required text material, and \$100 per month. Both male and female students, in either the two-year or four-year program, may qualify on a competitive basis. Those enrolled in the four-year program are also required to successfully complete a course in English composition and mathematical reasoning.

⁷Required of all pilot trainees; however, enrollment for the ground school class is open to any interested student with permission of instructor.

Anthropology Major

Administered by the Department of Anthropology

The Department of Anthropology offers a Liberal Arts major and minor in Anthropology. Students interested in being certified for teaching of Anthropology must take a major in Social Sciences rather than in Anthropology.

Students pursuing the B.A. degree with a major in Anthropology must complete:

Program Requirements

1. General Education requirements of 60 hours as specified in this catalog.
2. A minor or a concentration of at least 27 hours agreed upon in consultation with the advisor.
3. Required advising and required advisory signatures.
4. Electives sufficient to complete requirements for graduation.

Anthropology Major

	<i>Number of Required Courses</i>	
I. General	0	
Selected from ANT 100, 380, 401, 472, (ANT 100 is not required for majors, but will count as 5 of the hours of electives. However, majors are strongly urged to take ANT 110, 140, and 170 early in their academic programs.)		
II. Cultural	2	
Selected from ANT 110, 120, 122, 220, 221, 222, 223, 228, 280, 281, 290, 320, 321, 322, 323, 324, 325, 327, 328, 329, 331, 335, 337, 338, 339, 350, 381, 382, 383, 387, 420, 421, 431.		
III. Archaeology	2	
Selected from ANT 140, 143, 240, 241, 242, 243, 244, 245, 246, 340, 341, 342, 344, 345, 346, 347, 348, 349, 385, 386, 440, 449, 450.		
IV. Physical	2	
Selected from ANT 170, 370, 371, 372, 373, 470, 471.		
V. Theory	2	
Selected from ANT 284, 384, 480, 481.		
VI. Linguistics	1	
Selected from ANT 360, 361.		
VII. Electives	Courses to total 48 hours	

Anthropology Minor

	<i>Number of Required Courses</i>	
I. General	0	
Selected from ANT 100, 380, 472.		
II. Cultural	1	
Selected from ANT 110, 120, 122, 220, 221, 222, 223, 228, 280, 281, 290, 320, 321, 323, 324, 325, 327, 328, 329, 331, 335, 337, 338, 339, 350, 381, 382, 383, 387, 420, 421, 431.		
III. Archaeology	1	
Selected from ANT 140, 143, 240, 241, 242, 243, 244, 245, 246, 340, 341, 342, 344, 345, 346, 347, 348, 349, 385, 386, 440, 449, 450.		
IV. Physical	1	
Selected from ANT 170, 370, 371, 372, 373, 470, 471.		
V. Theory	1	
Selected from ANT 284, 384, 480, 481.		

VI. Linguistics	1	
Selected from ANT 360, 361.		
VII. Electives	Courses to total 27 hours	

Biological Sciences Major

Administered by the Department of Biological Sciences

The Biological Sciences major is designed to allow students flexibility in their exploration of the life sciences. Specific courses should be chosen to meet both the requirements of the major and any special career goals. Every major is expected to meet with a department advisor to outline the program of study.

1. It is recommended that the student take BIO 291, Seminar in Scientific Writing. This course may be used to meet the General Education intermediate composition requirement.

2. General Education requirements of 60 quarter hours as specified in this catalog.

3. A minor of 27 or more quarter hours is recommended. Chemistry, Physics, Mathematics, or Earth Sciences are suggested depending upon the student's career goals. Check with advisor.

4. Courses in each of the areas of Chemistry, Physics, and Mathematics not selected as a minor are recommended, depending upon the student's career goals.

5. Students interested in preparing for certain professional areas in the Biological Sciences should be prepared to include additional hours in their programs.

Program requirements:
Major/core

BIO 101	Principles of Biology	5
BIO 102	Principles of Botany	5
BIO 103	Principles of Zoology	5
		Hours credit: 15

Electives

A minimum of 10 hours in each of the prefix areas BIO, BOT, and ZOO must be taken with at least one course from each category I-V.

I. Evolutionary Biology (A study of the genes and genetic changes in an organism or population).

BIO 231	Genetics*	3
BIO 232	Genetics Laboratory	2
BIO 336	Evolution	3
BIO 234	Population Genetics	3

II. Interactional Biology (A study of the interactions between organisms and their environment).

BIO 241	Modifications of the Human Environment	4
BOT 340	Plant Ecology	5
ZOO 340	Animal Ecology	5
ZOO 302	Principles of Animal Behavior	4
BIO 346	Aquatic Ecology	5

III. Structural and Developmental Biology (A study of development of organisms).

BOT 323	Morphogenesis of Non-Vascular Plants	5
BOT 421	Plant Anatomy	5

ZOO 221	Human Anatomy	4
ZOO 427	Vertebrate Embryology	5
ZOO 428	Comparative Vertebrate Anatomy	5

IV. Organismal Biology (An in-depth study of a particular group of organisms with emphasis on recognition).

BIO 361	Microbiology	5
BOT 310	Plant Taxonomy	5
BOT 425	Mycology	5
ZOO 304	Ornithology	4
ZOO 316	Entomology	5
ZOO 320	Invertebrate Zoology	5
ZOO 412	General Parasitology	5
ZOO 441	Mammalogy	5

V. Physiological Biology (A study of the biochemical function of cells and organisms).

BIO 350	Cell Physiology	5
BOT 350	General Plant Physiology	5
ZOO 250	Human Physiology	5

VI. Enrichment Biology (All courses in BIO, BOT, and ZOO may be used for elective credit provided they are available for credit for majors and are not required in categories I-V).

Hours credit: 45
Total major hours: 60

Supporting required courses:

CHEM 104	Principles of Chemistry I	5
<i>or</i>		
CHEM 114	General Chemistry I	5
CHEM 105	Principles of Chemistry II	5
<i>or</i>		
CHEM 115	General Chemistry II	5
CHEM 130	Introductory Organic Chemistry	5
CHEM 332	Organic Chemistry I	5
		Hours Credit: 15

Professional Teacher Education

Professional Teacher Education		
Core		
EDLS 363	Clinical Experience	2
SCED 441	Methods of Teaching Secondary School Science	3
BIO 371	Techniques of Biological Preparation	1
		Hours credit: 45

The student must meet with the departmental PTE Committee for evaluation before admittance into the program. In addition, the student must plan a program which will develop knowledge and skills in chemistry, physics, earth sciences, and mathematics in order to meet certification requirements.

Biological Sciences Minor

Following are the requirements for minor:

BIO 101	Principles of Biology	5
BIO 102	Principles of Botany	5
BIO 103	Principles of Zoology	5

Electives:

Select from at least three of the categories I-V listed under the Biological Sciences major. Note that Category V and BIO 361 have Chemistry prerequisites.

Hours credit: 27
*Majors electing BIO 231 must also take BIO 232.

Minors interested in teaching Biological Sciences in secondary schools must complete the minor listed above plus additional electives to be selected with approval of the student's advisor to complete 36 hours.

Black Studies Major

Administered by the Department of Black Studies

The Black Studies Program offers a major and a minor.

Students pursuing the B.A. with a major in Black Studies must plan their program to fulfill the following requirements.

General education requirements of 60 hours as specified in this catalog.

Required courses:

BLS 101	Crisis of Identity	3
BLS 220	Black Community Development	3
BLS 240	Dynamics of Racism	3
BLS 260	Themes in Afro-American Literature	3
BLS 228	History of the Black Man in America I	4
BLS 229	History of the Black Man in America II	4
BLS 230	History of the Black Man in America III	4
BLS 380	Education in the Black Community	3
BLS 392	Linguistic Styles of Black America	3
BLS 399	Community Study Project	1-4
BLS 495	Interpersonal Communication	3
	Electives Selected from the following:	11-14
ID 308	Interpersonal Growth Workshop	3
BLS 322	Black Nationalism	3
BLS 340	The Black Family	3
BLS 350	Black Psychology	3
BLS 360	Rhythm and the Black Experience	3
BLS 420	Black Urban Politics	3
BLS 430	Law and the Black Community	3
BLS 460	Black Religion	3
BLS 462	Theatre of Black America	3
BLS 463	The Black Man in American Drama II: 1945 to the Present	3
BLS 464	Seminar in Black Theatre	4
BLS 465	Black Media	3
BLS 480	Black Curriculum Development	3
	Hours credit:	48

Black Studies Minor

Required courses:

HIST 228	History of the Black Man in America I	4
HIST 229	History of the Black Man in America II	4
HIST 230	History of the Black Man in America III	4
BLS 101	Crisis of Identity	3
BLS 240	Dynamics of Racism	3
BLS 220	Black Community Development	3
BLS 399	Community Study Project	1-4
	Electives selected from the following:	3-6
ID 308	Interpersonal Growth Workshop	3
BLS 322	Black Nationalism	3
BLS 340	The Black Family	3
BLS 350	Black Psychology	3
BLS 360	Rhythm and the Black Experience	3
BLS 420	Black Urban Politics	3

BLS 430	Law and the Black Community	3
BLS 460	Black Religion	3
BLS 462	Theatre of Black America	3
BLS 463	The Black Man in American Drama II: 1945 to the Present	3
BLS 464	Seminar in Black Theatre	4
BLS 465	Black Media	3
BLS 480	Black Curriculum Development	3
BLS 495	Interpersonal Communication	3
	Hours credit:	28

Botany Major

Administered by the Department of Biological Sciences

Students pursuing the B.A. degree with a major in Botany must plan their programs to fulfill the following requirements:

1. It is recommended that the student take BIO 291, Seminar in Scientific Writing. This course may be used to meet the General Education intermediate composition requirement.

2. General Education requirements of 60 quarter hours as specified in this catalog.

3. A minor of 27 or more quarter hours is recommended. Chemistry, Physics, Mathematics or Earth Sciences are suggested depending upon the student's career goals. Check with advisor.

4. It is recommended that three courses in each of the fields (chemistry, physics, or mathematics) not selected as a minor be included.

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

Program requirements:

Major/core		
BIO 101	Principles of Biology	5
BIO 102	Principles of Botany	5
BIO 103	Principles of Zoology	5
	Hours credit:	15
BIO 231	Genetics	3
BIO 232	Genetics Laboratory	2
BIO 361	Microbiology	5
BOT 310	Plant Taxonomy	5
BOT 323	Morphogenesis of the Nonvascular Plants	5
BOT 340	Plant Ecology	5
BOT 350	General Plant Physiology	5
BOT 421	Plant Anatomy	5

Electives:

A minimum of 10 hours in the prefix areas BIO, BOT, and ZOO must be taken with approval of major advisor.

Hours credit: 45

Total major hours: 60

Supporting required courses:

CHEM 104	Principles of Chemistry I	5
	or	
CHEM 114	General Chemistry I	5
CHEM 105	Principles of Chemistry II	5
	or	
CHEM 115	General Chemistry II	5
CHEM 130	Introductory Organic Chemistry	5
CHEM 332	Organic Chemistry I	5
	Hour credit:	15

Business Administration

Administered by the School of Business

The faculty of the School of Business feels it is essential to provide students with a high quality education and employers with high quality graduates. The faculty believes it is important that students enrolling in the School of Business develop a sense of responsibility and pride of achievement. In order to meet these objectives, it is necessary that a student pursuing the B.S. degree in business satisfy the following requirements before graduation:

1. Complete the General Education requirements of 60 quarter hours.

2. Complete the required courses listed in the Business Core, other required courses plus the requirements of one of the areas of emphasis. Students may complete two areas of emphasis but must receive approval for graduation from each department.

3. a) To graduate with a degree in business, students must maintain a 2.00 cumulative grade point average in the course work taken in the School of Business. b) Students achieving less than a 2.00 for two consecutive quarters may be denied a continuation of the business major.

4. A student may not enroll in any Business course more than three times.

5. A minor is not required.

Honors. The School of Business participates in the Honors Program. See Honors Program section of catalog.

Business Administration Core

Required courses:

BUS 100	The American Business System ⁹	3
BUS 150	Principles of Management	4
BUS 180	Information Systems	4
BUS 205	Business Communications ⁹	4
BUS 220	Principles of Accounting I	4
BUS 221	Principles of Accounting II	4
BUS 231	Business Law I	4
BUS 260	Marketing	4
BUS 291	Business Statistics I	4
BUS 370	Business Finance	4
	Hours credit:	39

Other required courses:

ECON 110	Principles of Economics: Microeconomics ¹⁰	4
ECON 120	Principles of Economics: Macroeconomics ¹⁰	4
MATH 115	Essentials of Mathematics I ¹⁰	3
PSY 120	General Psychology ¹⁰	3
SOC 100	Principles of Sociology ¹⁰	5
	Hours credit:	19

Emphasis in Accounting

The emphasis in accounting and the accounting department are approved under the State Accountancy Law of Colorado. Recent legislation, however, has created uncertainties as to the academic

⁹May be used to meet part of the General Education requirements as well as the Business Administration Core requirements.

¹⁰May be used to meet part of the General Education requirements.

requirements for being licensed in Colorado as a Certified Public Accountant after January 1, 1984. The basic intent of the legislation is to require a fifth year of formal education before a student is allowed to write the CPA exam.

In addition to the basic requirements listed in items 1 through 5 above, a grade of "D" in any of the courses listed below will *not* count toward graduation for students majoring in Business Administration with an emphasis in Accounting.

Required courses:

BUS 232	Business Law II	4
BUS 320	Intermediate Accounting I	4
BUS 321	Intermediate Accounting II ¹¹	4
BUS 322	Intermediate Accounting III ¹¹	4
BUS 323	Cost and Managerial Accounting I	4
BUS 324	Cost and Managerial Accounting II ¹¹	4
BUS 326	Governmental and Institutional Accounting	4
BUS 420	Advanced Accounting I ¹¹	4
BUS 425	Auditing I ¹¹	4
BUS 428	Income Tax Accounting I ¹¹	4
BUS 433	Business Law III	4

Electives:

At least eight hours of additional accounting chosen from among the following:

BUS 421	Advanced Accounting II ¹¹	4
BUS 426	Auditing II ¹¹	4
BUS 429	Income Tax Accounting II ¹¹	4

Hours credit: 52

Emphasis in Finance

Required courses:

BUS 240	Introduction to Insurance	3
BUS 276	Financial Statements: Analysis and Interpretation	4
BUS 292	Business Statistics II	4
BUS 372	Principles of Real Estate	3
BUS 456	Business Policies and Management	3
BUS 470	Financial Management	3
BUS 471	Investments	4
BUS 473	Commercial Bank Policies and Management	3
BUS 474	Case Problems in Financial Management	3
ECON 202	Money and Banking	5

Electives:

Eighteen additional hours, as follows: At least eight hours of accounting selected from BUS 320, 321, 322, 323, 324, and/or 420; plus at least seven hours of economics selected from ECON 200, 350, 400, 451, and/or 453; plus at least three hours of statistics and/or data processing selected from BUS 383, 388, 396 and/or 397.

Hours credit: 53

Emphasis in Insurance

Required courses:

BUS 240	Introduction to Insurance	3
BUS 292	Business Statistics II	4
BUS 320	Intermediate Accounting I	4
BUS 341	Life and Health Insurance	3
BUS 342	Social and Group Insurance	3
BUS 444	Property Insurance	3
BUS 445	Casualty Insurance	3
BUS 456	Business Policies and Management	3
BUS 470	Financial Management	3

Electives:

One additional course in Insurance	3
Nine additional hours in Finance and Insurance, or other business courses with approval of advisor	9

Hours credit: 41

Emphasis in General Business

Required courses:

BUS 232	Business Law II	4
BUS 328	Accounting for Small Business	4
BUS 354	Human and Organizational Behavior	4
BUS 365	Marketing Strategy	4
BUS 400	Business, Government and Society	4
BUS 401	Public Policy and Private Enterprise	4
BUS 456	Business Policies and Management	3
BUS 470	Financial Management	3

Electives:

Business Electives at 300 and 400 level (check with advisor)	8
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Hours credit: 38

Emphasis in Management Administration Science

Required courses:

BUS 292	Business Statistics II	4
BUS 323	Cost and Managerial Accounting I	4
BUS 354	Human Behavior in Business	4
BUS 453	Personnel Management	4
BUS 454	Development of the Labor Movement	2
BUS 455	Collective Bargaining	3
BUS 456	Business Policies and Management	3

Electives:

BUS 396	Management Science—Deterministic Models or Management Science—Probabilistic Models and	3
BUS 397	Management Science—Probabilistic Models and	3

At least 13 hours selected from the following or an Industrial Arts and Technology Specialization (see Industrial Arts and Technology section of this bulletin).

BUS 320	Intermediate Accounting I	4
BUS 352	Procurement	3
BUS 383	COBOL Programming	3
BUS 395	Production Management	4
BUS 457	Small Business Management	3
ECON 200	The Price System	4
ECON 350	Income and Employment Analysis	4
JOUR 380	Public Relations	3
SOC 330	Complex Organizations	3

Hours credit: 40

Emphasis in Management Information Science

Required courses:

BUS 281	FORTRAN Programming	3
BUS 292	Business Statistics II	4
BUS 320	Intermediate Accounting I	4
BUS 323	Cost and Managerial Accounting I	4
BUS 383	COBOL Programming	3
BUS 385	Advanced Structured COBOL	3
BUS 388	Systems Analysis and Design	3
BUS 389	Advanced Systems Analysis and Design	3
BUS 396	Management Science—Deterministic Models	3
BUS 397	Management Science—Probabilistic Models	3
BUS 453	Personnel Management	4
BUS 456	Business Policies and Management	3
BUS 482	Computer Simulation Techniques	3

BUS 489	Special Topics in Management Information Systems	3
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Hours credit: 46

Emphasis in Small Business Management

Required courses:

BUS 240	Introduction to Insurance	3
BUS 292	Business Statistics II	4
BUS 323	Cost and Managerial Accounting I	4
BUS 328	Accounting for Small Business	4
BUS 352	Procurement	3
BUS 354	Human and Organizational Behavior	4
BUS 357	Managing New Business Ventures	3
BUS 365	Marketing Strategy	4
BUS 453	Personnel Management	4
BUS 457	Small Business Management	3
BUS 458	Seminar in Entrepreneurship	3
BUS 460	Market Analysis and Research I	4
BUS 475	Financial Management of Small Business Firms	3
ECON 200	The Price System	4

Hours credit: 50

Emphasis in Marketing

Required courses:

BUS 365	Marketing Strategy	4
BUS 366	Consumer Behavior	4
BUS 456	Business Policies and Management	3
BUS 460	Market Analysis and Research I	4
BUS 462	Marketing Problems	4
BUS 470	Financial Management	3

Electives

Student should consult advisor before selecting 16 hours of marketing electives from the following specializations.

General Marketing

BUS 261	Personal Selling	4
BUS 362	Advertising	4
BUS 367	Public Policy Issues in Marketing	4
BUS 469	Distribution Management	4

Retailing

BUS 261	Personal Selling	4
BUS 361	Retailing	4
BUS 363	Promotion Management	4
BUS 465	Seminar in Retailing	4

Sales/Sales Management

BUS 261	Personal Selling	4
BUS 463	Sales Management	4
BUS 468	Industrial Marketing	4
BUS 469	Distribution Management	4

Advertising

BUS 362	Advertising	4
BUS 363	Promotion Management	4
BUS 367	Public Policy Issues in Marketing	4
BUS 461	Advertising Campaigns	4

Distribution

BUS 261	Personal Selling	4
BUS 367	Public Policy Issues in Marketing	4
BUS 468	Industrial Marketing	4
BUS 469	Distribution Management	4

Industrial/International Marketing

BUS 261	Personal Selling	4
BUS 463	Sales Management	4
BUS 464	International Marketing	4
BUS 468	Industrial Marketing	4

¹¹Students transferring accounting courses to UNC must complete this course at UNC.

Research

BUS 367	Public Policy Issues in Marketing	4
BUS 461	Advertising Campaigns	4
BUS 463	Sales Management	4
BUS 466	Market Analysis and Research II	4
		Hours credit: 38

Emphasis in Office Administration

Required courses:

BUS 102	Business English	3
BUS 109	Calculators and Business Applications	2
BUS 110	Typewriting I ¹²	3
BUS 111	Typewriting II ¹²	3
BUS 112	Typewriting III	3
BUS 211	Office Practicum I	5
BUS 219	Shorthand Transcription	4
BUS 314	Records Management	3
BUS 319	Introduction to Word Processing	4
BUS 452	Administrative Office Management	3
BUS 453	Personnel Management	4

Electives:

either

BUS 114	Speedwriting I ¹²	4
BUS 115	Speedwriting II	4

or

BUS 116	Beginning Gregg Shorthand ¹³	4
BUS 117	Intermediate Gregg Shorthand ¹³	4
BUS 118	Advanced Shorthand	4

and

Business Electives (at the 300 and/or 400 level)

Hours credit: 49-53

Secretarial (Two-Year Non-Degree Program)

Required courses:

BUS 100	The American Business System	3
BUS 101	Consumer Business Problems	3
BUS 109	Calculators and Business Applications	2
BUS 110	Typewriting I ¹²	3
BUS 111	Typewriting II ¹²	3
BUS 112	Typewriting III	3

either

BUS 114	Speedwriting I ¹²	4
BUS 115	Speedwriting II	4

or

BUS 116	Beginning Gregg Shorthand ¹²	4
BUS 117	Intermediate Gregg Shorthand ¹²	4
BUS 118	Advanced Shorthand	4

and

BUS 102	Business English	3
BUS 150	Principles of Management	4
BUS 180	Information Systems	4
BUS 205	Business Communications	4
BUS 211	Office Practicum I	5
BUS 212	Office Practicum II	5
BUS 219	Shorthand Transcription	4
BUS 220	Principles of Accounting I	4
BUS 231	Business Law I	4
BUS 314	Records Management	3
BUS 319	Introduction to Word Processing	4
COMM 110	Public Speaking I	4
ENG 101	Elementary Composition	3
PSY 120	General Psychology	3

Business electives to complete a minimum of 90 quarter hours

Hours credit: 90

Business Administration Minor

Required courses:

BUS 100	The American Business System ¹³	3
BUS 150	Principles of Management	4

BUS 180	Information Systems	4
BUS 205	Business Communications ¹³	4
BUS 220	Principles of Accounting I	4
BUS 221	Principles of Accounting II	4
BUS 231	Business Law I	4
BUS 260	Marketing	4
BUS 291	Business Statistics I	4
BUS 370	Business Finance	4
ECON 110	Principles of Economics: Microeconomics ¹³	4
MATH 115	Essentials of Mathematics I ¹³	3

Hours credit: 46

Business Teacher Education (Office or Distributive)

Students pursuing the B.A. degree with a major in Business Teacher Education must plan their programs to meet the following requirements:

1. Complete the General Education requirements of 60 quarter hours.
2. Schedule a conference with an advisor from the Business Teacher Education Department as soon as the major is declared.
3. Complete the required courses listed in the Business Teacher Education Core and the required courses for the office education or distributive education emphasis, plus business, business teacher education, or vocational teacher education electives. The emphases reflect current certification requirements of the Colorado State Department of Education.
4. All grades in courses taken in the emphases must be at least a "C."
5. A student may not enroll in any business course more than three times.
6. Students planning to use this major as a certification program for teaching must complete the program of Professional Teacher Education as described in this catalog (44 hours).
7. Students placed in their student teaching assignments in Office Education emphasis: Fall and Spring Quarters; in Distributive Education emphasis: Fall and Winter Quarters.
8. Complete a minimum of five (5) varied Professional Development Experiences every calendar year.
9. Electives to complete the 180 quarter hours of academic credit required for graduation.
10. A minor is not required.
11. Most secondary schools require a vocational credential for teaching office education and distributive education. Each major in the Office Education or the Distributive Education Emphasis should check with his/her advisor concerning current requirements for this credential. Among the requirements are: a) Approved occupational experience in the area of emphasis, b) nine quarter hours of specific vocational teacher education (VTEF) courses, and c) student teaching experience with a teacher holding a valid state vocational credential.

Business Teacher Education Core

Required courses:

BUS 100	The American Business System ¹⁴	3
BUS 150	Principles of Management	4
BUS 180	Information Systems	4
BUS 220	Principles of Accounting I	4

BUS 221	Principles of Accounting II	4
BUS 231	Business Law I	4
BUS 260	Marketing	4
BUS 291	Business Statistics I	4
BUS 370	Business Finance	4

Hours credit: 35

Other required courses:

BUS 205	Business Communications ¹⁴	4
ECON 110	Principles of Economics: Microeconomics ¹⁴	4
MATH 115	Essentials of Mathematics I ¹⁴	3

Hours credit: 11

Emphasis in Distributive Education

Required courses:

BUS 261	Personal Selling	4
BUS 361	Retailing	4
BUS 362	Advertising	4
BUS 365	Marketing Strategy	4
BEVE 345	Organization and Administration of Distributive Education	3
BEVE 364	Teaching Marketing Personnel	3
BEVE 380	Marketing and Distributive Education for the Adult Learner	2
BEVE 460	Curriculum Development in Distributive Education	3
BEVE 480	Program Development for Marketing and Distributive Education	3
VTEF 310	Vocational Education Foundations	3
VTEF 400	Vocational Student Organizations ¹⁵	1
VTEF 401	DECA Seminar ¹⁵	2
VTEF 410	Cooperative Education and Coordination Techniques	3
Elective selected from the Business Administration Marketing Emphasis		4

Hours credit: 43

Professional Teacher Education

PTE Core with the exceptions listed below:

BEVE 347	Instructional Methods in Distributive Education	4
VTEF 430	Vocational Education for Learners with Special Needs (substitute for EDSE 407 Working with Handicapped Students in the Secondary School)	3

Note: Structured field experiences included in BEVE 345, 360, 365, 460 and VTEF 401 substitute for EDLS 360.

Hours credit: 44

Emphasis in Office Education

Required courses:

BUS 110	Typewriting I ¹⁶	3
BUS 111	Typewriting II ¹⁶	3
BUS 112	Typewriting III	3
BUS 211	Office Practicum I	5
BUS 314	Records Management	3
BUS 452	Administrative Office Management	3
BEVE 451	Preparation for Teaching Vocational Office Education	3
BEVE 481	Teaching Improvement Seminar in Vocational Office Education	2

¹²This course may be waived with advisor approval and appropriate substitutes.

¹³May be used to meet part of the General Education requirements as well as the Business Administration Minor requirements.

¹⁴May be used to meet part of the General Education requirements as well as the Business Teacher Education Core requirements.

VTEF 310	Vocational Education Foundations	3
VTEF 400	Vocational Student Organizations ¹⁵	1
VTEF 402	FBLA Seminar ¹⁵	2
VTEF 410	Cooperative Education and Coordination Techniques	3
		Hours credit: 34

Students will select one of the following specializations in addition to the above emphasis.

Accounting Specialization

BUS 320	Intermediate Accounting I	4
BUS 321	Intermediate Accounting II	4
BUS 428	Income Tax Accounting I	4
		Hours credit: 12

Shorthand Specialization

Gregg Shorthand		
BUS 116	Beginning Gregg Shorthand ¹⁶	4
BUS 117	Intermediate Gregg Shorthand ¹⁶	4
BUS 118	Advanced Shorthand	4
		Hours credit: 12

Speedwriting Specialization

BUS 114	Speedwriting I ¹⁶	4
BUS 115	Speedwriting II	4
BUS 219	Shorthand Transcription	4
		Hours credit: 12

Professional Teacher Education

PTE Core with the exceptions listed below:		
VTEF 430	Vocational Education for Learners with Special Needs (substitutes for EDSE 407 Working with Handicapped Students in the Secondary School)	34
BEVE 340	Introduction to Business Teaching (substitutes for EDLS 360)	2
BEVE 341	Methods and Materials of Teaching Typewriting	1
BEVE 344	Methods and Materials of Teaching Basic Business Subjects	1
<i>and</i>		
BEVE 343	Methods and Materials of Teaching Bookkeeping (Accounting Spec.)	1
<i>or</i>		
BEVE 342	Methods and Materials of Teaching Shorthand (Shorthand Spec.)	1
Suggested elective:		
BEVE 348	Methods and Materials of Teaching Office Practice (Shorthand Spec.)	1
		Hours credit: 42-43

Chemistry Major

Administered by the Department of Chemistry

Chemistry Major: Liberal Arts

Students pursuing the B.A. degree with a major in Chemistry must include the following courses in their programs:

1. General Education requirements of 60 quarter hours as specified in this catalog.

2. Major/core

Required courses:

CHEM 104	Principles of Chemistry I	5
<i>or</i>		
CHEM 114	General Chemistry I	5
CHEM 105	Principles of Chemistry II	5
<i>or</i>		
CHEM 115	General Chemistry II	5
CHEM 106	Principles of Chemistry III	5
<i>or</i>		
CHEM 116	General Chemistry III	5
CHEM 320	Instrument Operation	1

CHEM 321	Analytical Chemistry I	5
CHEM 322	Analytical Chemistry II	4
CHEM 332	Organic Chemistry I	5
CHEM 333	Organic Chemistry II	5
CHEM 334	Organic Chemistry III	5
CHEM 441	Inorganic Chemistry I	2
CHEM 442	Inorganic Chemistry II	2
CHEM 443	Inorganic Chemistry III	2
CHEM 451	Physical Chemistry I	4
CHEM 452	Physical Chemistry II	4
CHEM 453	Physical Chemistry III	4
CHEM 454	Physical Chemistry I Laboratory	1
CHEM 455	Physical Chemistry II Laboratory	1
		Hours credit: 60

3. Electives (at least one from each category and a total of 7 hours).

A. Problem-Solving Laboratories

CHEM 323	Analytical Chemistry III	2
CHEM 335	Advanced Laboratory in Organic Chemistry	1
CHEM 431	Organic Qualitative Analysis	3
CHEM 499	Seminar and Research in Chemistry	1-3

B. Special Topics Courses

CHEM 440	Laboratory in Inorganic Chemistry	1
CHEM 482	General Biochemistry I	4
CHEM 483	General Biochemistry II	4
CHEM 484	General Biochemistry III	4
CHEM 493	Special Topics in Chemistry	3
CHEM 500	Level Courses	2-3
4. Supporting required courses:		
CHEM 291	Scientific Writing in Chemistry ¹⁷	3
COMM 110	Communication: Public Forum ¹⁷	3
ENG 101	Elementary Composition I ¹⁷	3
MATH 130	Analytical Geometry	4
MATH 131	Calculus I	5
MATH 132	Calculus II	5
MATH 133	Calculus III	4
PHYS 265	General Physics-Mechanics	5
PHYS 266	General Physics-Electricity	5
PHYS 267	General Physics-Sound, Light and Heat	5
		Hours credit: 42

5. Other recommended courses:

GER 101	Elementary German I ¹⁷	5
GER 102	Elementary German II	5
GER 103	Elementary German III	5

Two options are available to students after the sophomore year depending on their professional goals. Students who desire to pursue an advanced degree in chemistry or seek employment as a chemist should take Physical Chemistry in the junior year and pursue six quarter hours of independent research and/or advanced course work in chemistry during the senior year. Advising is important and students completing this program will be certified to the American Chemical Society and are eligible to become Members of the Society.

Students desiring a degree in chemistry but who plan to enter medical or dental school should take Physical Chemistry in their senior year.

Chemistry Major: Teaching

Students majoring in Chemistry who plan to teach in the public schools must include the following courses in their programs.

1. General Education requirements of 60

hours as specified in this catalog.

2. One minor of 27 or more quarter hours.

3. Professional Teacher Education

Professional Teacher Education		
Core	39	
EDLS 363	Clinical Experience	2
SCED 441	Methods of Teaching Secondary School Science	3
Hours credit: 44		

4. In addition, the student must plan a program which will develop knowledge and skills in biology, physics, earth sciences and mathematics in order to meet certification requirements.

5. Major/core

Required courses:

CHEM 104	Principles of Chemistry I	5
<i>or</i>		
CHEM 114	General Chemistry I	5
CHEM 105	Principles of Chemistry II	5
<i>or</i>		
CHEM 115	General Chemistry II	5
CHEM 106	Principles of Chemistry III	5
<i>or</i>		
CHEM 116	General Chemistry III	5
CHEM 320	Instrument Operation	1
CHEM 321	Analytical Chemistry I	5
CHEM 332	Organic Chemistry I	5
CHEM 333	Organic Chemistry II	5
CHEM 334	Organic Chemistry III	5
CHEM 441	Inorganic Chemistry I	2
CHEM 495	Seminar in Teaching Chemistry	2
PHYS 260	Introductory Physics — Mechanics ¹⁸	4
PHYS 261	Introductory Physics — Heat, Sound, and Light ¹⁸	4
PHYS 262	Introductory Physics — Electricity and Magnetism ¹⁸	4
Chemistry Electives to be selected with approval of student's advisor		10
		Hours credit: 62

Chemistry Minor: Liberal Arts Majors

Required courses:

CHEM 104	Principles of Chemistry I	5
<i>or</i>		
CHEM 114	General Chemistry I	5
CHEM 105	Principles of Chemistry II	5
<i>or</i>		
CHEM 115	General Chemistry II	5
CHEM 106	Principles of Chemistry III	5
<i>or</i>		
CHEM 116	General Chemistry III	5
Electives: (Note: Some have prerequisites). Fifteen hours from the following (or substitute with departmental approval):		
CHEM 130	Introductory Organic Chemistry	5
CHEM 281	Fundamentals of Human Biochemistry	5
CHEM 321	Analytical Chemistry I	5
CHEM 332	Organic Chemistry I	5
CHEM 333	Organic Chemistry II	5
CHEM 334	Organic Chemistry III	5
CHEM 441	Inorganic Chemistry I	2
CHEM 482	General Biochemistry I	4
CHEM 483	General Biochemistry II	4
		Hours credit: 30

¹⁵Must be taken concurrently.

¹⁶This course may be waived with advisor approval and appropriate substitutes.

¹⁷May be used to meet part of the General Education requirements.

¹⁸PHYS 265, 266, and 267 can substitute for PHYS 260, 261, and 262.

Chemistry Minor: Teaching Majors

If a chemistry minor is desired by a student pursuing a major in a teaching program, the student should take the Chemistry Teaching Minor.

Required courses:

CHEM 104	Principles of Chemistry I or	5
CHEM 114	General Chemistry I	5
CHEM 105	Principles of Chemistry II or	5
CHEM 115	General Chemistry II	5
CHEM 106	Principles of Chemistry III or	5
CHEM 116	General Chemistry III	5
CHEM 495	Seminar in Teaching Chemistry	2
Electives (Note: Some have prerequisites). Fifteen hours from the following (or substitute with departmental approval):		
CHEM 130	Introductory Organic Chemistry	5
CHEM 281	Fundamentals of Human Biochemistry	5
CHEM 321	Analytical Chemistry I	5
CHEM 332	Organic Chemistry I	5
CHEM 333	Organic Chemistry II	5
CHEM 334	Organic Chemistry III	5
CHEM 441	Inorganic Chemistry I	2
CHEM 482	General Biochemistry I	4
CHEM 483	General Biochemistry II	4
		Hours credit: 32

Communication Major

Administered by the Department of Communication

Students pursuing the B.A. with a major in Communication must plan their program to fulfill the following requirements:

1. General Education requirements of 60 hours as specified in this catalog. In selecting General Education courses, students should consult their communication advisors.
2. Students shall complete 50 hours of communication course units.
3. Students must select a minor or additional major from any other related discipline approved by their advisors.
4. Students may count no more than 15 hours of *combined* internship (COMM 510), practicum (COMM 423), and/or independent study (COMM 422) toward electives in their communication major; and may apply a *maximum* of 8 hours of internship credit toward fulfillment of electives in the major.
5. Students desiring entry into the Professional Teacher Education Program MUST select only the communication PTE major or minor outlined below.

I. Communication: Theory and Practice

Required courses:

COMM 140	Principles of Mass Communication	3
COMM 170	Oral Interpretation	3
COMM 212	Argumentation and Debate	3
COMM 250	Public Speaking II	3
COMM 302	Small Group Communication	4
COMM 323	Interpersonal Communication Theory	4
COMM 420	General Semantics	4

COMM 460	Persuasion	3
Electives in Communication ¹⁹ (Consult your advisor)		27
		Hours credit: 50

Students are encouraged to obtain a communication specialty in such areas as: human relations, mass media, organizational communication, small group communication behavior, pre-law and public policy. Having decided on a special area, the student should consult with an advisor and develop a plan of study. Such a plan would consider the student's choice of a minor or additional major, and appropriately focus his/her elective hours (23 hours) and any remaining general education credit.

II. Communication: Professional Teacher Education Emphasis

Required courses:

COMM 130	Voice and Speech Improvement	3
COMM 170	Oral Interpretation	3
COMM 212	Argumentation and Debate	3
COMM 250	Public Speaking II	3
COMM 270	Readers Theatre	3
COMM 302	Small Group Communication	4
COMM 312	Argumentation Theory	3
COMM 323	Interpersonal Communication: Theory	4
COMM 380	Communication in Education Environments	4
COMM 420	General Semantics	4
COMM 486	Directing Communication Activities	3
THEA 240	Stage Direction (Prereq: Beginning Acting)	3
JOUR 105	Newswriting	3
		43

Electives in Communication ¹⁹ (Consult your advisor)		7
		Hours credit: 50

Students planning to use this major as a certification program for teaching must complete the program of Professional Teacher Education as described in this catalog. (44 hours). Please note that the PTE program which accompanies this major involves the following modification: Students must complete COMM 341, Methods of Teaching in the Secondary Schools—Communication.

Communication Minor

I. Communication Minor: Professional Teacher Education

Required courses:

COMM 130	Voice and Speech Improvement	3
COMM 170	Oral Interpretation	3
COMM 212	Argumentation and Debate	3
COMM 270	Readers Theatre	3
COMM 302	Small Group Communication	4
COMM 312	Argumentation Theory	3
COMM 323	Interpersonal Communication: Theory	4
COMM 341	Methods of Teaching in the Secondary School	4
COMM 380	Communication in Education Environments	4
COMM 420	General Semantics	4
COMM 486	Directing Communication Activities	3
		Hours credit: 38

II. Communication Minor: Elementary Education/Preschool

Required courses:

COMM 130	Voice and Speech Improvement	3
COMM 170	Oral Interpretation	3
COMM 302	Small Group Communication	4
COMM 375	Oral Interpretation of Children's Literature	3
COMM 380	Communication in Education Environments	4
COMM 420	General Semantics	4
THEA 280	Creative Dramatics in the Community	3
		24
Electives in Communication ¹⁹		6
		Hours credit: 30

III. Communication Minor: Non-Communication Majors

Required courses:

COMM 140	Principles of Mass Communication	3
COMM 170	Oral Interpretation	3
COMM 212	Argumentation and Debate	3
COMM 250	Public Speaking II	3
COMM 302	Small Group Communication	4
COMM 323	Interpersonal Communication Theory	4
COMM 420	General Semantics	4
COMM 460	Persuasion	3
		27
Electives in Communication ¹⁹		3
		Hours credit: 30

Dance Education Minor (Men and Women)

Administered by the School of Health, Physical Education and Recreation

Required courses:

HPER 295	Modern Dance Theory and Technique	2
HPER 297	Dance Composition	2
HPER 256	Improvisation and Composition Forms	3
HPER 255	Modern Dance Techniques	3
HPER 456	Workshop in Modern Dance	3

The above courses should be taken in the order shown.

Remaining minor courses are:

HPER 290	Analysis and Movements of Folk and Square Dance	2
HPER 291	Rhythms for the Elementary School	2
HPER 296	Rhythmic Analysis and Dance Accompaniment	2
HPER 326	Teaching of Dance	2
HPER 457	Dance History and Philosophy	4
HPER 459	Dance Production in High School and College	2
HPER 130	Beginning Modern Dance	1
HPER 130	Intermediate Modern Dance	1
HPER 132	Jazz Dance	1
HPER 136	Ballet	1
		Hours credit: 31

Suggested for non physical education majors selecting this minor:

HPER 220	Anatomical Kinesiology	3
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¹⁹COMM 110 and COMM 111 may not be used as an "Electives in Communication" in the major or minor elective requirement.

Earth Sciences Major – Liberal Arts

Administered by the Department of Earth Sciences

The liberal arts major is for students interested in careers in astronomy, geology, meteorology, or oceanography, as well as for those desiring a broad background in the earth sciences. It is designed to be flexible enough to accommodate the interests and needs of each individual. When a student first elects an Earth Sciences major, it is *essential* that he or she meet with an advisor in the department to discuss educational goals and to plan a program of study. Below are listed the three programs available within the liberal arts major, along with the requirements for each.

General Earth Sciences Program

Majors desiring a broad background in earth sciences, as well as those interested in careers in astronomy or oceanography, must include the following courses in their programs:

1. General Education requirements of 60 hours as specified in this catalog.
2. 80 quarter hours of science and mathematics courses, of which at least half must have AST, ESCI, GEOL, MET, and/or OCN prefixes.
3. Electives to complete the requirements for graduation.

Geology Program

Students interested in careers in geology must include the following courses in their programs:

1. General Education requirements of 60 hours as specified in this catalog.
2. The following science and mathematics courses.

Required courses:

BIO 101	Principles of Biology	5
CHEM 104	Principles of Chemistry I ²⁰	5
CHEM 105	Principles of Chemistry II ²⁰	5
GEOL 201	Physical Geology	5
GEOL 202	Historical Geology	5
GEOL 320	Mineralogy	5
GEOL 340	Paleontology	5
GEOL 370	Structural Geology	5
GEOL 420	Optical Crystallography and Petrography	5
GEOL 450	Sedimentology	4
GEOL 455	Stratigraphy	4
GEOL 460	Geomorphology	4
GEOL 480	Geologic Field Methods	5
MATH 130	Analytic Geometry	4
MATH 131	Calculus I	5
MATH 132	Calculus II	5
PHYS 260	Introductory Physics — Mechanics ²¹	4
PHYS 261	Introductory Physics — Heat, Sound, and Light ²¹	4
PHYS 262	Introductory Physics — Electricity and Magnetism ²¹	4
		Hours credit: 87

Recommended:

1. An advisor-approved summer geology

field camp is strongly recommended and can substitute for GEOL 480.

2. Electives to complete the requirements for graduation — to be selected in consultation with student's major advisor.

Meteorology Program

Students interested in careers in meteorology must include the following courses in their programs:

1. General Education requirements of 60 hours as specified in this catalog.
2. The following required science and mathematics courses.

Required courses:

CHEM 104	Principles of Chemistry I	5
CHEM 105	Principles of Chemistry II	5
GEOL 201	Physical Geology	5
MATH 130	Analytic Geometry	4
MATH 131	Calculus I	5
MATH 132	Calculus II	5
MATH 133	Calculus III	4
MATH 151	Introduction to Statistical Analysis	4
MATH 380	Computer Programming	4
MET 200	General Meteorology	4
MET 301	Elements of Meteorology	4
MET 302	Dynamic Meteorology	4
MET 315	Meteorological Instruments, Observations and Codes	3
MET 320	Climatology	3
MET 330	Physical Meteorology	3
MET 440	Synoptic Meteorology	4
MET 450	Severe Weather Phenomena	3
OCN 301	Principles of Oceanography I	4
OCN 302	Principles of Oceanography II	4
PHYS 265	General Physics — Mechanics	5
PHYS 266	General Physics — Electricity	5
PHYS 267	General Physics — Sound, Light, and Heat	5
		Hours credit: 92

3. Electives to complete the requirements for graduation — to be selected in consultation with student's major advisor.

Earth Sciences Major — Teacher Education

Administered by the Department of Earth Sciences

Students who plan to teach earth science in the secondary schools must include the following courses in their programs:

1. General Education requirements of 60 hours as specified in this catalog.
2. 72 quarter hours of science and/or mathematics courses, of which at least half must have AST, ESCI, GEOL, MET, and/or OCN prefixes. Earth Sciences teaching majors should select, in consultation with an advisor, courses which will provide a broad background in the earth science disciplines and supporting sciences including Biology, Chemistry, Physics and Mathematics. The following courses are recommended to provide such a background.

AST 301	Principles of Astronomy I	4
AST 302	Principles of Astronomy II	3
BIO 101	Principles of Biology	5
CHEM 104	Principles of Chemistry I	5
CHEM 105	Principles of Chemistry II	5
ESCI 499	Seminar in Earth Science	2
GEOL 201	Physical Geology	5

GEOL 202	Historical Geology	5
MATH 124	College Algebra	5
MET 200	General Meteorology	4
MET 301	Elements of Meteorology	4
MET 320	Climatology	3
OCN 301	Principles of Oceanography I	4
OCN 302	Principles of Oceanography II	4
PHYS 260	Introductory Physics — Mechanics	4
PHYS 261	Introductory Physics — Heat, Light and Sound	4
PHYS 262	Introductory Physics — Electricity and Magnetism	4

3. Electives to complete the requirements for graduation — to be selected in consultation with student's major advisor.

Professional Teacher Education

Professional Teacher Education Core		39
EDLS 363	Clinical Experience concurrent with	2
SCED 441	Methods of Teaching Secondary School Science	3
		Hours credit: 44

Earth Sciences Minor

Students minoring in Earth Sciences will, in consultation with a minor advisor, select 30 hours of astronomy, earth science, geology, meteorology, and/or oceanography courses best suited to their particular needs.

Those who plan to be teachers should select courses which will provide a broad background in the earth sciences.

Economics Major

Administered by the Department of Economics

1. General Education requirements of 60 hours as specified in this catalog.
2. Students interested in being certified for teaching economics must take a major in Social Science rather than in Economics.

Required courses:

I. General Economic Theory

ECON 100	Introductory Economics	5
ECON 145	Urban Economics	3
ECON 200	The Price System	4
ECON 241	Public Finance	5
ECON 350	Income and Employment Analysis	4
		Hours credit: 21

II. Quantitative Methods

MATH 130	Analytical Geometry ²²	4
MATH 131	Calculus I ²²	5
SRM 203	Introductory Statistics ²²	3
ECON 451	Introduction to Quantitative Economics	3
		Hours credit: 15

III. Economic Thought

ECON 470	History of Economic Thought	3
		Hours credit: 3

IV. Related Courses

ECON 453	Engineering Management and Economic Analysis	3
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²⁰CHEM 106 and 107 can substitute for CHEM 104 and 105.

²¹PHYS 265, 266, 267 can substitute for PHYS 260, 261, and 262.

²²Or equivalent as determined by Economics Department representative.

BUS 397	Management Science — Probabilistic Models	3
BUS 489	Computer Simulation Models	3
		Hours credit: 9

V. Electives in Economics²³

excluding 100 and 102		17
		Hours credit: 60

Economics Minor

Take two of the following: GEOG 100, ANT 100, PSCI 100, or SOC 100. Consult your advisor.

Students interested in being certified for teaching Economics must take a major in Social Sciences rather than in Economics.

Required courses:

ECON 110	Principles of Economics: Microeconomics	4
ECON 120	Principles of Economics: Macroeconomics	4
ECON 470	History of Economic Thought	3
ECON 200	The Price System	4
Electives		10
Advanced Electives		12
		Hours credit: 37

Economics Education Minor

Administered jointly by the Department of Economics and the School of Business

BUS 100	The American Business System	3
BUS 101	Consumer Business Problems	3
BEVE 430	Economic Education Seminar	3
ECON 110	Principles of Economics: Microeconomics	4
ECON 120	Principles of Economics: Macroeconomics	4
Electives in Business or Economics		20
		Hours credit: 36

The electives must be planned in cooperation with the minor advisor. Elective courses may be chosen from the economics courses 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 for Today's Family, three hours credit.

Educational Field Experiences

The Educational Field Experiences Department of the College of Education is charged with coordinating all types of student field experiences in cooperating schools for all departments of the University. Its course offerings include:

I. Early Field Experiences

EDFE 270	Teacher Aide	1-4
EDLS 360	Clinical Experience: Primary	2
EDLS 361	Clinical Experience: Intermediate	2
EDLS 362	Clinical Experience: Middle School	2
EDLS 363	Clinical Experience: Secondary	2
EDFE 401	Practicum	1-4
EDFE 422	Individual Studies	1-4

II. Supervised Teaching for Certification

EDFE 444	Supervised Teaching	1-18
EDFE 445	Advanced Supervised Teacher	1-18

Important Note. All EDFE courses except 422 are marked S-U with no grade point average computed. All EDLS courses are letter-graded.

Educational Media Minor

Administered by the Department of Educational Media

The purpose of this program is to prepare teachers to work in what has been variously called the library, instructional materials center, or educational media center.

Students pursuing the B.A. degree who want to meet accreditation standards of North Central and Colorado²⁴ must:

1. Complete the General Education requirements as specified in this catalog.
2. Complete all requirements for a teaching major.

Required courses:

EDEM 410	Introduction to Educational Media	2
EDEM 420	Design and Construction of Graphic Materials	3
EDEM 434	Reference Materials: Basic School Reference Service	3
EDEM 530	Cataloging and Classification I	3
EDEM 536	Evaluation and Selection of Educational Materials	3
EDEM 575	Administering Educational Media I	3
EDFE 401	Practicum	1-4
		Hours credit: 18-21

Electives:

EDEM 430	Problems of Organizing Classroom and Library Materials	3
EDEM 500	Still Photography for Teachers	2
EDEM 516	Utilization of Educational Resources	3
EDEM 534	Reference Materials: Service in Specialized Subject Areas and Government Publications	3
EDEM 560	Television in Education	3
EDRD 314	Improvement of Instructional Literature in the Elementary School	3
EED 406	Literature for Adolescents	4
		Total Hours: 27

Note: It is recommended that the student try to take 6-9 hours of his or her supervised teaching (EDFE 444) in a suitable media situation.

Elementary Education

Administered by the Department of Elementary Education and Reading

Students who wish to change majors to elementary education and who have previously taken course work at the University of Northern Colorado must have a minimum grade point average of 2.50 in that work to be admitted to the department.

Students pursuing the B.A. degree with an elementary education major must plan their programs to meet the following requirements:

1. General Education requirements of 60 hours as specified in this catalog.
2. The following required subject matter courses are applicable to general education.

Required content courses:

GEOG 100	World Geography	5
or		
GEOG 148	Anglo-America	5
HIST 175	Themes in American History	4

MATH 191	Mathematics for the Elementary School Teacher I	3
MATH 192	Mathematics for the Elementary School Teacher II	3
MUS 204	Music Fundamentals	2
MUS 205	Experiencing Music	1
PSCI 100	National Government of the United States	5
		Hours credit: 23

Elective content courses:

Select a minimum of one non-pedagogical course from health or physical education and one non-pedagogical course in general art content.

3. Required elementary teacher education courses:

EDEL 320	Improvement of Instruction in Mathematics in the Elementary School ²⁵	4
EDEL 330	Teaching Handwriting and Spelling in the Elementary School ²⁵	2
EDEL 340	Improvement of Instruction in English in the Elementary School ²⁵	4
EDEL 350	Improvement of Instruction in Social Studies in the Elementary School ²⁵	4
EDLS 360, 361, or 362	Clinical Experience	2
EDRD 310	Improvement of Instruction in Reading in the Elementary School ²⁵	3
EDRD 314	Improvement of Instruction in Literature in the Elementary School	3
EDRD 411	Approaches to Reading Instruction ^{25, 26}	3
HPER 288	Physical Education Activities for the Elementary School	2
HPER 303	Health Education in the Elementary School	2
MUS 206	Music Methods and Materials for Elementary Teachers	2
SCED 470	Teaching Science in the Elementary School	3
		Hours credit: 35

4. An art methods course for the elementary school is required.

5. A student who double-majors in elementary education and special education and who completes EDSE 309 for the special education major may substitute one quarter hour of EDFE 270 in the regular classroom for EDLS 360, 361 or 362 in the elementary education major.

6. A minimum of eighteen quarter hours in Elementary Teacher Education courses including EDEL 320, EDRD 310, and either EDLS 360, 361, or 362 must be completed before student teaching. EDEL 320, EDRD 310, and either EDLS 360, 361, or 362 must be completed before applying for student teaching.

7. Students planning to use this major as a certification program for teaching must complete the program of Professional Teacher Education as described in this catalog (38 hours). Please note that the PTE program which accompanies the Elementary education major involves the following modifications: 1. Delete EDRD 420

²³May include no more than four hours of Individual Studies.

²⁴This is not an endorsement on the Teacher's Certificate.

²⁵Must be taken at the University of Northern Colorado.

²⁶Must be taken after student teaching.

Reading in the Secondary School and delete Methods of Teaching. 2. Specified equivalents to EDSE 406 may be used. The eighteen hours of student teaching must be in elementary education; that is, in kindergarten or in grades one through six.

8. A minor, any minor, offered by the University of Northern Colorado is required. A second major from a department other than the Department of Elementary Education and Reading may be earned in lieu of the minor. An individually designed program of at least 30 quarter hours planned with the Elementary Education advisor and filed in the Elementary Education office may be earned in lieu of the minor.

9. Sufficient electives to complete 180 quarter hours of academic credit.

Elementary Education: Bilingual Bicultural

1. Completion of all requirements for the major Elementary Education except the requirement of a minor.

2. Completion of the following courses:

MAS 101	Introduction to Mexican American Studies	4
MAS 401	Spanish for Bilingual Education I ²⁷	5
MAS 402	Spanish for Bilingual Education II ²⁷	5
MAS 403	Spanish for Bilingual Education III ²⁷	5
EDEL 101	Introduction to Bilingualism/Multiculturalism Education	2
EDEL 471	Curriculum I for the Bilingual Multicultural Elementary Classroom ²⁷	3
EDEL 472	Curriculum II for the Bilingual Multicultural Elementary Classroom ²⁷	3
EDEL 474	Teaching in a Second Language in the Elementary Bilingual and Bicultural School	3

Hours credit: 30

3. Competency in the Spanish language must be demonstrated to the Department of Elementary Education and Reading.

Elementary Education: Early Childhood Education

1. Completion of all requirements for the major Elementary Education except the requirement of a minor.

2. Completion of the following courses.

Required courses:

Instructional Techniques

EDEC 460	Nursery-Kindergarten Education ²⁵	3
EDEC 462	Classroom Management in Early Childhood ²⁵	3

Child Growth and Development

CD 136	Introduction to Preschool	2
CD 331	Development of the Infant and Toddler	4
CD 333	Development and Guidance of the Young Child	3
EDEC 464	Introduction to Early Childhood Education ²⁵	3

Compensatory Programs

EDEC 463	Diagnostic Teaching in Early Childhood ²⁵	3
EDEC 467	Compensatory Programs in Early Childhood ²⁵	3
EDSE 306	Identification of Learning Disabilities in Early Childhood	3

or

EDSE 326	Introduction to Teaching Learning Disabled Children	3
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Hours credit: 27

3. Sufficient electives to complete 180 quarter hours of academic credit. These electives will be chosen in consultation with the major advisor.

Child and Family Studies

Administered by the Department of Elementary Education and Reading

Three options are available for majors: Preschool Education, Child Life Activities, and Family and Community Services. The options are designed for student's career choices in teaching, pediatric play situations associated with hospitals, and in community services related to families. The Preschool Education option is appropriate for persons oriented toward teaching and/or administrative positions affiliated with child care centers and nursery schools but which do not require Colorado teacher certification.

1. General Education requirements of 60 hours as specified in this catalog.

2. Complete the Child Development Core courses during the sophomore year.

Required courses:²⁸

PSY 230	Human Growth and Development	5
HEC 221	Human Relationships	3
CD 233	The Child Within the Family	3
CD 331	Development of the Infant and Toddler	3
CD 333	Development and Guidance of the Young Child	4

Elective courses:

6-9 additional credits with a CD prefix in consultation with major advisor.

3. Choose one of the following options:

I. Preschool Education Option

Required courses:²⁸

CD 136	Introduction to Preschool	2
EDSE 160	Introduction to Speech/Language Disorders	3
PSY 255	Psychology of Emotional Adjustment	3
HEC 250	Principles of Human Nutrition	3
HEC 340	Contemporary Food Preparation	4
SOC 415	The Sociology of Child Development	3
CD 334	Preschool Curriculum and Methods ²⁵	3
CD 335	Observation and Participation in Preschool	4
EDSE 306	Identification of Learning Disabilities in Early Childhood	3
HEC 456	Infant and Child Nutrition	3
HPER 291	Rhythmic Education in the Elementary School	2
THEA 281	Creative Drama in Education	3
EDEC 460	Nursery-Kindergarten Education	3
CD 437	Administration of Programs for Young Children	3
CD 438	Practicum in Preschool Teaching ²⁵	4
CD 439	Parent Education	3
HPER 262	Standard First Aid and Personal Safety	2

Hours credit: 51

II. Child Life Activities Option (Hospital Play) Required courses:²⁸

NURS 318	Orientation to the Concept of "Health" and the Health Care Delivery System	2
CD 334	Preschool Curriculum and Methods ²⁵	3
CD 335	Observation and Participation in Preschool	4
CD 437	Administration of Programs for Young Children	3
CD 439	Parent Education	3
HPER 250	Therapeutic Recreation	3
EDSE 100	Education of Exceptional Children	3
HEC 250	Principles of Human Nutrition	3
EDSE 302	Counseling Parents of Exceptional Children	3

Choose a minimum of 6 hours from the following:

PSY 261	Human Relations and Awareness	3
SOC 410	Small Groups	3
COMM 302	Small Group Communication	4

Hours credit: 34

III. Family and Community Services Option Required courses:²⁸

SOC 145	Social Problems	3
SOC 272	The Community	3
SOC 345	Sociology of Minorities	4
SOC 435	Socio-Cultural Change	3
CD 439	Parent Education	3

Elective courses.

Choose a minimum of 12 hours from the following:

MAS 101	Introduction to Mexican American Studies	4
MAS 302	Social Stratification in the Mexican American Community	3
MAS 305	Chicano Psychology	4
BLS 340	The Black Family	3
BLS 350	Black Psychology	3
BLS 380	Education in the Black Community	3
ANT 320	Ethnology in Middle America	4
ANT 325	Spanish and Mexican American Culture in American Southwest	3
ANT 328	Studies in North American Indians	4-12
ANT 331	Urban Ethnology	4

Hours credit: min. 28

4. Although certification for preschool is not available in Colorado, students planning to choose Option One: Preschool Education must complete the program of Professional Teacher Education.

Professional Teacher Education

Educational Field Experience includes CD 333 (20 contact hours) and EDFE 270, or equivalent, (20 contact hours).

Students planning to use this major as a certification program for teaching must complete the program of Professional Teacher Education as described in this catalog (16 hours). Please note that the PTE programs which accompany this major involve the following modification:

²⁷To be taken after completing EDRD 310 Improvement of Instruction in Reading in the Elementary School, EDEL 320 Improvement of Instruction in Mathematics in the Elementary School, EDEL 350 Improvement of Instruction in Social Studies in the Elementary School, and SCED 470 Teaching Science in the Elementary School.

²⁸Courses are listed according to recommended sequence.

CD 334	Preschool Curriculum and Methods	3
CD 335	Observation and Participation in Preschool (substitutes for EDLS 360)	4
CD 438	Practicum in Preschool Teaching	4
EDEC 463	or EDSE 306 or FA 348 (substitutes for EDSE 406)	3
EDRD 310	Improvement of Instruction in Reading in the Elementary School	4
CD 444	Student Teaching in Preschool (substitutes for EDFE 444)	18

5. Students choosing either Option II: Child Life Activities or Option III: Family and Community Services are required to complete CD 401 Internship in Child and Family Studies, an 18 credit internship experience related to the concentration in lieu of the teacher education program.

6. It is possible for students choosing either Option II or III to identify more than one concentration area.

7. CD 438 Practicum in Preschool Teaching for the Preschool Education Option must be completed prior to Student Teaching.

8. No minor is required.

9. Sufficient electives to complete 180 quarter hours of academic credit in consultation with major advisor.

Child and Family Studies: Preschool Minor

Students who take Child and Family Studies: Preschool Minor need an advisor to plan course sequence.

Required courses:²⁸

CD 136	Introduction to Preschool	2
CD 331	Development of the Infant and Toddler	3
CD 333	Development and Guidance of the Young Child	4
CD 334	Preschool Curriculum and Methods ²⁵	3
CD 335	Observation and Participation in Preschool	4
CD 437	Administration of Programs for Young Children	3
CD 438	Practicum in Preschool Teaching ²⁵	4
HEC 250	Principles of Human Nutrition	3
Elective course selected from the following:		
CD 233	The Child in the Family	
CD 332	Sequences of Conceptual Learning	
CD 439	Parent Education	
EDEC 460	Nursery-Kindergarten Education	
HEC 221	Human Relationships	
SCED 475	Science for the Preschool Child	3
		Hours credit: 29

Elementary Science Minor

Administered by the Department of Science Education

SCI 303	Elementary Biological Science	3
SCI 305	Elementary/Middle School Earth Science	3
SCI 309	Science for Elementary Teachers	3
SCED 151	Introductory Science Field Experiences	2
Electives to be selected with approval of student's minor advisor 16		

Electives selected from the following:

AST 100	General Astronomy	4
BIO 101	Principles of Biology	5
BIO 102	Principles of Botany	5
BIO 103	Principles of Zoology	5
BIO 240	General Ecology	4
BIO 262	Common Infections of Man	3
BIO 402	Conservation of Natural Resources	4
BOT 306	Economic Botany	3
BOT 471	Principles of Plant Culture	5
GEOL 100	General Geology	4
MET 200	General Meteorology	4
OCN 200	General Oceanography	4
SCI 115	Meteorology by Inquiry	3
SCI 210	Values Act(ion) Environment	3
SCI 260	Earth Science Concepts for Elementary Teachers	4
SCI 261	Biological Science Concepts for Elementary Teachers	4
SCI 262	Physical Science Concepts for Elementary Teachers	4
ZOO 156	Elements of Human Physiology-Anatomy	5
ZOO 304	Ornithology	4

English Major

Administered by the Department of English

Students pursuing the B.A. degree with a major in English must plan their programs to complete:

1. General Education requirements of 60 hours as specified in this catalog.
2. One minor of at least 27 quarter hours.
3. ENG 101, ENG 102, ENG 103, ENG 105, and ENG 106 may not be counted toward the English major.

Major/core

ENG 111	Introduction to Poetry ²⁸	4
ENG 114	Introduction to Language	4
ENG 115	Introduction to Fiction and Drama ²⁸	4
ENG 250	The English Language	4
ENG 319	Advanced Expository Techniques	4
		Hours credit: 20

Electives:

Group I — English Literature. One course required.

ENG 211	Medieval Literature	4
ENG 212	Renaissance Literature	4
ENG 213	The Restoration and Eighteenth Century	4
ENG 214	The Romantic Movement	4
ENG 215	Victorian Prose and Poetry	4
ENG 220	English Literature: 1900-1939	4
ENG 221	English Literature: 1940-Present	4
		Hours credit: 4

Group II — American Literature. One course required.

ENG 216	American Literature to the Civil War	4
ENG 217	American Literature: The Civil War to 1914	4
ENG 225	American Literature: 1914-1939	4
ENG 226	American Literature: 1940-Present	4
		Hours credit: 4

Group III — Genre, Theme, and Figure. One course required.

ENG 260	Women's Biography	4
ENG 310	Shakespeare: Early Plays	4
ENG 311	Shakespeare: Later Plays	4

ENG 360	Chaucer	4
ENG 402	The Short Story	4
ENG 403	Techniques of the Novel	5
ENG 404	Modern Literature About Childhood and Adolescence	4
ENG 405	Contemporary American Drama	4
ENG 406	Modern Drama Since Ibsen	4
ENG 407	Advanced Studies in Poetry	4
ENG 408	Elizabethan Drama Exclusive of Shakespeare	4
ENG 409	Literary Criticism	4
ENG 411	Biography and Autobiography	4

Hours credit: 4-5

Group IV — World Literature. One course required.

ENG 232	Great Writers of the World	4
ENG 235	The World in Literature	4
ENG 430	Studies in World Literature	4
ENG 450	Studies in Russian Literature	4
		Hours credit: 4

Electives selected from the following 28

Courses in Groups I, II, III, and IV that were not taken to fulfill the literature requirement may be elected as well as any of the courses listed below.

ENG 231	Great Writers in England and America	4
ENG 242	Creative Writing: Introduction to Theater, Film and Television	4
ENG 325	Studies in Science Fiction	4
ENG 326	Advanced Studies in Science Fiction	4
ENG 340	Creative Writing: Advanced Poetry	4
ENG 341	Creative Writing: Advanced Fiction	4
ENG 410	History of Ideas in Literature	4
ENG 414	Greek and Comparative Mythology	4
ENG 415	Literature of the Old Testament	4
ENG 416	Literature of the New Testament	4
ENG 418	Grammatical Analysis	4
ENG 419	Advanced Topics in Syntax	4
ENG 420	Stylistics	4
ENG 440	Creative Writing: Poetry and Publication	4
ENG 441	Colloquium in Literature	4
		Hours credit: 64

Professional Teacher Education

Prior to application to the PTE program, the student must have established a 2.30 average in English courses and must have completed at least two English courses at UNC. Students must complete above program except that hours in electives are reduced from 28 to 11 hours.

Professional Teacher Education Core		
EDLS 363	Clinical Experience	2
EED 341	Methods and Materials for Teaching Language and Composition in the Secondary School	4

(These two courses must be taken concurrently and at least one quarter must elapse between the time the courses are completed and student teaching.)

EDFE 270	Teacher Aide	2
		Hours credit: 47

Departmental requirements for teaching majors (hours may be counted toward major).

ENG 202	Writing About Language	4
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²⁸Qualified students may be exempted by examination.

ENG 240	Creative Writing: Introduction to Poetry	4
ENG 241	Creative Writing: Introduction to Fiction	4
ENG 321	Generative-Transformational Grammar	4
EED 402	Literature and Materials in the Secondary School	5
		Hours credit: 17

Recommended courses (one or more):

EDEM 410	Introduction to Educational Media	2
EDEM 460	Television in Education	3
PSY 230	Human Growth and Development	5
COMM 302	Small Group Communication	4
COMM 420	General Semantics	4

Recommended minors: foreign languages, humanities, communication, journalism, theatre arts, history, and philosophy.

Teaching majors are advised to complete student teaching one quarter before graduation in order to allow for an independent study on problems in teaching after the student-teaching experience.

English Minor

ENG 101, 102, 103, 105, and 106 may not be counted toward the English minor.

Required courses:

ENG 111	Introduction to Poetry ^{2*}	4
ENG 114	Introduction to Language	4
ENG 115	Introduction to Fiction and Drama ^{2*}	4
	Electives in English	19
		Hours credit: 31

Hours chosen from Groups I, II, III, and IV and from the electives for English majors. Teaching minors may elect ENG 250 or ENG 321 as an elective if that course has not been chosen as a requirement.

Minors in English who plan to teach in the secondary school are required to take only 11 hours of elective credit in English, but they must take the following courses:

ENG 202	Writing About Language	4
EED 402	Literature and Materials in the Secondary Schools	5
One of the following:		
ENG 250	The English Language	4
ENG 321	Generative-Transformational Grammar	4
		Hours credit: 36

Teaching minors who wish to do student teaching in English must take EED 341, Methods and Materials for Teaching Language and Composition in the Secondary School, and may have to take EDLS 363 as well.

Elementary Education majors minoring in English are not to take the program designed for secondary-school teachers.

Honors. The Department of English participates in the Honors Program. See Honors Program section of catalog.

Environmental Studies Program

The following credit hours of intensive environmental studies represent an interdisciplinary approach to the many

complex environmental problems. They may be applied to the student's academic program in a variety of ways.

1. The courses may be used as electives to the General Education curriculum requirements, in specific code categories which differ from course to course. Consult the course description section of this catalog for exact information as to which code category applies to each of the courses listed below.

2. The courses may be used as components of an environmental studies emphasis in an Interdisciplinary Studies Program. (See description of latter program in this catalog.)

3. Thirty-one credit hours from the courses listed below must be fulfilled for any student electing to complete a minor program in Environmental Studies. The specific courses selected from among those listed below to fulfill the minor requirements must be individually arranged between the student and the minor advisor.

The required 31 hours for the Environmental Studies minor must include the following distribution of courses:

ENST 110 Introduction to Environmental Studies, at least two f prefix ENST courses, at least two h prefix ENST courses, at least one additional g prefix ENST course and ENST 400 Senior Seminar.

ENST 110	Introduction to Environmental Studies	3
ENST 120	Humans' Attitudes Toward Their Physical and Social Environments	3
ENST 130	The History of the Environmental Movement	3
ENST 209	Energy and the Environment	3
ENST 210	Reactors and Radiation	3
ENST 211	Chemistry and the Environment	3
ENST 220	Population Dynamics and Genetic Probabilities	3
ENST 230	Economics of Natural Resources	3
ENST 240	Politics and the Environment	3
ENST 250	Man's Atmospheric Environment	3
ENST 255	Geological Hazards	3
ENST 260	Ecological Interpretations	3
ENST 270	Social Implications of Ecology	3
ENST 280	Natural Resources and Technology	3
ENST 281	The Politics of the Nuclear Age	3
ENST 300	The General Systems Approach	4
ENST 304	Environment and the Law	3
ENST 309	Solar and Alternative Power Systems	3
ENST 310	Future Environments and Ecosystem Modification	3
ENST 340	Internship in Environmental Studies	5-18
ENST 350	Environmental Health	3
ENST 361	Art and the Environment	3
ENST 362	Literature and the Environment	4
ENST 422	Individual Studies	1-4
GEOG 315	Resource Management	3
ENST 400	Senior Seminar	3

Due to the continually emerging nature of the Environmental Studies Program, the interested student is urged to check with the Environmental Studies Coordinator for the most up-to-date information on course offerings and program requirements.

Fine Arts

Administered by the Department of Fine Arts

The Department of Fine Arts administers programs leading to the Bachelor of Arts degree in Fine Arts with majors in Art and Art Education.

Art Major

Students must plan to fulfill the following requirements:

1. Meet all General Education requirements as specified in this catalog.

2. Complete the following Foundation Core required courses.

FA 180	Introduction to Art	4
FA 181	History of Art I	4
FA 182	History of Art II	4
FA 183	History of Art III	4
FA 184	Drawing and Design I	3
FA 185	Drawing and Design II	3
FA 186	Color Theory	3
FA 187	Three-dimensional Design	3
		Total: 28

3. Complete the following Introductory

Studio courses:

FA 211	Ceramics I	3
FA 212	Ceramics II	3
FA 221	Fibers I	3
FA 222	Fibers II	3
FA 231	Painting I	3
FA 232	Painting II	3
FA 251	Printmaking I	3
FA 252	Printmaking II	3
FA 261	Sculpture I	3
FA 262	Sculpture II	3
		Total: 30

4. Complete any advanced Art History (300 level) courses for four hours credit each, and:

FA 380	Art: Analysis and Criticism	4
Advanced Art History Courses		8
		Total: 12

Total credits in required Fine Arts courses: 70

5. Complete 30 credit hours of Fine Arts electives (or optional area(s) of emphasis, subject to advisement) in courses numbering 300 and above. The 400 level studio courses may be repeated once for an additional three hours credit in each course.

6. A review of portfolio will be required of all Fine Arts majors on completion of the studio component of the Foundation Core courses for the purpose of advising to the student's strengths and weaknesses.

7. Complete 20 credit hours of University electives. Students may be advised (or required) to take courses in specific areas to augment their studies in Fine Arts.

Art Education Major

The Art Education major prepares students to teach art in the elementary and secondary schools. It is a program leading to K-12 certification if all the requirements are satisfactorily completed.

Students who are not Art Education majors and are not seeking certification may enroll in the Art Education program to provide background for teaching art in the helping professions and other non-traditional programs. Appropriate advising is

recommended to plan a suitable course of study for a non-certification program.

1. All education majors must complete the University General Education requirements, the Fine Arts Foundation Core, the Introductory Level Studio Courses, and the review of portfolio on completion of the Studio component of the Foundation Core courses.

2. All Art Education majors must complete one area of emphasis of at least 12 quarter hours from the following areas: Art History, Ceramics, Drawing Fibers, Painting, Printmaking, or Sculpture.

3. Students majoring in Art Education must apply for admission to the Professional Teacher Education program (PTE). This program requires the completion of specified courses in the College of Education. These requirements are outlined in the *Bulletin* under Profession Teacher Education (PTE) — see Table of Contents. At the time application is made to PTE, the student must also apply for the Art Education Professional Teacher Education program (AE/PTE).

4. Application to PTE requires the completion of EDFE 270 Teacher Aide for a minimum of two quarter hours of credit. Art Education majors must complete this requirement by taking one quarter of EDFE 270 in an elementary or middle school and one quarter hour of EDFE 270 in a secondary school; or an equivalent situation with elementary and secondary age students.

5. It is recommended that application for PTE be made during the Sophomore year (or after completing 45 quarter hours of University course work) and no later than the first quarter during the Junior year. Application to the PTE program must be made at the beginning of the quarter and all forms must be received by the PTE office before the second Friday of the quarter. Applying to PTE requires the student to have a declared major in Art Education. A copy of the requirements for departmental admission to PTE should be obtained from the Art Education Coordinator prior to making application for the Professional Teacher Education program. At this time, the student will be assigned an Art Education advisor.

6. In addition to fulfilling program procedures and course requirements, an Art Education major must have and maintain a minimum grade point average of 3.0 in Fine Arts and 2.80 GPA for their overall University course work. Failure to do so may result in the recommendation to discontinue the Art Education program.

7. The College of Education PTE requirements must be completed prior to enrolling in the Art Education program. In addition, the following Art Education courses must be completed (they are prerequisites for the Art Education program):

FALS 340	Clinical Experience: K-12 Art	2
FA 348	Art and the Handicapped Student	3
FA 440	Cultural Studies in the K-12 Curriculum	4

8. FA 348 may be used to fulfill three quarter hours of the PTE Special Education requirement of two courses. EDSE 405 Handicapped Students in the Regular Classroom is required. FA 348 may be used to

substitute for EDSE 406 Working with Handicapped Students in the Elementary School or EDSE 407 Working with Handicapped Students in the Secondary School.

9. Art Education Program. The following required Art Education courses must be taken concurrently in the same quarter:

FA 441	Readings in Art Education	3
FA 442	Studies in Visual Growth and Development	3
FA 443	Art Education Studio and Strategies	4
FA 444	Curriculum in the Visual Arts	3
FA 445	Seminar for Visual Arts Education	2
		Hours credit: 15

10. Comprehensive Art Education PTE Review. Prior to gaining approval to student teach (EDFE 444), an Art Education major must complete the Comprehensive Art Education PTE (AE/PTE) Review. This review is scheduled during the eighth week of each quarter. Students are advised to complete the AE/PTE Review at least two quarters prior to the quarter they plan on student teaching. In order to take the Comprehensive AE/PTE Review, students must have completed the Art Education program and the pre-requisites or have completed the pre-requisites and be currently enrolled in the Art Education program.

The departmental AE/PTE Review is administered by the Department of Fine Arts Professional Teacher Education Committee. Students being reviewed make a presentation to this committee in accordance with the requirements specified in the departmental AE/PTE application guidelines (available from the Art Education Coordinator at the time of admission to the PTE program). At the time of the review, the student is evaluated on the basis of the following:

1. Oral presentation
2. Visual presentation
3. Use of media and techniques
4. Design qualities
5. Artistic excellence
6. Ability to talk about his/her art
7. Intentionality of his/her art
8. Philosophy of teaching
9. Attitude
10. Poise and self-confidence

All students preparing for the AE/PTE Review should work closely with their Art Education advisor.

The committee will determine whether the student: (1) satisfactorily passes the review and is approved to student teach, (2) passes with stated conditions that must be met prior to gaining approval to student teach, or (3) fails to satisfactorily pass the review. A student who fails the review will not be approved to student teach. A student who fails the review may apply for a second review the following quarter. Failure to pass the review a second time will be considered grounds for terminating the student's art teacher certification program. The decision of the committee on a second review may be appealed.

11. Following satisfactory completion of the AE/PTE Review, a student is eligible to student teach. These arrangements are made through the Education Field Experience office located in McKee Hall.

Note: The Art Education program is a professional art teacher training program. Neither permission to student teach nor certification are guaranteed.

Fine Arts Minor

The Fine Arts minor is an academic (non-teaching) minor consisting of 36 quarter hours of Fine Arts course work. Students taking a Fine Arts minor must complete 36 quarter hours of Fine Arts course work including the following required courses:

FA 181	History of Art I	4
FA 184	Drawing and Design I	3
FA 185	Drawing and Design II	3
FA 187	Three-Dimensional Design	3
		Hours credit: 13

Take one Art History course from the following:

FA 182	History of Art II	4
FA 183	History of Art III	4

Take three studio courses from the following:

FA 211	Ceramics I	3
FA 221	Fibers I	3
FA 251	Printmaking I	3
FA 261	Sculpture I	3
FA 321	Painting I	3
		Hours credit: 13

Elect 10 hours of course work in Fine Arts to complete the Fine Arts minor requirement of 36 quarter hours. At least six of these quarter hours must be concentrated in one of the studio areas selected above. A Fine Arts minor advisor is required.

UNC Program in Florence: Comparative Studies in Italy

The Department of Fine Arts participates in a program in Comparative Studies at a residence center, "La Poggerina" near Florence, Italy.

Courses offered through this program may be used to partially satisfy major and minor requirements in the Department of Fine Arts, Anthropology, Home Economics, Humanities, Business, Education or General Education requirements. A description of this program may be found in this catalog.

French Major

Administered by the Department of Foreign Languages

Study abroad centers have been established in France at Tours, in Germany at Bayreuth, and in Morelia, Mexico, for a new study abroad program in which students may earn 16-17 hours of general education credit while spending spring quarter in a foreign country. Sponsored by the Foreign Language Department, University of Northern Colorado, the program is directed to freshman and sophomore students who would like to study in a foreign country while completing their general education credit at UNC as well as

completing the third quarter of a first- or second-year language course.

Students pursuing the B.A. with a major in French must plan their programs to fulfill the following requirements:

1. General Education requirements of 60 hours are specified in this catalog. (French majors are urged to take ANT 100 or SOC 100 or HIST 130, 131, and 132.) Student should consult his or her assigned advisor.

2. **Note.** All work to be counted toward the B.A. degree in French must be beyond the first-year level.

3. A minor of at least 27 quarter hours approved by the department.

4. In addition, students must demonstrate competency in certain areas of language activity. See department for competency list.

5. Electives sufficient to complete requirements for the B.A. degree.

6. Major/core

These required courses or their equivalents:

FR 201	Intermediate French I	4
FR 202	Intermediate French II	4
FR 203	Intermediate French III	4

In addition, one of the following series:

A. For students who plan to teach in the public schools:

FR 313	Intermediate French Conversation	3
FR 314	Intermediate French Composition	3
FR 315	Intermediate Review Grammar	3
FR 340	French Civilization I	3
FR 341	French Civilization II	3
FR 342	Contemporary France	3
FR 400	Problems in Oral French	3

Elective courses:

Four French literature courses chosen from the departmental offerings 12

Electives in French to be chosen with the consent of the advisor³⁰ 6
Hours credit: 48

Professional Teacher Education

	Professional Teacher Core	39
EDLS 363	Clinical Experience	2
FL 341	Methods of Teaching in the Secondary School	3

Hours credit: 44

Before being permitted to apply for student teaching, a French major must have successfully passed the department oral proficiency examination.

B. For students wishing a Liberal Arts major:

FR 340	French Civilization I	3
FR 341	French Civilization II	3
FR 342	Contemporary France	3

Elective courses:

Four French literature courses chosen from the departmental offerings 12

Electives in French to be chosen with the consent of the advisor³⁰ 15
Hours credit: 48

French Minor

Required courses:

FR 201	Intermediate French I	4
FR 202	Intermediate French II	4
FR 203	Intermediate French III	4

In addition, one of the following series:

A. For students who plan to teach in the public schools:

Required courses:

FR 313	Intermediate French Conversation	3
FR 314	Intermediate French Composition	3
FR 315	Intermediate Review Grammar	3

Electives:

Three courses of the following to be chosen with the consent of the advisor:

FR 340	French Civilization I	3
FR 341	French Civilization II	3
FR 342	Contemporary France	3
FR 400	Problems in Oral French	3

Hours credit: 30

B. For students wishing a Liberal Arts minor:

Required courses:

FR 340	French Civilization I	3
FR 341	French Civilization II	3
FR 342	Contemporary France	3

Electives:

Electives in French to be chosen with the consent of the advisor 9
Hours credit: 30

Geography Major

Administered by the Department of Geography

The Department of Geography offers a non-teaching major and minor in Geography.

Students pursuing the B.A. with a major in Geography must plan their programs to fulfill the following requirements:

1. General Education requirements of 60 hours as specified in this catalog.

2. Students majoring in geography will take two of the following courses as part of their general education: ANT 100, ECON 100, PSCI 100, or SOC 100.

3. At least one minor of 27 quarter hours.

4. Students interested in being certified for teaching Geography must take a major in Social Sciences.

5. Major Core

GEOG 120	Physical Geography I	3
GEOG 121	Physical Geography II	3
GEOG 123	Cultural Geography	4
GEOG 148	Geography of the United States and Canada	5
GEOG 200	Location and Human Behavior	4
GEOG 364	Maps and Their Uses	2

Hours credit: 21

Electives in Advanced Regional Geography Courses from the Following: 14

GEOG 318	Australia and the Pacific	3
GEOG 326	Africa	5
GEOG 336	Geography of Mexico and the Caribbean	3
GEOG 337	Geography of Central America	3
GEOG 338	South America	3
GEOG 342	Geography of the Mediterranean	2
GEOG 343	Western Europe	3
GEOG 344	Asia	3
GEOG 348	Physical Geography of the United States	4
GEOG 350	Geography of Colorado	3
GEOG 353	Geography of the Great Plains	2
GEOG 365	The Soviet Union	5

Electives in Advanced Systematic Geography Courses from the Following: 15

GEOG 312	Economic Geography	5
GEOG 315	Resource Management	3

GEOG 348	Physical Geography of the United States	4
GEOG 355	Population Geography	3
GEOG 356	Agricultural Geography	2
GEOG 357	Transportation Geography	3
GEOG 360	Political Geography	3
GEOG 370	Historical Geography of the City	3
GEOG 371	Urban Geography of the Contemporary City	3
GEOG 372	Urban-Social Geography	4
GEOG 402	Cartography	4
GEOG 470	Urban and Regional Planning	3
GEOG 475	Quantitative Techniques in Geography	3
GEOG 490	Problems in Geography	3

Hours credit: 50

Geography Minor

Students minoring in geography will take two of the following courses as part of their general education: ANT 100, ECON 100, PSCI 100, or SOC 100.

Required courses:

GEOG 100	World Geography	5
GEOG 148	Geography of the United States and Canada	5
GEOG 364	Maps and Their Uses	2

Hours credit: 12

Electives in Advanced Regional Geography from the Courses Listed in the Major 5
Electives in Advanced Systematic Geography from the Courses Listed in the Major 5
Electives in either Advanced Regional or Systematics Geography 5
Hours credit: 27

German Major

Administered by the Department of Foreign Languages

Study abroad centers have been established in France at Tours, in Germany at Bayreuth, and in Morelia, Mexico, for a new study abroad program in which students may earn 16-17 hours of general education credit while spending spring quarter in a foreign country. Sponsored by the Foreign Language Department, University of Northern Colorado, the program is directed to freshman and sophomore students who would like to study in a foreign country while completing their general education credit at UNC as well as completing the third quarter of a first- or second-year language course.

Students pursuing the B.A. with a major in German must plan their programs to fulfill the following requirements:

1. General Education requirements of 60 hours are specified in this catalog. (German majors are urged to take ANT 100 or SOC 100 or HIST 130, 131, 132.) Student should consult his or her assigned advisor.

2. **Note.** All work to be counted toward the B.A. degree in German must be beyond the first-year level.

3. A minor of at least 27 quarter hours approved by the department.

³⁰Three hours of FL 131, Foreign Language House and FL 410, Linguistics, are the only FL prefix courses which may be applied toward the major.

4. In addition, students must demonstrate competency in certain areas of language activity. See department for competency list.

5. Electives sufficient to complete requirements for the B.A. degree.

6. Major/core

These required courses or their equivalents:

GER 201	Intermediate German I	4
GER 202	Intermediate German II	4
GER 203	Intermediate German III	4

In addition, one of the following series:

A. For students who plan to teach in the public school:

GER 335	Intermediate German Conversation	4
GER 336	Advanced German Composition	4
GER 337	Advanced German Grammar	4
GER 345	Phonetics of the German Language	3
GER 400	Problems in Oral German	3

Elective courses:

Five German literature courses chosen from the departmental offerings	15
Electives in German to be chosen with the consent of the advisor ³¹	3
Hours credit:	48

Professional Teacher Education

Professional Teacher Education Core

EDLS 363	Clinical Experience	2
FL 341	Methods of Teaching in the Secondary School	3
Hours credit:	44	

Before being permitted to apply for student teaching, a German major must have successfully passed the department oral proficiency examination.

B. For students wishing a Liberal Arts major:

GER 335	Intermediate German Conversation	4
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Elective courses:

Five German literature courses chosen from the departmental offerings.	15
Electives in German to be chosen with the consent of the advisor	17
Hours credit:	48

German Minor

Students must demonstrate competency in certain areas of language activity. See department for competency list.

Required courses:

GER 201	Intermediate German I	4
GER 202	Intermediate German II	4
GER 203	Intermediate German III	4

In addition, one of the following series:

A. For students who plan to teach in the public schools:

Required courses:

GER 335	Intermediate German Conversation	4
GER 336	Advanced German Composition	4
GER 337	Advanced German Grammar	4
GER 345	Phonetics of the German Language	3
GER 400	Problems in Oral German	3
Hours credit:	30	

B. For students wishing a Liberal Arts minor:

Required course:

GER 335	Intermediate German Conversation	4
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Electives:

Three German literature courses chosen from the departmental offerings	9
Electives in German to be chosen with the consent of the advisor	5
Hours credit:	30

Gerontology

Administered within the School of Nursing

Students pursuing the B.S. degree with a major in Gerontology must plan their programs to fulfill the following requirements:

1. A certificate in Gerontology is also awarded to the student who is pursuing the bachelor's degree program.

2. Complete the General Education requirements of 60 quarter hours.

3. The following courses in the major:

ZOO 156	Elements of Human Physiology-Anatomy	5
GERO 205	Introduction to Gerontology	3
PSY 230	Human Growth and Development	3
HPER 236	Introduction to Health Aspects of Gerontology	3
HPER 251	Leisure, Recreation and the Older Adult	3
EDSE 290	Orientation to Rehabilitation and Related Services	3
SOC 341	Sociology of Aging	3
HEC 351	Nutrition for the Older Adult	3
GERO 375	Social Problems of Aging	3
ANT 380	Cross Cultural Perspectives in Aging	3
GERO 397	Direct Practice with Older Persons	3-4
PSY 433	Maturity and Aging	3
EDSE 470	Communication Disorders Among the Elderly	3
GERO 485	Practicum/Seminar	3
GERO 490	Management/Administration in the Aging Network	3
GERO 493	Management/Administration of Long Term Institutional Care Facilities for the Aged	3
GERO 495	Internship	18
Hours credit:	68-69	

4. One minor of 30 quarter hours, or 30 quarter hours of supporting courses selected with the approval of the major advisor in the School of Nursing and Gerontology.

5. A GPA of 2.30 cumulative and in required courses.

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

Gerontology Minor

GERO 205	Introduction to Gerontology	3
HPER 236	Introduction to Health Aspects of Gerontology	3
SOC 341	Sociology of Aging	3
GERO 375	Social Problems of Aging	3
ANT 380	Cross Cultural Perspectives in Aging	3
GERO 397	Direct Practice with Older Persons	3-4
PSY 433	Maturity and Aging	3
EDSE 470	Communication Disorders Among the Elderly	3
GERO 485	Practicum/Seminar	3
GERO 490	Management/Administration in the Aging Network	3
Hours credit:	30-31	

Persons who have already earned a degree at the undergraduate level may also pursue a certificate in Gerontology independently.

12 credit hours in approved Gerontology courses are required for the certificate; GERO 205 is a specific requirement. Holding a degree in a specific discipline and

certification in Gerontology enhances one's professional opportunities in Gerontology related work settings.

Health Education Major

Administered by the Department of Health and Safety Education

Health Education Major (School Health Emphasis)

Students pursuing the B.A. degree with a major in Health Education (School Health Emphasis), must plan their programs to fulfill the following requirements:

1. Complete the General Education requirements of 60 quarter hours.

2. Complete Professional Teacher Education requirements of 39 quarter hours.

3. Complete the following required courses:

CHEM 108	Fundamentals of General Chemistry	5
or		
CHEM 109	Fundamentals of Organic Chemistry and either	5
ZOO 156	Elements of Human Physiology-Anatomy	5
or		
ZOO 250	Human Physiology ³²	5
and		
HPER 200	Introduction to Health Education	3
HPER 238	Contemporary Issues in Drug Abuse	3
either		
HEC 250	Principles of Human Nutrition	3
or		
HEC 251	Nutrition I and either	3
PSY 250	Humanistic Psychology	3
or		
PSY 255	Psychology of Emotional Adjustment and either	3
BIO 261	Medical & Public Health Microbiology ³²	4
or		
BIO 361	Microbiology ³²	5
and		
HPER 262	Standard First Aid & Personal Safety	2
HPER 299	Community Health	3
HPER 303	Health Education in the Elementary School	2
HPER 336	Human Sexuality	3
HPER 342	Modern Concepts of Health & Disease	3
HPER 343	Methods and Observations of Health Education in the Secondary School	5
HPER 350	Introduction to Environmental Health	3
HPER 205	Issues in Health	3
PSY 432	Preadolescence and Adolescence	3
HPER 471	Safety Education	3
Hours credit:	56-57	

³¹Three hours of FL 131, Foreign Language House and FL 410, Linguistics are the only FL prefix courses which may be applied toward the major.

³²Students need to pay special attention to course prerequisites.

Health Education Minor (School Health Emphasis)

Students pursuing the B.A. degree with a minor in Health Education (School Health Emphasis) must complete the following core courses:

Required courses:

HPER 200	Introduction to Health Education	3
HPER 205	Issues in Health	3
HPER 299	Community Health	3
HPER 303	Health Education in the Elementary School	2
HPER 343	Methods & Observations of Health Education in the Secondary School	5
		Hours credit: 16

Take 16 hours from the following elective courses:

HPER 238	Contemporary Issues in Drug Abuse	3
PSY 255	Psychology of Emotional Adjustment	3
HPER 262	Standard First Aid and Personal Safety	2
HPER 336	Human Sexuality	3
HPER 342	Modern Concepts of Health & Disease	3
HPER 350	Environmental Health	3
HPER 471	Safety Education	3
		Hours credit: 32

Health Education Major (Community Health Emphasis)

Students pursuing the B.S. degree with a major in Health Education (Community Health Emphasis) must plan to fulfill the following requirements:

1. Complete the General Education requirements of 60 quarter hours.
2. Complete a minor program of study through advisement.
3. Complete the following required courses:

CHEM 108	Fundamentals of General Chemistry	5
CHEM 109	Fundamentals of Organic Chemistry <i>and either</i>	5
ZOO 156	Elements of Human Physiology- Anatomy <i>or</i>	5
ZOO 250	Human Physiology ³² <i>and</i>	5
HPER 200	Introduction to Health Education	3
HPER 238	Contemporary Issues in Drug Abuse <i>either</i>	3
HEC 250	Principles of Human Nutrition <i>or</i>	3
HEC 251	Nutrition I <i>and either</i>	3
PSY 250	Humanistic Psychology <i>or</i>	3
PSY 255	Psychology of Emotional Adjustment <i>and either</i>	3
BIO 261	Medical and Public Health Microbiology ³² <i>or</i>	4
BIO 361	Microbiology ³²	5
HPER 262	Standard First Aid & Personal Safety	2
HPER 299	Community Health	3
HPER 336	Human Sexuality	3
HPER 342	Modern Concepts of Health & Disease	3
HPER 350	Introduction to Environmental Health	3

HPER 471	Safety Education	3
HPER 454	Internship in Community Health ³²	9-18
		Hours credit: 57-67

Electives.

Take 16 hours from the following elective

courses:		
NURS 318	Orientation to the Concept of "Health" and the Health Care Delivery System	3
CHEM 109	Fundamentals of Organic Chemistry	5
CHEM 130	Introductory Organic Chemistry	5
COMM 140	Principles of Mass Communication	3
PSY 202	Principles and Philosophies of Guidance	3
SRM 203	Introductory Statistical Methods	3
HPER 205	Issues in Health	3
ICU 210	Death and Dying	3
HEC 221	Human Relationships	3
BIO 231	Genetics ³²	3
BIO 234	Population Genetics ³²	3
HPER 236	Health Aspects of Gerontology	3
BIO 262	Common Infections of Man	3
PSY 265	Social Psychology ³²	3
SOC 272	The Community ³²	3
CHEM 281	Fundamentals of Human Biochemistry ³²	5
SRM 303	Basic Statistical Inference	3
SOC 310	Social Psychology ³²	3
SOC 312	Mass Communication and Propaganda Analysis ³²	3
HEC 315	Consumer Education	3
HEC 316	Consumer Protection	3
SOC 325	Sociology of Medicine ³²	3
BUS 341	Life and Health Insurance ³²	3
BUS 354	Human and Organizational Behavior ³²	4
BIO 361	Microbiology ³²	5
BUS 366	Consumer Behavior ³²	4
BIO 380	Sexually Transmitted Diseases	3
HPER 406	Topics in Birth Control and Contraception	1
HPER 498	Counseling in Birth Control and Contraception ³²	1-4
ZOO 412	General Parasitology ³²	5
BIO 430	Behavioral Genetics ³²	3
SOC 435	Socio-Cultural Change ³²	3
PSY 465	Psychology of Human Sexuality	3
ANT 470	The Nature of Man	3
ANT 472	Health Anthropology	4
		Hours credit: 71-81

Health Education Minor (Community Health Emphasis)

Students pursuing the B.S. degree with a Minor in Health Education (Community Health Emphasis) must complete the following core courses:

Required courses:

HPER 200	Introduction to Health Education	3
HPER 205	Issues in Health	3
HPER 299	Community Health	3
HPER 342	Modern Concepts of Health & Disease	3
HPER 350	Introduction to Environmental Health	3
		Hours credit: 15

Take 18 hours from the following elective courses:

HPER 238	Contemporary Issues in Drug Abuse <i>either</i>	3
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SRM 203	Introductory Statistical Methods <i>or</i>	3
SRM 303	Basic Statistical Inference <i>and</i>	3
HPER 262	Standard First Aid & Personal Safety <i>either</i>	2
PSY 265	Social Psychology ³² <i>or</i>	3
SOC 310	Social Psychology ³² <i>and</i>	3
SOC 272	The Community ³²	3
SOC 325	Sociology of Medicine ³²	3
		Hours credit: 33

Health Occupations Teacher Education

Administered by Department of Health Occupations

The Health Occupations-Vocational Teacher Education Program provides for the undergraduate preparation of persons who hold current registration, certification, or licensure in their health field to teach in a health occupations program at the secondary, post-secondary, or adult level.

Required courses:

VTEF 310	Vocational Education Foundations Seminars	3
VTHO 400	Organization and Administration of Health Occupations	3
VTEF 419	Advisory Committee Seminars in Vocational Education	2
VTHO 401	Instructional Design: Occupational Analysis	1
VTHO 402	Instructional Design: Performance Objectives	1
VTHO 403	Instructional Design: Classroom Evaluation	1
VTHO 404	Instructional Design: Instructional Methods	1
VTHO 405	Instructional Design: Media Utilization	1
VTHO 406	Student Evaluation in the Clinical Setting	3
VTEF 430	Vocational Education for Learners with Special Needs	3
VTHO 453	Preparation for Teaching Vocational Health Occupations	3
EDFE 444	Supervised Teaching	18
VTHO 483	Teaching Improvement Seminar in Vocational Health Occupations	2
		Hours credit: 42

Electives selected from the following in conjunction with advisor.

VTEF 410	Cooperative Education and Coordination Techniques	3
VTEF 400	Vocational Student Organizations	1
VTEF 404	HOSA/Post-Secondary Health Occupations Education Organizations Seminar	2
VTEF 418	Adult Education	3
EDEM 410	Introduction to Educational Media	3
EDEM 420	Design and Construction of Graphic Material	3
VTHO 308	Workshop in Health Occupations	1-9
		Hours credit: 54

³²Students need to pay special attention to course prerequisites.

Health Practitioner Preparation Minor

The Health Occupations Vocational Teacher Education program has established criteria for each of the health occupations programs based on the practitioner preparation required by the program accrediting agencies. The evaluation of the health practitioner preparation will be accomplished in conjunction with the admissions office at UNC, the health occupations teacher education program and the Colorado community colleges.

Associated with the health practitioner preparation needed for the degree program are required work hours identified in the State Plan for Vocational Education in order to qualify for a vocational credential. These occupational hours will also be achieved before students complete the B.A. in Health Occupations Teacher Education. Up to 54 quarter hours can be added based on this evaluation.

Hours credit: 54

Non-Department Emphasis

Professional Teacher Education

Students planning to use this major as a certification program for teaching must complete the program of Professional Teacher Education as described in this catalog. (44 hours)

Please note that the PTE program which accompanies this major involves the following modification: VTEF 430 (3 credits) may be substituted for EDSE 406 or EDSE 407.

Other Recommended Courses. Career Option/Alternatives — to be planned in conjunction with advisor prior to beginning.

Hours credit: 12

History Major

Administered by the Department of History

Liberal Arts

Students pursuing a B.A. degree in History must complete the following program requirements:

1. General Education requirements of 60 hours as specified in this catalog.
2. One minor of 27 hours preferably within the College of Arts and Sciences.
3. The Department of History recommends that history majors take a foreign language.
4. Electives sufficient to complete the 180 hours required for graduation.

Core Course Requirements:

HIST 100	The American Past, 1492-1800	4
HIST 101	The American Past, 1800-1900	4
HIST 102	The American Past, 1900-Present	4
HIST 130	Western Civilization I	4
HIST 131	Western Civilization II	4
HIST 132	Western Civilization III	4
HIST 299	Introduction to Historical Research	3
HIST 499	Interdisciplinary Readings in History	3

Courses total 30 hours

Third World Course Requirements:

One of the following elective courses:

HIST 110	African Civilization	4
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HIST 115	Asian Civilization	4
HIST 218	History of Mexico	4
HIST 314	History of Latin America, Colonial Period	4
HIST 315	History of Latin America, National Period	4

Courses total 4 hours

Advanced Course Requirements:

One elective above the 100-level must be completed in each of the following areas: United States, Europe, Third World (Asia, Africa, Latin America). A Latin American course chosen to fulfill this requirement cannot be used to fulfill the Third World Course requirement listed above.

Courses total 30 hours

Total hours in major: 64

Teacher Preparation

Students pursuing a B.A. degree in History who expect to receive departmental endorsement in the social studies certification area must complete the following program requirements:

1. The General Education requirements as specified in this catalog.

2. Core

Required courses:

HIST 100	The American Past, 1492-1800	4
HIST 101	The American Past, 1800-1900	4
HIST 102	The American Past, 1900-Present	4
HIST 130	Western Civilization I	4
HIST 131	Western Civilization II	4
HIST 132	Western Civilization III	4
HIST 299	Introduction to Historical Research	3
HIST 499	Interdisciplinary Readings in History	3

Courses total 30 hours

ANT 100	General Anthropology	5
ECON 100	Introductory Economics	5
GEOG 100	World Geography	5
PSCI 100	National Government of the United States	5
SOC 100	Principles of Sociology	5

Courses total 25 hours

Electives:

Student must complete two courses in Third World History (Asian, African or Latin American). In addition students must complete one course above the 100-level in both American and European History. Additional hours may be chosen by the student from any area.

Courses total 22 hours

Social Science electives above the 100 level:

Courses total 12 hours

Total hours in major: 89

Professional Teacher Education

Students planning to teach in this major are required to complete PTE requirements of 39 hours as specified elsewhere in this catalog. The PTE program accompanying this major involves the following modifications:

1. Prior to application students must have completed 20 hours of history, 8 of which must have been taken at UNC, with a minimum GPA of 2.30 (computed from UNC courses only).

2. Students must complete the following required courses:

EDF 366	Foundations of Education	4
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PSY 347	Developmental Psychology for Teachers	3
HIST 130	Western Civilization I	4
HIST 131	Western Civilization II	4
HIST 132	Western Civilization III	4
HIST 100	The American Past, 1492-1800	4
HIST 101	The American Past, 1800-1900	4
HIST 102	The American Past, 1900-Present	4

Electives:

Two introductory social science courses 10

For a total of 40 hours before enrolling in the following other required courses which must be taken concurrently:

SSED 341	Methods of Teaching Social Science in the Secondary School and	3
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EDLS 363	Clinical Experience	2
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3. Students must complete 40 hours in the major before registering for EDFE 444, Supervised Teaching.

History Minor

Students minoring in History who intend to teach Social Studies should take three of the following courses to fulfill their general education requirements in Category f: ANT 100, ECON 100, GEOG 100, PSCI 100, SOC 100, PSY 120. These courses may not be counted toward fulfilling the thirty-six hour minor requirement.

Required courses:

HIST 100	The American Past, 1492-1800	4
HIST 101	The American Past, 1800-1900	4
HIST 102	The American Past, 1900-Present	4
HIST 130	Western Civilization I	4
HIST 131	Western Civilization II	4
HIST 132	Western Civilization III	4

Electives:

Advanced electives in History 12
Hours credit: 36

Honors. The Department of History participates in the Honors Program. See Honors Program section of this catalog.

Home Economics

Administered by the Department of Home Economics

Students pursuing a B.A. in Home Economics may select one of four majors: Dietetics; Food and Nutrition; General Home Economics; and Vocational Home Economics Teacher Education. Students must satisfy the following requirements:

1. Complete the General Education requirements of 60 quarter hours.
2. Courses in the selected major.
3. Electives to complete the 180 quarter hours of academic credit required for graduation.

Dietetics Major

This major prepares the student, upon graduation, to apply for a dietetic internship or a 3-year work experience under the supervision of an A.D.A. registered dietitian. The completion of the internship or work experience qualifies the individual to apply for membership in the American Dietetic Association and to take the examination to become a registered dietitian.

The following courses are required to meet departmental requirements and Plan IV as established by the American Dietetic Association and are listed in the recommended sequences.

Required courses:

HEC 101	Self Identification	2
HEC 108	Investigating the Home Economics Profession	2
BUS 180	Information Systems	4
CHEM 104	Principles of Chemistry I	5
CHEM 105	Principles of Chemistry II	5
CHEM 130	Introductory Organic Chemistry	5
ENG 103	Basic Technical Writing	3
MATH 101	Fundamental Mathematical Skills ³³	3
MATH 123	Intermediate Algebra ³³	5
ZOO 105	Human Biology (sub. for SCI 104 in Gen. Ed.)	4
ZOO 121	Human Anatomy	4
HEC 141	Techniques of Food Preparation	4
PSY 120	General Psychology ³³	3
ANT 100	General Anthropology ³³	5
<i>or</i>		
ANT 110	Introduction to Cultural and Social Anthropology ³³	4
BUS 150	Principles of Management ³³	4
<i>or</i>		
BUS 453	Personnel Management ³³	4
ECON 100	Introductory Economics	5
HEC 242	Principles of Food Preparation	4
HEC 251	Nutrition I	3
HEC 259	Nutrition Module: Medical Terminology	1
BIO 261	Medical and Public Health Microbiology	4
BUS 220	Principles of Accounting I	4
CHEM 281	Human Biochemistry	5
ZOO 250	Human Physiology	5
HEC 351	Nutrition for the Older Adult	3
PSY 341	Phenomenological Approaches to Perception	3
HEC 353	Applied Nutrition	4
HEC 359	Nutrition Module: Interpreting Laboratory Data	1
HEC 362	Demonstration Techniques	2
BUS 281	FORTRAN Programming	3
<i>or</i>		
BUS 383	COBOL Programming	3
SOC 100	Principles of Sociology	5
SOC 272	The Community ³³	3
<i>or</i>		
SOC 325	Sociology of Medicine ³³	3
HEC 354	Community Nutrition	3
HEC 453	Nutrition Intervention Practicum	3
HEC 408	Seminar in Home Economics	1
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 451	Nutrition II	3
HEC 456	Infant and Child Nutrition	3
SRM 315	Statistics for Health Sciences	3
PSY 466	Industrial Psychology	3

Hours credit: 153

The student with the guidance of an advisor will select other electives to supplement major requirements and to meet individual needs and interests.

Food and Nutrition Major (Emphasis in Food Service Management)

With completion of the Food and Nutrition core courses and the Food Service Management Emphasis, the student will be prepared for management positions in institutional food service organizations, such as restaurants, schools, colleges and universities, industrial feeding, in-transit feeding, healthcare, military and governmental agencies. A student may anticipate that many food service institutions may require additional training in their specific program. The student must work closely with an advisor in completing this major.

Food and Nutrition Core

Required courses:

HEC 101	Self Identification	2
HEC 108	Investigating the Home Economics Profession	2
CHEM 108	General Chemistry	5
CHEM 109	General Chemistry	5
HEC 141	Techniques of Food Preparation	4
HEC 242	Principles of Food Preparation	4
HEC 249, 349, 449	Food Module	5
HEC 251	Nutrition I	3
BIO 363	Food Microbiology	5
HEC 362	Demonstration Techniques	2
HEC 408	Seminar in Home Economics	1
HEC 409	Home Economics Internship	15
HEC 445	Experimental Food Studies	4

Emphasis in Food Service Management

Required courses:

HEC 446	Food Service Administration	3
HEC 447	Quantity Food Purchasing and Preparation	4
HEC 448	Organization and Management of Food Service	3
BUS 150	Principles of Management	4
BUS 180	Information Systems	4
BUS 205	Business Communications	4
BUS 220	Principles of Accounting I	4
BUS 221	Principles of Accounting II	4
BUS 231	Business Law I	4
BUS 260	Marketing	4
BUS 291	Business Statistics I	4
BUS 354	Human Organizational Behaviors	4
BUS 365	Marketing Strategies	4
BUS 370	Business Finance	4
ECON 110	Micro-Economics	4
MATH 115	Essentials of Mathematics I	3

The student with the guidance of an advisor will select electives from courses in various departments to supplement major requirements and to meet individual needs and interests.

General Home Economics Major

The general home economics major allows students maximum flexibility in course and career selection. With the help of a faculty advisor, students may select individual programs of studies best suited to their needs and interests.

Students pursuing the B.A. degree with a home economics major must plan their program to meet the following requirements:

1. Complete the following courses in the home economics core plus the requirements in either Plan A or B.

a. Plan A: Complete supporting courses in

all areas of home economics.

b. Plan B: Select an emphasis area in which a minimum of 21 home economics credit hours must be completed; exclusive of an internship experience. Electives may be selected from supportive interdisciplinary subjects.

2. An internship in Home Economics is an elective that may be taken only with the approval of the Home Economics faculty. This approval should be obtained one quarter in advance of proposed internship.

3. A minor is recommended for some emphasis areas but is not required.

Home Economics Core

Required courses:

HEC 101	Self Identification	2
HEC 108	Investigating the Home Economics Profession	2
CHEM 108	General Chemistry	5
CHEM 130	Introductory Organic Chemistry	5
HEC 111	Management for Effective Living	3
HEC 141	Techniques of Food Preparation	4
HEC 171	Design in Living	3
HEC 181	Basic Textiles	5
HEC 190	Fundamentals of Clothing Construction ³⁴	3
HEC 207	Think Metric	1
HEC 221	Human Relationships	3
HEC 250	Principles of Human Nutrition	3
HEC 315	Consumer Education	3
CD 330	Child Development Laboratory	1
CD 333	Development and Guidance of the Young Child	3
HEC 349	Food Module (Meal Planning)	1
HEC 362	Demonstration Techniques	2
HECV 363	Curriculum in Home Economics Education	3
HEC 371	Design for Shelter	4
HEC 372	Design for Interiors	3
HEC 374	Consumer Aspects of Household Equipment	4
HEC 408	Seminar in Home Economics	1

Hours credit: 64

Plan A — Supporting courses in all areas of home economics.

Required courses:

HEC 193	Creative Clothing Construction	4
HEC 212	Management Dynamics	3
HEC 242	Principles of Food Preparation	4
HEC 316	Consumer Protection	3
HEC 321	Role Behavior in the Intimate Environment	4
CD 331	Development of the Infant and Toddler	3
HEC 351	Nutrition for the Older Adult	3
<i>or</i>		
HEC 456	Infant and Child Nutrition	3
HEC 381	Leisure Time Activities	4
HEC 382	Consumer Textiles	3
HEC 419	Management for Contemporary Living	3
HEC 449	Food Module (Preservation)	1

Hours credit: 35

Plan B — Select an emphasis area in which a minimum of 21 home economics credit hours must be completed. Electives or a

³³Courses to be selected from General Education and which count as credit toward major.

³⁴Students with sufficient background are eligible to take competency exam for possible exemption from these courses or be exempted with comparable course work.

minor may be selected from supportive interdisciplinary subjects such as Anthropology, Business, Economics, Fine Arts, Psychology, Science and Sociology.

Emphasis in Foods/Nutrition

Select a minimum of 21 hours from the following:

HEC 242	Principles of Food Preparation	4
HEC 249	Food Module (Food and the Consumer)	1
HEC 349	Food Module (Meal Planning)	1
HEC 351	Nutrition for the Older Adult	3
BIO 363	Food Microbiology	5
ICU 342	Ethnographic Studies	3
HEC 419	Management for Contemporary Living	3
HEC 444	Food for a Small Planet	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 449	Food Module	1
HEC 456	Infant and Child Nutrition	3

Hours credit: 38

Through a carefully planned program, students may prepare for positions in demonstration work, commercial test kitchens, product development in laboratories in the food processing industry or nutrition work in government agencies.

Recommended Courses. Business

Cognate for Home Economics, ANT 381, BIO 241, BUS 100, BUS 205, CHEM 315, ECON 110, ECON 315, EDEM 330, EDEM 420, IAT 342, JOUR 110.

Emphasis in Consumer Education/Management

Select a minimum of 21 hours from the following:

HEC 212	Management Dynamics	3
HEC 249	Food Module (Food and the Consumer)	1
HEC 316	Consumer Protection	3
HEC 317	Consumer Issues	3
HEC 318	The Consumer and the Environment	3
HEC 382	Consumer Textiles	3
HEC 417	The Dual Career Woman	3
HEC 419	Management for Contemporary Living	3
HEC 444	Food for a Small Planet	3
HEC 499	Consumer and Fashion Market	3

Hours credit: 28

Some career opportunities for those interested in the Consumer Education and Management Emphasis area may include consumer consultant, extension specialist, and consumer investigator.

Students will have the opportunity to participate in internships which integrate academic knowledge and professional goals.

Recommended Courses. BUS 100, 101, 260, COMM 110, 140, 220, ECON 100, EDEM 420, IAT 214, 299, 342, JOUR 100, 110, PHYS 150.

Emphasis in Family and Environment

Select a minimum of 21 hours from the following:

HEC 318	The Consumer and the Environment	3
HEC 321	Role Behavior in the Intimate Environment	4

HEC 351	Nutrition for the Older Adult	3
HEC 371	Design for Shelter	4
HEC 372	Design for Interiors	3
HEC 373	Applied Home Furnishings	3
HEC 381	Leisure Time Activities	4
HEC 384	Seminar in Textiles and Clothing (Special Needs)	3
HEC 417	The Dual Career Woman	3
HEC 419	Management for Contemporary Living	3
HEC 444	Food for a Small Planet	3
HEC 456	Infant and Child Nutrition	3

Hours credit: 39

The Family and Environment Emphasis leads to opportunities in the areas of social and youth services, day care centers and environmental protection programs.

Recommended Courses. CD 331, CD 332, CD 439, COMM 111, EDEM 410, EDEM 420, EDEM 460, EDF 375, EDSE 302, EDSE 306, ENST 110

Emphasis in Textiles and Clothing

Select a minimum of 21 hours from the following:

HEC 193	Creative Clothing Construction	4
HEC 291	Communication of Dress	3
HEC 382	Consumer Textiles	3
HEC 384	Seminar in Textiles and Clothing	3
HEC 392	Recreational Sewing	3
HEC 395	Fashion Design — Flat Pattern Drafting	4
HEC 396	Fashion Design in Draping	4
HEC 481	Advanced Textiles	3
HEC 494	Tailoring	4
HEC 497	Evolution of Fashion	3
HEC 499	Consumer and Fashion Market	3

Hours credit: 37

The emphasis in Textiles and Clothing may lead to careers in the fashion industry such as clothing store buyer, fashion designer, educational representative for pattern companies, custom dressmaker, and teacher of adult classes in sewing. A student interested in fashion merchandising may elect to follow a Cognate in Business. The student interested in Fashion Design may elect to follow a minor in Fine Arts.

Recommended Courses. Business

Cognate for Home Economics; ANT 221, ANT 470, COMM 111, COMM 220, ECON 100, EDEM 560, ENST 110, IAT 342, JOUR 110.

Vocational Home Economics

Teacher Education

With the fulfillment of the specified Home Economics subject matter requirements, vocational and educational courses, the student will be recommended for certification and credentialing to teach in vocational home economics programs in Colorado. Cumulative GPA of 2.75 with grades of "C" or better in all courses required by the major must be attained for admission to and retention in the PTE program.

Students planning to use this major as a certification program for teaching must complete the program of Professional Teacher Education as described in this catalog. Certain courses required in that program are listed below as part of the major.

Two alternative programs prepare students for secondary school teaching: Consumer

Homemaking or Wage Earning.

Required courses:

CHEM 108	General Chemistry	5
CHEM 130	Introductory Organic Chemistry	5
HEC 101	Self Identification	2
HEC 108	Investigating the Home Economics Profession	2
HEC 111	Management for Effective Living	3
HEC 141	Techniques of Food Preparation	4
HEC 171	Design in Living	3
HEC 181	Basic Textiles	5
HEC 190	Fundamentals of Clothing Construction or Challenge Exam	3
HEC 193	Creative Clothing Construction	4
HEC 212	Management Dynamics	3
HEC 221	Human Relationships	3
HEC 242	Principles of Food Preparation	4
HEC 250	Principles of Human Nutrition	3
EDFE 270	School and Community Aide	2-4
VTEF 310	Vocational Education Foundations Seminar	3
HEC 315	Consumer Education	3
CD 331	Development of Infant and Toddler	3
CD 333	Development and Guidance of the Young Child	4
HEC 349	Food Module (Meal Planning) ³⁵	1
HEC 362	Demonstration Techniques	2
HECV 363	Curriculum in Vocational Home Economics Education	3
HECV 367	Evaluation in Home Economics Education	3
HECV 369	Laboratory Management and Maintenance	1
HEC 371	Design for Shelter	4
HEC 372	Design for Interiors	3
HEC 374	Consumer Aspects of Household Equipment	4
HEC 395	Fashion Design — Flat Pattern Drafting	4
HEC 494	Tailoring	4
HPER 191	Personal and Family Health	3
HPER 262	Standard First Aid and Personal Safety	2
	or Red Cross Certificate	0
EDSE 405	Handicapped Students in Regular Classroom	3
HEC 408	Seminar in Home Economics	1
VTEF 400	Vocational Student Organizations	1
VTEF 403	FHA/HERO Seminar	2
EDEM 410	Introduction to Educational Resources	2
VTEF 430	Vocational Education for Learners with Special Needs	3
HECV 460	Home Economics Wage Earning	3
HECV 462	Preparation for Teaching Vocational Home Economics ³⁶	3
EDLS 363	Clinical Experience ³⁶	2
EDFE 444	Supervised Teaching	18
HECV 464	Reading in Vocational Home Economics	2
HECV 465	Teaching Improvement Seminar in Vocational Home Economics	2

Hours credit: 122-127

³⁴Students with sufficient background are eligible to take competency exam for possible exemption from these courses or be exempted with comparable course work.

³⁵A minimum of nine hours in the foods areas are to be selected from the following courses HEC 141, 242, 249, 349, 449.

³⁶These courses are to be taken concurrently.

Recommended courses:

VTEF 290	Directed Occupational Experience	3-8
VTEF 410	Cooperative Education and Coordinating Techniques	3
EDEM 420	Design and Construction of Audio-Visual Materials	3
HECV 432	Teaching Child Development and Family Living in Secondary School	3

State credentialing requirements for Vocational Home Economics Education also include wage-earning hours on the basis of type of credential. They are:

Consumer-Homemaking, 2000 hours of home related work or 2000 hours of paid employment in home economics related occupations.

Multi-Occupational, 4000 hours of occupational experience distributed among the subject-matter areas of home economics.

Specific Skill Occupational, 4000 hours of occupational experience directly related to the area to be taught.

After September 1, 1980, all Wage Earning Home Economics teachers must have 4000 hours of work experience; all Consumer Homemaking teachers must have 2000 hours work experience or 2000 hours of home experience.

Home Economics Minor

A student who wishes to minor in Home Economics should register with the department for Advisor assignment. **General Home Economics Minor (Non-teaching)**

In consultation with an advisor the student will select a minimum of 27 credit hours from the following courses.

Required courses:

HEC 101	Self Identification	2
HEC 108	Investigating the Home Economics Profession	2

Electives:

HEC 111	Management for Effective Living	3
HEC 171	Design in Living	3
HEC 190	Fundamentals of Clothing Construction	3
HEC 221	Human Relationships	3
HEC 250	Principles of Human Nutrition	3
HEC 291	Communication of Dress	3
CD 331	Development of the Infant and Toddler	3
HEC 315	Consumer Education	3
HEC 340	Contemporary Food Preparation	4
HEC 349	Food Module (Meal Planning)	1
HEC 371	Design for Shelter	3
HEC 372	Design for Interiors	3
HEC 374	Consumer Aspects of Household Equipment	4
HEC 382	Consumer Textiles	3

Business Cognate for Home Economics

A student with a major in the Department of Home Economics may choose the following program for a Cognate in Business. It is recommended that students interested in fashion merchandising work within the framework of the Home Economics major in the emphasis area of Textiles and Clothing combined with the Business Cognate for Home Economics.

Required courses:

BUS 100	The American Business System	3
BUS 150	Principles of Management	4
BUS 220	Principles of Accounting I	4
BUS 260	Marketing	4
BUS 261	Salesmanship	4
BUS 361	Retailing	4
BUS 362	Advertising	4
ECON 100	Introductory Economics	5

Recommended course:

BUS 465	Seminar in Retailing	4
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Florence Program: Home Economics

The Department of Home Economics participates in a program in Comparative Studies at a residence Center, "La Poggerina" Near Florence, Italy.

Humanities Minor

Administered by the Department of English

A pre-planned, thirty-six hour program of coordinated courses in the arts and humanities requiring careful organization by the student with his or her advisor and the Director of Humanities.

Requirements:

1. Thirty-three hours of study in at least two, but no more than three of the areas of Anthropology, Communication, English, Fine Arts, History, Humanities, Music, Philosophy, Sociology, Theatre.

2. Careful coordination of related courses. These may be coordinated around a topic, theme, period of time or place; for example: topics or themes in Classical or Renaissance or Asian culture; comparative studies in literature, art, philosophy; and so forth.

3. A three-hour independent study on a topic selected by the student at the culmination of the course work from ideas inspired by the courses. The study is to cut across disciplinary boundaries, and it may cross chronological or cultural lines. The purpose of the study is to help the student in integrating and synthesizing knowledge.

4. Elective courses: no hours in the student's major field will apply to the minor.

Following is a list of courses that may be drawn upon to build an integrated group of studies. Others from the departments listed may be taken with the approval of the advisor and the department or professor.

ANTHROPOLOGY 100, 110, 120, 122, 140, 220, 221, 222, 223, 228, 240, 242, 280, 281, 284, 320, 321, 322, 323, 324, 325, 327, 328, 331, 335, 337, 339, 340, 341, 342, 344, 345, 346, 347, 348, 349, 350, 360, 361, 380, 381, 382, 383, 387, 420, 421, 431, (ANT 100 or 110 recommended as prerequisites).

COMMUNICATION 120, 140, 170, 212, 220, 250, 270, 302, 312, 323, 330, 345, 380, 400, 420, 452, 455, 460, 490.

ENGLISH 211, 212, 213, 214, 215, 216, 217, 220, 221, 225, 226, 310, 311, 325, 360, 402, 403, 405, 406, 407, 408, 410, 411, 414, 415, 416, 430, 441, 450.

FINE ARTS 110, 111, 112, 360, 362, 363, 364, 365, 366, 367, 368, 369, 380, 381, 382, 383.

HISTORY 110, 115, 130, 131, 132, 170, 171, 172, 266, 302. Any advanced electives in History may be taken with the approval of the student's advisor.

HUMANITIES 111, 112, 113, 114, 115, 120, 121, 140, 210, 230, 235, 240, 241, 250, 252, 253, 260, 320, 330, 331, 360, 410.

MUSIC 140, 141, 142, 143, 243, 244, 245, 285, 340, 341, 345, 346, 347, 449, 485.

Applied music: maximum of 6 hours in study of any instrument or voice acceptable towards the minor.

Musical organizations: Maximum of 3 hours acceptable towards the minor.

PHILOSOPHY 100, 330, 335, 350, 355, 370, Also PHIL 205, 215, 225, 235, 300, 400, 410, 420 with approval of the Director of Humanities.

SOCIOLOGY 145, 310³⁷, 312³⁷, 321³⁷, 323³⁷, 333³⁷, 334³⁷, 341³⁷, 345³⁷, 410³⁷, 420³⁷, 421³⁷, 432³⁷, 435³⁷, 350³⁷, 351³⁷.

THEATRE 130, 330, 331, 332.

Humanities: UNC Program for Comparative Studies in Italy

For Humanities courses taught in Florence see Humanities course section in this catalog.

A student may develop an individualized humanities minor in Italian Medieval, Renaissance, or modern studies using selected courses listed for the Humanities minor and studies taken at the Comparative Studies Center near Florence, Italy. See the Director of Humanities, English Department.

Individualized Education Program

This highly individualized experimental program, initiated winter quarter 1975, is open to freshmen, sophomores, and first quarter juniors. A small number of faculty members have been designated as tutors, each of whom will be assigned from ten to fifteen students. Each participating student will select a tutor upon entry into the program, and, thereafter, the student's entire educational experience will be determined by agreement between the tutor and the student. A student may enroll in a maximum of two regular courses each quarter; the bulk (and possibly, the entirety) of his credits, however, will be earned in tutorial study, consisting of blocks of essentially independent work — in the library, laboratory or field — devised in consultation with the tutor. At frequent intervals the student will meet with his or her tutor for informal discussion of work projects and progress. Tutorial students with similar interests will also have an opportunity to meet together periodically. Each block of tutorial work will culminate in a research or analytical report or some other evidence of the student's accomplishment. No grades other than satisfactory/unsatisfactory will be given, although the tutor will maintain a thorough evaluation record of the student's work and attainments.

Students interested in the program should consult one of the tutors: Professors Richard Dietz (Earth Sciences), Daniel F. O'Connor (Sociology), Robert O. Schulze (Sociology), or James Wanner (Anthropology).

³⁷Prerequisite SOC 100.

Industrial Arts and Technology Major

Administered by the Department of Industrial Arts and Technology

Industrial Arts and Technology (Non-teaching Major)

Students pursuing the B.S. degree with a major in Industrial Arts and Technology (non-teaching) must plan their programs to fulfill the following requirements:

1. General Education requirements of 60 hours as specified in this catalog.
2. Industrial Arts and Technology core which consists of 91 quarter hours as follows:

Required courses:

CHEM 104 Principles of Chemistry I	5
CHEM 105 Principles of Chemistry II	5
IAT 100 Introduction to Industrial Arts and Technology	1
IAT 118 General Plastics (Synthetic Materials)	3
IAT 141 Graphic Arts Fundamentals	3
IAT 150 Wood Processing	3
IAT 161 Principles of Drafting	3
IAT 170 Basic Metals Technology	3
IAT 180 General Electricity	3
IAT 190 Introduction to Power	3
IAT 219 Plastics	3
IAT 223 Industrial Mathematics	2
IAT 241 Graphic Arts	3
IAT 250 Machine Woodworking	3
IAT 261 Pictorial and Working Drawings	3
IAT 272 Gas and Electric Welding	3
IAT 274 Machine Tool Operation	3
IAT 281 Electro-Mechanical Equipment and Measuring Instruments	3
IAT 291 Internal Combustion and Reciprocating Engines	3
IAT 357 Construction Technology	3
IAT 433 Industrial Materials	3
MATH 123 Intermediate Algebra	5
MATH 124 College Algebra	5
PHYS 260 Introductory Physics — Mechanics	4
PHYS 261 Introductory Physics — Heat, Sound and Light	4

Electives:

Business or Economic Electives	9
Hours credit: 91	

3. Elect 17 additional quarter hours in Industrial Arts and Technology.

4. Free electives to complete 180 quarter hours of academic credit for graduation.

Industrial Arts and Technology Major (Teacher Preparation)

Students majoring in Industrial Arts and Technology who plan to teach in the public schools should meet the following requirements:

1. General Education requirements of 60 hours as specified in this catalog. It is recommended that the following courses be completed as part of the General Education requirements: Math 123 and 124; Chemistry 104 and 105; Physics 260 and 261.

2. Students planning to use this major as certification program for teaching must complete the program of Professional Teacher Education as described in this catalog.

Required courses:

IAT 100 Introduction to Industrial Arts and Technology	1
IAT 118 General Plastics (Synthetic Materials)	3
IAT 141 Graphic Arts Fundamentals	3
IAT 150 Wood Processing	3
IAT 161 Principles of Drafting	3
IAT 170 Basic Metals Technology	3
IAT 180 General Electricity	3
IAT 190 Introduction to Power	3
IAT 219 Plastics	3
IAT 223 Industrial Mathematics	2
IAT 241 Graphic Arts	3
IAT 250 Machine Woodworking	3
IAT 261 Pictorial and Working Drawings	3
IAT 272 Gas and Electric Welding	3
IAT 274 Machine Tool Operation	3
IAT 281 Electro-Mechanical Equipment and Measuring Instruments	3
IAT 291 Internal Combustion and Reciprocating Engines	3
IAT 320 Course Organization in Industrial Arts	3
IAT 335 History and Philosophy of Industrial Education	3
IAT 336 Principles of General Shop Organization	3
IAT 357 Construction Technology	3
Hours credit: 60	

Elect 8 additional hours in Industrial Arts and Technology.

3. Free electives to complete 180 quarter hours of academic credit for graduation.

Professional Teacher Education

Professional Teacher Education Core with the Exceptions Listed Below	39
IAT 330 Methods of Teaching Industrial Arts in Secondary Schools	3
EDLS 363 Clinical Experience: Secondary	2
Hours credit: 44	

Minors in Industrial Arts and Technology

All students who wish to minor in Industrial Arts and Technology must register with the department prior to enrollment in either of the two programs listed below.

Industrial Arts and Technology Minor (Teacher Preparation)

Required courses in the minor:

IAT 161 Principles of Drafting	3
IAT 261 Pictorial and Working Drawings	3
IAT 320 Course Organization in Industrial Arts	3
IAT 336 Principles of General Shop Organization	3

Elect 18 quarter hours in industrial arts and technology to meet the minor requirements of 30 hours.

Industrial Arts and Technology Minor (Non-Teaching)

This minor requires the election, with the approval of the minor advisor, of 30 quarter hours in Industrial Arts and Technology.

Business Administration — Emphasis in Management Administration Science with Industrial Arts and Technology Specialization

The Department of Industrial Arts and Technology cooperates with the School of Business in offering a program in

management with a specialization in industrial arts and technology. Students electing this program must meet the following requirements:

1. Business Administration core (see School of Business listing elsewhere in this catalog).
2. Emphasis area requirements in Management Administration less the thirteen (13) elective hours (see School of Business listing elsewhere in this catalog).
3. Industrial arts and technology core which consists of 23 hours as follows plus a selected area of specialization from those listed below.

IAT 161 Principles of Drafting	3
IAT 190 Introduction to Power	3
IAT 261 Pictorial and Working Drawings	3
IAT 345 Publication Production	5
IAT 390 Solar Energy	3
IAT 485 Digital and Microprocessor Basics	3
ICU 202 Technology: Its Impact on Society	3

Student will select one of the following specializations:

Construction Specialization

IAT 150 Wood Processing	3
IAT 250 Machine Woodworking	3
IAT 357 Construction Technology	3
IAT 433 Industrial Materials	3
IAT 461 Architectural Drawing	3

Eight hours from:

IAT 251 Woodturning	2
IAT 256 Upholstery	3
IAT 329 Industrial Internship	6
IAT 353 Furniture and Cabinet Making	3
IAT 354 Woodfinishing	2

Manufacturing Specialization

IAT 170 Basic Metals Technology	3
IAT 272 Gas and Electric Welding	3
IAT 317 Plastics Technology	3
IAT 362 Working Drawings	3
IAT 377 Manufacturing Technology	3
IAT 433 Industrial Materials	3

Five hours from:

IAT 223 Industrial Mathematics	2
IAT 274 Machine Tool Operation	3
IAT 329 Industrial Internship	4
IAT Electives	3

General Industrial Specialization

IAT 118 General Plastics	3
IAT 150 Wood Processing	3
IAT 170 Basic Metals Technology	3
IAT 219 Plastics	3
IAT 274 Machine Tool Operations	3
IAT 377 Manufacturing Technology	3
IAT 433 Industrial Materials	3
either	
IAT 250 Machine Woodworking	3
or	
IAT 357 Construction Technology	3

Interdisciplinary Studies Program

Under this recently inaugurated program any undergraduate in the University will be able to pursue an interdisciplinary course of study of his or her own devising in substitution for the traditional major and minor.

The major purposes of the program are to afford students greatly enlarged opportunities to pursue courses of study tailored to their

individual interests and needs; to encourage students to develop a greater awareness of the interrelatedness and wholeness of knowledge; to enable students to confront both contemporary and lasting human issues and problems in broad, realistic perspective; and to help lay the groundwork for students who aspire to useful careers in such important fields as environmental protection, urban affairs, and international relations.

Degree requirements under this program consist of meeting all basic requirements of the General Education program — that is, completing nine hours of Foundations of General Education and completing two courses in Arts and Applied Language Studies, two courses in Professional and Applied Studies, two courses in Social and Behavioral Sciences, two courses in Humanities and Integrative Studies, two courses in Sciences, and two courses in Human Interaction — but, providing the foregoing are satisfied, the student need not complete the full complement of 60 hours in General Education. In addition, the student must complete a coherent multi- or interdisciplinary program consisting of approximately 90 credit hours, developed in consultation with at least two faculty members selected by the student (who will then serve as the student's advisory committee until the program is completed), and approved by the University Committee on Interdisciplinary Studies. The interdisciplinary program must include a culminating senior thesis or research project (IS 422, 3-4 hours). (Students who plan to teach in the public schools should also include the appropriate hours of Professional Teacher Education courses in their programs and must have a recommendation for certification from a department offering a teacher education program.) The student's total course of study must involve completion of 180 quarter hours of academic credit for graduation. Students desiring to enter the program should do so not later than the second quarter of their junior year.

Interested students should consult with Professor Glenda J. Brown (Foreign Languages), Chairman, Committee on Interdisciplinary Studies, or Dean Robert O. Schulze, College of Arts and Sciences.

Journalism Major

Administered by the Department of Journalism

Students pursuing the B.A. in Journalism must plan their programs to fulfill the following requirements:

1. Complete the General Education requirements of 60 quarter hours.
2. Complete the Journalism Core, requirements for one of the Specialization areas, and a Minor or Cognate as specified below.
3. Select electives to complete the 180 quarter hours. Among these electives must be at least nine hours in one liberal arts study area beyond credits applied to the journalism major and the minor.

4. Each major, before his or her last quarter on campus, must pass a typing proficiency test (30 wpm) and a grammar-copy editing proficiency test (given in JOUR 250).

Journalism Core

Required courses:

JOUR 100 Introduction to Journalism ³⁸	2
JOUR 110 Newswriting ³⁸	4
JOUR 115 Advanced Newswriting	4
JOUR 250 News Editing	3
JOUR 397 Master Journalists and Their Times	3
JOUR 399 Press Criticism and Current Affairs	3
JOUR 492 Ethics and Libel	3

Electives selected from the following:

either

JOUR 301 Journalism Internship	6
or	
JOUR 301 Journalism Internship	2
and	
JOUR 401 Journalism Intern ³⁹	4

Hours credit: 28

News-Editorial Specialization

Required courses:

JOUR 210 Feature Writing for News Media	3
JOUR 255 Publications Layout	3
JOUR 310 Analytical Reporting	4
JOUR 370 Photojournalism	3
JOUR 496 Profiles of 20th Century Journalists	3
IAT 342 Basic Photography ³⁸	3

Electives:

Electives in journalism or related courses approved by advisor	6
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Hours credit: 25

Community Journalism Specialization⁴⁰

Required courses:

JOUR 210 Feature Writing for News Media	3
JOUR 284 Techniques of Advertising	3
JOUR 310 Analytical Reporting	4
JOUR 360 Community Newspaper	3
JOUR 370 Photojournalism	3
JOUR 460 Newspaper Management	3
IAT 342 Basic Photography ³⁸	3
IAT 345 Publications Production	5
SOC 100 Principles of Sociology ³⁸	5
SOC 272 The Community	3

Hours credit: 35

Teacher Education Specialization

Majors in journalism who plan to teach in junior or senior high school are to complete the Journalism Core, Teacher Education Specialization, a minor or cognate, and Professional Teacher Education (PTE) as specified below.

1. Check with the Journalism Department before pursuing this specialization. Current regulations may make it necessary to major in a related area such as English.

2. Gain admittance to PTE, with a grade point average of at least 2.30 in half or more of the Journalism Core courses in addition to the PTE requirements listed in this catalog.

Required courses:

JOUR 284 Techniques of Advertising	3
JOUR 430 Scholastic Publications	3
JOUR 435 Teaching by Newspaper and Broadcast	2
IAT 345 Publication Production	5

Electives:

Journalism or related courses approved by advisor	6
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Hours credit: 19

Professional Teacher Education

Professional Teacher Education

Core with the exceptions listed

below

JOUR 301 Advisor Aide Internship (substitutes for EDLS 360)	39
JOUR 330 Teaching Secondary School Journalism (departmental methods course)	2

Hours credit: 44

Minor/Cognate

Choose a 27-hour minor from the following, with approval of the journalism advisor: business administration, English, communication, history, economics, political science, sociology, psychology, or environmental studies or a cognate area from the following:

Broadcast News Cognate

Required courses:

COMM 110 Public Speaking I ³⁸	3
COMM 340 Radio Production	4
COMM 342 Television Production	4
JOUR 301 Journalism Internship-Radio	2

Electives:

Electives in journalism and/or communication.	12
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Recommended:

JOUR 401 Journalism Intern (if not taken for the Journalism Major Core)	4
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Hours credit: 29

Business Cognate

Required courses:

BUS 150 Principles of Management ³⁸	4
BUS 220 Principles of Accounting I	4
BUS 260 Marketing	4
BUS 261 Personal Selling	4
BUS 362 Advertising	4
BUS 457 Small Business Management	3
ECON 100 Introductory Economics ³⁸	5
JOUR 380 Public Relations	3

Hours credit: 31

Journalism Minor

Required courses:

JOUR 100 Introduction to Journalism	2
JOUR 110 Newswriting	4
JOUR 115 Advanced Newswriting	4
JOUR 250 News Editing	3
JOUR 301 Journalism Internship	2
JOUR 397 Master Journalists and Their Times	3
JOUR 399 Press Criticism and Current Affairs	3
JOUR 492 Ethics and Libel	3

Electives:

Electives in Journalism	4
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Hours credit: 28

Journalism Minor (Teaching)

Students in Professional Teacher Education, majoring in one field and electing Journalism as a minor must complete the following.

Required courses:

JOUR 100 Introduction to Journalism	2
JOUR 110 Newswriting	4
JOUR 115 Advanced Newswriting	4

³⁸May be used to meet part of the General Education requirements.

³⁹Four credit hours applied to the Core and the remaining 11 credit hours apply to electives in the area of specialization and/or cognate and/or general electives to meet the 180 hour program minimum.

⁴⁰NOTE: Students in the Community Journalism specialization are encouraged to take a Business Cognate in place of a minor.

JOUR 284 Techniques of Advertising	3
JOUR 330 Teaching Secondary School Journalism	3
JOUR 430 Scholastic Publications	3
IAT 345 Publications Production	5
Electives:	
Electives in Journalism	3
	Hours credit: 27

Honors. The Department of Journalism participates in the Honors Program. See Honors Program section of catalog.

Junior High/Secondary School Science Major

Administered by the Department of Science Education

Students majoring in Junior High/Secondary School Science who plan to teach in the public schools are required to include the following courses in their programs.

Program requirements:

1. General Education requirements of 60 hours as specified in this catalog.
2. One minor of at least 27 quarter hours.
3. To meet certification standards in Colorado, the student must plan a program which will develop knowledge and skills in mathematics as required. See your advisor for recommended courses.

Major/core

Required courses:

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
CHEM 105 Principles of Chemistry II	5
or	
CHEM 107 Principles of Chemistry IIA	5
MATH 123 Intermediate Algebra	5
PHYS 260 Introductory Physics — Mechanics	4
PHYS 261 Introductory Physics — Heat, Sound, and Light	4
PHYS 262 Introductory Physics — Electricity and Magnetism	4
GEOL 100 General Geology (if an Earth Science Minor is elected, replace GEOL 100 with four hours of additional electives)	4
SCED 151 Introductory Science Field Experience	2
Electives selected from the following:	
AST 100 General Astronomy	4
BIO 231 Genetics	3
BIO 240 General Ecology	4
BIO 380 Sexually Transmitted Diseases	3
BIO 402 Conservation of Natural Resources	4
CHEM 130 Introductory Organic Chemistry	5
GEOL 201 Principles of Geology I	5
MET 200 General Meteorology	4
MET 320 Climatology	3
MET 330 Physical Meteorology	3
OCN 200 General Oceanography	3
OCN 301 Principles of Oceanography I	3
SCI 115 Meteorology by Inquiry	3
SCI 210 Values Act (I) on Environment	3

ZOO 121 Human Anatomy	4
ZOO 156 Elements of Human Physiology — Anatomy	5
ZOO 250 Human Physiology	5
	Hours credit: 63

Professional Teacher Education

Professional Teacher Education Core	39
EDLS 363 Clinical Experience	2
SCED 441 Methods of Teaching Secondary School Science	3
or	
SCED 442 Methods of Teaching Science in the Middle School/Junior High	3
	Hours credit: 44

Mathematics Major (Liberal Arts)

Administered by the Department of Mathematics

Students pursuing the B.A. with a major in Mathematics must plan their program to fulfill the following requirements:

1. General Education requirements of 60 hours as specified in this catalog.
2. No minor is required in this program.
3. Courses in the major core (below) 42
4. Courses in the liberal arts specialization (below) 18
| | Hours credit: 60. |
5. Additional electives to complete the 180 quarter hours of academic credit required for graduation.

Mathematics Major (Teacher Education)

Students majoring in Mathematics who plan to teach in the secondary school should include the following courses in their program:

1. General Education requirements of 60 hours as specified in this catalog.
2. No minor is required in this program.
3. Courses in the major core (below) 42
4. Courses in the teaching specialization (below) 35
| | Hours credit: 77 |

A. Major Core:

Required courses:	
MATH 124 College Algebra	5
MATH 130 Analytic Geometry	4
MATH 131 Calculus I	5
MATH 132 Calculus II	5
MATH 133 Calculus III	4
MATH 250 Elementary Probability Theory	4
MATH 251 Elementary Statistics Theory	4
MATH 321 Elementary Linear Algebra	4
MATH 322 Introduction to Abstract Algebra	4
MATH 335 Differential Equations I	4
MATH 380 Computer Programming	4
	Hours credit: 47

B. Liberal Arts Specialization:

Required courses:	
MATH 409 Foundations of Mathematics	3
MATH 432 Basic Analysis I	4
MATH 433 Basic Analysis II	4
MATH 434 Basic Analysis III	4

Electives:	
MATH 250 or higher, excluding MATH 280, 395, and 402	3
	Hours credit: 18

C. Teaching Specialization:

Required courses:	
MATH 327 Elementary Functions from an Advanced Viewpoint	4
MATH 341 Introduction to Modern Geometry I	3
MATH 342 Introduction to Modern Geometry II	3
MATH 381 Problem Solving with Calculating Devices	2
MATH 464 Introduction to the History of Mathematics	3
MATH 491 Theory of Equations	4
Electives:	
Courses in a mathematics education component to be selected with the approval of the faculty advisor	16
	Hours credit: 35

Professional Teacher Education

Professional Teacher Education Core	39
MED 341 Methods of Teaching Mathematics	3
EDLS 363 Clinical Experience	2
	Hours credit: 44

Students majoring in Mathematics who plan to teach in the elementary school should meet the following requirements:

1. General Education requirements of 60 hours as specified in this catalog.
2. Meet requirements of the Elementary Education major as specified in this catalog.
3. Complete additional requirements as stated in this catalog for certification as an elementary school teacher.

Required courses:

MATH 123 Intermediate Algebra ⁴¹	5
MATH 124 College Algebra ⁴¹	5
MATH 125 Plane Trigonometry ⁴¹	5
MATH 130 Analytic Geometry	4
MATH 131 Calculus I	5
MATH 151 Introduction to Statistical Analysis	4
MATH 280 Beginning Computer Programming in BASIC	3
MATH 321 Elementary Linear Algebra	4
MATH 341 Introduction to Modern Geometry I	3
MATH 402 Foundations of Arithmetic	3
MATH 464 Introduction to the History of Mathematics	3

Electives:

Electives to be selected from mathematics or mathematics education courses numbered 200 or higher	9
	Hours credit: 53

Mathematics Minors

Liberal Arts Minor

Required courses:	
MATH 130 Analytic Geometry	4
MATH 131 Calculus I	5
MATH 132 Calculus II	5
MATH 133 Calculus III	4
Electives:	
One of MATH 124, 125, 127, if taken before MATH 130 and additional electives in mathematics courses numbered 250 or higher. MATH 280, 395 and 402 may not be counted	12
	Hours credit: 30

⁴¹Qualified students may be exempted.

Teaching Minor

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

Required courses:

MATH 130 Analytic Geometry	4
MATH 131 Calculus I	5
MATH 132 Calculus II	5
MATH 321 Elementary Linear Algebra	4
MATH 322 Introduction to Abstract Algebra	4
MATH 341 Introduction to Modern Geometry I	3
MED 341 Methods of Teaching Mathematics	3
EDLS 363 Clinical Experience	2

Electives:

Electives in mathematics or mathematics education courses numbered 124 or higher

Hours credit: 35

It is recommended that a course be selected from among MATH 250, 305, 325, 342, 380.

Mathematics Education Minor

For Elementary Education majors.

Required courses:

MATH 193 Informal Geometry	3
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Electives:

Electives to be selected with approval of the student's minor advisor

Hours credit: 27

Medical Technology Major

Administered by the Department of Chemistry

The four-year program leading to the B.A. degree in Medical Technology requires the student to earn a total of 180 academic quarter hours. A minimum of 135 quarter hours will be earned on the campus of the University of Northern Colorado during the first three years and 45 quarter hours of Medical Technology will be earned during the senior year (12 months) at one of the affiliated hospitals (Weld County General Hospital, Greeley; Mercy Hospital, Denver), or at any approved hospital to which they have applied and been accepted. The professional courses are under the supervision of and are evaluated by the clinical staff at each hospital; however, tuition and fees must be paid to the University for three academic quarters during the clinical year. Registration for those students who are unable to conveniently register because of the location of their clinical work will be done by the program coordinator.

The number of positions available for the clinical year is limited; therefore, selection of students for these positions will be made from qualified juniors only. The minimum grade point that will be considered is 2.70. Application for clinical training will be made in the Fall of the junior year. The students at this time must apply for graduation and request an evaluation of their transcript to insure that the requirements of the University and the American Society of Clinical Pathologists have been or will be fulfilled before entry into the professional program. Criteria for selection will include academic

performance, faculty recommendations, and an oral interview. Students accepted at Weld County General Hospital must maintain a 2.70 average in their professional courses to remain eligible for a degree in medical technology. Only after the successful completion of the clinical year and graduation may a student take the registry exam and become a certified medical technologist.

Students who choose not to continue in the major may transfer at any time. The first two years of the program are deliberately general in nature so that the students may select and complete a variety of new majors. Students who are not selected for the clinical year may complete a new major in chemistry teaching, biological sciences teaching or liberal arts, or zoology and graduate within the normal four academic years.

Students completing the three-year on-campus portion of the Medical Technology degree will automatically qualify for a chemistry minor as outlined under the Chemistry Minor program in this catalog.

Medical Technology Major: Liberal Arts

Students admitted to the Medical Technology Program must include the following courses in their program.

Program requirements: hours as specified in this catalog. (Two required science courses will be accepted as meeting the category requirements in science.)

Major**Required courses:**

MTEC 410 Clinical Chemistry	5
MTEC 411 Chemistry Laboratory I	3
MTEC 412 Chemistry Laboratory II	2
MTEC 413 Special Chemistry Laboratory	2
MTEC 430 Immunohematology	2
MTEC 431 Immunohematology Laboratory	4
MTEC 440 Medical Microbiology	4
MTEC 441 Medical Microbiology Laboratory I	3
MTEC 442 Medical Microbiology Laboratory II	3
MTEC 460 Urinalysis and Clinical Microscopy	2
MTEC 461 Urinalysis and Coagulation Laboratory	2
MTEC 470 Medical Parasitology	1
MTEC 480 Serology	2
MTEC 481 Serology Laboratory	1
MTEC 490 Hematology	3
MTEC 491 Hematology Laboratory I	3
MTEC 492 Hematology Laboratory II	3

Hours credit: 45

Medical Technology Preprofessional Emphasis

Required Biology courses:

BIO 101 Principles of Biology	5
BIO 103 Principles of Zoology	5
BIO 261 Medical and Public Health Microbiology	4
BIO 361 Microbiology	5
BIO 362 Clinical Immunology	2
ZOO 121 Human Anatomy	4
ZO 250 Human Physiology	5
ZOO 410 Medical Parasitology	4

Hours credit: 34

Required Chemistry courses:

CHEM 104 Principles of Chemistry I or	5
CHEM 114 General Chemistry I	5
CHEM 105 Principles of Chemistry II or	5
CHEM 115 General Chemistry II	5
CHEM 106 Principles of Chemistry III or	3
CHEM 116 General Chemistry III	5
CHEM 281 Fundamentals of Human Biochemistry	5
CHEM 321 Analytical Chemistry I	4
CHEM 324 Instrumental Analysis	4
CHEM 332 Organic Chemistry I	5
CHEM 333 Organic Chemistry II	5
CHEM 334 Organic Chemistry III	5

Hours credit: 44

Required Math course:

MATH 124 College Algebra	5
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(Any course higher than MATH 124 may be substituted with consent of advisor.)

Hours credit: 5

Required Physics course:

PHYS 150 Principles of Physics	5
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Electives to complete 180 quarter hours of academic credit.

Suggested electives:

BIO 231 Genetics	3
BIO 232 Genetics Laboratory	2
BIO 262 Common Infections of Man	3
BIO 350 Cell Physiology	5
ZOO 350 Medical Pharmacology	4

Other courses may be substituted with the consent of advisor.

Mexican American Studies Major

Administered by the Department of Mexican American Studies

Students pursuing the B.A. with a major in Mexican American Studies must complete the following program requirements:

1. General Education requirements of 60 hours as specified in this catalog. (Students majoring in Mexican American Studies should take ANT 100, SOC 100, HIST 175, PSCI 100, and GEOG 100.)

2. Mexican American Studies is a non-teaching major. Students interested in being certified for teaching Mexican American Studies should major in Social Sciences.

3. Students who major in Mexican American Studies must be bilingual in Spanish and English. The requirement may be met by:

Completing a minor in Spanish or Passing a Spanish proficiency test with a score in the 60th percentile.

Required courses:

MAS 101 Introduction to Mexican American Studies	4
SRM 203 Introductory Statistical Methodology	3
or	
MATH 151 Introduction to Statistical Analysis	4

Hours credit: 7 or 8

Electives.

At least one course selected from each of the following areas:

I. Behavioral/Cultural

- MAS 302 Social Stratification in the Mexican American Community 3
- MAS 304 Bicultural Systems 3
- MAS 305 Chicano Psychology 4
- MAS 307 La Chicana 4
- MAS 440 Patterns of Mexican American Culture 4

II. Historical/Descriptive

- MAS 270 History of Mexico I 3
- MAS 280 History of Mexico II 3
- MAS 306 History of the Chicano in the Southwest 3

III. Literary/Humanities

- MAS 260 Mexican American Dance 2
- MAS 409 Survey of Contemporary Chicano Literature 3
- MAS 412 Mexican American Art 3
- MAS 414 Mexican American Philosophical Thought 3
- MAS 425 Linguistics Applied to Chicano Spanish 3
- MAS 430 Survey of Mexican Literature 3

IV. Designated Electives

- ANT 384 Quantitative Methods in Anthropology 4
- HIST 299 Introduction to Historical Research 3
- PHIL 340 Formal Logic 4
- PSCI 340 Field Research and Study in Political Science 3-15
- PSY 271 Psychological Testing and Measurements 3
- PSY 375 Research Methodologies 4
- SOC 100 Principles of Sociology and 4
- SOC 460 Social Research I 9

V. Senior Research or Thesis

- MAS 451 Senior Project or Thesis 5

VI. Electives in MAS

(Consult your advisor.)

Hours credit: 48

Mexican American Studies Minor

Required courses:

- MAS 101 Introduction to Mexican American Studies 4
- MAS 270 History of Mexico I 3
- MAS 302 Social Stratification in the Mexican American Community 3
- MAS 305 Chicano Psychology 4
- MAS 306 History of the Chicano in the Southwest 3
- MAS 307 La Chicana 4
- MAS 409 Survey of Contemporary Chicano Literature 3
- MAS 414 Mexican American Philosophical Thought 3

Hours credit: 27

Middle School Education

The Middle School Education major is a program leading to the B.A. degree for career teachers at middle school levels (usually a subset of grades 5-8). Students selecting this program will be assigned to a Middle School

Advisory Group of about 12 students with an advisor. The advisory Group will serve to help the student in planning the total program, arranging for early field experiences, providing for alternative and additional studies, promoting continuity in the total program, and giving some guidance during the first year of employment.

The Middle School Council establishes policy for this major and approves the proposed academic components of the middle school major for each student in the program.

Students pursuing this major must plan their programs to meet the following requirements:

1. Meet all General Education requirements as specified earlier in this catalog.

2. Complete a Middle School Academic Major under one of the following plans:

Plan I. One major field with supporting field.

Plan II. Two related fields.

Plan III. A broad, interdisciplinary field.

The Middle School Academic Major must be approved by the student's advisor and by the Middle School Council and must contain a minimum of 60 quarter hours.

3. Complete the following program requirements:

- Required courses:
- EDCI 101 Orientation to Education 2
- EDCI 102 Orientation to Middle Schools 2
- EDRD 520 Reading in the Content Field 3
- EDFE 270 School Aide 2 (or more)
- Elective:
 - Psychology elective with approval of advisor 3

Professional Teacher Education

Students planning to use this major as a certification program for teaching must complete the program of Professional Teacher Education as described on page 9 of this catalog (44 hours). Please note that a three-hour methods course in the content field and EDLS 362, Clinical Experience, are included in this PTE program. Also note that EDRD 310, Improvement of Instruction in Reading in the Elementary School, may be substituted for EDRD 420, Reading in Secondary Schools.

Music

The primary objective of the School of Music is to develop music teachers at all levels of the profession, including performers, music administrators, composers, historians, and theorists. The School lends considerable support through its course offerings to programs in Elementary Education, Special Education, and Recreation. Several courses are offered as general education electives for the non-music major.

Students who are interested in majoring in music are not automatically accepted as music majors even though they meet the general admission requirements of the University. Formal application for admission to the School of Music must be made through the Office of the Director of the School of

Music. Auditions and interviews are part of the admission requirements. Admission forms are available upon request. Admission may be limited by availability of staffing and facilities.

REQUIREMENTS FOR ALL STUDENTS

Recitals, Concerts, and Productions

All undergraduate students must enroll in MUS 100, Recitals, Concerts, and Productions; and are required to attend all weekly departmental recitals in their major area plus a minimum of eight major recitals, concerts and productions each quarter in residence. "Residency" when stated in the Music section of this bulletin is interpreted to mean ten credit hours or more per quarter.

Individual Performance

The music major must demonstrate continuous growth in his or her ability to perform on his or her major instrument. Each student will be expected to appear frequently as a soloist in the weekly student recital series. During the senior year the student will be presented in a public recital. Such proficiency in performance requires continuous study of the major instrument, or voice, under the tutorage 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. Students with education emphasis should enroll for a half-hour lesson each week for two hours credit. Students with performance emphasis should enroll for a one hour lesson each week for four hours credit.

In each course-level listed, for Individual Performance, 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.M.E.), or 3. Non-music Major.

Refer to the "Handbook" for specific references.

200 series FOR FRESHMAN AND SOPHOMORES. Introductory work in the fundamentals of the chosen performance medium — technical studies and repertoire will be selected according to the student's needs.

400 series FOR JUNIORS AND SENIORS. 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.

269, 469. Individual Performance in Voice for Those with Non/Voice Emphasis. *Two hours credit.* Consent of instructor.

270, 470. Individual Performance in Voice. *Two-four hours credit.* Consent of instructor.

271, 471. Individual Performance in Piano. *Two-four hours credit.*

272, 472. Individual Performance in Organ. *Two-four hours credit.* Consent of instructor.

- 273, 473. Individual Performance in Strings. *Two-four hours credit.*
 274, 474. Individual Performance in Woodwinds. *Two-four hours credit.*
 275, 475. Individual Performance in Brass. *Two-four hours credit.*
 276, 476. Individual Performance in Percussion. *Two-four hours credit.*
 277, 477. Individual Instruction in Composition. *Two-four hours credit.* Consent of instructor.
 278, 478. Individual Performance in Harp. *Two-four hours credit.* Consent of instructor.
 279, 479. Individual Performance in Guitar. *Two-four hours credit.* Consent of Instructor.

Performance Organizations

The music major must participate each quarter in a major musical organization in which his or her instrument normally belongs — band, orchestra, or choir. Piano and organ majors may select either 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:

- 200 series — Freshmen and Sophomores
 400 series — Juniors and Seniors
 221, 421. Jazz Sextet I. *One hour credit.*
 224, 424. Vocal Jazz Ensemble. *One hour credit.*
 *226, 426. Antiphonal Brass Choir. *One hour credit.*
 230, 430. String Ensemble. *One hour credit.*
 231, 431. Brass Ensemble. *One hour credit.*
 232, 432. Woodwind Ensemble. *One hour credit.*
 233, 433. Percussion Ensemble. *One hour credit.*
 234, 434. Piano Ensemble. *One hour credit.*
 235, 435. Classical and/or Jazz Guitar Ensemble. *One hour credit.*
 236, 436. Dixieland Jazz Band. *One hour credit.*
 237, 437. Jazz Octet. *One hour credit.*
 238, 438. Old Times Jazz Band. *One hour credit.*
 239, 439. Jazz Sextet III/Quartet. *One hour credit.*
 240, 440. Jazz Septet. *One hour credit.*
 241, 441. Jazz Bebop Quintet. *One hour credit.*
 242, 442. Jazz Quintet. *One hour credit.*
 267, 467. Repertory Orchestra. *One hour credit.*
 *268, 468. Summer Festival Orchestra. *One-six hours credit.*
 *280, 480. Mixed Concert Choir. *One hour credit.*
 *281, 481. University Chorus. *One hour credit.*
 282, 482. University Singers. *One hour credit.*
 *283, 483. Women's Concert Choir. *One hour credit.*
 *284, 484. Varsity Men's Glee Club. *One hour credit.*
 285, 485. Opera Workshop. *One - three hours credit.*
 286, 486. Chorus and Orchestra Workshop. *One hour credit.*
 *287, 487. Summer Symphonic Band. *One hour credit.*

- 288, 488. Opera Orchestra. *One hour credit.*
 289, 489. Laboratory Orchestra. *One hour credit.*
 *290, 490. Wind Ensemble. *One hour credit.*
 *291, 491. Symphony Band. *One hour credit.*
 292, 492. Marching Band. *One hour credit.*
 *293, 493. University Band. *One hour credit.*
 294, 494. Jazz Ensemble. *One hour credit.*
 *295, 495. University Brass Choir. *One hour credit.*
 *296, 496. University Symphony Orchestra. *One hour credit.*
 297, 497. Chamber Orchestra. *One hour credit.*

Honors. The School of Music participates in the Honors Program. See Honors Program section of this catalog.

Bachelor of Arts Degree (Liberal Arts)

The Bachelor of Arts degree with a major in music is designed to provide a comprehension of music as a humanistic study within the framework of a broad, liberal arts education. It provides for the development of performance skills and competence in the structure and forms of music. Emphasis is placed on the development of scholarly skills in music and on the musical heritage of Western civilization.

1. Complete 60 hours of General Education (Foundations and all category requirements) as specified earlier in this bulletin. Music Education majors may use MUS 141, 142, 143, Music Literature and Styles I, II, III (6 hours) towards meeting the General Education requirements. MUS 152, Writing and Scholarship in the Performing and Visual Arts, may be elected to satisfy the Intermediate Composition requirement. All other general education courses must be outside of music.

2. Two quarter hours of individual performance (24 credit hour minimum) 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 major musical organization (Symphony Band, Summer Symphonic Band, Wind Ensemble, Mixed Concert Choir, University Chorus, Varsity Men's Glee Club, Women's Concert Choir, Summer Festival Orchestra, University Symphony Orchestra, Antiphonal Brass Choir, University Brass Choir).

3. Meet all music performance and recital attendance requirements as listed in the respective departmental handbook.

4. Electives to meet requirements for graduation.

5. An 87 hour major in music as outlined below.

Required courses:

MUS 100	Recitals, Concerts, Production	0
MUS 101,	102, 103 Sight Singing & Theory I, II, III	12
MUS 141,	142, 143 Music Literature & Styles I, II, III**	6
MUS 201,	202, 203 Advanced Sight Singing & Theory I, II, III	9
MUS 243,	244, 245 History of Music I, II, III	9
MUS 301	Counterpoint	3
MUS 302	Homophonic Forms	3
	Individual Performance	minimum 24
	Major Musical Organizations	minimum 12

Electives:

Electives in Music	9
Hours credit:	87

Non-Music Requirements

One academic minor outside the School of Music	27
Two years of a foreign language	27
Hours credit:	141

Music Minor (Liberal Arts)

All students taking the music minor must complete the core courses, either by taking the courses or challenging the examination.

In addition, the student may elect courses in music history, theory, literature, performance study, or ensemble participation to complete a 33 hour requirement (a maximum of 6 hours in performance and 3 hours in ensemble participation may apply towards meeting the elective requirements).

Students who wish to use Voice as credit toward their Minor requirements must audition and have permission of the Voice Department to do so.

MUS 101,	102, 103 Sight Singing & Theory I, II, III	12
MUS 141,	142, 143 Music Literature & Styles I, II, III**	6
	Electives	15
Hours credit:		33

Bachelor of Music Degree

The Bachelor of Music degree is designed to prepare specialists in the various music professions, including performers, theorists and composers. The program also prepares the student to teach these subjects privately or to enter graduate school in the same area of emphasis.

Students pursuing the Bachelor of Music degree must plan their programs to meet the following requirements:

1. Students pursuing the Bachelor of Music degree program must complete at least 45 hours of General Education including the Foundations of Education and all category requirements. MUS 152, Writing and Scholarship in the Performing and Visual Arts, may be elected to satisfy the Intermediate Composition requirement. All other courses taken to complete the 45 hours must be taken outside the field of music.

2. Complete the required courses listed below for the Instrumental, Voice, Piano or Theory and Composition Emphasis.

3. Meet all recital attendance requirements as listed in the respective departmental Applied Music and Performance Handbook.

4. When a student is accepted in the performance program, four credit hours of individual performance (one hour lesson) shall be carried during each quarter in residence and culminate in a senior recital. For the Theory and Composition major, a performance of compositions by the candidate is required. One quarter hour of credit must be earned each quarter in residence in a major musical organization (Symphony Band, Summer Symphonic Band, Wind Ensemble, Mixed Concert Choir, University Chorus, Varsity Men's Glee Club, Women's Concert Choir, Summer Festival

*Major musical performance organizations.

**May be used as part of the 60 hours of required General Education.

Orchestra, Antiphonal Brass Choir, University Brass Choir).

5. Electives to meet requirements for graduation.

6. Students pursuing the Vocal Emphasis are required to have 27-30 hours study in foreign languages. Specifics to be determined by consultation with the student's major advisor.

Instrumental Emphasis (Performance)

Required courses:

MUS 100	Recitals, Concerts, Production	0
MUS 101,	102, 103 Sight Singing & Theory I, II, III	12
MUS 141,	142, 143 Music Literature & Styles I, II, III	6
MUS 160,	161, 162 Beginning Class Piano I, II, III ⁴⁵	3
	<i>and/or</i>	
MUS 260,	261, 262 Intermediate Class Piano I, II, III ⁴⁵	3
	<i>and/or</i>	
MUS 271,	471 Individual Performance in Piano ⁴⁵	6
MUS 201,	202, 203 Advanced Sight Singing & Theory I, II, III	9
MUS 243,	244, 245 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 400	Pedagogy of Music Theory	3
MUS 403	Acoustics of Music	3
MUS 427	Orchestral Excerpts Class (Strings) <i>or</i>	3
MUS 428	Orchestral Excerpts Class (Brass) <i>or</i>	3
MUS 429	Orchestral Excerpts Class (WW)	3
MUS 423	Practicum in Band Conducting and Performance <i>or</i>	3
MUS 425	Practicum in Orchestral Conducting and Performance	3
MUS 449	History of Musical Instruments	3
	Individual Performance minimum 42	
	Major Musical Organizations	minimum 12
	Small Ensembles	12
	Hours credit: 141	

Voice Emphasis (Performance)

Required courses:

MUS 100	Recitals, Concerts, Productions	0
MUS 101,	102, 103 Sight Singing & Theory I, II, III	12
MUS 141,	142, 143 Music Literature & Styles I, II, III	6
MUS 160,	161, 162 Beginning Class Piano I, II, III ⁴⁶	3
	<i>and/or</i>	
MUS 260,	261, 262 Intermediate Class Piano I, II, III ⁴⁶	3
	<i>and/or</i>	
MUS 271,	471 Individual Performance in Piano ⁴⁶	6-12
MUS 285,	485 Opera Workshop	6
MUS 201,	202, 203 Advanced Sight Singing & Theory I, II, III	9
MUS 243,	244, 245 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

MUS 410	Introduction to Vocal Pedagogy	2
MUS 445	Vocal Repertoire: German Art Song	2
MUS 446	Vocal Repertoire: French Art Song	2
MUS 447	Vocal Repertoire: Italian Song	2
	Individual Performance	minimum 42
	Major Musical Organizations ⁴⁷	minimum 12

Non-Music Requirements:

Foreign Languages	27-30
Hours credit: 154-163	

Piano Emphasis (Performance)

Required courses:

MUS 100	Recitals, Concerts, Productions	0
MUS 101,	102, 103 Sight Singing & Theory I, II, III	12
MUS 141,	142, 143 Music Literature & Styles I, II, III	6
MUS 234,	434 Piano Ensemble	3
MUS 271,	471 Individual Performance in Piano	minimum 42
MUS 201,	202, 203 Advanced Sight Singing & Theory I, II, III	9
MUS 243,	244, 245 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 350,	351, 352 Principles of Piano Teaching I, II, III	
	<i>and/or</i>	
MUS 461,	462, 463 Principles of Piano Teaching IV, V, VI	6
MUS 400	Pedagogy of Music Theory	3
MUS 401	Improvisation	3
MUS 403	Acoustics of Music	3
MUS 415,	416, 417, 418, 419, 420 Piano Literature I, II, III, IV, V, VI	minimum 6
MUS 454,	445, 456 Pedagogical Approaches to the Keyboard Literature I, II, III	6
	Major Musical Organizations	minimum 12
	Hours credit: 128	

Theory and Composition Emphasis

Required courses:

MUS 100	Recitals, Concerts, Production	0
MUS 101,	102, 103 Sight Singing & Theory I, II, III	12
MUS 141,	142, 143 Music Literature & Styles I, II, III	6
MUS 160,	161, 162 Beginning Class Piano I, II, III	
	<i>and/or</i>	
MUS 260,	261, 263 Intermediate Class Piano I, II, III	12-18
	<i>and/or</i>	
MUS 271,	471 Individual Performance in Piano	
MUS 163,	164, 165 Beginning String Instruction I, II, III	3
MUS 201,	202, 203 Advanced Sight Singing & Theory I, II, III	9
MUS 243,	244, 245 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 323,	324 Choral Techniques and Conducting I, II	2
MUS 340	Survey of History and Literature of Jazz	3
MUS 360	Voice Class	1

MUS 361	Flute and Saxophone Class	1
MUS 362	Clarinet Class	1
MUS 363	Double Reed Class	1
MUS 364	Trumpet and Horn Class	1
MUS 365	Low Brass Class	1
MUS 366	Percussion Class	1
MUS 400	Pedagogy of Music Theory	3
MUS 401	Improvisation	2
MUS 403	Acoustics of Music	3
MUS 422	Individual Study in Sixteenth Century Counterpoint	3
MUS 422	Individual Study in Form and Analysis	3
MUS 277,	477 Individual Instruction in Composition ⁴⁸	36
	Major Musical Organization	12
	Hours credit: 137-143	

Students who are not qualified to enter this program in the freshman year but hope to do so in the sophomore year should seek to be admitted to the School of Music as a major in a performing area for the freshman year.

Students who fail to maintain a 3.0 average in Theory and Composition classes will be dropped from this program.

Bachelor of Music Education

The Bachelor of Music Education degree is designed to involve students in a curriculum which assists them in becoming broadly based, knowledgeable, and skilled school music educators.

Students pursuing the Bachelor of Music Education for the purpose of teaching must plan their program to meet the following requirements:

1. Complete 60 hours of General Education (Foundations and all category requirements) as specified earlier in this bulletin. Music Education majors may use MUS 141, 142, 143, Music Literature and Styles I, II, III (6 hours) towards meeting the General Education requirements. MUS 152, Writing and Scholarship in the Performing and Visual Arts, may be selected to satisfy category "C" of the General Education requirements. All other general education courses must be outside of music.

2. Complete the program of Professional Teacher Education described earlier in this bulletin (44 hours). Please note that the PTE program which accompanies this major involves the following modifications: MUS 414, Music for Students with Special Needs, satisfies the EDSE 406, Working with Handicapped Students in the Elementary School or EDSE 407, Working with Handicapped Students in the Secondary

⁴⁵Six credit hours of piano study are required. Placement in class piano or private lessons is determined by audition.

⁴⁶Six quarters of piano study are required. The level of study will be determined by audition.

⁴⁷At least one hour each quarter in residence.

⁴⁸Individual instruction in Composition is seldom rewarding for students who do not have a strong background in music theory. Students wishing to enter this program in the freshman year must submit to the Department of Theory and Composition evidence of prior training in the area. This evidence should consist of compositions, high school credits earned in music theory, etc. A personal interview with a member of the Theory and Composition staff should be arranged if at all possible.

School, requirement. MUS 210, Introduction to Music Education, is the departmental equivalent for EDLS 360, Clinical Experience.

3. Complete the required courses listed for the Instrumental Emphasis or the Vocal, Piano and General Emphasis.

4. Meet requirements for Admission to the Professional Teacher Education Program.

5. Complete all music courses designated (PTE), choral or instrumental conducting courses, and required techniques classes prior to student teaching.

6. Meet all music performance, recital attendance and music education requirements as stated in the respective department handbooks.

7. Complete electives to meet requirements for graduation.

8. Each student must enroll in two quarter hours of individual performance in the student's major performance area each quarter in residence for a minimum of eleven quarters. In addition, one quarter hour must be earned in a major musical organization each quarter in residence for a minimum of eleven quarters. Major musical organizations are Symphony Band, Summer Symphonic Band, Wind Ensemble, Mixed Concert Choir, University Chorus, Varsity Men's Glee Club, Women's Concert Choir, Summer Festival Orchestra, University Symphony Orchestra, Antiphonal Brass Choir, and University Brass Choir.

9. Marching Band is required during fall quarter of all freshmen, sophomore, and junior wind and percussion majors on campus who are pursuing the instrumental music education degree. Transfer students may transfer a maximum of one quarter credit in Marching Band with additional requirements to be determined by advisement. A minimum of one quarter of Marching Band is required of all transfer students. Marching Band Techniques class is required of all wind and percussion majors in the BME degree curriculum.

Admission to the Professional Teacher Education (PTE) Program

Minimal requirements for application to PTE are stated earlier in this bulletin. Students pursuing the BME degree and having completed 45 quarter hours should apply for admission to the PTE program by the end of the sophomore year. Preferably this should be done during the quarter in which students are enrolled in MUS 210, Introduction to Music Education. Junior or senior transfer students must apply for admission to PTE and enroll in MUS 210 during their first academic quarter. In addition to the requirements set forth by the PTE Committee, music education majors must:

1. Demonstrate an acceptable level of performance on their major instrument. Evaluation will be through jury examinations conducted by the music faculty and scheduled performances in the weekly recital series.

2. Demonstrate proficiency in functional piano to the satisfaction of the piano faculty.

3. Maintain a 2.50 GPA in the required

freshman and sophomore music theory classes.

4. Demonstrate to the satisfaction of the music education faculty professional promise as a teacher.

5. Meet all music performance and recital attendance requirements listed in the respective departmental handbooks.

6. Continue to show professional growth towards becoming a music educator. Failure to do so will result in PTE probation of not less than one quarter. Continued deficiencies may result in a student being dropped from the PTE music education curriculum.

Instrumental Emphasis

Required courses:

MUS 100	Recitals, Concerts, Productions	0
MUS 101, 102, 103	Sight Singing & Theory I, II, III	12
MUS 141, 142, 143	Music Literature and Styles I, II, III	3
MUS 160, 161, 162	Beginning Class Piano I, II, III ⁴⁹	3
	or	
MUS 260, 261, 262	Intermediate Class Piano I, II, III ⁴⁹	6
MUS 163, 164, 165	Beginning Strings I, II, III ⁵⁰	3
MUS 201, 202, 203	Advanced Sight Singing & Theory I, II, III	9
MUS 210	Introduction to Music Education	2
MUS 243, 244, 245	History of Music I, II, III	9
MUS 292, 492	Marching Band	3
MUS 301	Counterpoint	3
MUS 302	Homophonic Forms	3
MUS 303	Instrumentation	3
MUS 310	Teaching General Music in Elementary-Middle Schools (PTE)	3
MUS 311	Teaching General Music in Junior-Senior High Schools (PTE)	3
MUS 312	Teaching Instrumental Music in Elementary Schools (PTE)	2
MUS 313	Teaching Instrumental Music in Secondary Schools (PTE)	2
MUS 320, 321, 322	Instrumental Techniques and Conducting I, II, III	3
MUS 360	Voice Class	1
MUS 361	Flute and Saxophone Class	1
MUS 362	Clarinet Class	1
MUS 363	Double Reed Class	1
MUS 364	Trumpet and Horn Class	1
MUS 365	Low Brass Class	1
MUS 366	Percussion Class ⁵¹	1
MUS 412	Instrument Repair and Care	1
MUS 414	Music for Students with Special Needs	3
MUS 443	Instrumental Literature	3
MUS 444	Marching Band Techniques	2
	Individual Performance	22
	Major Musical Organization	11

Electives

	Music Electives to be selected from the following:	8
	Hours credit:	129
MUS 314	Guitar in the Classroom	1
MUS 316	Teaching Music Listening	3
MUS 317	Choral Literature for Elementary through High School Age Students	2
MUS 318	Music in Early Childhood	3
MUS 325	Choral Conducting and Literature for the High School	1
MUS 340	Survey of History and Literature of Jazz	3
MUS 341	Introduction to the Arts	2

MUS 401	Improvisation	2
MUS 408	Introduction to String Pedagogy	2
MUS 410	Introduction to Vocal Pedagogy	2
MUS 449	History of Musical Instruments	3
MUS 450	Dalcroze-Eurhythmics in the General Music Classroom	1
MUS 451	Kodaly — His Impact on American Music Education	1
MUS 452	Orff Schulwerk in American Schools	1
MUS 453	Creativity in Music Education	1
MUS 457	Public Relations in School Music	1
MUS 458	Public School Music Management	1

Vocal, Piano, and General Music Emphasis

Required courses:

MUS 100	Recitals, Concerts, Productions	0
MUS 101, 102, 103	Sight Singing & Theory I, II, III	12
MUS 141, 142, 143	Music Literature & Styles I, II, III	6
MUS 160, 161, 162	Beginning Class Piano I, II, III ⁴⁹	3
	and/or	
MUS 260, 261, 262	Intermediate Class Piano I, II, III ⁴⁹	3
	or	
MUS 271, 471	Individual Performance in Piano (For Voice Majors) ⁴⁹	6-12
	or	
MUS 356, 357, 358	Voice Class I, II, III (for piano majors)	3
	and	
MUS 269, 469	Individual Performance in Voice (for piano majors)	6
	or	
MUS 201, 202, 203	Advanced Sight Singing & Theory I, II, III	9
MUS 210	Introduction to Music Education	2
MUS 243, 244, 245	History of Music I, II, III	9
MUS 301	Counterpoint	3
MUS 302	Homophonic Forms	3
MUS 303	Instrumentation	3
MUS 310	Teaching General Music in Elementary-Middle Schools (PTE)	3
MUS 311	Teaching General Music in Junior-Senior High Schools (PTE)	3
MUS 312	Teaching Instrumental Music in Elementary Schools (PTE)	2
MUS 323, 324	Choral Techniques and Conducting I, II	2
MUS 325	Conducting and Teaching Choral Music in the Junior and Senior High School	2
MUS 367	Brass and Percussion Class ⁵²	1
MUS 368	String Class ⁴⁹	1
MUS 359	Woodwind Class ⁵²	1
MUS 414	Music for Students with Special Needs	3
	Individual Performance	22
	Major Musical Organization	11

Electives

	Music Electives to be selected from courses below:	16
	Hours credit:	115-125
MUS 285, 485	Opera Workshop ⁵³	1-3
MUS 313	Teaching Instrumental Music in Secondary Schools (PTE)	2
MUS 314	Guitar in the Classroom	2
MUS 316	Teaching Music Listening	3

⁴⁹Six quarters of piano study are required. The level of study will be determined by audition and the availability of staff.

⁵⁰String majors should substitute two quarters of private instruction on a secondary instrument.

⁵¹Percussion majors excused from this class.

MUS 317	Children's Song Literature	3	Ensembles	14
MUS 318	Music in Early Childhood	3		Hours credit: 46
MUS 340	Survey of History and Literature of Jazz	3	Voice Emphasis	
MUS 341	Introduction to the Arts	2	1. Complete a minimum of an additional 26 hours for a total of 48 hours in Individual Performance in Voice.	
MUS 401	Improvisation	2	2. Complete 27 to 30 hours of a Foreign Language.	
MUS 408	Introduction to String Pedagogy	2	3. Complete the following courses.	
MUS 410	Introduction to Vocal Pedagogy	2	Required courses:	
MUS 415, 416, 417, 418, 419, 420	Piano Literature I, II, III, IV, V, VI ⁵⁴	12	MUS 100 Recitals, Concerts, Productions	0
MUS 445	Vocal Repertoire: German Art Song ⁵⁵	2	MUS 285, 485 Opera Workshop	6
MUS 446	Vocal Repertoire: French Art Song ⁵⁵	2	MUS 316 Teaching Music Listening	3
MUS 447	Vocal Repertoire: Italian Song ⁵⁵	2	MUS 410 Introduction to Vocal Pedagogy	2
MUS 450	Dalcroze-Eurhythmics in the General Music Classroom	1	MUS 445 Vocal Repertoire: German Art Song	2
MUS 451	Kodaly — His Impact on American Music Education	1	MUS 446 Vocal Repertoire: French Art Song	2
MUS 452	Orff Schulwerk in American Schools	1	MUS 447 Vocal Repertoire: Italian Song	26
MUS 453	Creativity in Music Education	1	Individual Performance	26
MUS 457	Public Relations in School Music	1	Non-Music Requirements:	
MUS 458	Public School Music Management	1	Foreign Language	27-30
MUS 461, 462, 463	Principles of Piano Teaching I, II, III	6		Hours credit: 70-73

Bachelor of Music Education and Bachelor of Music Degrees

Combined Degrees Program (requires a minimum of 225 credit hours)

Admission to candidacy for the combined Bachelor of Music Education 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 the University. See Second Baccalaureate Degree program in this catalog.

Requirements:

1. Complete the requirements for the B.M.E. degrees in Music Education.
2. Complete the performance and organization/ensemble requirements in the B.M. degree.
3. Present a complete graduation recital.
4. Meet all music performance and recital attendance requirements as listed in the respective departmental Applied Music and Performance Handbook.
5. Complete the requirements listed below in an emphasis area. (See requirements in the Bachelor of Music Degree section).

Instrumental Emphasis

1. Complete a minimum of an additional 20 hours for a total of 42 hours in Individual Performance and 14 additional hours in large and small ensembles.
2. Complete the following courses.

Required courses:

MUS 100	Recitals, Concerts, Productions	0
MUS 400	Pedagogy of Music Theory	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
	Individual Performance	20

MUS 411	Individual Coaching in Music/Theatre Repertory III (to be taken concurrently with THEA 467) ⁵⁸	2
THEA	Individual Performance in Theatre (In technical theatre work only)	4
MUS	Music Performance (Vocal Ensembles)	12
HPER 136	Beginning Ballet	1
	A minimum of two additional hours of dance to be chosen from HPER or THEA dance courses. (See HPER and THEA)	2
		Hours credit: 111
	4. Electives sufficient to complete the requirements for the Bachelor of Arts degree.	
	Students contemplating graduate work should prepare to meet the requirements of graduate study in music or theater arts. This would involve preparation in the disciplinary competencies as well as research requirements to enter graduate school. See your advisor.	

Music/Theatre

Administered by the School of Music and Department of Theatre Arts

Students who are interested in majoring in Music/Theatre are not automatically accepted into the program even though they meet the general admission requirements of the University. Auditions and interviews are part of the admission requirements for acceptance into the program.

Formal application for admission into the Music/Theatre major must be made in writing to the office of the Coordinator of the Music/Theatre Program.

Students pursuing the B.A. degree with a major in Music/Theatre must plan their programs to meet the following requirements:

1. Complete 60 hours of General Education as specified earlier in this catalog.
2. Meet all recital and production attendance requirements as specified for the program (see your advisor).
3. The following courses in the major.

Required courses:

MUS 100	Recitals, Concerts, Productions ⁵⁶	0
MUS 101, 102, 103	Sight Singing & Theory I, II, III	12
MUS 141, 142, 143	Music Literature & Styles I, II, III ⁵⁷	6
THEA 160	Acting I (Internals)	3
THEA 170, 171, 172	Stage Movement I, II, III	3
THEA 261	Stage Make-up	2
MUS 270, 470	Individual Performance in Voice	24
THEA 270, 271, 272	Rhythmic & Dramatic Movement I, II, III	3
MUS 271	Individual Performance in Piano	12
MUS 285, 485	Opera Workshop	12
THEA 360	Acting III (Acting in Music/Theatre)	3
THEA 465	Music/Theatre Repertory I	2
MUS 407	Individual Coaching in Music/Theatre Repertory I ⁵⁸ (to be taken concurrently with THEA 465)	2
THEA 466	Music/Theatre Repertory II	2
MUS 409	Individual Coaching in Music/Theatre Repertory II (to be taken concurrently with THEA 466) ⁵⁸	2
THEA 467	Music/Theatre Repertory III	2

Nursing Major

Administered by the School of Nursing

Students pursuing the B.S. degree with a major in Nursing must plan their programs to fulfill the following requirements:

1. Complete 60 hours (Foundations of General Education and all category requirements) of General Education.
2. Required courses:

CHEM 108	General Chemistry	5
CHEM 109	General Chemistry — Organic	5
CHEM 281	Human Biochemistry	5
ZOO 105	Human Biology	4
ZOO 221	Human Anatomy	4
ZOO 250	Human Physiology	5
ZOO 350	Medical Pharmacology	4
BIO 261	Microbiology	3
BIO 265	Microbiology Laboratory	1
HEC 251	Nutrition I	3
HEC 357	Therapeutic Nutrition	3
SRM 315	Statistics for Health Sciences	3
NURS 300	Conceptual Foundations of Nursing Practice I	4
NURS 302	Conceptual Foundations of Nursing Practice II	4
NURS 303	Techniques and Skills in Nursing Practice I	6
NURS 305	Nursing Theory: An Adaptation Model	3
NURS 307	Parent-Infant Nursing Theory	5
NURS 308	Mental-Health Nursing Theory	4
NURS 309	Nursing Care of the Hospitalized Adult and Child	5

⁵²Individual Performance may be substituted.

⁵³Maximum of ten hours applicable toward the sixteen required hours of electives.

⁵⁴At least three courses of Piano Literature are required of piano majors. Open to all students at the Sophomore level or above.

⁵⁵Requires upper level proficiency in voice as a pre-requisite.

⁵⁶Total of twelve quarters.

⁵⁷May be used as part of the 60 hours of General Education, thus allowing for six additional hours of electives.

⁵⁸Prerequisite a minimum of six hours of MUS 270 and/or 470.

NURS 310 Professional Practice Issues	3	nursing courses the summer before the junior
NURS 320 Physical Assessment	3	year. Forms for applying to the clinical
NURS 370 Clinical Practicum in Parent-Infant Nursing	5	program and information regarding
NURS 380 Clinical Practicum in Mental-Health Nursing	6	application procedure are obtained at the
NURS 390 Clinical Practicum in Adult-Child Nursing	7	School of Nursing. The following factors may
NURS 395 Techniques and Skills in Nursing Practice II	2	be considered by the Student Affairs
NURS 402 Community Health Nursing	5	Committee in the selection of students:
NURS 403 Nursing Care of Wellness and Illness States in a Variety of Settings	5	1. Cumulative grade point average at the
NURS 404 Advanced Nursing Care of the Adult in Acute, Long-Term and Rural Settings	5	University of Northern Colorado and/or all
NURS 405 Nursing Theory and Research	3	previous institutions.
NURS 410 Nursing Leadership	3	2. Grades earned in required support
NURS 420 Clinical Practicum in Community Health Nursing	7	courses, i.e., science grades.
NURS 430 Clinical Practicum in Nursing Care of Children in a Variety of Settings	5	3. Results of the health assessment
NURS 440 Clinical Practicum in the Advanced Nursing Care of Adults	8	required for admission to the clinical nursing
NURS 441 Techniques and Skills in Nursing Practice III	1	program (See Health Policies for nursing

Electives:

Three (3) courses from Psychology, Sociology, and/or Anthropology. These three (3) courses may be taken in any one discipline or in any combination of the given disciplines.

In addition, one course in cultural awareness from the following: a) any Mexican American studies courses; b) any Black Studies course; c) one of the following Anthropology courses — ANT 325, 381 or 382, or d) one of the following interdisciplinary courses — ID 302 or 375.

3. Electives sufficient to complete requirements for graduation (195 credit hours).

Policy for Admission of Students to the Nursing Major

Pre-Clinical Majors: Students who are interested in nursing are not automatically accepted as nursing majors even though they meet the general admission requirements of the University. Formal applications, both to the University and the School of Nursing are obtained from and made to the University of Northern Colorado Office of Admissions.

It is highly recommended that students planning for a career in nursing include chemistry, physics, biology, and math in their high school program. Proficiency in basic mathematics is essential to succeed in the nursing program.

Students enrolled in the pre-clinical major will receive academic advising from members of the School of Nursing faculty.

Clinical Major. The designation of nursing major does not necessarily assure an appointment in the School of Nursing at the upper division.

A separate admission and acceptance process during the sophomore year is required for the student to enter clinical

nursing courses the summer before the junior year. Forms for applying to the clinical program and information regarding application procedure are obtained at the School of Nursing. The following factors may be considered by the Student Affairs Committee in the selection of students:

1. Cumulative grade point average at the University of Northern Colorado and/or all previous institutions.

2. Grades earned in required support courses, i.e., science grades.

3. Results of the health assessment required for admission to the clinical nursing program (See Health Policies for nursing majors).

4. Scores on selected tests measuring such factors as: aptitude; cognitive; affective; and psychomotor skills; and achievement.

The number of students admitted to the clinical nursing program is determined by the available resources. Available resources may also limit possibilities for readmission to the program for those students who withdraw for any reason.

Registered Nurses Pursuing B.S. Degree. Graduates of state approved diploma or associate degree programs in nursing are eligible to apply for admission to the baccalaureate program in nursing. The program to be pursued by R.N. students has been designed to be as flexible and responsive to individual student needs as possible within the constraints and resources of the School of Nursing.

The length of the program for the registered nurse student is dependent upon the amount of transfer credit and successful completion of advanced standing credit examinations (CLEP, Departmental, NLN, and Level). The first nursing course required for registered nurse students is not offered every quarter (NURS 300 and 305).

Admission procedure for R.N.'s: Individuals seeking admission must be admitted to the University of Northern Colorado following the procedure outlined in the University Bulletin. Students should concurrently contact the School of Nursing for information regarding admission to the Nursing major.

Progression. Nursing majors must earn a minimum grade of "C" in all required nursing courses for progression in the nursing major. The School of Nursing faculty reserves the right to place on probation or to require the withdrawal from the Nursing program any student who, in their professional judgment, fails to satisfy the requirements of scholarship, health status, and/or performance. Students receiving a grade less than "C", in a nursing course will be readmitted to that course on a space available basis only.

The School of Nursing Probation/Termination Policy, Critical Behaviors for Satisfactory Achievement in Clinical Nursing courses, withdrawals and Cheating/Plagiarism Policy are published in the student handbook (required).

Students who must repeat a clinical nursing course or who fail to enroll or complete a course on their scheduled assignment will be readmitted for clinical

courses on a space available basis only. Courses may not be offered every quarter.

Students who have not enrolled for either required support courses or nursing courses over three successive quarters and have not made prior arrangements with the Dean will not be considered a nursing major. Readmission to the School of Nursing will require re-application (see admission).

Graduation. The degree of Bachelor of Science in nursing will be granted by the Board of Trustees 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.

William R. Ross Award. In 1966 the School of Nursing faculty established the William R. Ross Achievement Award in honor of retiring president, Dr. William R. Ross. This award recognizes each year a senior nursing student for outstanding scholarship, leadership, and service.

Health Policies. Within the academic year preceding the first clinical course, a conference with a nurse in the Student Health Service is required for an assessment of the student's health status. If health concerns exist, further diagnostic studies are required.

In addition to the Nursing Conference the following are required:

1. Immunizations: adult tetanus-diphtheria, and polio. The student's previous immunizations record should be checked. A complete series, a booster or no further immunizations may be indicated at this time.

2. Tests: a tuberculin skin test, a large chest x-ray, VDRL, and a rubella titer. If the rubella titer is negative, the student will be advised to consult with a physician to determine whether immunization for rubella is indicated.

Additional Expenses. In addition to the regular tuition and fees, nursing majors have the following expenses:

Year	Quarter	Item	Amount ⁵⁹
Junior	Summer	Uniforms and Caps ⁶⁰	\$75.00
		Lab coat	\$25.00
		Chest x-ray	\$20.00
		White shoes	\$30.00
		Name pin	\$2.00
		Watch with second hand	\$30.00
Senior	Spring	Stethoscope	\$35.00
		School pin	\$85.00
		Chest x-ray	\$20.00
		Microfische film	\$1.25
		National League for Nursing Achievement Examinations	\$20.00

Clinical Practice. Nursing students have a variety of clinical experiences — hospitals, nursing homes, industry, schools, public health agencies in northeastern Colorado communities. Clinical practice is concurrent with nursing theory (classes) and is guided by

⁵⁹Costs listed above are approximate and are subject to change.

⁶⁰Uniforms (required) are ordered the quarter before the clinical assignment.

nursing faculty as well as by the opportunity to interact with professionals in the agencies.

Student practicums in the agencies are assigned according to available resources. All assignments require transportation and may necessitate moving from the Greeley area. Students are responsible for their own transportation to all off-campus activities (classes or practicums).

Outdoor Education – Environmental Education

Undergraduate Minor: Outdoor Education

The purpose of this program is to prepare teachers and leaders in the areas of Outdoor Education, Environmental Education, Outdoor Leisure Education, and Outdoor Adventure Education. Numerous opportunities are provided for students to actively participate in outdoor learning experiences conducted beyond the classroom. Undergraduate students are provided an opportunity to participate in Outdoor Laboratory School Programs conducted in the University Laboratory School and in public school outdoor programs. Course offerings, which have significance for this broad area, are offered in many departments of the University. Students interested in Outdoor Education should pursue the following program under the advisement of the Coordinator of Outdoor Education.

Required courses:

OED 250	Outdoor Education and Environmental Awareness	4
OED 350	Leisure and the Outdoors	4
OED 450	Curriculum and Program Development in Outdoor Education	3
OED 308	Workshop in Outdoor Education	3
EED 408	Language Arts and Outdoor Education	4
ENST 260	Ecological Interpretations	3
	or	
ENST 280	Natural Resources and Technology	3
ENST 361	Art and the Environment	3
	or	
FA 540	Art in Recreation	3
GEOG 350	Geography of Colorado	3
	or	
GEOG 353	Geography of the Great Plains	2
MUS 315	Music and Recreation	2
	Hours credit: 28-29	

New courses are continually emerging in the academic departments that may be taken as substitute courses for some courses listed above. Students minoring in Outdoor Education should consult with the Coordinator of Outdoor Education for the most current course offerings. (Workshops in Outdoor Education may be taken, when available, for elective credit through the Center for Continuing Education at off-campus tuition rates.)

Philosophy Major

Administered by the Department of Philosophy

Students pursuing the B.A. with a major in Philosophy must complete the following program requirements:

1. General Education requirements of 60 hours as specified in this catalog.
2. A minor of at least 27 hours. (The minor should be chosen in consultation with the major advisor. No minor is required if the philosophy major is part of a double major. In addition, the Department of Philosophy recommends that philosophy majors take at least two years of a foreign language — preferably French or German.)
3. These specific course requirements:

Required courses:

A. Introductory

(A minimum of eight hours is required; courses should be chosen in consultation with the major advisor.)

PHIL 100	Introduction to Philosophy	4
PHIL 120	The Art of Philosophical Writing	3
PHIL 121	Methods of Philosophical Research	1
PHIL 140	Basic Symbolic Skills	3
PHIL 141	Fundamental Concepts of Logic	1
PHIL 200	Textual Analysis	4

B. Core Requirements

PHIL 240	Formal Logic	4
PHIL 350	Ethics	4
PHIL 385	Epistemology	4
PHIL 390	Metaphysics	4

C. Options in the History of Philosophy

(A minimum of twelve hours is required; courses should be chosen in consultation with the major advisor.)

PHIL 205	Movements in the History of Philosophy	4
PHIL 215	Periods in the History of Philosophy	4
PHIL 225	Figures in the History of Philosophy	4
PHIL 235	Issues in the History of Philosophy	4
PHIL 400	Advanced Studies in the History of Philosophy	4

Electives:

Should be chosen in consultation with the major advisor. 20

Minor (not required with a double major) 27

Recommended:

Two years of a foreign language

Philosophy Minor

Administered by the Department of Philosophy

Required courses:

A. Introductory

A minimum of four hours to be selected from:

PHIL 100	Introduction to Philosophy	4
PHIL 105	Philosophical Perspectives on Current Issues	4
PHIL 120	The Art of Philosophical Writing	3
PHIL 121	Methods of Philosophical Research	1
PHIL 200	Textual Analysis	3

B. Logic

A minimum of four hours to be selected from:

PHIL 140	Basic Symbolic Skills	3
PHIL 141	Fundamental Concepts of Logic	1
PHIL 240	Formal Logic	4

C. Core Studies

A minimum of four hours to be selected from:

PHIL 350	Ethics	4
PHIL 385	Epistemology	4
PHIL 390	Metaphysics	4

D. History of Philosophy

A minimum of four hours to be selected from:

PHIL 205	Movements in the History of Philosophy	4
PHIL 215	Periods in the History of Philosophy	4
PHIL 225	Figures in the History of Philosophy	4
PHIL 235	Issues in the History of Philosophy	4
PHIL 400	Advanced Studies in the History of Philosophy	4

Electives:

Should be chosen in consultation with minor advisor 12
Hours credit: 28

Physical Education Majors

Physical Education (K-12)

Margaret E. Everett, Co-Chairperson
George H. Sage, Co-Chairperson

Students pursuing the B.A. degree with a teaching major in Physical Education must plan their programs to fulfill the following requirements:

1. Complete the General Education requirements of 60 quarter hours.
2. Students must complete at least 14 of the courses listed below: A student must take at least four courses from the Team Sports Area, and at least *one* course from each of the other areas. A student must obtain competency⁸¹ in at least nine of these 14 activities. Competency must be demonstrated while the student is enrolled at the University of Northern Colorado. A student may receive credit for the courses listed below, if he or she has taken comparable courses at other colleges, but the transfer of courses *does not* include the transfer of competency. A transfer student who wishes to take a competency examination for a particular activity for which he or she received transfer credit must contact one of the instructors who teach in this area and arrange to take the competency examination the next time it is being given.

A. Team Sports:

HPER 268	Analysis and Movements of Flag Football	1
HPER 271	Analysis and Movements of Soccer	1
HPER 272	Analysis and Movements of Field Hockey	1
HPER 273	Analysis and Movements of Basketball	2
HPER 274	Analysis and Movements of Volleyball	2
HPER 276	Analysis and Movements of Football	2
HPER 278	Analysis and Movements of Softball	2

HPER 292 Analysis and Movements of Baseball 2
Note. Competency can be obtained in: 1) either Flag Football or Football; 2) either Softball or Baseball.

B. Individual or Dual Sports:

HPER 270 Analysis and Movements of Weight Training and Conditioning 1
 HPER 275 Analysis and Movements of Wrestling 2
 HPER 277 Analysis and Movements of Track 2
 HPER 279 Analysis and Movements of Self Defense 1
 HPER 280 Analysis and Movements of Badminton 1
 HPER 281 Analysis and Movements of Fencing 1
 HPER 282 Analysis and Movements of Bowling 1
 HPER 284 Analysis and Movements of Tennis 2
 HPER 285 Analysis and Movements of Beginning Tumbling and Gymnastics 2
 HPER 286 Analysis and Movements of Archery 1
 HPER 287 Analysis and Movements of Golf 1
 HPER 289 Mechanical Analysis and Spotting of Advanced Gymnastics Skills 2

Note. Competency is *not* available in HPER 285.

C. Aquatics and Rhythms:

HPER 283 Analysis and Movements of Swimming 2
 HPER 192 Advanced Life Saving and Aquatic Instruction 3
 HPER 290 Analysis and Movements of Folk and Square Dance 2
 HPER 293 Analysis and Movements of Modern Dance 2
 HPER 294 Problems in Dance Composition 2

Note. Competency is *not* available in HPER 283 or 293.

Competency examinations consist of a knowledge and skill proficiency test. Standard criteria for acceptable competency for each motor activity area have been established. Competency in each activity may be met in the following ways:

A. Competency examinations may be taken by students while they are enrolled in the Analysis and Movements class in that motor activity. (**Note.** Passing the Analysis and Movements class for a particular motor activity *does not* automatically mean that the competency requirement for that activity has been passed. The Competency Program and the Analysis and Movements series of classes are independent of each other. The Analysis and Movements classes are designed to help students improve their ability in the various motor activities but some students will not have mastered an activity well enough to pass the Physical Education Department Competency requirements for it by the end of one quarter, although they may receive a passing grade for the class.)

B. Competency examinations may be taken after a student has completed the Analysis and Movements class for that motor activity, if the student does not meet the Competency Requirement while taking the class.

C. When Competency examinations are to be taken in (B) above, the student must

arrange the examination at the convenience of the instructors. Normally, competency examinations given in (B) will be given only once per quarter.

3. Students must successfully complete coaching classes in 3 of the following areas: (Recommended to take at least one sport for each season.)
 Baseball or Softball Swimming
 Basketball Tennis
 Dance Production Track and Field
 Football Volleyball
 Gymnastics Wrestling

Students must successfully complete officiating classes in at least one of the following sports:
 Baseball or Softball Volleyball
 Tennis Gymnastics
 Basketball Wrestling
 Track and Field Swimming
 Football

4. The following courses are also required in the major.

Required courses:

HPER 202 Introduction to Physical Education 2
 HPER 205 Issues in Health 3
 HPER 220 Anatomical Kinesiology 3
 HPER 221 Mechanical Kinesiology 3
 HPER 222 Physiological Kinesiology 3
 HPER 223 Psychological Kinesiology 3
 HPER 224 Maturational Kinesiology 3
 HPER 262 Standard First Aid and Personal Safety 2
 HPER 291 Rhythmic Education in the Elementary School 2
 HPER 380 Prevention and Care of Sports Injuries 2
 HPER 432 Adapted Physical Education 3
 HPER 436 Sociological Interpretations in Physical Education and Sport 3
 HPER 450 Administration of Physical Education 3
Methods Block (Courses must be taken concurrently and at UNC.)
 HPER 235 Teaching Experience Seminar 1
 HPER 344 Methods and Observation of Teaching Physical Education in the Elementary School 3
 HPER 345 Methods and Observation of Teaching Physical Education in the Secondary School 2
 HPER 346 Assistant Teaching 1
 HPER 426 Tests and Measurement in Physical Education 3

Electives:

Activity Competence (see number 2) 18-23
 Coaching (see number 3) 6
 Officiating (see number 3) 1
 Hours credit: 70-75
 Minor (see number 7) 30

Professional Teacher Education

The PTE core except for the methods and observation courses required in the 10-hour HPER Methods Block 39

5. Students planning to use this major as a certification program for teaching must complete the program of Professional Teacher Education as described in this catalog. (44 hours). Please note that HPER 344, three hours credit, and HPER 345, two hours credit, are included in this PTE program.

6. The Methods Block and at least 10 of the HPER Analysis and Movements classes and 7 competencies *must be* completed before a student may student teach in this field.

7. A minor of 30 quarter hours or more. It is recommended that this be a teaching minor. 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.

8. 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 Teaching and Methods of Teaching in their minor.

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

Physical Education Minor (Men and Women — Coaching Emphasis)

A minimum of 6 courses elected from the following courses. A student must obtain competency in at least 3 of these activities. (See page 50 for description of competency examinations.) Competency must be demonstrated while the student is enrolled at the University of Northern Colorado. A student may receive credit for the courses listed below, if he or she has taken comparable courses at other colleges, but the transfer of courses *does not* include the transfer of competency. A transfer student who wishes to take a competency examination for a particular activity for which he or she received transfer credit must contact one of the instructors who teaches in this area and arrange to take the competency examination the next time it is being given.

HPER 268 Analysis and Movements of Flag Football 1
 HPER 270 Analysis and Movements of Weight Training and Conditioning 1
 HPER 272 Analysis and Movements of Field Hockey 1
 HPER 273 Analysis and Movements of Basketball 2
 HPER 274 Analysis and Movements of Volleyball 2
 HPER 275 Analysis and Movements of Wrestling 2
 HPER 276 Analysis and Movements of Football 2
 HPER 277 Analysis and Movements of Track 2
 HPER 278 Analysis and Movements of Softball 2
 HPER 283 Analysis and Movements of Swimming 2
 HPER 284 Analysis and Movements of Tennis 2
 HPER 285 Analysis and Movements of Beginning Tumbling and Gymnastics 2
 HPER 289 Mechanical Analysis and Spotting of Advanced Gymnastics Skills 2
 HPER 292 Analysis and Movements of Baseball 2

Note. Competency can be obtained in: 1) Either Flag Football or Football; 2) Either Softball or Baseball. Competency is *not*

*1) Competency to include: 1) Demonstrable Skill, 2) Analysis of skill, and 3) Knowledge of material.

available in HPER 283 or 285.

Students must successfully complete coaching classes in 3 of the following areas: (recommended to take at least one sport for each season).

Baseball or Softball	Swimming
Basketball	Tennis
Dance Production	Track and Field
Football	Volleyball
Gymnastics	Wrestling

Students must successfully complete officiating classes in at least one of the following sports:

Baseball or Softball	Tennis
Basketball	Track and Field
Football	Volleyball
Gymnastics	Wrestling
Swimming	

Required courses:

HPER 220 Anatomical Kinesiology	3
HPER 380 Prevention and Care of Sports Injuries	2
HPER 436 Sociological Interpretations in Physical Education and Sport	3
HPER 470 Administration of Athletics	3
Electives:	
Analysis and Movement (competency in 3 activities)	9-12
Coaching (see note above)	6
Officiating (see note above)	1

Select two of the following HPER courses:

HPER 221 Mechanical Kinesiology	3
or	
HPER 222 Physiological Kinesiology	3
or	
HPER 223 Psychological Kinesiology	3

Hours credit: 33-36

Physical Education Minor (Teaching Emphasis — Secondary Level)

1. Students must complete at least 10 of the courses listed below. A student must take at least four courses from the Team Sports Area and at least four courses from the other two areas. A student *must obtain competency in at least seven* of these 10 activities.⁶²

Competency must be demonstrated while the student is enrolled at the University of Northern Colorado. A student may receive credit from the courses listed below, if he or she has taken comparable courses at other colleges, but the transfer of courses *does not* include the transfer of competency. A transfer student who wishes to take a competency examination for a particular activity for which he or she received transfer credit must contact one of the instructors who teaches in this area and arrange to take the competency examination the next time it is being given.

A. Team Sports:

HPER 268 Analysis and Movements of Flag Football	1
HPER 271 Analysis and Movements of Soccer	1
HPER 272 Analysis and Movements of Field Hockey	1
HPER 273 Analysis and Movements of Basketball	2
HPER 274 Analysis and Movements of Volleyball	2
HPER 276 Analysis and Movements of Football	2
HPER 278 Analysis and Movements of Softball	2

HPER 292 Analysis and Movements of Baseball

Note. Competency can be obtained in: 1) Either Flag Football or Football; 2) Either Softball or Baseball.

B. Individual or Dual Sports:

HPER 270 Analysis and Movements of Weight Training and Conditioning	1
HPER 275 Analysis and Movements of Wrestling	2
HPER 277 Analysis and Movements of Track	2
HPER 279 Analysis and Movements of Self Defense	1
HPER 280 Analysis and Movements of Badminton	1
HPER 281 Analysis and Movements of Fencing	1
HPER 282 Analysis and Movements of Bowling	1
HPER 284 Analysis and Movements of Tennis	2
HPER 285 Analysis and Movements of Beginning Tumbling and Gymnastics	2
HPER 286 Analysis and Movements of Archery	1
HPER 287 Analysis and Movements of Golf	1
HPER 289 Mechanical Analysis and Spotting of Advanced Gymnastics Skills	2

Note. Competency is *not* available in HPER 285.

C. Aquatics and Rhythms:

HPER 283 Analysis and Movements of Swimming	2
HPER 192 Advanced Life Saving and Aquatic Instruction	3
HPER 290 Analysis and Movements of Folk and Square Dance	2
HPER 293 Analysis and Movements of Modern Dance	2
HPER 294 Problems in Dance Composition	2

Note. Competency is *not* available in HPER 283 or 293.

2. Students minoring in this program must complete two coaching classes.

3. Required courses:

HPER 220 Anatomical Kinesiology	3
HPER 221 Mechanical Kinesiology	3
HPER 222 Physiological Kinesiology	3
HPER 223 Psychological Kinesiology	3
HPER 262 Standard First Aid and Personal Safety	2
<i>Methods Block (Courses must be taken concurrently and at UNC)</i>	
HPER 235 Teaching Experience Seminar	1
HPER 344 Methods and Observation of Teaching Physical Education in the Elementary School	3
HPER 345 Methods and Observations of Teaching Physical Education in the Secondary School	2
HPER 346 Assistant Teaching	1
HPER 426 Tests and Measurement in Physical Education	3

Electives:

Analysis and Movement (see number 1)	11-21
Coaching (two classes)	4

Hours credit: 39-49

4. The Methods Block and at least 10 of the HPER Analysis and Movements classes and 7 of the Competencies *must be* completed before a student may student teach in this field.

Physical Education Minor (Teaching Emphasis — Elementary Level)

1. Students must complete at least 10 of the courses listed below. A student must take at least four courses from the Team Sports Area and at least four courses from the other two areas. A student *must obtain competency in at least seven* of these 10 activities.⁶³

Competency must be demonstrated while the student is enrolled at the University of Northern Colorado. A student may receive credit from the courses listed below, if he or she has taken comparable courses at other colleges, but the transfer of courses *does not* include the transfer of competency. A transfer student who wishes to take a competency examination for a particular activity for which he or she received transfer credit must contact one of the instructors who teaches in this area and arrange to take the competency examination the next time it is being given.

A. Team Sports:

HPER 268 Analysis and Movements of Flag Football	1
HPER 271 Analysis and Movements of Soccer	1
HPER 272 Analysis and Movements of Field Hockey	1
HPER 273 Analysis and Movements of Basketball	2
HPER 274 Analysis and Movements of Volleyball	2
HPER 276 Analysis and Movements of Football	2
HPER 278 Analysis and Movements of Softball	2
HPER 292 Analysis and Movements of Baseball	2

Note. Competency can be obtained in: 1) Either Flag Football or Football; 2) Either Softball or Baseball.

B. Individual or Dual Sports:

HPER 275 Analysis and Movements of Wrestling	2
HPER 277 Analysis and Movements of Track	2
HPER 279 Analysis and Movements of Self Defense	1
HPER 284 Analysis and Movements of Tennis	2
HPER 289 Mechanical Analysis and Spotting of Advanced Gymnastics Skills	2

C. Aquatics and Rhythms:

HPER 283 Analysis and Movements of Swimming	2
HPER 192 Advanced Life Saving and Aquatic Instruction	3
HPER 290 Analysis and Movements of Folk and Square Dance	2
HPER 293 Analysis and Movements of Modern Dance	2
HPER 294 Problems in Dance Composition	2

Note. Competency is *not* available in HPER 283 or 293.

2. Students minoring in this program must complete two coaching classes.

⁶²Competency to include: 1) Demonstrable skill, 2) Analysis of skill, and 3) Knowledge of material. (See Physical Education Major for a description of the Competency examinations and how competencies may be met.)

⁶³Competency to include 1) Demonstrable skill, 2) Analysis of skill, and 3) Knowledge of material. (See Physical Education Major for a description of the Competency examinations and how competencies may be met.)

3. Required courses:

HPER 220	Anatomical Kinesiology	3
HPER 224	Maturational Kinesiology	3
HPER 262	Standard First Aid and Personal Safety	2
HPER 285	Analysis and Movements of Beginning Tumbling and Gymnastics	2
HPER 291	Rhythms for the Elementary School <i>Methods Block (Courses must be taken concurrently and at UNC)</i>	2
HPER 235	Teaching Experience Seminar	1
HPER 345	Methods and Observations of teaching Physical Education in the Secondary School	2
HPER 344	Methods and Observation of Teaching Physical Education in the Elementary School	3
HPER 346	Assistant Teaching	1
HPER 426	Tests and Measurement in Physical Education	3

Electives:

Analysis and Movement (see number 1)	11-21
Coaching (two classes)	4

Select two of the following HPER courses:

HPER 221	Mechanical Kinesiology	3
or		
HPER 222	Physiological Kinesiology	3
or		
HPER 223	Psychological Kinesiology	3

Hours credit: 43-56

4. The Methods Block and at least 10 hours of the HPER Analysis and Movements classes and 7 of the Competencies *must be completed* before a student may student teach in this field.

Emphasis in Athletic Training

An apprenticeship program is available to students interested in the paramedical profession of athletic training. Course work and practical experience related to sports injuries and health supervision of the school athletic program are provided.

Upon completion, requirements in preparation for national certification as an Athletic Trainer will be met.

Admission to this program is limited due to availability of resources. Students may secure complete information and requirements from the Department of Physical Education.

Physical Science and Physics Majors

Administered by the Department of Physics

Physical Science Major (Teaching)

This is a broad degree in physical science (teaching) under which programs can be tailored to the individual needs of the student.

1. Meet all General Education requirements as specified in this catalog.
2. A total of 60 hours minimum in chemistry, physics and related fields as approved.
3. A program of specific content requirements will be determined between the student and his or her advisor.

4. In addition, the student must plan a program which will develop knowledge and skills in chemistry, biology, earth sciences, and mathematics in order to meet certification requirements.

Professional Teacher Education

Professional Teacher Education	
Core	39
EDLS 363 Clinical Experience	2
SCED 441 Methods of Teaching Secondary School Science	3

Hours credit: 44

Physics Major

Students pursuing the B.A. with a major in Physics must plan their programs to fulfill the following requirements:

General Education requirements as specified in this catalog.

Program Requirements Major**Required courses:**

PHYS 265	General Physics — Mechanics	5
PHYS 266	General Physics — Sound, Light and Heat	5
PHYS 267	General Physics — Electricity	5
PHYS 365	Mechanics I	4
PHYS 366	Electricity and Magnetism I	4
PHYS 367	Optics I	4
PHYS 368	Atomic Physics	5
PHYS 465	Mechanics II	3
PHYS 466	Electricity and Magnetism II	3
PHYS 468	Nuclear Physics I	5
PHYS 469	Solid State Physics	4
CHEM 104	Principles of Chemistry I	5
or		
CHEM 106	Principles of Chemistry IA and	5
CHEM 105	Principles of Chemistry II	5
or		
CHEM 107	Principles of Chemistry IIA	5
MATH 131	Calculus I	5
MATH 132	Calculus II	5
MATH 133	Calculus III	4
MATH 234	Calculus with Analytic Geometry IV	4

Electives:

To be selected with approval of student's advisor	8
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Hours credit: 83

Mathematics Minor

A mathematics minor of 30 or more quarter hours (through calculus), as approved by the student's advisor. (The above required math courses count towards the minor.)

Applied Physics Option

An option emphasizing engineering applications, intended for students planning to gain employment in the energy or engineering fields, or in various industries, or in preparation for related graduate study.

Program Requirements**Required courses.**

Complete the regular B.A. Physics Major plus the following (some of the following could be counted as electives under the B.A. Physics Major):

PHYS 361	AC and Electronics	5
PHYS 462	Electronics II	4
PHYS 467	Applied Solar Energy	3
PHYS 464	Thermodynamics	4

or		
CHEM 451	Physical Chemistry	4
PHYS 490	Senior Research	6
MATH 335	Differential Equations I	4
MATH 380	Computer Programming	4

Electives:

IAT 160	General Drafting, or an equivalent or higher-level college drafting course	3
IAT 274	Machine Tool Operation, or special studies in machining taken through the Physics Department.	2

In some cases, additional courses in Industrial Arts will be recommended.

Hours credit: 118

The student must complete a computer study of some practical real-world problem. This could be done in connection with PHYS 490 or MATH 380 or a special studies course, but must be supervised by a physics faculty member.

An Applied Physics Option can also be taken at the Master's Level.

Physics Major (Teaching)

Students majoring in Physics who plan to teach in the public schools should include the following courses in their programs:

1. General Education requirements of 60 hours as specified in this catalog.
2. The student must plan a program which will develop knowledge and skills in biology and earth sciences in order to meet certification requirements. See your advisor.

Program Requirements**Major****Required courses:**

PHYS 265	General Physics — Mechanics	5
PHYS 266	General Physics — Sound, Light and Heat	5
PHYS 267	General Physics — Electricity	5
PHYS 361	AC Circuits	5
PHYS 365	Mechanics I	4
PHYS 366	Electricity and Magnetism I	4
PHYS 368	Atomic Physics	5
PHYS 468	Nuclear Physics I	5
or		
PHYS 469	Solid State Physics	4
CHEM 104	Principles of Chemistry I	5
or		
CHEM 106	Principles of Chemistry IA and	5
CHEM 105	Principles of Chemistry II	5
or		
CHEM 107	Principles of Chemistry IIA	5
and		
CHEM 111	Qualitative Analysis	5
MATH 131	Calculus I	5
MATH 132	Calculus II	5
MATH 133	Calculus III	4
MATH 234	Calculus with Analytic Geometry IV	4

Electives:

Additional math courses	9
Physics electives of 300 number or higher to be selected with approval of student's advisor	10-11

Hours credit: 90

Professional Teacher Education

Professional Teacher Education	
Core	39
EDLS 363 Clinical Experience	2
SCED 441 Methods of Teaching Secondary School Science	3

Hours credit: 44

Physics Minor

Physics minors interested in being qualified for teaching in the secondary school must complete the minor listed below.

Program Requirements

Required courses:

PHYS 265	General Physics — Mechanics	5
PHYS 266	General Physics — Sound, Light, and Heat	5
PHYS 267	General Physics — Electricity	5
MATH 131	Calculus I	5
MATH 132	Calculus II	5
MATH 133	Calculus III	4
MATH 234	Calculus with Analytic Geometry IV	4
Electives:		
PHYS 365	Mechanics I or	4
PHYS 366	Electricity and Magnetism I	4
PHYS 268	Modern Physics or	4
PHYS 368	Atomic Physics Physics electives to be selected with approval of student's minor advisor	5 6-7
		Hours credit: 48

Political Science Major

Administered by the Department of Political Science

Political Science offers a non-teaching major and minor in Political Science.

Students pursuing the B.A. with a major in Political Science must complete:

1. The General Education requirements of 60 quarter hours as specified in this catalog.

2. A 27-hour minor or a coherent bloc of advisor-approved courses totaling 27 hours.

3. Up to 15 hours may be taken in the Political Science Internship Program but only a maximum of 9 hours can apply towards the Political Science major and only 6 hours can apply toward the Political Science minor. Admission to the Internship Program is limited. Applications for the program are available in the Political Science office. Applications must be submitted to the Director, Internship Program, Department of Political Science, no later than the time of the preregistration for the quarter of the proposed internship.

4. Students majoring in Political Science must take two of the following courses: ANT 100, ECON 100, GEOG 100, SOC 100 as part of their general education.

5. Students interested in being certified for teaching of Political Science must take a major in Social Sciences rather than in Political Science.

6. Electives to complete 180 hours of academic credit.

General Education.

Select two of the following:

ANT 100	General Anthropology or	5
ECON 100	Introductory Economics or	5
GEOG 100	World Geography or	5
SOC 100	Principles of Sociology	5
		Hours credit: 10

Major:

Required courses:

PSCI 100	National Government of the United States	5
PSCI 105	Introduction to Political Science	3
		Hours credit: 8

Electives:

Electives in Political Science to include at least one course from each of the following groups: A,B,C,D, and E to equal 40 hours credit

Group A — United States Government

PSCI 104	Contemporary Political Issues	3
PSCI 200	Legislative Processes	3
PSCI 201	State and Local Government	5
PSCI 202	Legislative Processes II ⁶⁴	3-15
PSCI 205	Civil Liberties in the United States	3
PSCI 206	Politics and the Consumer	3
PSCI 207	Politics of Feminism	3
PSCI 300	Public Opinion and Pressure Groups	4
PSCI 302	The President and the Bureaucracy	3
PSCI 303	The Administration of Justice	3
PSCI 305	The Politics of Bureaucracy	4
PSCI 340	Field Research and Study in Political Science ⁶⁴	3-15
PSCI 400	Political Parties	3
PSCI 401	Minority Politics	3
PSCI 402	Urban Politics	4
PSCI 403	Problems in United States Government	3
PSCI 500	Constitutional Law ⁶⁵	5

Group B — International Relations

PSCI 220	International Relations	4
PSCI 225	Great Decisions I	2
PSCI 226	Great Decisions II	1
PSCI 320	American Foreign Policy	4
PSCI 325	Politics and Conflict in the Middle East	4
PSCI 351	Politics of Food, Hunger, and Population	4
PSCI 421	The United Nations	3
PSCI 425	Soviet Foreign Policy	4
PSCI 426	Foreign Policies in Asia	4
PSCI 520	Seminar in International Politics ⁶⁵	3

Group C — Political Theory

PSCI 330	Natural Law, Divine Law, and Human Virtue	4
PSCI 331	Consent, Freedom, and Political Obligation	4
PSCI 332	Equality, Democracy, and Revolution	4
PSCI 435	Problems in Political Philosophy	3
ID 438	American Politics: History and Theory (See ID 438)	3

Group D — Comparative Government

PSCI 210	European Political Systems	4
PSCI 310	East European Government and Politics	4
PSCI 350	Comparative Public Policy	3
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
PSCI 510	Seminar in Comparative Politics ⁶⁵	3

Group E — Research Methodology

PSCI 150	Introduction to Research in Political Science ⁶⁶	3
PSCI 550	Research and Inquiry in Political Science ⁶⁶	3
		Hours credit: 48

Political Science Minor

In fulfilling the General Education requirements specified in this catalog, students must take two of the following courses: ANT 100, ECON 100, GEOG 100, SOC 100.

Minor

Required courses:

PSCI 100	National Government of the United States	5
PSCI 105	Introduction to Political Science	3
Electives:		
Electives in Political Science selected with the approval of the Department of Political Science		
		19
		Hours credit: 27

Psychology Majors

Administered by the Department of Psychology

Students pursuing the B.A. degree with a major in Psychology must plan their programs to fulfill one of the following sets of requirements:

Psychology Major (General)

1. All General Education requirements as specified in this catalog.

2. Required courses (60 hours):

PSY 101	Introductory Seminar in Psychology	1
PSY 121	Introduction to Psychology I	4
PSY 122	Introduction to Psychology II	4
SRM 203	Introductory Statistical Methods	3
PSY 375	Experimental Psychology	5
PSY 491	Field Experiences	
		Hours credit: Minimum 5-15

Electives.

One course from each of the following:

Groups I:

PSY 265, 365, 369, 458, 466	3
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Group II:

PSY 240, 443, 445	3
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Group III:

PSY 343, 480, 481, 482	3-5
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Group IV:

PSY 230, 431, 432, 433	3-5
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Group V:

PSY 250, 251, 341, 345	3
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Group VI:

PSY 468 or any course with BLS or MAS prefix	3
Approved electives as needed (Maximum 6 hours of Non-PSY courses)	
Hours credit: Minimum 60	

Note. The Psychology major does not lead to teacher certification.

⁶⁴Enrollment by application to the Political Science Internship Program. See No. 3 above.

⁶⁵Qualified juniors and seniors may be admitted to 500 level courses by special permission.

⁶⁶Appropriate courses in other departments may be substituted with the approval of one's adviser to fill the Group E requirement but would not count toward the 48 hours required in the major.

Psychology Major (Pre-Clinical Emphasis)

This program is designed for students planning careers in clinical psychology, school psychology, counseling, and related mental health fields. Normally these professions require graduate-level preparation. Although each graduate school sets its own specific requirements, the following courses are generally prerequisites or core courses in such programs. It should be noted that these represent a basic level of preparation. The student is encouraged to acquire additional training in consultation with the faculty advisor. Students must complete the following requirements:

1. All General Education requirements as specified in this catalog.

2. The following courses for the major (63 hours minimum).

Required courses:

PSY 101	Introductory Seminar in Psychology	1
PSY 121	Introduction to Psychology I	4
PSY 122	Introduction to Psychology II	4
PSY 230	Human Growth and Development	5
PSY 240	Principles of Learning	5
PSY 265	Social Psychology	3
PSY 271	Psychological Testing and Measurements	3
PSY 375	Experimental Psychology	5
PSY 407	Introduction to Counseling Theories	3
PSY 445	Social Learning and Behavior Modification	4
PSY 457	Theories of Personality	3
PSY 458	Abnormal Psychology	3
PSY 475	Research Methodologies in Psychology	3
PSY 491	Field Experiences	5-15
SRM 203	Introductory Statistical Methods	3
Electives.		
One course from each of the following:		
Group I:		
PSY 250, 251, 255, 341, or 345		3
Group II:		
PSY 343, 443, 480, 481, or 482		3-5
Group III:		
PSY 365, 468, BLS 101, 340, 380, MAS 304, or 306		3
Hours credit: 63-75		

Honors: The Department of Psychology participates in the Honors Program. See Honors Program Section of catalog.

Psychology Minor

Required courses:

PSY 121	Introduction to Psychology I	4
PSY 122	Introduction to Psychology II	4
Electives.		
One course from the following:		
PSY 240, 265, 343, 443, 480, 481		3-5
One course from the following:		
PSY 250, 251, 341, 345		3
Approved Electives Maximum 3 hours of Non-PSY courses		13
Hours credit: Minimum 27		

Recreation Major

Administered by the Department of Recreation

1. Students pursuing the B.S. degree with a non-teaching major in Recreation must plan their programs to fulfill the following requirements:

2. Complete the General Education requirements of 60 quarter hours.

Required courses:

HPER 203	Introduction to Recreation	3
HPER 250	Therapeutic Recreation	3
HPER 252	Social Recreation	3
HPER 265	Recreation Skills	3
HPER 267	Outdoor Recreation Programming	3
HPER 290	Analysis and Movements of Folk and Square Dance	2
HPER 337	Socio-Psychological Concepts of Leisure	3
HPER 468	Programs in Recreation	4
HPER 451	Administration of Community Parks and Recreation	5
HPER 452	Internship in Recreation	18
HPER 472	Recreation Leadership	4
HPER 495	Senior Seminar	2
FA 229	Art for the Exceptional Child	3
or		
FA 550	Art in Recreation	3
MUS 315	Music and Recreation	2
THEA 280	Drama in the Community	3
Hours credit: 61		

3. One minor of 30 quarter hours, or 30 quarter hours of supporting courses selected with the approval of the major advisor.

4. Senior recreation majors will complete HPER 452, Internship in Recreation, 18 hours. Courses HPER 468, 451, 472, and 495 and a GPA of 2.30 in the required courses, as well as a 2.30 cumulative are prerequisites for HPER 452.

5. Before graduation, students must possess and present a current Standard First Aid Card to their advisors.

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

Russian Minor

Administered by the Department of Foreign Languages

This minor requires 30 hours of Russian to be selected from the following courses with the approval of the minor advisor. It is designed for Liberal Arts students and students interested in teaching.

Electives selected from the following:

RUS 101	Elementary Russian I	5
RUS 102	Elementary Russian II	5
RUS 103	Elementary Russian III	5
RUS 125	The Russian's World	3
RUS 201	Intermediate Russian I	4
RUS 202	Intermediate Russian II	4
RUS 203	Intermediate Russian III	4
RUS 335	Russian Conversation	3
RUS 336	Advanced Russian Composition	3
RUS 337	Advanced Russian Grammar	3
RUS 341	Pushkin	3
Hours credit: 30		

In addition, students must demonstrate competency in certain areas of language activity. See department for competency list.

Russian-Soviet Studies

John L. Dietz, Coordinator

Major

A major in Russian-Soviet Studies is available under the Interdisciplinary Studies Program.

Minor

1. Russian language is not required but is strongly recommended and a maximum of 15 hours may be applied toward the minor.

2. Planning of the program by the student with the coordinator.

3. Hours in the minor will not apply toward the student's field or another minor.

4. Twenty-seven hours of study *selected* from the following.

Electives:

ECON 320	Russia's Soviet Economy	3
ENG 450	Studies in Russian Literature	4
GEOG 365	The Soviet Union	5
GEOG 392	Field Course in Geography (Russian Study Tour)	5
GEOG 490	Problems in Geography (Russian-Soviet Topic)	3
HIST 268	Russian History from the Beginning to Alexander I, 860-1801	4
HIST 269	Imperial Russia: 1801-1917	4
HIST 270	History of the Soviet Union	4
PSCI 414	Government and Politics of the Soviet Union	4
PSCI 425	Soviet Foreign Policy	4
RUS 101	Elementary Russian I	5
RUS 102	Elementary Russian II	5
RUS 103	Elementary Russian III	5
RUS 201	Intermediate Russian I	4
RUS 202	Intermediate Russian II	4
RUS 203	Intermediate Russian III	4
RUS 335	Russian Conversation	3
RUS 336	Advanced Russian Composition	3
RUS 337	Advanced Russian Grammar	3
RUS 341	Pushkin	3
SOC 337	Soviet Society Today	4

School of Educational Change and Development

Donald M. Luketich, Dean
Bachelor of Arts and Bachelor of Science

The School is an approved administrative unit of the University. The major purpose of the school is to cooperate with and facilitate innovative programs and ideas anywhere within the University.

Students who wish to pursue innovative programs leading to a degree may submit a proposal to the school. The school does not duplicate any academic program of the University, but exists as an option for those students who wish to pursue programs that

require the use of the total resources of the University. SECD is not an external degree program. Admission will be by invitation and based upon the program that an applicant submits and has approved by the SECD Advisory Board and the student's Resource Board. In general, the program 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.

A Student Manual is available in the University Bookstore. It contains information about the school, the procedures the students are to follow, and the forms the student uses as he pursues his program.

Programs and projects submitted to the school that do not involve a degree are administered by the Dean. Departments, schools and colleges within the University may request the services of the Dean. Public schools, institutions, and other colleges and universities who desire the services of the school may work with the Dean to develop programs and projects.

Social Science

David Cole, Coordinator

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

Social Science Major (Non-teaching)

Students pursuing the B.A. degree with a major in Social Science must plan their programs with their academic advisor to complete the following requirements:

1. Meet all General Education requirements of 60 hours as specified in this catalog.
2. No minor is required for this major.

Major

Required courses:

Introductory

ANT 100	General Anthropology	5
ECON 100	Introductory Economics	5
GEOG 100	World Geography	5
or		
GEOG 148	Geography of the United States and Canada	5
PSCI 100	National Government of the United States	5
SOC 100	Principles of Sociology	5

Electives:

Theory and Research Methods

At least one course from each of the following categories:)

Theory: ANT 244, 470, 481, SOC 351, 352; ECON 470; SSED 470.
 Research Methods: ANT 290; GEOG 364, 392; HIST 299; PSCI 150; SOC 460
 Quantitative: ANT 384; ECON 451; SOC 461
 either (any two)

HIST 100	The American Past, 1492-1800	4
HIST 101	The American Past, 1800-1900	4
HIST 102	The American Past, 1900-Present	4
or		

PSY 121	Introduction to Psychology I	4
PSY 122	Introduction to Psychology II	4

Advanced Electives

Student should aim for a relatively balanced distribution between two social science areas. For the areas selected, the following courses are required:

ANT 110, 140, 170	
ECON 250	
GEOG 315 and 371	
PSCI 201 and either 220 or 320	
SOC 310	

Hours credit: 95

Social Science Major (Teaching)

Students majoring in Social Science who plan to teach in the public schools should complete the following requirements:

1. General Education requirements of 60 hours as specified in this catalog.
2. No minor is required for this major.

Major

Required courses:

ANT 100	General Anthropology	5
ECON 100	Introductory Economics	5
GEOG 100	World Geography	5
PSCI 100	National Government of the United States	5
SOC 100	Principles of Sociology	5
SSED 470	Theory and Research in the Social Sciences	4
HIST 100	The American Past, 1492-1800	4
HIST 101	The American Past, 1800-1900	4
HIST 102	The American Past, 1900-Present	4
	European and/or Third World History	12

Hours credit: 57

Advanced Electives:

Chosen from two or three social science fields: Anthropology, Black Studies, Economics, Geography, History, Mexican American Studies, Political Science, Sociology. For the areas below, the following courses are required:

Anthropology — ANT 140 and 381 or 382.
 Economics — ECON 202 or 250.
 Geography — GEOG 120 or 121 and 122 or 123.

History — HIST 224.

Mexican American Studies — MAS 302 and 304.

Political Science — PSCI 201.

Sociology — SOC 310.

Hours credit: 85

Professional Teacher Education

Professional Teacher Education Core	39	
EDLS 363	Clinical Experience	2
SSED 341	Methods of Teaching Social Science in the Secondary School (SSED 341 and EDLS 363 must be taken concurrently)	3

Hours credit: 44

3. No Social Science major may apply for admission to Professional Teacher Education (PTE) until he or she has passed at least 25 quarter hours of courses in the major, at least eight hours of which must have been taken at the University of Northern Colorado.

4. To be admitted to PTE, the student must have at least a 2.30 grade point average in those courses counting toward his or her major which were taken at the University of Northern Colorado and must have taken ANT

100, ECON 100, GEOG 100, PSCI 100, and SOC 100.

5. Before taking EDLS 363 and SSED 341, the student must have completed EDF 366, PSY 347 and PSY 348.

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

Honors. Social Science majors may participate in the Honors Program. See Honors Program section of this catalog.

Sociology Major

Administered by the Department of Sociology

Students pursuing the B.A. with a major in Sociology must plan their programs to fulfill the following requirements:

1. General Education requirements of 60 hours as specified in this catalog.
2. A minor of 33 quarter hours.
3. Electives sufficient to complete requirements for the Bachelor of Arts degree.
4. Students interested in being certified for teaching Sociology must take a major in Social Sciences rather than in Sociology.

Major

Electives:

Courses selected from each of the following areas:

I. Principles of Sociology	5
SOC 100 ⁶⁷	
II. Social Theory	12
SOC 350 ⁶⁷ , 351 ⁶⁷ , 352 ⁶⁷ , 454, 550 ⁶⁸ , 551 ⁶⁸ , 554 ⁶⁸	
III. Methodology and Research	8
SOC 460 ⁶⁷ , 461 ⁶⁷ , 563 ⁶⁸	
One course from each of the following areas:	15-20
IV. Social Psychology	
Selected from SOC 210, 310, 311, 312, 410, 415, 515 ⁶⁸	
V. Social Institutions	
Selected from SOC 120, 221, 321, 323, 325, 420, 421, 424, 520 ⁶⁸	
VI. Social Organization and Process	
Selected from SOC 330, 333, 334, 337, 430, 432, 435, 437, 454, 537 ⁶⁸	
VII. Social Problems	
Selected from SOC 145, 240, 340, 341, 345, 447	
VIII. Demography and Ecology	
Selected from SOC 270, 272, 478, 479, 574 ⁶⁸	
IX. Advanced Electives	
Electives include any Sociology courses above 100	
Hours credit including advanced electives: 56	
Minor	Hours credit: 33

SOC 100 is prerequisite to all courses except SOC 120 and SOC 145.

Contact Sociology Department for descriptions of emphasis areas.

⁶⁷Required courses for majors.

⁶⁸Courses numbered 500 and above — seniors with 3.00 GPA and permission of instructor.

Sociology Minor

Required course:

- I. Principles of Sociology 5
 SOC 100
 Electives.
 One course from each of the following areas:
 One course from each of the following areas:
 II. Social Psychology
 Selected from SOC 210, 310, 311, 312, 410, 415, 515**
 III. Social Institutions
 Selected from SOC 120, 221, 321, 323, 325, 420, 421, 424, 520**
 IV. Social Organization and Process
 Selected from SOC 330, 333, 334, 337, 430, 432, 435, 437, 454, 537**
 V. Social Problems
 Selected from SOC 145, 240, 340, 341, 345, 447
 VI. Demography and Ecology
 Selected from SOC 270, 272, 478, 479, 574**
 VII. Advanced Electives
 Electives including any Sociology course above 100
 Hours credit including advanced electives: 33

Spanish Major

Administered by the Department of Foreign Languages

Study abroad centers have been established in France at Tours, in Germany at Bayreuth, and in Morelia, Mexico, for a new study abroad program in which students may earn 16-17 hours of general education credit while spending spring quarter in a foreign country. Sponsored by the Foreign Language Department, University of Northern Colorado, the program is directed to freshman and sophomore students who would like to study in a foreign country while completing their general education credit at UNC as well as completing the third quarter of a first- or second-year language course.

Students pursuing the B.A. with a major in Spanish must plan their programs to fulfill the following requirements:

1. General Education requirements of 60 quarter hours as specified in this catalog. (Spanish majors are urged to take ANT 100 or SOC 100 or HIST 130, 131 132.) Students should consult his or her assigned advisor.
2. **Note.** All work to be counted toward the B.A. degree in Spanish must be beyond the first-year level.
3. A minor of at least 27 quarter hours approved by the department.
4. In addition, students must demonstrate competency in certain areas of language activity. See department for competency list.
5. Electives sufficient to complete requirements for the B.A. degree.
6. Major/core.

These required courses or their equivalents:

- SPAN 201 Intermediate Spanish I 4
 SPAN 202 Intermediate Spanish II 4
 SPAN 203 Intermediate Spanish III 4

In addition, one of the following series:

- A. For students who plan to teach in the public schools:
 SPAN 310 Advanced Spanish Grammar 4
 SPAN 325 Advanced Spanish Composition 3
 SPAN 335 Spanish Conversation 4
 SPAN 345 Spanish Pronunciation 4
 SPAN 425 Chicano Spanish 3
 Six Spanish literature courses, 3 in Peninsular literature and 3 in Latin American literature, to be chosen from departmental offerings 18
 Hours credit: 48

Professional Teacher Education

- Professional Teacher Education Core 39
 EDLS 363 Clinical Experience 2
 FL 341 Methods of Teaching in the Secondary School 3
 Hours credit: 44

Before being permitted to apply for student teaching a Spanish major must have successfully passed the department oral proficiency examination.

B. For students wishing a Liberal Arts major:

- SPAN 310 Advanced Spanish Grammar 4
 Six Spanish literature courses, 3 in Peninsular literature and 3 in Latin American literature, to be chosen from the departmental offerings 18
 Electives in Spanish to be chosen with the consent of the advisor** 14
 Hours credit: 48

Spanish Minor

Requirements for a Spanish minor are as follows.

Required courses:

- SPAN 201 Intermediate Spanish I 4
 SPAN 202 Intermediate Spanish II 4
 SPAN 203 Intermediate Spanish III 4
 Electives.

In addition, one of the following series:

- A. For students who plan to teach in the public schools:
 SPAN 310 Advanced Spanish Grammar 4
 SPAN 325 Advanced Spanish Composition 3
 SPAN 335 Spanish Conversation 4
 SPAN 345 Spanish Pronunciation 4
 Electives in Spanish to be chosen with the consent of the advisor 3
 Hours credit: 30

B. For students wishing a Liberal Arts minor:

- SPAN 310 Advanced Spanish Grammar 4
 Three Spanish literature courses from the departmental offerings 9
 Electives in Spanish to be chosen with consent of the advisor 5
 Hours credit: 30

In addition, students must demonstrate competency in certain areas of language activity. See department for competency list.

Special Education Majors

Administered by the School of Special Education and Rehabilitation

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 mental retardation, both educable and trainable. A pre-professional program leading to the Bachelor of Arts degree in speech/language pathology, acoustically handicapped, 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/language pathology. 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 practice. The Special Education facility also includes a speech and hearing service and complete audiometric evaluations; and provides for testing and measuring exceptional children.

Mental Retardation Major

Students may declare a major in Mental Retardation at any time, but candidacy for a degree is dependent upon departmental acceptance at the time a student applies for PTE. Students with a declared major in Mental Retardation who have not been accepted into PTE are considered tentative candidates. Departmental recommendation for PTE acceptance is based upon: 1) documented experience working with handicapped children (at least 50 clock hours of contact is expected); 2) positive letter of recommendation from persons who supervised and/or evaluated the contact with handicapped children; 3) grade point average. (The PTE application is used to provide information upon which the departmental recommendation is based.) Only students who receive departmental recommendation will be given student teaching assignments.

It should be understood that students majoring in the Department of Mental Retardation will actually be screened twice. The first selection will be at the time of application for PTE and the second at the time of application for student teaching.

Within the Department of Mental Retardation there is one major: Special Education: Educable Mentally Retarded for students who wish to become teachers of educable level children (either elementary or secondary levels) and emphasis areas in

**Three hours of FL 131, Foreign Language House and FL 410, Linguistics are the only FL prefix courses which may be applied toward the major.

Trainable Mentally Retarded and Severely and Profoundly Retarded.

If an individual wishes to be endorsed as a teacher of both Educable Mentally Retarded and Trainable Mentally Retarded persons, the student must student teach in each area. Severely and Profoundly Retarded is not presently endorsed in Colorado.

Program Requirements Major/core

Required courses:

EDSE 100	Education of Exceptional Children	3
EDSE 160	Introduction to Speech/Language Disorders	3
EDSE 304	Introduction to Measurement of the Handicapped	3
EDSE 305	Education Prescription and Programming for Exceptional Children	4
EDSE 310	Introduction to Mental Retardation	4
EDSE 412	Curriculum Development and Methodology for Mentally Retarded: Elementary Level	4
EDSE 421	Introduction to Classroom Management	2
EDRD 310	Improvement of Instruction in Reading in the Elementary School	4
FA 348	Art for the Handicapped or	
IAT 259	Industrial Arts Activities for the Exceptional Child ⁷⁰	3
EDFE 270	Teacher Aide	1-4
EDSE 404	The Resource Program Teacher	3
EDSE 309	Introduction to Special Education Student Teaching	2

Hours credit: 37

Elementary Educable Mentally Retarded Emphasis

Electives: (12 quarter hours) selected from the following. Any course with EDSE prefix and/or:

EDRD 411	Approaches to Reading Instruction	3
EDEL 320	Improvement of Instruction in Mathematics in the Elementary School	4
MUS 206	Music Methods and Materials for the Elementary Teacher	2
MUS 414	Music Students with Special Needs	3

Recommended electives:

EDSE 302	Counseling Parents of Exceptional Children	3
EDSE 320	Introduction to the Education of Socially and Emotionally Disturbed Children	3
EDSE 326	Introduction to Teaching Learning Disabled Children	3
EDSE 330	Care and Pathology of the Physically Handicapped	3
EDSE 350	Pathology and Introduction to the Hearing Impaired	3
EDSE 440	Survey of Education of Visually Handicapped	3
EDRD 411	Approaches to Reading Instruction	3
EDEL 320	Improvement of Instruction in Mathematics in the Elementary School	3
MUS 206	Music Methods and Materials for the Elementary Teacher	2
MUS 414	Music for Children with Special Needs	3

Secondary Educable Mentally Retarded Emphasis

Required courses:

EDSE 417	Curriculum Development and Methodology for the Mentally Retarded: Secondary Level	4
VTEF 310	Vocational Education Foundations	3
VTEF 410	Cooperative Education and Coordination Techniques	3
VTEF 430	Vocational Education for Learners with Special Needs	3

Trainable Mentally Retarded Emphasis

Required courses:

EDSE 311	Education of the Trainable Mentally Retarded	4
EDSE 312	Seminar: Teaching the TMR ⁷¹	2
EDSE 414	Problems in Teaching Trainable Mentally Retarded Children	4
EDSE 415	Vocational Training for TMRs	4

Hours credit: 14

Severe/Profound Mentally Retarded Emphasis

Required courses:

EDSE 311	Education of the Trainable Mentally Retarded	4
EDSE 312	Seminar: Teaching the TMR	2
EDSE 414	Problems in Teaching Trainable Mentally Retarded Children	4
EDSE 415	Vocational Training for TMRs	4
EDSE 416	Education of the Severe and Profound Mentally Retarded	4
EDSE 418	Clinical Experiences with the Severe and Profound Mentally Retarded ⁷²	1-18

Double Major: Special Education/Elementary Education

See major requirements for Elementary Education in this catalog.

Complete Mental Retardation core and emphasis substitutions:

FA 348	Art for the Handicapped	3
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Professional Teacher Education

Students planning to use this major as a certification program for teaching must complete the program of Professional Teacher Education as described in this catalog. Please note that the PTE programs which accompany this major involve the following modifications:

- Delete EDSE 405, 406, 407.
- Substitute EDRD 310 for EDRD 420.
- Substitute 309, Introduction to Special Education Student Teaching (2 quarter hours) and EDFE 270, Teacher Aide (minimum of 1 quarter hour) for EDLS 360, 361, 362 or 363 — Clinical Experience.

Note. EDFE 270 must be with a majority of education students.

Acoustically Handicapped Emphasis

The Bachelor of Arts is pre-professional and does not lead to certification in Acoustically Handicapped. The Master of Arts degree is the professional degree and enables the student to meet the academic and practicum requirements for certification by the Council on Education for the Deaf and the Colorado State Department of Education (refer to graduate catalog for completion of certification program).

Students may declare a major in Acoustically Handicapped at any time, but candidacy for a degree is dependent upon departmental acceptance at the time a

student also applies for PTE. Students with a declared major in Acoustically Handicapped who have not been screened and accepted into this area are considered tentative candidates. Criteria for admission to the Area of Education of Acoustically Handicapped may be obtained from the faculty in the Area. Only students who receive Area recommendation will be admitted into PTE restricted classes and given Practicum assignments.

Sophomore or transfer students can apply for PTE in the area of Acoustically Handicapped only during Spring Quarter. When accepted by the faculty entrance screening committee, students will be notified as soon as possible. Students should contact the Area Director of Acoustically Handicapped in Michener Library L-139 for specific information.

Students must complete the coursework necessary for certification in Early Childhood, Elementary, or a specific area of Secondary Education, in addition to the courses for Acoustically Handicapped.

Core Requirements

Required courses:

EDSE 100	Education of Exceptional Children	3
EDSE 250	The Structure of Language	3
EDSE 260	Introduction to Phonetics	3
EDSE 265	Acoustics of Speech	3
EDSE 270	The Structure and Pathology of Auditory and Vestibular Systems	3
EDSE 304	Introduction to Measurement of the Handicapped	3
EDSE 309	Introduction to Special Education Student Teaching	2
EDSE 350	Introduction to the Hearing Impaired	3
EDSE 356	Introduction Manual Communication Skills	3
EDSE 357	Introduction to Hearing Aids and Amplification Systems	3
EDSE 358	Auditory Training and Speechreading	4
EDSE 370	Introduction to Audiology	3
EDSE 450	Speech Development for the Hearing Impaired I: Theory	3
EDSE 451	Speech Development for the Hearing Impaired II: Methods	3
EDSE 452	Language Development for the Hearing Impaired I: Theory	3
EDSE 453	Curriculum and Content for the Hearing Impaired	4
EDSE 455	Methods of Teaching Reading to the Hearing Impaired	3
EDSE 456	Manual Communication Skills: Signed English	3
EDSE 458	Language Development for the Hearing Impaired II: Methods	3
EDEM 410	Introduction to Educational Media	2

Hours credit: 60

All electives must be approved by student's advisor.

Non-Departmental Major

Early Childhood

1. Meet all General Education requirements

⁷⁰Will not satisfy requirements for double major of Special Education/Elementary Education.

⁷¹Course may be waived if student can document competency by field experience.

⁷²Non-certifiable emphasis in Colorado.

(minimum 60 quarter hours); consult catalog.

2. Meet all Elementary Education requirements (minimum 50 quarter hours); consult catalog.

3. Meet all Professional Teacher Education requirements (minimum 13 quarter hours); consult catalog.

4. Meet all requirements for undergraduate acoustically handicapped courses (minimum 60 quarter hours); see above.

5. Meet all Early Childhood Education course requirements (minimum 24 quarter hours) consult catalog.

Elementary Education

1. Meet all General Education requirements (minimum 60 quarter hours); consult catalog.

2. Meet all Elementary Education requirements (minimum 50 quarter hours); consult catalog.

3. Meet all Professional Teacher Education requirements (minimum 13 quarter hours); consult catalog.

4. Meet all undergraduate acoustically handicapped course requirements (minimum 60 quarter hours); see above.

Secondary Education

1. Meet all General Education requirements (minimum 60 quarter hours); consult catalog and advisor.

2. Meet all undergraduate acoustically handicapped requirements (minimum 60 quarter hours); see above.

3. A specific secondary major must be approved by an advisor for the acoustically handicapped.

Visually Handicapped Concentration

The teacher training program leading to an endorsement to teach visually handicapped children is offered at the graduate level. (See Graduate Bulletin.) However, undergraduates who are interested in exploring Education of Visually Handicapped Children as a career possibility are given the opportunity as juniors and seniors to declare an Area of Concentration with this department. This concentration is an addition to the student's declared major.

The Area of Concentration in Education of Visually Handicapped would include 21 hours of course work. The undergraduate courses would include:

EDSE 440	Survey of Education of Visually Handicapped	3
EDSE 441	Listening Skills for Learning	3
EDSE 442	Rehabilitation of the Visually Handicapped	3
EDSE 443	Teaching Daily Living for the Visually Handicapped	2

With the consent of an assigned advisor in the Visually Handicapped area, a qualified student may take twelve or more additional hours of 500 level graduate courses.

Although this Area of Concentration does not lead toward certification at the undergraduate level, completion of these courses on the undergraduate level allows for more electives on the graduate level, or even inclusion of the O&M and/or SPHB programs.

Speech/Language Pathology Emphasis

The Bachelor of Arts degree is

preprofessional 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-Language-Hearing Association (ASHA) as well as endorsement standards for the speech/language specialist in the public schools (Type E certificate). Consequently, students should consider this a five-year program culminating in a Master of Arts degree.

The Colorado Department of Education does not require Professional Teacher Education (PTE) courses for the Type E certificate. However, many states do require education courses for the speech/language specialist to work in the public schools. Therefore, the PTE courses listed below the required courses are recommended.

Clinical report writing is an integral part of the student clinician's responsibilities. Students are, therefore, encouraged to develop good writing and typing skills.

The programs in Speech/Language Pathology and Audiology are accredited for both Education and Training and Professional Services by the American Boards of Examiners in Speech/Language Pathology and Audiology (ASHA).

Program Requirements

Required courses:

EDSE 100	Education of Exceptional Children	3
EDSE 160	Introduction to Speech/Language Disorders	3
EDSE 260	Introduction to Phonetics	3
EDSE 264	Introduction to Clinical Practicum I	2
EDSE 265	Acoustics of Speech	3
EDSE 266	Speech and Language Development	3
EDSE 267	Anatomy and Physiology of Speech and Hearing	5
EDSE 270	The Structure and Pathology of Auditory and Vestibular Systems	3
EDSE 274	Clinical Observation in Audiology	2
EDSE 356	Introduction to Manual Communication Skills	3
EDSE 358	Auditory Training and Speech Reading	4
EDSE 360	Articulation Disorders I	3
EDSE 361	Voice Disorders I	3
EDSE 364	Introduction to Clinical Practicum II	4
EDSE 365	Language Disorders in Children I	3
EDSE 367	Research Writing in Communication Disorders	3
EDSE 369	Neurological Bases for Speech, Language and Hearing	5
EDSE 370	Introduction to Audiology	3
EDSE 372	Advanced Audiology	5
EDSE 374	Advanced Observation in Audiology	2
EDSE 462	Stuttering I	3
EDSE 464	Clinical Practicum in Speech/Language Pathology	Minimum 6
EDSE 466	Neuropathologies Related to Communication Disorders	3
EDSE 467	Diagnosis in Speech/Language Pathologies	3
EDSE 469	Introductory Laboratory in Diagnostics	2
EDSE 474	Clinical Practices in Audiology	2
		Hours credit: 87
All eligible undergraduate Speech/Language Pathology majors, whether full- or part-time, are required to register for EDSE		
PSY 347	Developmental Psychology for Teachers	3-4
PSY 348	Learning Processes in Education	3-4
EDF 366	Foundations of Education	4
EDF 367	Philosophy of Education	3

464 during each quarter on campus.

Recommended PTE courses:

PSY 347	Developmental Psychology for Teachers	3-4
PSY 348	Learning Processes in Education	3-4
EDF 366	Foundations of Education	4
EDF 367	Philosophy of Education	3

Audiology Emphasis

The Bachelor of Arts degree is preprofessional and does not lead to certification of any type. No endorsement for employment as an audiologist is granted at the undergraduate level. The Master of Arts degree is the professional degree and enables the student to meet academic and practicum requirements for certification in Audiology by the American Speech and Hearing Association and endorsement standards for School Audiology (for those who desire to complete those additional requirements for School Audiology). ALL STUDENTS MUST APPLY FOR ADMISSION TO THE AUDIOLOGY PROGRAM. TRANSFER STUDENTS MUST APPLY FOR ADMISSION PRIOR TO THEIR ARRIVAL ON CAMPUS. ALL APPLICATIONS MUST BE SUBMITTED BY APRIL 1 FOR SUMMER OR FALL ADMITTANCE. All EDSE 100 or 200 level courses required for audiology majors must have been completed or in progress at the time of application.

For information regarding admission procedures, contact the Director of Audiology, Bishop-Lehr Hall 147. Students applying for admission to this program will be selected according to: 1) promise of academic achievement; 2) letters of reference; 3) commitment in their clinical observation; 4) self-direction; and 5) intellectual curiosity.

The programs in Audiology and Speech/Language Pathology are accredited for both Education and Training and Professional Services by the American Boards of Examiners in Speech/Language Pathology and Audiology (ASHA).

For students desiring to work toward certification in School Audiology or entrance into the UNC graduate program, courses listed under OTHER RECOMMENDED COURSES should be completed at the undergraduate level.

Clinical practicum (EDSE 474, 475 and 476) is allowed by permission only at the undergraduate level.

Program Requirements

Required courses:

EDSE 100	Education of Exceptional Children	3
EDSE 160	Introduction to Speech/Language Disorders	3
EDSE 260	Introduction to Phonetics	3
EDSE 265	Acoustics of Speech	3
EDSE 266	Speech and Language Development	3
EDSE 267	Anatomy and Physiology of Speech and Hearing	5
EDSE 270	The Structure and Pathology of Auditory and Vestibular Systems	3
EDSE 274	Clinical Observation in Audiology	2
		Maximum 6
EDSE 356	Introduction to Manual Communication Skills	3

EDSE 357	Introduction to Hearing Aids and Amplification Systems	3
EDSE 358	Auditory Training and Speech Reading	4
EDSE 360	Articulation Disorders I	3
EDSE 361	Voice Disorders I	3
EDSE 364	Introduction to Clinical Practicum II	2
EDSE 365	Language Disorders in Children I	3
EDSE 369	Neurological Bases for Speech and Hearing	5
EDSE 370	Introduction to Audiology	3
EDSE 371	Introduction to Aural (Re)habilitation	3
EDSE 372	Advanced Audiology	5
EDSE 374	Advanced Observation in Audiology	Maximum 12
EDSE 464	Clinical Practicum in Speech/Language Pathology	2
EDSE 471	School Audiology	3
ZOO 105	Human Biology	4
ZOO 121	Human Anatomy	4
ZOO 250	Human Physiology	5

Hours credit: 95

Other recommended courses:

EDSE 302	Counseling Parents of Exceptional Children	3
EDSE 455	Methods of Teaching Reading to the Hearing Impaired	3
EDSE 457	Curriculum: Language and Speech for the Hearing Impaired	3
EDSE 570	Adult/Geriatric Audiology and Aural (Re)habilitation	3
EDSE 578	Pediatric Aural (Re)habilitation	3

Rehabilitation and Related Services Major

Students pursuing the B.S. degree with a major in Rehabilitation and Related Services must plan their programs to meet the following requirements:

1. Meet all General Education requirements as specified earlier in this catalog.
2. Core requirements as listed below.
3. An advisor-approved supporting area or an advisor-approved non-teaching minor consisting of 27 quarter hours.
4. Advisor-approved electives to complete the 180 quarter hours of academic credit required for graduation.

Core Requirements:

Required courses:

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 390	Introduction to Social and Rehabilitation Services (EDSE 590 may be substituted)	3
EDSE 391	Seminar: Problems in Social and Rehabilitation Services	3
EDSE 394	Practicum in Social and Rehabilitation Services	2-8
EDSE 491	Interviewing Techniques in Social and Rehabilitation Services	3
EDSE 492	Casework Techniques in Social and Rehabilitation Services	3
EDSE 493	Juvenile and Adult Offender Rehabilitation	3
EDSE 494	Supervised Field Practice in Social and Rehabilitation Services	15
SRM 203	Introductory Statistical Methods	3

PSY 255	The Psychology of Emotional Adjustment	3
PSY 458	Abnormal Psychology	3
Electives selected from the following:		
ANTHROPOLOGY: At least 3 hours or 1 course selected with the advisor.		
BLACK STUDIES: At least 3 hours or 1 course selected from the following courses (or advisor-approved alternate):		
BLS 101	Crisis of Identity	3
BLS 102	Crisis of Identity II	3
MEXICAN AMERICAN STUDIES: At least 3 hours or 1 course selected from the following courses (or advisor-approved alternate):		
MAS 101	Introduction to Mexican American Studies	4
MAS 302	Social Stratification in the Mexican American Community	3
MAS 304	Bicultural Systems	3
SOCIOLOGY: At least 7 hours or 2 courses selected from the following courses (or advisor-approved alternates):		
SOC 100	Principles of Sociology	5
SOC 145	Social Problems	3
SOC 210	Social Movements	3
SOC 240	Criminology	4
SOC 310	Social Psychology	3
SOC 340	Juvenile Delinquency	4
SOC 345	Sociology of Minorities	4
PSYCHOLOGY: At least 6 hours or 2 courses selected from the following courses (or advisor-approved alternates):		
PSY 250	Humanistic Psychology	3
PSY 365	Psychology of Prejudice	3
PSY 432	Preadolescence and Adolescence	3
PSY 433	Maturity and Aging	3
PSY 457	Theories of Personality	3
PSY 460	Paraprofessional Helpline Training	3

Hours credit: 72-78

Minor Emphasis

To be approved by the student's advisor 27

Theatre Arts Major

Administered by the Department of Theatre Arts

Students pursuing the B.A. with a major in Theatre Arts must plan their program to fulfill the following requirements:

1. All General Education requirements as specified earlier in this bulletin.
2. The following core of courses in the major.

Required courses:		
THEA 110	Introduction to Stagecraft	3
THEA 130	Introduction to the Theatre	3
THEA 160	Acting I (Internals)	3
THEA 220	Beginning Stage Costuming	3
THEA 240	Beginning Stage Direction	3
THEA 261	Stage Make-Up	2
THEA 330, 331, 332	History of the Theatre I, II, III	9
Individual Performance in Theatre		20

Hours credit: 46

Electives:
In addition, one of the following fields of specialization.

Acting:

Required courses:

THEA 170, 171, 172	Stage Movement I, II, III	3
THEA 260	Acting II (Externals)	3
THEA 360	Acting III (Musical Theatre)	3
THEA 361	Advanced Stage Makeup	2
THEA 370, 371, 372	Rhythmic and Dramatic Movement I, II, III	3
THEA 460	Serious Styles of Acting	2
THEA 461	Comic Styles of Acting	2
THEA 462	Problems in Acting Conventions	2
Electives:		
Electives in Theatre Arts		6

Hours credit: 26

Graduate School Preparatory:

Required courses:

THEA 210	Stagecraft	3
THEA 260	Acting II (Externals)	3
THEA 281	Creative Dramatics in Education	3
THEA 310	Beginning Scene Design	3
THEA 340	Directing Period Plays	3}
THEA 341	Directing Experimental Plays	3}
THEA 342	Directing Musical Theatre	3}
THEA 411	Stage Lighting	3

Electives:

Electives in Theatre Arts 5

Hours credit: 26

Stage Direction:

Required courses:

THEA 170, 171, 172	Stage Movement I, II, III	3
THEA 210	Stagecraft	3
THEA 260	Acting II (Externals)	3
THEA 281	Creative Dramatics in Education	3
THEA 340	Directing Period Plays	3
THEA 341	Directing Experimental Plays	3
THEA 342	Directing Musical Theatre	3
THEA 380	Children's Theatre Production	3
THEA 440	Directing the One-Act Play	2

Hours credit: 26

Technical Theatre:

Required courses:

THEA 210	Stagecraft	3
THEA 310	Beginning Scene Design	3
THEA 320, 321	Stage Costume Design I, II	8
THEA 361	Advanced Stage Make-up	2
THEA 410	Advanced Staging Techniques	4
THEA 411	Stage Lighting	3

Electives:

Electives in Theatre Arts 3

Hours credit: 26

Theatre in the Community:

Required courses:

THEA 260	Acting II (Externals)	3
THEA 280	Creative Dramatics in the Community	3
FA 335	Aesthetic Education	3
COMM 375	Oral Interpretation of Children's Literature	3
THEA 380	Children's Theatre Production	3
THEA 390	Chamber Theatre	4
THEA 480	Advanced Creative Dramatics	3

Electives:

Electives in Theatre Arts 4

Hours credit: 26

Total credit hours of the major: 70

All majors in the Liberal Arts program must have departmental advisement from a member of the faculty in the Department of Theatre Arts. It is sometimes possible to substitute for certain required courses or to design an individualized field of specialization, but only with advisement and with the signed approval of the faculty of the Department of Theatre Arts. All Liberal Arts majors in Theatre Arts should consult their copies of

"Goals for the Liberal Arts Program (B.A. Degree) in Theatre Arts" for a focus to their programs and for planning their programs. Many courses outside the Department of Theatre Arts can and should be used to support the skills, concepts and needs of the major field of specialization. Consult your advisor.

3. Attendance at or involvement with all productions of the Little Theatre of the Rockies during residency.

4. Electives sufficient to complete the requirements for the Bachelor of Arts (B.A.) degree.

Theatre Arts Major (Teaching)

Students planning to use this major as a certification program for teaching must complete the program of Professional Teacher Education as described earlier in this bulletin. (44 hours). Please note that THEA 385 (three hours credit) and EDLS 363 (two hours credit) are included in the PTE program.

Required courses:

THEA 110 Introduction to Stagecraft	3
THEA 130 Introduction to the Theatre	3
THEA 160 Acting I (Internals)	3
THEA 170, 171, 172 Stage Movement I, II, III	3
THEA 210 Stagecraft	3
THEA 220 Beginning Stage Costuming	3
THEA 240 Beginning Stage Direction	3
THEA 260 Acting II (Externals)	3
THEA 261 Stage Make-Up	2
THEA 281 Creative Dramatics in Education	3
THEA 310 Beginning Scene Design	3
THEA 330, 331, 332 History of the Theatre I, II, III	9
THEA 340 Directing Period Plays	3}
THEA 341 Directing Experimental Plays	3}
THEA 342 Directing Musical Theatre	3}
THEA 380 Children's Theatre Production	3
THEA 411 Stage Lighting	3
THEA 440 Directing the One-Act Play	2

Electives:

Electives in Dramatic Literature	6
Individual Performance in Theatre	18
Hours credit:	79

The Department of Theatre Arts requires student majors to consult with and be advised by a faculty member teaching in the department. The focus of the Teacher Education program is governed by the "Goals and Objectives for Teacher Education (B.A. Degree) in Theatre Arts," a document which should be in the hands of all Teacher Education majors in Theatre Arts.

4. A teaching minor of 27 or more quarter hours is highly recommended. Students must remember that in the public schools of the State of Colorado more than half the teaching load must be done in the area of certification. The student desiring this degree of certification should be prepared for many additional requirements both in content and in methods and observation in the minor field.

5. This program meets the current certification requirements for teaching drama in the secondary schools of the State of Colorado.

6. This program meets the current minimum requirements of the North Central Association for teachers of Drama. See your advisor about N.C.A. updates.

7. Attendance at or involvement with all productions of The Little Theatre of the Rockies during residency.

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

Theatre Arts Minor

Required courses:

THEA 105, 106, 107 Individual Performance in Theatre	2
THEA 110 Introduction to Stagecraft	3
THEA 130 Introduction to the Theatre	3
THEA 160 Acting I (Internals)	3
THEA 204, 205, 206, 207 Individual Performance in Theatre	2
THEA 240 Beginning Stage Direction	3
THEA 304, 305, 306, 307 Individual Performance in Theatre	2

Electives:

Electives in Theatre Arts	12
Hours credit:	30

Theatre Arts Minor (Teaching)

For the students desiring to teach Drama on a part-time basis, the Department of Theatre Arts requires the following program in the minor:

1. An advisor from the Theatre Arts faculty.
2. The following courses in the minor.

Required courses:

THEA 105, 106, 107 Individual Performance in Theatre	2
THEA 110 Introduction to Stagecraft	3
THEA 130 Introduction to the Theatre	3
THEA 160 Acting I (Internals)	3
THEA 204, 205, 206, 207 Individual Performance in Theatre	2
THEA 210 Stagecraft	3
THEA 240 Beginning Stage Direction	3
THEA 260 Acting II (Externals)	3
THEA 261 Stage Make-Up	2
THEA 304, 305, 306, 307 Individual Performance in Theatre	2
THEA 310 Beginning Scene Design	3

Electives:

Electives in Theatre Arts	9
Hours credit:	38

3. EDCI 341 (three hours credit) and EDLS 363 (two hours credit) taken in Theatre Arts.

4. This program does not meet the current certification requirements for endorsement in drama in the secondary schools in the State of Colorado.

5. This program meets the current minimum requirements of the North Central Association for teachers of Drama. See your advisor about N.C.A. updates.

General Tryouts. The Department of Theatre Arts conducts tryouts the first week of Spring Quarter each year. The acting and directing faculty assesses the progress of students in acting, at this time. This provides the student with the opportunity to demonstrate growth and progress in the field. Each tryout will consist of two short monologues (two minutes each), which are memorized and performed. If musical material is used, the sheet music and accompanist must be provided. For an assessment of your acting abilities, make appointments with the member of the faculty from whom you wish to receive an evaluation.

Vocational Teacher Education

Vocational Teacher Education is a multi-disciplinary program. It is directed toward preparing persons to teach in Vocational Programs approved by the state in Business and Office Education, Distributive Education, Health Occupations Education, Home Economics for Consumer and Homemaking, Occupational Homemaking Education or Special Needs. At the beginning of their junior year, students enrolled in any Vocational Teacher Education program should check with the program area teacher educator to identify any deficiencies that must be met to qualify for a Vocational Credential.

Students interested in Vocational Teacher Education should go to:

1. School of Business, Department of Business Teaching Education for Business and Office Education and Distributive Education requirements, Kepner 213.
2. School of Industrial Technology and Home Economics, Department of Home Economics for Consumer and Homemaking and Occupational Homemaking requirements, Crabbe 306.
3. Vocational Teacher Education, Health Occupations, Crabbe Hall, Room 302.
4. Vocational Special Needs, Crabbe Hall, Room 302.
5. Vocational Teacher Education Foundations, Crabbe Hall, Room 302.
6. Vocational Credentialing Officer for Vocational Credential requirements, Michener, Third Level.

Vocational Teacher Education Foundations

VTEF 210 Career Opportunities and Explorations	3
VTEF 290 Directed Field Experiences	1-10
VTEF 308 Workshops in Vocational Teacher Education	1-9
VTEF 310 Vocational Education Foundations	3
VTEF 400 Vocational Student Organizations	1
VTEF 401 Distributive Education Clubs of America — Seminar	2
VTEF 402 Future Business Leaders of America — Seminar	2
VTEF 403 Future Homemakers of America — Seminar	2
VTEF 404 HOSA and Post-Secondary Student Professional Organizations in Health Occupations — Seminar	2
VTEF 410 Cooperative Education and Coordination Techniques	3
VTEF 418 Adult Vocational Education	3
VTEF 419 Advisory Committees in Vocational Education Seminar	2
VTEF 422 Individual Studies in Vocational Teacher Education	1-6
VTEF 430 Vocational Education for Learners with Special Needs	3
VTEF 488 Seminars in Vocational Teacher Education	1-6
VTEF 491 Practicum in Vocational Special Needs	3-15

Women's Studies Program

Marcia I. Willcoxon, Coordinator

The 27-hour Women's Studies minor is an interdisciplinary program administered by a faculty coordinator and a Committee composed of five faculty members and five students involved in the program.

A major in Women's Studies is available through the Interdisciplinary Studies Program.

In all cases, the program will be developed individually with each student by the coordinator and Women's Studies faculty. Each major or minor in Women's Studies should register with the coordinator to develop her or his program and to receive information about new developments and general meetings and programs scheduled.

Courses in Women's Studies are also designed for students to use toward fulfilling general education and major and other area minor requirements.

The basic goals of the Women's Studies program and course offerings are to explicate, understand, and overcome social myths about women in order to enhance the dignity of all human beings and to provide unique opportunities for knowledge and understanding for students going into teaching and school administration and into a wide variety of other professional careers.

For further information on the program and on new courses included since the publication of this catalog, students should contact the coordinator.

Requirements.

Required courses:

WS 148	Introductory Seminar in Women's Studies: Women in Crisis	3
WS 448	Women's Studies: Senior Seminar	3
Electives:		
Electives totaling at least 21 hours from among the following and other courses subsequently approved by the Women's Studies Committee:		
ANT 223	Sex Roles in Cross Cultural Perspective	4
BIO 383	Biology and Behavior of Human Sexuality	3
BLS 102	Crisis in Identity II: The Black Woman	3
COMM 455	Rhetoric of Feminism	3
ECON 304	Women and the Economy	3
EDF 380	Women in Education	3
ENG 260	Women's Biography	4
ENG 327	Women and Sex in Science Fiction	4
ENG 425	Literature By and About Women	4
HEC 321	Role Behavior in the Intimate Environment	4
HEC 417	The Dual-Career Woman	3
HPER 231	Women in Sports	2
HUM 331	Images of Women in Literature	4
ICU 205	Human Sexuality	3
ICU 208	Liberation: Myth to Ms	5
ICU 319	Sexism in Management	3
ID 508	Addressing Sexism in Education	1-3
MAS 307	La Chicana	4
MUS 344	Women in Music	2
PCG 508	Violence Against Women Workshop	3
PHIL 310	Philosophy of Feminism	4
PSCI 207	Politics of Feminism	3

PSY 468	Psychology of Women	3
SOC 221	Sociology of Sex Roles	3
WS 308	Women's Studies Workshop	1-4
		Hours credit: 27

A student also may, upon the approval of the Committee, include among her or his electives other pertinent courses offered throughout the University.

Zoology Major

Administered by the Department of Biological Sciences

Students pursuing the B.A. degree with a major in Zoology must plan their programs to fulfill the following requirements:

1. It is recommended that the student take BIO 291, Seminar in Scientific Writing. This course may be used to meet the General Education intermediate composition requirement.

2. General Education requirements of 60 quarter hours as specified in this catalog.

3. A minor of 27 or more quarter hours is recommended. Chemistry, Physics, Mathematics or Earth Sciences are suggested depending upon the student's career goals. Check with advisor.

4. It is recommended that one minor of 27 or more quarter hours in chemistry, physics, or mathematics be included.

5. It is recommended that three courses in each of the above fields (chemistry, physics, or mathematics) not be selected as a minor be included.

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

Program Requirements

Major/core

Required courses:

BIO 101	Principles of Biology	5
BIO 102	Principles of Botany	5
BIO 103	Principles of Zoology	5
		Hours credit: 15
BIO 231	Genetics	3
BIO 232	Genetics Laboratory	2
BIO 361	Microbiology	5
BIO 350	Cell Physiology	5
ZOO 316	Entomology	5
<i>or</i>		
ZOO 412	General Parasitology	5
ZOO 427	Vertebrate Embryology	5
ZOO 428	Comparative Vertebrate Anatomy	5
ZOO 340	Animal Ecology	5
		Hours credit: 45
		Total major hours: 60

Electives:

A minimum of 10 hours in the prefix areas BIO, BOT, and ZOO must be taken with approval of major advisor

Supporting required courses:

CHEM 104	Principles of Chemistry I	5
<i>or</i>		
CHEM 114	General Chemistry I	5
CHEM 105	Principles of Chemistry II	5
<i>or</i>		
CHEM 115	General Chemistry II	5
CHEM 130	Introductory Organic Chemistry	5
CHEM 332	Organic Chemistry I	5
		Hours credit: 15



Course Descriptions

Anthropology

f-ANT 100. General Anthropology. (5). The nature and scope of anthropology, organic man, and the nature of culture.

f-ANT 110. Introduction to Cultural and Social Anthropology. (4). A general introduction into the principles and concepts of the field of cultural and social anthropology.

ANT 120. World Ethnology. (3). Ethnologies are selected from various culture areas throughout the world. Emphasis is upon strategies for analysis of ethnographic data.

f-ANT 122. South American Indians. (3). Study of aboriginal peoples of South America.

f-ANT 140. Introduction to Archaeology. (4). (3 lecture, 2 laboratory). An introduction to archaeological procedures. The course will focus upon archaeological sites (how they are formed, and various methods of excavation), analytical methods (dating, analysis of plant and animal remains, etc.), and the goals of archaeology. A broad coverage, from many areas, will give a background for more advanced courses.

ANT 143. Classical Archaeology. (4). An introductory survey of the archaeological cultures of the ancient Classical World.

h-ANT 170. Introduction to Biological Anthropology. (4). (3 lecture, 2 laboratory). A general survey of the subfields of biological anthropology: Primatology, human paleontology, variation and adaptation. The course will include an introduction to evolutionary theory and population genetics as they apply to problems of human origins and present day racial variation.

f-ANT 220. Seminar in Modern Ethnology. (3-9). A study of the analysis of selected modern ethnographies to present up-to-date materials and problems in various culture areas.

ANT 221. Folk Cultures. (4). 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.

f-ANT 222. Cultural Adaptations of Nomadism. (4). A study of the adaptations made by nomadic peoples to the variety of environments they encounter and to the semipermanent nature of their locations.

f-ANT 223. Sex Roles in Cross-Cultural Perspective. (4). This course is designed to provide the student with a contemporary appreciation of gender differentiation. Two questions are asked: what is universal (and biological) about "masculinity" and "femininity;" and what is culturally specific in our ideas concerning sexual distinctiveness? Much of the information on this topic which is readily available is based on American and Western European research and literature. In this course we step across this cultural barrier and examine sexual differentiation in an evolutionary and comparative perspective.

ANT 228. Eastern Asia. (4). A survey of the culture of China and Japan. Emphasis is on understanding modern trends in the region.

f-ANT 240. Archaeology of North America. (4). Ancient humans in North America, north of Mexico. The development of prehistoric 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. (2-8). 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. (4). Ancient humans, 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 243. Plains and Mountain Archaeology. (4). Prerequisite, ANT 140. This course will acquaint the student with prehistoric adaptations in the plains and mountains of Colorado and adjacent states.

Particularly stressed will be those groups which used both of these major zones.

h-ANT 244. Archaeological Theory. (3). An introductory course to acquaint the student with the theoretical concerns of archaeology. Course emphasis will be on integrating archaeology with other fields of anthropology.

ANT 245. Public Archaeology. (4). This course will acquaint the student with the body of federal and state legislation which applies to cultural resource management, with particular emphasis upon archaeology. It is recommended that the student have at least one other archaeology course.

ANT 246. World Prehistory. (3). A survey of world-wide prehistoric developments with an emphasis on comparisons between regions.

ANT 280. Primitive Religions. (3). A study of the primitive religious traditions and practices of the peoples of the world from an anthropological perspective.

ANT 281. Marriage, Family and Kinship. (4). A course which examines forms of marriage, family, and kinship and their interrelations with other institutions of the larger social context. Historical and cross-cultural perspectives are emphasized.

h-ANT 284. Techniques of Cross-Cultural Research. (3). Prerequisite, ANT 100 or 110. Basic techniques of investigating cultural patterns with worldwide ethnographic data. Computer techniques for analysis of the Standard Cross-Cultural Sample, the Ethnographic Atlas, and the Cross-Cultural Summary.

ANT 290. Field Methods in Ethnography. (4-8). An introduction to the nature of field work and consideration of various methods in social-cultural anthropology. Emphasis will be on short term field projects within the region in which the course is taught.

ANT 320. Ethnology of Middle America. (4). Indian, mestizo and urban cultures of Middle America; interethnic relationships; acculturation trends.

ANT 321. North Africa and the Middle East. (3). 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.

f-ANT 322. Oceania. (4). Peoples of Polynesia, Melanesia and Micronesia.

ANT 323. South Asia. (3). A survey of South Asia with particular attention to caste and modernization. Includes Pakistan, India, Nepal, Bhutan, Bangladesh, and Sri Lanka.

ANT 324. Southeast Asia. (3). 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. (3). 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.

f-ANT 327. Arctic Cultures. (3). A descriptive survey of the native cultures of the Arctic forest (tundra) and tundra of Siberia; the Eskimo, Aleut and Sub-Arctic cultures of

North America; and the Lapps of Scandinavia.

f-ANT 328. Studies in North American Indians. (4-12). The course will emphasize Indian adaptations to the aboriginal, colonial, and modern situations. For each offering, a series of introductory lectures will survey relevant topics. Individuated and group study arrangements will allow students to pursue specific interests.

f-ANT 329. Peoples and Cultures of the Caribbean. (4). A description of the development of an underdeveloped area in relationship to its disappearing plantation systems, growing industry and tourist business.

f-ANT 331. Urban Ethnology. (4). An in-depth study of the concept of urbanization which will include an investigation of existing conceptual frameworks dealing with urbanization, a review of current cross-cultural research and an investigation of the direction of urbanization within the structure of national and international systems.

f-ANT 335. Economic Anthropology. (4). A general survey of the field of economic anthropology. Topics covered include typologies of economies, the applicability of formal Western economics to non-Western, non-industrial economies, principles of organization of hunting and gathering band economies, tribal economies, chiefdoms, traditional agrarian economies, pastoral economies, and modern peasant economies, and modernization of economic systems under capitalist and socialist systems. Emphasis is on the inter-relationships between economy and the other aspects of culture.

f-ANT 337. Political Anthropology. (4). A general survey of the field of political anthropology. Topics covered include the concept of power; institutional vs. processual approaches to the study of political systems; typologies of political systems; and political change as part of overall modernization in modern Third World countries. General orientation is to the inter-relationships of political, economics, social, and cultural variables in the operation of societies of all types.

f-ANT 338. Anthropology of War. (4). A cross-cultural survey of the inter-relationships between warfare as an activity and aspects of culture. Cases covered include primitive, historical, and modern warfare.

f-ANT 339. Anthropology of Law. (3). The course looks at legal systems in other cultures to arrive at a cross-cultural definition of law and to analyze law's relationship to the rest of culture. Componential analysis, a formal method of anthropological study, is introduced and applied.

ANT 340. Archaeology of the Southwest. (4). A study of ancient cultural horizons in the Southwest up to the Conquest; emphasis on chronology, culture change, and classification. Thorough review of Early Humans; the Mogollon, Hohokam, and Pueblo (Anasazi) archaeological cultures.

ANT 341. European Prehistory. (4). The development of Paleolithic, Mesolithic, Neolithic, and The Age of Metal, emphasizing

the interpretation of archaeological data, Pleistocene geology, and chronology.

ANT 342. Near Eastern Archaeology. (4). A survey of the prehistoric foundations and cultural development of civilizations in the Near East, and the Indus Valley, as revealed by major archaeological discoveries; theories of cultural evolution and diffusion.

f-ANT 344. Archaeology of Africa. (3). The antiquity of humans 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.)

g-ANT 345. Archaeology of Mexico. (4). A comparative study of cultural development in ancient Mexico and Central America with emphasis upon agricultural beginnings, settlement patterns and urbanization, hieroglyphics, calendrical systems, and religious activities. A thorough examination of Archaic, Toltec, and Aztec cultures.

ANT 346. Mayan Archaeology. (4). A thorough study of Maya civilization of Mesoamerica; its origins, developments, chronology, and archaeological manifestations. A review of other archaeological cultures in southern Mexico and Central America.

ANT 347. Archaeology of Greece. (4). A comprehensive survey of Greek civilization, including phases of architecture and statuary, funerary practices, commerce and trade, etc. based upon archaeological interpretation.

ANT 348. Etruscan and Roman Archaeology. (4). An archaeological reconstruction of Etruscan origins and culture, and its effects upon the development of Roman civilization. A thorough review of Roman culture — at the time of Augustus through archaeological interpretations.

ANT 349. Archaeology of Egypt. (4). A thorough historical reconstruction of the archaeology of Egypt, beginning with the background Stone Age and Predynastic cultures; sequential development of the Old, Middle and New Kingdoms, concluding with Persian, Ptolemaic and Roman occupations of Egypt.

f-ANT 350. European Ethnology. (4-8). Course designed to explore the ethnology of European sub-cultures; will be occasionally subtitled as to area.

f-ANT 360. Anthropological Linguistics. (4). The study of speech and language with the context of anthropology. Cognitive categories formed through language, the nature of language, cultural focus in language, linguistic change.

ANT 361. The Nature of Language. (3). A critical examination of language theory, communications theory, and linguistic theories with particular emphasis on the basic linguistic elements of grammars: phonology, morphology, syntax, semantics.

h-ANT 370. Human Evolution. (4). 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 Humans. Summation of present-day variation in human populations.

h-ANT 371. Human Variation. (4). An in-depth study of relationships between culture and the biology and genetics of human populations. Assessment of current trends in physical anthropology.

f-ANT 372. Primate Behavior. (3). 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.

h-ANT 373. The Human Skeleton. (3). (2 lecture, 2 laboratory). A descriptive and analytical study of the gross anatomy of the human skeletal system. Identification, description, and analysis of human bones from archaeological sites will be emphasized.

ANT 380. Great Ideas in Anthropology-Seminar. (3-9). The purpose of the course is to provide information about current important ideas in special fields of anthropology.

i-ANT 381. Enculturation. (3). A study of the patterned interactions by which an individual becomes oriented to his/her culture, and through which the student is prepared to perform adequately as an adult member of his society. Comparison of the enculturation process in selected nonliterate societies.

i-ANT 382. Acculturation. (4). A study of cultures in contact and the influences they have one upon the other.

i-ANT 383. Culture and Personality. (3). A study between social-cultural systems and the motivations, emotional dispositions and cognitive orientations which constitute personalities. Emphasis is on both cross-cultural and historical perspectives.

ANT 384. Quantitative Methods in Anthropology. (4). An introduction to basic formal techniques as they relate to problems unique to the various subfields will provide a format for investigating quantitative applications. Problem formulation, statistical description, probability distributions, and significance testing will be covered.

ANT 385. Survey Methods in Archaeology. (4). Prerequisites: ANT 140, one 200-level archaeology course and ANT 384. This course is designed to acquaint the student with the variety and usefulness of survey techniques in archaeological research. Participation in an actual survey and in survey design is required.

ANT 386. Lithic Technology and Analysis. (4). (3 lecture, 2 laboratory). Prerequisites: ANT 140 and one 200-level archaeology course. This course is designed to acquaint the student with the variety of techniques used to interpret and analyze lithic materials in archaeology. Some stone working activity will be part of the course.

f-ANT 387. Applied Anthropology. (4). This course is designed to introduce students to the uses of anthropological data. It will focus on planned change, the introduction of innovations and community development throughout the world.

ANT 401. Internship (4-12). This course offers anthropological field experiences in a variety of areas—museums and education, fieldwork, and teaching within the discipline. Each internship will have a subtitle and no

student may repeat a subtitle for credit. Courses graded S or U.

f-ANT 420. Africa South of the Sahara I: Pre-Colonial Socio-Cultural Formations. (4).

A study of societies and cultures in Sub-Saharan Africa emphasizing the socio-cultural formations of pre-colonial times and of peoples relatively unaffected by the currents of change induced by European Powers.

f-ANT 421. Africa South of the Sahara II: Colonial and Post-Colonial Adaptations. (4).

A study of social and cultural changes and adaptations which have come with the colonial and post-colonial eras. Emphasis is placed on underdevelopment, its causes and consequences.

ANT 422. Individual Studies. (Maximum 4). 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 chairperson of the department. Not for General Education credit.

f-ANT 431. Urban Poor. (4). An investigation of the life styles of the poor in urban areas. This course will approach the study of the urban poor as an ethnographic unit including economic, political and social structure.

ANT 440. Techniques of Archaeology. (3). 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 449. Egypt: New Kingdom Archaeology. (3). A thorough review of later Egyptian archaeology, beginning with the 18th dynasty.

ANT 450. Archaeology Field School. (Maximum 12). Prerequisite, permission of instructor. Techniques taught will include site mapping, controlled surface collection, recording, flotation, and a variety of excavation techniques. The latter will range from random test excavation samples to the excavation of large horizontal areas.

Students will be under the direction of instructor and graduate students in ANT 650.

i-ANT 470. The Nature of Humans. (3). A study of humans as a biosocial being. Analysis of the functional requirements of social living and how these have been met in various species including man/woman. A delineation of the distinctive characteristics of the human's social existence and how these affect the ecosystem.

f-ANT 471. Culture and Human Genetic Variation. (4). A review of the interaction between culture and genetic variation in human populations. Emphasis will be on the unique evolutionary processes in humans resulting from his/her cultural heritage. Specific examples of current anthropological research will supplement general treatment of the subject.

f-ANT 472. Health Anthropology. (4). An anthropological analysis of health and disease in a sample of human populations and cultural systems. The course will consist of an introduction to the ecology of some infectious and noninfectious human diseases; an examination of the relations between cultural processes and health and disease;

and an investigation of ethnomedicine, including diagnostic and curative methods.

f-ANT 480. Survey of Anthropological Theory. (3). Seminar on the development of anthropological theory from Tylor to the present. Includes cultural evolution, diffusion and historical reconstruction, functionalism, and psychologically-oriented theories.

f-ANT 481. Anthropological Theory I. (3). 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.

Aerospace Studies

A weekly one-hour leadership laboratory is an integral part of the courses offered in the Aerospace Studies curriculum (except for the AS 403 Flight Instruction course).

e-AS 110. U.S. Military Forces in the Contemporary World I. (2). A course examining the history of air power in the world and in the United States, an introduction to Air Force doctrine and how it relates to national strategy.

e-AS 111. U.S. Military Forces in the Contemporary World II. (2). An examination of the Strategic Air Command, Aerospace Defense Command, and the Tactical Air Command as they are used for instruments of national power.

e-AS 112. U.S. Military Forces in the Contemporary World III. (2). An examination of the coordination between the Air Force, the Army, and the Navy as these organizations are used to achieve national goals.

e-AS 210. The Developmental Growth of Air Power I. (2). Course encompassing the development of air power in the United States from the beginning of manned flight through the period between WWI and WWII.

e-AS 211. The Developmental Growth of Air Power II. (2). Course encompassing the development of air power in the United States from World War II through the Korean War years.

e-AS 212. The Developmental Growth of Air Power III. (2). Course encompassing the development of air power in the United States in the Post-Korean War years.

AS 310. Concepts of Air Force Leadership and Management I. (3). A course in Air Force (AF) leadership and management. Emphasis on study of human behavior and human relations and how they affect AF leadership and management. Development of communicative skills is a major goal of this course.

AS 311. Concepts of Air Force Leadership and Management II. (3). Continuation of the study of AF leadership and management, with emphasis on leadership and the planning and organizing functions of management. Continuing development of communicative skills.

AS 312. Concepts of Air Force Leadership and Management III. (3). Continuation of the study of AF leadership and management, with emphasis on the coordinating, directing, and

controlling functions of AF management. The course also covers the management environment, how to manage change, and management strategy and tactics. Continuing development of communicative skills.

AS 403. Flight Instruction. (3). This course is designed to meet the ground school requirements for a private pilot license. Includes the study of Federal Aviation regulations, meteorology, Airman's Information Manual, aerial navigation, radio procedures, flight computer and flying safety practices.

AS 410. Security Forces in America I. (3). Course focuses on the Armed Forces as an integral element in society, with emphasis on societal attitudes toward the military; the role of the professional military leader-manager in a democratic society; and the fundamental values/socialization processes associated with the Armed Services. Students will give presentations, write reports and participate in discussions/seminars, etc.

AS 411. Security Forces in America II. (3). Continuing study of the Armed Forces as an integral element of society, with emphasis on the manifold variables involved in formulating and implementing national security policy; and on the political, economic, and social constraints on the national defense structure. Students will give presentations, write reports, and participate in discussions/seminars.

AS 412. Security Forces in America III. (3). Continuing study of the Armed Forces as an integral element of society, with emphasis on the requisites for maintaining national security forces and on the impact of technological and international developments on strategic preparedness. Also, the course will include a study of the Military Justice System. Students will give presentations, write reports, and participate in discussions/seminars.

AS 422. Independent Study. (2 or 3). Course designed for students who have practicum or other course conflicts which prevent attendance in normal aerospace studies program flow.

Astronomy

Courses in astronomy are administered by the Department of Earth Sciences.

h-AST 100. General Astronomy. (4). (3 lecture, 2 laboratory). The development of human's understanding of the universe and his place in it. No mathematics background is required.

h-AST 301. Principles of Astronomy I. (4). (3 lecture, 2 laboratory). The solar system: A survey of the dynamics and physical properties of its members.

AST 302. Principles of Astronomy II. (3). Prerequisite, AST 100 or 301. The universe beyond the solar system: stars and stellar systems.

h-AST 310. Observational Astronomy. (4). (2 lecture, 6 laboratory. Maximum 12). Prerequisite, AST 100 or 301. Equipment, materials and techniques used in astronomical research. Students will conceive

and carry out observational projects.

h-AST 420. Lunar and Planetary Astronomy. (3). Prerequisite, AST 100 or 301. Techniques and results of space exploration. Students will select topics for intensive individual study.

AST 422. Individual Studies. (Maximum 4). 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 chairperson of the department.

AST 499. Seminar in Astronomy. (Maximum 9). Prerequisite, consent of instructor. An opportunity for students to explore areas of astronomy which are beyond the scope of existing departmental offerings. Specific topics to be treated will be determined by the interests of the students and the instructor.

Business Teacher Education (Office or Distributive Education)

BEVE 340. Introduction to Business Teaching. (PTE) (2). Prerequisite, EDF 366 or 367 (or concurrently). Beginning course for future business teachers designed to acquaint students with problems of teaching the business curriculum, philosophy of business education, and professional organizations.

BEVE 341. Methods and Materials of Teaching Typewriting. (PTE) (1). Prerequisites, BUS 112 and BEVE 340 (or concurrently). Course in the teaching of typewriting with special emphasis on various methods and techniques. Materials will also be examined in the course. Laboratory period scheduled.

BEVE 342. Methods and Materials of Teaching Shorthand. (PTE) (1). Prerequisites, BUS 114 or BUS 116 and BEVE 340 (or concurrently). Introduction to the teaching of shorthand for business teachers with emphasis on devices, techniques, and materials. Laboratory period scheduled.

BEVE 343. Methods and Materials of Teaching Bookkeeping. (PTE) (1). Prerequisites, BUS 221 and BEVE 340 (or concurrently). Introduction to the teaching of bookkeeping. Major emphasis on techniques and methods used in secondary schools. Materials will be examined and evaluated. Laboratory period scheduled.

BEVE 344. Methods and Materials of Teaching Basic Business Subjects. (PTE) (1). Prerequisites, BUS 100, BEVE 340 (or concurrently), and ECON 110. Designed to aid beginning business teachers in the teaching of basic business subjects of business law, economics, consumer economics, etc. Materials will be examined. Laboratory period scheduled.

BEVE 345. Organization and Administration of Distributive Education. (PTE) (3). Study of the organization, supervision, and coordination of secondary

school, post secondary school, and adult distributive education programs.

BEVE 347. Instructional Methods in Distributive Education. (4). Prerequisite BEVE 345. 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.

BEVE 348. Methods and Materials of Teaching Office Practice. (PTE) (1). Prerequisites, BUS 211 and BEVE 340 (or concurrently). Introduction to the teaching of office practice with emphasis on classroom organization plans, teaching methods, development or selection of materials and equipment. Laboratory period scheduled.

BEVE 360. Teaching Retail Operations and Merchandising. (2). Prerequisite, BUS 361. Study of retail operations and merchandising content emphasizing techniques and methodologies for its instruction.

BEVE 361. Teaching Retail Merchandising. (1). Prerequisite, BUS 361 (or concurrently). Study of the buying function in retailing and the merchandising mathematics associated with this function.

BEVE 362. Teaching Retail Promotion. (1). Prerequisites, BUS 361, BUS 362, (or concurrently). Study of the retail employee's responsibility to the advertising, display, and sales promotion functions in the retail store. The retail promotional planning calendar will be the primary point of reference in this course. Primary emphasis will be placed on teaching retail promotion to distributive education students.

BEVE 363. Teaching Marketing Information Systems. (1). Prerequisite, BUS 260 (or concurrently). Study of the retail employee's responsibility in gathering and disseminating market information.

BEVE 364. Teaching Marketing Personnel. (3). Prerequisite, BUS 361 or consent of instructor. Study of various occupations in retailing, wholesaling, and service industries with special attention to the competencies needed by marketing and distributive education students for employment in those occupations emphasizing techniques and methodologies for instruction.

BEVE 365. Teaching Wholesale and Service Occupations. (2). Prerequisite, BUS 260. Study of various occupations in wholesaling and service industries with special attention to the competencies needed by distributive education students for employment in those occupations emphasizing techniques and methodologies for instruction.

BEVE 380. Marketing and Distributive Education for the Adult Learner. (2). Prerequisite, BEVE 345. The purpose of this course is to provide continuing study focusing on the components of adult marketing and distributive education and their management.

BEVE 422. Individual Studies in Business Teaching. (1-4). 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 chairperson of the

department. Not open to graduate students. Not for General Education credit.

BEVE 451. Preparation for Teaching Vocational Office Education — "Taken Prior to Student Teaching." (PTE) (3).

Prerequisite, BEVE 340. Methods may be taken concurrently. Course *must* be taken prior to student teaching. Course will cover such topics as: the vocational business and office education curricula in Colorado; preparation for student teaching; terminology; instructional content and learning experiences; review of methods, media, teaching strategies; evaluation; professional involvement.

BEVE 460. Curriculum Development in Distributive Education. (3). Prerequisite, BEVE 345. 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.

BEVE 480. Program Development for Marketing and Distributive Education. (3). Prerequisites, BEVE 347, 460 and VTEF 310, 410. This course is designed to be taken toward the end of a student's program as a synthesis of the Marketing and Distributive Teacher Education coursework. Content will consist of in-depth program organization, planning and analysis.

BEVE 481. Teaching Improvement Seminar in Vocational Office Education. (2).

Prerequisite, consent of instructor or concurrent with EDFE 444. Provides group and individual instruction. Topics: a) evaluation of student teaching experience; b) diagnosis of knowledge/skill competencies for teaching business/office education; c) defines professional responsibilities; d) employment procedures and techniques; e) job interviews.

Biology

Courses in Biology are administered by the Department of Biological Sciences.

h-BIO 101. Principles of Biology. (5). (3 lecture, 4 laboratory). A study of biological principles from the biosphere to the ultrastructure 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.

h-BIO 102. Principles of Botany. (5). (3 lecture, 4 laboratory). Prerequisite, BIO 101. A study of plant diversity concerned with morphology, habitats, structure, function, and economic relationships of the plant kingdom.

h-BIO 103. Principles of Zoology. (5). (3 lecture, 4 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 humans is stressed.

h-BIO 104. Topics in Biological Sciences. (3, maximum 9). This course is designed to acquaint beginning students with current problems and topics in the areas of biology

and medicine. The topic will be announced each quarter. No credit given to Biological Sciences majors or minors.

h-BIO 105. Biology of Food. (3). An examination of biological substances used as food including their nutritional values, the diseases and toxic compounds associated with them, the biological problems associated with quality of fresh and stored foods.

h-BIO 170. Laboratory in Biological Sciences. (1). (2 laboratory). Co-requisite, BIO 104. A course designed to give the student laboratory experience with plant and animal structure, function, diversity, and ecological relationships.

BIO 231. Genetics. (3). Prerequisites, BIO 101, 102, or 103. A study of the fundamental laws of heredity and their application to plants and animals, with emphasis on the heredity of humans. Majors electing BIO 231 must also take BIO 232.

BIO 232. Genetics Laboratory. (2). (4 laboratory). Prerequisites, BIO 102, 103, 231 (or concurrent). Laboratory experiences illustrating the fundamental laws of heredity as applied to plants, animals and humans.

BIO 234. Population Genetics. (3). A study of the action of genes in human populations together with a consideration of the influence of various environmental factors on the distribution of these genes. Credit not allowed for majors in Biological Sciences.

h-BIO 240. General Ecology. (4). (3 lecture, 3 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. The Human's role in nature is considered throughout the course. Course not recommended for majors in Biological Sciences. A field trip transportation fee is required.

h-BIO 241. Modification of the Human Environment. (4). (3 lecture, 3 laboratory). Discussions regarding the alteration of the earth's surface due to human activities. Topics include effects of environmental disturbances on biological systems, environmental planning and the National Environmental Policy Act, and the optimizing of human environments. Laboratory exercises will include the sampling of specific pollutants and field trips. A field trip transportation fee is required.

BIO 261. Medical and Public Health Microbiology. (4). (3 lecture, 3 laboratory). Recommended, CHEM 281, ZOO 221, 250. This course places emphasis on the microorganisms of public health significance, their detection, the diseases they cause and the treatment of these diseases. The course is primarily designed for students in dietetics, nursing, pre-medicine, pre-dentistry, and pre-veterinary medicine.

BIO 262. Common Infections of Humans. (3). Common infections of man is designed to provide a relevant background for the interested student to understand the infections of humans, how they affect him/her, how they are transmitted and how they are treated.

h-BIO 283. Biology and Behavior of Human Sexuality. (3). An interdisciplinary study of the human reproductive process including the

structure and function of the reproductive organs, genetics of sex, fertility, contraception, abortion and birth. Sexual behavior including heterosexuality, homosexuality, masturbation, morality, pornography and social acceptance of sexuality will be considered in light of the latest information available.

c-BIO 291. Seminar in Scientific Writing. (3). Prerequisite, sophomore classification, ENG 101. 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.

BIO 336. Evolution. (3). Prerequisite, BIO 231. 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 Ecology. (5). (3 lecture, 6 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. A field trip transportation fee is required.

BIO 350. Cell Physiology. (5). (3 lecture, 4 laboratory). Prerequisites, BIO 101, 102, 103, CHEM 130 or 332, recommended CHEM 281. 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 361. Microbiology. (5). (3 lecture, 4 laboratory). Prerequisite, CHEM 130 or 332, recommended BIO 103 or ZOO 105. An examination of a variety of microorganisms and their activities in the biological world. Emphasis is primarily on bacteria but important aspects of molds, viruses, rickettsia, and chlamydia are included. The course is recommended for biological sciences and medical technology students.

BIO 362. Clinical Immunology. (2). (1 lecture, 2 laboratory). Prerequisites, BIO 361, 261 (or concurrently), CHEM 281. This course covers the theoretical, clinical and laboratory aspects of immunology and is meant to supplement the immunological aspects of medical microbiology.

BIO 363. Food Microbiology. (5). (3 lecture, 4 laboratory). Prerequisite, CHEM 130 or 332, (recommended BIO 361). Microbial agents of food technology, spoilage and disease are examined. Bacteria and molds are of chief importance but viruses and animal parasites transmitted in food and water will be included. Recommended for dietetics majors and as an elective course for biological sciences and health majors.

BIO 371. Techniques of Biological Preparation. (1). (3 laboratory). Prerequisite, acceptance in PTE. This course is designed to acquaint the student with techniques of

laboratory preparation and biological investigation. Emphasis is placed on techniques of lecture and laboratory preparation and presentation; construction and use of biological equipment; and approaches to teaching controversial subject matter.

BIO 380. Sexually Transmitted Diseases. (3). An introduction to the history, epidemiology control, human impacts and medical aspects of the common venereal and other sexually transmitted diseases.

BIO 399. Undergraduate Research. (Maximum 10). 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 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 the student to the supervising instructor.

BIO 401. Practicum in College Biological Science Instruction. (1 maximum 3). (3 laboratory). A chance for students to gain experience in teaching introductory biological science laboratory. Opportunities will be available for students to aid in laboratory preparation, individual tutoring of students, and instruction in the laboratory. Consent of instructor and the departmental PTE committee required.

BIO 402. Conservation of Natural Resources. (4). (3 lecture, 2 activity). A study of the relation of natural resources to the development of humans and their 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 humans. Field trips required. Credit will not be allowed for students who have taken BIO 502. A field trip transportation fee is required.

BIO 405. Special Topics in Biology. (3). Advanced study for qualified undergraduates in some area of the Biological Sciences.

BIO 406. Special Laboratory Topics in Biology. (1-2). Advanced study in the laboratory for qualified undergraduates in some area of the Biological Sciences.

BIO 422. Individual Studies. (4 maximum). 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 with the instructor and one with the chairperson of the department before credit is given.

BIO 430. Behavioral Genetics. (3). Prerequisites, BIO 231, also PSY 120 or PSY 121. This course will deal with the genetic basis of behavior in man and animals, and contemporary issues in this expanding area including: genetic counseling, eugenics, intelligence and genetic correlates of psychopathy.

BIO 471. Biological Microtechnique. (3). (1 lecture, 6 laboratory). Prerequisites, BIO 101, 102, 103. The skills of killing, staining and preparing plant and animal tissues for

microscopic study.

e-BIO 475. Biological Photography. (3). (2 lecture, 3 laboratory). A study of general photographic techniques as well as close-up, copying, slide duplication, wildlife, photomicroscopy, etc. for use in production of audiovisual aids and for scientific publication.

h-BIO 480. Topics in Field Biology. (1-15). Field studies in biology on a national or international basis. In-depth field investigation will be emphasized but some preparatory work will be done on campus. Subheadings will indicate the nature of the topic each time offered.

BIO 491. Undergraduate Seminar. (1). A study of the current research and literature on selected biological topics.

Black Studies

g-BLS 101. Crisis of Identity. (3). An analysis of the identity formation and self-concept processes from the Black perspective, as related to the Black experience. Explores identity formation as a function of societal attitudes.

f-BLS 102. Crisis of Identity II. (3). Psychodynamic and sociological analysis of the formation of self-concept and processes of identification as related to the Black woman.

f-BLS 220. Black Community Development. (3). A historical analysis of the origins and development of institutions in the Black community, including the migrations of Black people from the rural South to the effects of urban life in the Black community.

f-BLS 240. Dynamics of Racism. (3). The exploration of the socio-psychological variables involved in the production and maintenance of attitudes of bigotry and racism.

g-BLS 260. Themes in Afro-American Literature. (3). The purposes of this course are to acquaint the student with literary genres of Black writing, i.e., the novel, poetry, drama, essay, short story, and autobiography; to study the development of and to recognize the similarities and differences in Black thought and writings from slavery to contemporary Black Power movements.

BLS 313. Professional Renewal. (1-12). This course is concerned with various topics of interest in Black Studies. The topics will depend on the instructor conducting the course. Each course will have a subtitle and no subtitle may be repeated for credit.

f-BLS 320. The Black Economy. (3). An introduction to economic capitalism, its historical effect on Black communities, and its relationship to Black capitalism. An examination of the economic programs and policies of federal and local government and labor unions.

g-BLS 322. Black Nationalism. (3). An analysis of the development of Black social movements: nationalism, integration, and separation, including Vesey, Garbey, Malcolm X, and Pan-Africanist movements.

f-BLS 340. The Black Family. (3). A social system approach to the study of the Afro-American family, the dynamics of family

relationships and the effects of social, political, and economic institutions on Black family life.

BLS 350. Black Psychology. (3). An analysis of various schools of psychological thought and their application to the Black experience in America. Also included is the study of the environment of Blacks and its effect on the application of these various psychological theories to Black people.

d-BLS 360. Rhythm and the Black Experience. (3). A study of the historical, thematic, and stylistic development of Black music from ancient Africa to the present.

BLS 370. Black Cultural Development. (3). A survey of contemporary Black musicians, artists, playwrights, and writers. Emphasis will be placed on listening to and reading the works of Bullins, Baraka, Coltrane, Pharoah Sanders, Gordone, Angelou and Baldwin.

f-BLS 380. Education in the Black Community. (3). An analysis of the economic, sociological, and political foundations of education in the Black community. Aims, methods, and leaders of Black education with special emphasis upon the interrelationship between the Black school, the Black values, and the Black community.

d-BLS 392. Linguistic Styles of Black America. (3). A study of the historical development of Black dialect from West Africa to the present. Examination and analysis of research on Black language from social, economic, and political perspectives.

BLS 399. Community Study Project. (1-4). A field work course which will require a community-based project in housing, education, or social services.

f-BLS 420. Black Urban Politics. (3). An examination of American government and laws; an analysis of the concept of Black power, and their combined influence on the development of leadership and acquisition of power within the Black community.

BLS 422. Individual Studies. (Maximum 4). 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 chairperson of the department. Not for General Education credit.

f-BLS 430. Law in the Black Community. (3). A social systems approach to the study of law enforcement and legal processes occurring within the Black community; an examination of the relationship between poverty and justice and the effects of institutional racism on the legal agencies in the Black community.

g-BLS 432. Pan African World. (3). A comparative study of the politics and government of selected states and colonies in Africa, the Caribbean, South America, and the United States.

BLS 460. Black Religion. (3). An explorative analysis of historical and social forces in the formation of Black religious institutions in the United States.

BLS 462. Theatre of Black America. (3). A survey of dramatic forms of expression of Afro-Americans from the minstrel through early 20th Century to current theatrical forms

such as Black repertory workshops and theatres in the street.

g-BLS 463. The Black Man/Woman in American Drama II: 1945 to the Present. (3). This course will be an examination, study, and discussion of the image of the Black man/woman as he/she appears in contemporary dramas. Special emphasis will be placed on Black characters and Black playwrights. The course will be conducted as a lecture-discussion.

d-BLS 464. Seminar in Black Theatre. (4). The course will be conducted as a special discussion and production seminar. In addition to writing six papers on selected articles, students are also required to participate in the production of a play that will be presented at the end of the quarter.

f-BLS 465. Black Media. (3). An analysis of the relationship of Blacks and mass communications — journalism, broadcasting, and creative writing. A study of those areas of visual communication — motion pictures, television — which contribute to the image of Blacks in the United States.

BLS 480. Black Curriculum Development. (3). An examination of educational curricular development as it relates to minorities and affects sociological perspectives. The student will also gain practical experience in developing curriculum.

i-BLS 495. Interpersonal Communication. (3). A course designed to help students understand attitudes and styles of different socioeconomic groups and to improve communication between cultures.

Botany

Courses in botany are administered by the Department of Biological Sciences.

h-BOT 306. Economic Botany. (3). A study of the plants that directly affect the welfare of humans 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. (5). (3 lecture, 6 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. A field trip transportation fee is required.

BOT 323. Morphogenesis of the Nonvascular Plants. (5). (3 lecture, 4 laboratory). Prerequisites, BIO 101, 102. Structure, morphogenesis and phylogenetic relationships of the algae, fungi, bryophytes and mosses. A field trip transportation fee is required.

BOT 340. Plant Ecology. (5). (3 lecture, 6 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. A field trip transportation fee is required.

BOT 350. General Plant Physiology. (5). (4 lecture, 3 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.

BOT 421. Plant Anatomy. (5). (3 lecture, 4 laboratory). Prerequisites, BIO 101, 102. A study of the anatomy of plants with emphasis on the seed plants. Careful consideration is given to the various tissues as to their origin, development, and structure as related to their function. Some consideration is given to the evolution of tissues in plants.

BOT 425. Mycology. (5). (3 lecture, 6 laboratory). Prerequisites, BIO 101, 102. A survey of the groups of fungi including taxonomy, phylogeny, physiology, reproductive patterns and cultural techniques. Credit not allowed for both BOT 425 and BOT 525.

h-BOT 475. Plant Propagation and Maintenance. (3). (2 lecture, 3 laboratory). Application of botany in the propagation, maintenance and understanding of plants valuable to society for economical, educational or aesthetic reasons. Purchase of some seeds, plants or planting materials will be required.

Business

All business courses ending in the ten numbers designated in the categories below belong to that business area of study:

- 1 - 19 General courses
- 10 - 19 Office Administration courses
- 20 - 29 Accounting courses
- 30 - 39 Business Law courses
- 40 - 49 Insurance courses
- 50 - 59 Management courses
- 60 - 69 Marketing courses
- 70 - 79 Finance courses
- 80 - 89 Data Processing and Computer courses
- 90 - 99 Quantitative (mathematical) courses

e-BUS 100. The American Business System. (3). 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.

e-BUS 101. Consumer Business Problems. (3). A course designed to acquaint the student with business as it affects him/her personally. Some of the topics to be considered are the use of credit, insurance needs, banking, buying guides, consumer protection, and other problems of the individual.

d-BUS 102. Business English. (3). A course including a compact survey of the rules of grammar, usage, and the chief aspects of business writing style — punctuation, capitalization, numbers, abbreviations, plurals, and possessives, compound words, and word division. Also included are the rules of style for writing metric measurements and the matter of sexism in our language.

BUS 109. Calculators and Business Applications. (2). A course emphasizing the operation and use of calculators in the performance of mathematical concepts and computations common to the business office.

BUS 110. Typewriting I. (3). A beginning course in typewriting. Emphasis will be given to both personal and vocational use. Students who have had one year of typewriting may not take this course for credit.

BUS 111. Typewriting II. (3). Prerequisites, BUS 110 completed satisfactorily, or a speed of at least 30 w.p.m. The second course in typewriting. Emphasis is placed on proper arrangement of tabulated material, forms of letters, manuscript typing, reports, and speed and accuracy development. Students who have had two years of high school typewriting or the equivalent may not take this course for credit.

BUS 112. Typewriting III. (3). 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 114. Speedwriting I. (4). Prerequisite, BUS 111. An introductory course designed to provide students the necessary skills to meet vocational objectives for stenographers, secretaries, and other office professionals. The system uses the letters of the alphabet and familiar punctuation marks to represent sounds, resulting in an acceleration of the ability to take notes and transcribe. Students who have had speedwriting may not take this course for credit.

BUS 115. Speedwriting II. (4). Prerequisite, BUS 114 with a grade of "C" or better. This course is devoted to the improvement of dictation and transcription skills as well as theory review.

BUS 116. Beginning Gregg Shorthand. (4). 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. (4). Prerequisite, BUS 116 with a grade of "C" or better, or take dictation of 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. (4). 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 improvement of dictation and transcription.

BUS 150. Principles of Management. (4). Business majors and minors only. A study of concepts, principles, theories, and operational problems of organization and management. The functional areas of management — planning, controlling, organizing, decision making and others will be examined as well as contributions to management of other disciplines.

BUS 170. Financial Institutions. (3). 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. Information Systems. (4). (Laboratory arranged). This course is designed to familiarize students with the basic concepts and procedures of data processing and information systems. The student is also introduced to flowcharting, computer-based data processing and programming in the BASIC language, Systems language, systems analysis and design, and a brief overview of Management Information Systems. Emphasis is placed on hardware, software, and applications.

BUS 195. Quantitative Techniques in Business. (3). A course in business-oriented mathematics concepts applicable to management analysis and control. Topic includes a review of Matrix Algebra, Mathematics of Finance, Probability Theory, Graphing, Logarithms and Simple Trigonometry and Analytic Geometry.

c-BUS 205. Business Communications. (4). An introductory course in business communications. Basic principles and practices of business letters, reports, and oral communications are studied and applied.

BUS 206. Functional Business Writing. (3). Prerequisite, BUS 205. A study and application of the principles used in effective letter writing for business and industry.

BUS 211. Office Practicum I. (5). Prerequisite, consent of instructor. This course is designed as an office situation using real office tasks as the basis for learning experiences. Production typing, transcription (shorthand and/or machine), filing, mailing procedures, inventory, payroll procedures, duplicating and copying services are all included in a world-of-work environment.

BUS 212. Office Practicum II. (5). Prerequisite, BUS 211 and consent of instructor. This course offers the student the opportunity to refine his or her office skills. Emphasis is also placed on the organizational structure and operations in today's office, supervisory responsibilities, decision-making, grooming and human relations.

BUS 213. Office Practicum III. (5). Prerequisites, BUS 211 and 212 and consent of coordinator. A practical experience course providing on-the-job application of secretarial and/or office skills.

BUS 219. Shorthand Transcription. (4). Prerequisites, BUS 112 and 115 or 118, and the ability to take dictation of at least 100 w.p.m. Emphasis is on rapid and accurate transcription, speed dictation, punctuation, and other office skills.

BUS 220. Principles of Accounting I. (4). A beginning course in accounting. 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. (4). 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 period expenses.

BUS 231. Business Law I. (4). The course is designed to give the student a foundation for the study of law. It will be concerned with the nature of the law, certain aspects of criminal and constitutional law, and overview of tort law, civil procedure, administrative law and governmental regulations, consumer protection, bankruptcy, trusts and estates. The course will also include a more complete review of the law of contracts.

BUS 232. Business Law II. (4). Prerequisite, BUS 231 or consent of instructor. This is one of two advanced undergraduate business law courses. The topics of agency, partnerships, corporations, employer-employee relations, Anti-trust Law, and Federal Securities Law will be examined in detail.

BUS 240. Introduction to Insurance. (3). 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.

e-BUS 260. Marketing. (4). Prerequisite, ECON 110. A study of the basic concepts of marketing goods and services. This course takes a marketing management approach to product planning, channels of distribution, pricing, and promotional efforts. Emphasis is placed on the uncontrollable environments and their influence on marketing-related decisions. Discussion focuses on the role of marketing and its effect on the total business operation and its impact on society.

BUS 261. Personal Selling. (4). Prerequisite, BUS 260. An introductory course in the principles and practices of salesmanship. Attention is directed to selling to industrial and institutional purchasing agents, to distributors as well as retail-level selling. Selling demonstrations are conducted and emphasis is placed on professional selling as a career.

BUS 276. Financial Statements: Analysis and Interpretation. (4). Prerequisite, BUS 221. A study of the techniques used in analyzing and interpreting the financial statements of industrial and commercial enterprises by company managements, credit grantors and investors.

BUS 281. FORTRAN Programming. (3). (Laboratory arranged). Prerequisite, BUS 180 or equivalent. This course includes an introduction to electronic computer operation and to FORTRAN programming. The student will develop and analyze programs for business applications and the use of existing programs for general applications.

BUS 291. Business Statistics I. (4). Prerequisite, MATH 115. A course designed to orient the business student to statistics and its uses in business affairs. Students will be exposed to techniques useful in description of statistical data, sampling distribution, statistical estimation, hypothesis testing, simple regression and correlation analysis and selected nonparametric statistical techniques.

BUS 292. Business Statistics II. (4). (Laboratory Arranged). Prerequisite, BUS 291 or equivalent. This course is designed to

build on the foundations laid in BUS 291.

Major emphasis will be on sampling techniques, quality control, and multiple regression and correlation analysis. Students will also learn to use standard statistical computer software packages.

e-BUS 306. Listening Comprehension. (4). Techniques will be learned to aid the student in perceiving and retaining more of the spoken work in a variety of situations such as programmed tape exercises, verbal vignettes, lectures, job-oriented verbal confrontations, directions, conversations, and difficult encounters.

BUS 307. Administrative Business Reports. (3). Prerequisite, BUS 205. Organization, preparation, and analysis of business and technical reports with emphasis on techniques of collecting, interpreting, and presenting information.

BUS 314. Records Management. (3). The study of the creation, use, maintenance, and disposition of letters and reports, forms creation and control, records classification systems, records retention schedules, cost analysis of records maintenance, and program evaluation. In addition, the study of micrographics management through an analysis of various systems, legal restrictions, and feasibility of conversion.

BUS 319. Introduction to Word Processing. (4). (Laboratory Arranged). Prerequisites, BUS 111 or consent of instructor. This course is designed to familiarize students with the basic concepts and procedures involved in word processing in the modern office. Emphasis is placed on the combination of people, procedures, and equipment that transforms ideas into printed communications. Lab work involves hands-on experience using automated equipment.

BUS 320. Intermediate Accounting I. (4). Prerequisite, BUS 221 with a minimum grade of "C." An advanced course in accounting principles stressing statement presentation and evaluation problems in presenting current assets and liabilities on the statements.

BUS 321. Intermediate Accounting II. (4). Prerequisite, BUS 320 with a minimum grade of "C." A continuation of BUS 320.

Emphasizes problems encountered in valuing investments, plant and equipment, and stockholder's equity for statement presentation.

BUS 322. Intermediate Accounting III. (4). Prerequisite, BUS 321 with a minimum grade of "C." A continuation of BUS 320 and 321. Emphasizes analysis of financial statements, effects of errors on statements, preparing funds flow statements and price level adjustments.

BUS 323. Cost and Managerial Accounting I. (4). 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. (4). Prerequisite, BUS 323. This course gives emphasis to both costing for inventory evaluation and income determination and costing for planning and control.

BUS 326. Governmental and Institutional Accounting. (4). Prerequisite, BUS 320 with a minimum grade of "C." Accounting

principles and procedures relating to schools, hospitals, and other non-profit institutions and to cities, counties and other governmental units.

BUS 328. Accounting for Small Business.

(4). Prerequisite, BUS 221 with a minimum grade of "C." (Credit will not count toward graduation for Accounting majors.) Emphasis will be placed on how a business can use accounting information for decision making. Included will be a study and analysis of basic financial statements, uses of cost accounting systems and the information they develop, introduction to tax problems of businesses, and study of various accounting systems.

BUS 333. Real Estate Law. (2). 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. (3). 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. (3). 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 341. Life and Health Insurance. (3). Prerequisite, BUS 240. 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. (3). Prerequisite, BUS 240. 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. (3). Prerequisite, BUS 240. 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. (3). Prerequisite, BUS 240. 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. (6). (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 352. Procurement. (3). Prerequisites, BUS 150, 231 and 260. 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 problems of the procurement function.

BUS 354. Human and Organizational Behavior. (4). Prerequisites, BUS 150 and 231. This course treats the human aspects of business and how they influence efficiency, morale, and management in the organization. It is designed to acquaint the student with the psychological and sociological approaches to human behavior.

BUS 357. Managing New Business Ventures. (3). Prerequisites, BUS 150, 220, 221, 260, 370 and business majors only. This course is designed to emphasize the problems and opportunities of starting new businesses, including new enterprise creation, planning, management, control and growth.

BUS 361. Retailing. (4). Prerequisite, BUS 260. A study of the basic principles and techniques of retail merchandising and store operation.

BUS 362. Advertising. (4). Prerequisite, BUS 260. An introductory course in advertising principles including a study of advertising terminology, the communication process, advertising agencies, media, and ad copy and layout elements. The course looks at advertising from the business viewpoint but shows its importance to the consumer, business and the economy.

BUS 363. Promotion Management. (4). Prerequisite, BUS 260. Designed to provide skills in how to manage the area of promotion within a firm. Emphasis will be placed upon the inter-relationships that exist between personal selling, advertising, and sales promotion. Special attention will be given to the various aspects of sales promotion.

BUS 365. Marketing Strategy. (4). Prerequisites, BUS 220, and 260. This course is designed to familiarize the student with operations of marketing organizations. The strategies used by marketing managers in making marketing decisions will be studied.

BUS 366. Consumer Behavior. (4). Prerequisite, BUS 260. A course exploring the consumer and his or her behavior as it affects the marketing function. A synthesis of empirical findings on consumer behavior as well as models for analyzing it. The course also features application of theoretical generalizations to practical marketing problems.

BUS 367. Public Policy Issues in Marketing. (4). Prerequisite, BUS 260. This course will discuss the ethical, moral, and

legal aspects of various marketing activities. The intent of the course is to make the student aware of the various arguments, pro and con, to help the students develop their own opinions on these current issues. The various alternatives available to business firms, government and consumers on how to handle these issues will also be analyzed. Topics will include such areas as consumerism, planned obsolescence, ethics in advertising and various pricing practices.

BUS 370. Business Finance. (4).

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.

e-BUS 372. Principles of Real Estate. (3).

This 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 380. Interactive Languages and Techniques. (3). (Laboratory arranged).

Prerequisite, BUS 180. This course investigates interactive programming techniques in detail as well as the various Operating System commands and activities associated with Time Sharing Systems. It will involve such topics as the building and maintaining of indirect and direct access external data files, sequential and random access procedures, the Text Creation and Editing functions, and the system library and utilities.

BUS 381. PASCAL Programming. (3).

(Laboratory arranged). Prerequisites, BUS 180 and either BUS 281 or 383. This course includes an introduction to the PASCAL programming language and the concept and techniques of structured programming. The student will develop and analyze programs in PASCAL for typical business and scientific applications.

e-BUS 383. COBOL Programming. (3).

(Laboratory arranged). Prerequisite, BUS 180 or equivalent. This course includes an introduction to electronic computer operation and to COBOL programming. The student will develop and analyze programs for business applications and the use of existing programs for general applications.

BUS 385. Advanced Structured COBOL. (3).

(Laboratory arranged). Prerequisite, BUS 383 or equivalent. Advanced structured computer programming techniques with special reference to COBOL for business applications. Topics include sequential and random access processing with various secondary storage devices and various data management techniques.

BUS 388. Systems Analysis and Design.

(3). Prerequisite, a course in computer programming or consent of instructor. The relationship of systems and procedures to policies and needs of management, job characteristics, management audit, and flow charting will be examined. Also an analysis of operations by a study of work simplification, work measurement, work sampling will be

made which will include current developments in human engineering, job design, forms control, records management, and company manuals.

BUS 389. Advanced Systems Analysis and Design. (3). Prerequisite, BUS 388 or equivalent. The integration of systems for all major functional modules of an organization. Topics include management systems, information requirements, determining system economics, current issues, and case studies and applications of management information systems.

BUS 391. Business Statistics III. Topics in Statistics. (3). (Maximum 12). Prerequisite, BUS 292. Topics from statistics not available through existing courses and which reflect the specific interests of available instructors or the specific needs of students. Possible topics include modern (Bayesian) decision theory, the use of the computer in statistics, experimental design, advanced time series analysis, survey sampling, quality control, and nonparametric statistics.

BUS 395. Production Management. (4). Prerequisites, BUS 150 and 291. A course emphasizing the special problems of managing an organization's resources, people, money, and physical property in the production of product and services. Topics include product development, plant layout, production processes, inventory systems and control, scheduling, and materials handling.

BUS 396. Management Science — Deterministic Models. (3). Prerequisite, BUS 291. Managerial decision making using such techniques as optimality analysis, linear programming, and inventory models.

BUS 397. Management Science — Probabilistic Models. (3). Prerequisite, BUS 291. Managerial decision making using such techniques as PERT, queuing theory, Markov analysis, and simulation techniques.

BUS 400. Business, Government and Society. (4). Interrelationships among business, government and society and their impacts on the environment of business and managerial considerations and actions. Emphasis will be on conceptual foundations of business; changing value systems, ethical consideration and issues; national and multinational business responsibilities; governmental policy issues and the political role of business; economic impacts; and current and future interrelationship impact considerations.

BUS 401. Public Policy and Private Enterprise. (4). Prerequisite, BUS Core. A study of the current state and federal legislation affecting business, with emphasis on recent rulings of the various regulatory agencies. Current demands on business by the consumer and society will also be discussed.

BUS 406. Internship in Business. (12). Prerequisite, consent of faculty coordinator. A practical experience course providing opportunities to utilize the theory of academic business administration courses in accounting, marketing, finance, insurance, general business, and office management situations.

BUS 407. Small Business Counseling. (3). Prerequisite, senior standing and consent of

faculty coordinator. A cooperative program with the Small Business Administration in which students apply theories learned in all business majors to actual small business problems.

BUS 419. Professional Secretarial Development. (4). Prerequisite, consent of instructor. A course designed to prepare the student for the Certified Professional Secretary examination. Included are the areas of environmental relationships, business and public policy, economics and management, financial analysis and the mathematics of business, and office procedures. S-U grading.

BUS 420. Advanced Accounting I. (4). Prerequisites, BUS 321 with a minimum grade of "C" and BUS 322 or concurrently. This course deals with business combinations, consolidated financial statements, branch operations, foreign operations, earnings per share, and reporting for business segments.

BUS 421. Advanced Accounting II. (4). Prerequisites, BUS 322, 326, and 420 all with a minimum grade of "C." This course deals with the study of real estate, franchises, income presentation, interim reporting, partnerships, fiduciary, governmental and not-for-profit accounting.

BUS 422. Business Individual Studies. (1-4). 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 chairperson of the department. Not open to graduate students. Not for General Education credit.

BUS 425. Auditing I. (4). Prerequisite BUS 321. A basic overview of the procedures and techniques of auditing, including auditor's reports, internal control, evidence gathering, legal liability, statistical sampling, general objectives, ethics and limited EDP applications.

BUS 426. Auditing II. (4). Prerequisites, BUS 322 and 425 or BUS 322 concurrently. A course designed for those students who intend to practice public accounting and to sit for the CPA exam. The course would include a simulated audit (practice set) including preparation of working papers, gathering of evidence, and making auditing judgments. In addition, the student would be required to analyze in detail current pronouncements which have changed the auditor's responsibilities and reporting obligations.

BUS 428. Income Tax Accounting I. (4). Prerequisite, BUS 221. Basic rules of federal income taxation with emphasis on taxation of individuals.

BUS 429. Income Tax Accounting II. (4). Prerequisite, BUS 428. A continuation of BUS 428, with emphasis on federal income tax rules applicable to partnerships and corporations.

BUS 433. Business Law III. (4). Prerequisites, BUS 231, junior and senior business majors only. This course continues the study of business law and is designed primarily for accounting students. Areas of concentration will be the UCC Sales Article, Negotiable Instrument Articles, and Secured

Transaction Article, together with the Accountant's Legal Liability and a discussion of the Corrupt Foreign Practices Act.

BUS 440. Business Insurance. (3). Prerequisite BUS 240. 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/women, and split dollar plans are discussed. (CLU Course 9).

BUS 441. Estate Planning and Life Insurance. (3). Prerequisite, BUS 240. 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. (3). 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. (3). A continuation of BUS 442. (Second part of C.P.C.U. Part II).

BUS 444. Property Insurance. (3). Prerequisite, BUS 240 or consent of instructor. This course covers in detail an analysis of insurance principles and practices applicable to property insurance. Some of the topics covered will be fire insurance, indirect loss insurance, and modern multi-peril policies. (C.P.C.U. Part I and I.I.A. 22).

BUS 445. Casualty Insurance. (3). Prerequisite, BUS 240 or consent of instructor. This course covers in detail an analysis of insurance principles and practices applicable to casualty insurance. Some of the topics covered will be general liability insurance, malpractice insurance, and bonding. (C.P.C.U. Part I continued and I.I.A. 23).

BUS 452. Administrative Office Management. (3). 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. (4). Prerequisites, BUS 150, 220, 221, 231, 260, and 370. A study of the principles and techniques of personnel management with attention given to their psychological foundations.

BUS 454. Development of the Labor Movement. (2). Prerequisites, BUS 150 and 231. This course traces the development of the labor movement, the basic philosophies of the different labor unions, labor legislation, and decisions of courts and labor boards which affect management's relations with its employees.

BUS 455. Collective Bargaining. (3). Prerequisites, BUS 150, 220, 221, 231, and 370. This course deals with contract negotiations and contract administration,

grievances and labor disputes. These problems are approached primarily from the viewpoint of the management of company in terms of its long-run and short-run policies.

BUS 456. Business Policies and Management. (3). Prerequisites, BUS 150, 220, 221, 231, 260, 370 and senior standing. 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. Small Business Management. (3). Prerequisites, BUS 150, 220, 221, 260, 370 and business majors only. 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 458. Seminar in Entrepreneurship. (3). Prerequisites, BUS 357, 457, and senior status. This course is an integrative study of problems in Small Business Management through the use of case studies and the preparation of a proposal for the creation of a new business.

BUS 460. Market Analysis and Research I. (4). Prerequisites, BUS 260 and 291. 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.

BUS 461. Advertising Campaigns. (4). Prerequisites, BUS 362, 363, and 460. This senior-level course is designed to give students realistic experience in campaign planning. Students will assume the identity of an advertising agency and will be responsible for the preparation of a complete advertising program. The program will include a background analysis, market definition, objectives, media selection, scheduling, budgeting, creative elements and evaluation criteria.

BUS 462. Marketing Problems. (4). Prerequisites, BUS 365, 370, 460, and senior standing or consent of 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. Sales Management. (4). Prerequisite, BUS 260. A study of sales management, the major problems involved, and the relationship of sales management to the total business operation.

BUS 464. International Marketing. (4). Prerequisite, BUS 260. A seminar designed to consider the global or multinational aspect of business enterprise and its effect on marketing problems and management. The functional areas of international marketing will be considered through the study of marketing systems of various countries and multinational market groups.

BUS 465. Seminar in Retailing. (4). Prerequisite, BUS 361. This course emphasizes direct applications of retailing skills and problem solving in retail management through the use of cases, readings, and discussions of current trends and problems.

BUS 466. Market Analysis and Research II. (4). Prerequisite, BUS 460. This course is a continuation of BUS 460. Students will conduct an actual research project and study case problems in marketing research.

BUS 468. Industrial Marketing. (4). Prerequisite, BUS 260. A course designed to point out the peculiarities of marketing industrial goods. Special emphasis will be placed on the characteristics of the industrial market, industrial buyer behavior, industrial goods classification systems, along with how to develop marketing mixes for industrial products. The course will involve case studies and/or projects.

BUS 469. Distribution Management. (4). Prerequisite, BUS 260. A systems approach to the marketer's problems of distribution including inventories, transportation, warehousing, packaging, order processing and the inherent problems of managing conflicts within the channel. Also to be studied, the marketing channels with emphasis on both industrial and consumer product distribution.

BUS 470. Financial Management. (3). 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. (4). Prerequisite, BUS 370. 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 472. Real Estate Investment and Finance. (3). Prerequisite, BUS 370. Techniques for evaluating different types of real estate investments will be developed and methods of financing these investments will be explored. The emphasis will be upon practical applications of theoretical concepts.

BUS 473. Commercial Bank Policies and Management. (3). Prerequisites, BUS 370 and ECON 202. The internal operations of commercial banks, including managerial problems.

BUS 474. Case Problems in Financial Management. (3). Prerequisite, BUS 470. A comprehensive course in applied financial management, policy, and theory. Students will be called upon to integrate accounting, management, finance and other business skills in the financial decision making process for the firm. A case study-problem solving method will be utilized.

BUS 475. Financial Management of Small Business Firms. (3). Prerequisite, BUS 370. The financial problems of small business firms will be studied. The emphasis will be on credit management, financing alternatives of

the small business, and the valuation of small businesses for sale purposes. Credit not allowed for Finance majors.

BUS 476. Real Estate Investment and Appraisal. (4). Prerequisite, BUS 372. The types and sources of real estate financing are studied, along with investment analysis and appraisal techniques. Emphasis will be on the use of leverage and the evaluation of real estate properties in an investment program.

BUS 482. Computer Simulation Techniques. (3). (Laboratory arranged). Prerequisites, BUS 291 and a course in computer programming or consent of instructor. 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 and problem solution, with special attention devoted to the GPSS programming language.

BUS 485. Data Base Management. (3). (Laboratory arranged). Prerequisites, BUS 380, 381, and 383 or equivalent. This course will investigate the theory and techniques of data base management. Various data base structures will be examined from the points of view of efficiency and utility.

BUS 489. Special Topics in Management Information Systems. (3). (Laboratory arranged). Prerequisites, BUS 292 and a recent course in computer programming and consent of instructor. This course is an in-depth study of topics in the student's field of interest relating to information systems. In addition, the student will be introduced to the use of such software packages as SPSS, SAS, and BIOMED.

Child and Family Studies

CD 136. Introduction to Preschool. (2). The philosophies, goals, and purposes of the preschool are introduced. The role of the teacher, the curriculum and the physical facilities of the UNC preschool are studied. Then a variety of preschool program models are visited, evaluated, and compared.

i-CD 233. The Child Within the Family. (3). This course will be covering topics concerning children within the family setting, as it develops role behavior, personality, self-identity, and stability. Interaction will be the focus for the child's defenses against change as reflected in family crises.

CD 308. Child Development Workshop. (1-15). An opportunity to study problems in child development. The area to be covered in any one workshop will be determined by the workshop subtitle. No subtitle may be repeated for credit. S-U final mark.

f-CD 331. Development of the Infant and Toddler. (3). 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. Opportunities for observation of infants and toddlers.

f-CD 332. Sequences of Conceptual Learning. (3). This course studies children's

learning processes and their learning patterns. Individual differences will be considered in examining how children learn and what teachers can do to help.

f-CD 333. Development and Guidance of the Young Child. (4). (3 hours lecture and 2 hours laboratory per week). The physical, intellectual, social, and emotional development of the young child are approached from the developmental point of view. Appropriate guidance procedures are discussed as they relate to these and other areas of child growth. Developmental theory and observation are stressed as primary approaches to child study.

CD 334. Preschool Curriculum and Methods. (PTE) (3). Recommended to be taken prior to or in conjunction with CD 335. Prerequisite, 333 or consent of instructor. 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.

CD 335. Observation and Participation in Preschool. (4). (1 seminar, 6 laboratory). Recommended to be taken in conjunction with CD 334. Prerequisite, 333 or consent of instructor. Observation of specific methods and techniques relating to the teaching of preschool. Practical laboratory observation and experience with preschool age children.

CD 401. Internship in Child and Family Studies. (9-18). Consent of instructor. This course is designed to provide the student with practical supervised experiences in an agency providing services to young children and families. Open to senior majors only.

CD 422. Individual Studies. (1-4). Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. A copy of a well-written paper must be filed with the instructor before credit is given. Not for General Education credit.

CD 437. Administration of Programs for Young Children. (3). 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.

CD 438. Practicum in Preschool Teaching. (4). (1 seminar, 6 laboratory). Prerequisite, CD 333, 334, 335, or consent of instructor. The laboratory experience gives the students an introduction to student teaching through observation, demonstration and participation with preschool children under an experienced preschool teacher.

i-CD 439. Parent Education. (3). This course deals with relationships between parents, children and teachers. Emphasis is on resources for meeting problems through cooperative interaction.

CD 444. Student Teaching in Preschool. (PTE) (18). Prerequisites, CD 438 and consent of instructor. Meets student teaching requirement for Preschool Education majors. Supervision provided by Child Development faculty and a certified teacher whose endorsement is consistent with that of the student teacher. The experience includes the significant and continuous involvement of the

cooperating teacher in the evaluation of the student teacher. S-U final mark.

Chemistry

h-CHEM 100. Introductory Chemistry. (3). An introduction to basic concepts in chemistry to prepare students with no high school chemistry background for CHEM 104 or 108. Credit not allowed toward chemistry major or minor.

h-CHEM 101. Foundations of Chemistry I. (3). A discussion of physical and chemical principles including demonstrations required to understand the current topics in chemistry such as fuels, nuclear power, polymers and food. No previous background in chemistry is required.

h-CHEM 102. Foundations of Chemistry II. (3). Prerequisite, a B or better in CHEM 101 or consent of instructor. A continuation of CHEM 101. Topics include acid-base chemistry, radiochemistry, and selected topics from consumer chemistry.

h-CHEM 104. Principles of Chemistry I. (5). (4 lecture, 3 laboratory). Principles of chemistry including atomic theory, mole concept, stoichiometry, states of matter, formulas, nomenclature and periodicity.

h-CHEM 105. Principles of Chemistry II. (5). (4 lecture, 3 laboratory). Prerequisite, CHEM 104 or 114. A continuation of CHEM 104 including solutions, thermochemistry, chemical kinetics.

CHEM 106. Principles of Chemistry III. (5). (3 lecture, 6 laboratory). Prerequisite, CHEM 105 or 115. A continuation of CHEM 105 including equilibrium, qualitative analysis, elementary quantitative analysis, electrochemistry and descriptive inorganic chemistry.

h-CHEM 108. Fundamentals of General Chemistry. (5). (4 lecture, 3 laboratory). High school chemistry is strongly recommended. Principles of general and physical chemistry. Applications are mainly in the areas of interest to nursing, home economics, and health education majors.

h-CHEM 109. Fundamentals of Organic Chemistry. (5). (4 lecture, 3 laboratory). Prerequisite, CHEM 105 or 108. Basic concepts in organic chemistry and its relationship to an understanding of living systems. Credit is not allowed for CHEM 109, 130 and/or 332.

CHEM 114. General Chemistry I. (5). (4 lecture, 3 laboratory). Prerequisite, one year high school chemistry, two years high school algebra or equivalent. An enrichment course for the well-prepared student. Topics include structure and bonding, stoichiometry and states of matter.

CHEM 115. General Chemistry II. (5). (4 lecture, 3 laboratory). Prerequisite, CHEM 104 or 114. An enrichment course for the well-prepared student. A continuation of CHEM 114. Topics include solution chemistry, equilibrium, kinetics, and thermochemistry.

CHEM 116. General Chemistry III. (5). (3 lecture, 6 laboratory). Prerequisite, CHEM 105 or 115. An enrichment course for the well-prepared student. A continuation of

CHEM 115. Topics include equilibrium, elementary analytical chemistry, electrochemistry, nuclear chemistry and descriptive inorganic chemistry.

h-CHEM 130. Introductory Organic Chemistry. (5). (4 lecture, 3 laboratory). Prerequisite, CHEM 105 or 115 or 108. An introduction to organic chemistry including applications in food, drug, plastic, dye, and vitamin chemistry. Credit not allowed for both CHEM 130 and 332.

CHEM 281. Fundamentals of Human Biochemistry. (5). (4 lecture, 3 laboratory). Prerequisite, CHEM 109 or 130 or 333. An introduction to the biochemistry of the human system. The chemistry of cellular and body processes, foods and nutrition, and of diseases related to metabolism will be considered.

c-CHEM 291. Scientific Writing in Chemistry. (3). Prerequisite, ENG 101. Designed to acquaint the chemistry and/or medical technology major with the use of the literature in scientific research and the writing of scientific papers. Techniques of problem identification, literature survey, interpretation of data, and scientific writing are stressed.

CHEM 320. Instrument Operation. (1). (3 laboratory). Prerequisite, CHEM 333. Self-paced course to develop techniques of sample preparation, procurement of a useful spectrum or chromatogram, and instrument care. Graded S or U.

CHEM 321. Analytical Chemistry I. (5). (3 lecture, 6 laboratory). Prerequisite, CHEM 106 or 116. A course in classical quantitative analysis and an introduction to modern instrumentation.

CHEM 322. Analytical Chemistry II. (4). (2 lecture, 6 laboratory). Prerequisite, CHEM 321. A continuation of CHEM 321. Topics include chromatography (ion exchange, gas-liquid, thin layer), electrophoresis, radiochemistry and more electrochemistry.

CHEM 323. Analytical Chemistry III. (2). (6 laboratory). Prerequisite, CHEM 322. An advanced laboratory including electrochemistry, electrogravimetry, emission spectroscopy, and high pressure liquid chromatography.

CHEM 324. Instrumental Analysis. (4). (3 lecture, 3 laboratory). Prerequisites, CHEM 321 and either CHEM 130 or 332. Techniques of colorimetry, spectrophotometry, fluorimetry, flame and infrared spectrophotometry for medical technology, biology and earth science majors.

CHEM 332. Organic Chemistry I. (5). (4 lecture, 3 laboratory). Prerequisite, CHEM 105 or 115. Nomenclature, reactions, and synthesis of organic compounds. Credit not allowed for CHEM 130 and 332.

CHEM 333. Organic Chemistry II. (5). (4 lecture, 3 laboratory). Prerequisite, CHEM 332. A continuation of CHEM 332. Structure determination using infrared and nmr spectroscopy is included.

CHEM 334. Organic Chemistry III. (5). (4 lecture, 3 laboratory). Prerequisite, CHEM 333. A continuation of CHEM 332 and 333. Syntheses, modern theories of reactions and chemistry of biological molecules are included.

CHEM 335. Advanced Laboratory in Organic Chemistry. (1). (3 laboratory). Prerequisite, CHEM 334 or taken concurrently. A laboratory in advanced organic synthesis and structure determination. Emphasis is placed on examples from the literature.

CHEM 350. Computer Programming in Chemistry. (1). Prerequisites, MATH 125, CHEM 105 or 115. An introduction to programming in the BASIC language and its applications to problems in chemistry.

CHEM 381. Enzyme Chemistry. (2). 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 391. Demonstrations and Principles of Chemistry. (3). Concepts of chemistry explained through demonstrations. Development and modification of demonstrations for introductory science courses. Cannot be used for a graduate chemistry degree.

CHEM 393. Environmental Chemistry. (4). Prerequisite, CHEM 130 or 332. Chemistry of the environment including pesticides, fossil and nuclear fuels, and air, water and soil pollution. Field trip fee required.

CHEM 395. Food Chemistry. (3). (2 lecture, 3 laboratory). Prerequisite, CHEM 281 or HEC 251. Chemistry of foods, food products and additives, and analysis of foods.

CHEM 422. Individual Studies. (1-4). Qualified undergraduate students outline and spend at least 25 clock hours per quarter hour on a problem. A scientifically written paper must be filed with the instructor for credit.

CHEM 431. Organic Qualitative Analysis. (3). (1 lecture, 6 laboratory). Prerequisite, CHEM 334. Identification of organic compounds by classical and spectral methods.

CHEM 440. Laboratory in Inorganic Chemistry. (1). (3 laboratory). Corequisite, CHEM 441. Experimentation exploring the structure, bonding and chemical properties of inorganic substances.

CHEM 441. Inorganic Chemistry I. (2). Prerequisite, CHEM 320. First of three courses exploring modern inorganic chemistry. Each will utilize the journal literature and integrate applications of various physical methods with theory and practice. The emphasis of this course is structure and bonding.

CHEM 442. Inorganic Chemistry II. (2). Prerequisite, CHEM 441. A continuation of CHEM 441. Topics include descriptive main group, coordination and organometallic chemistry with emphasis on interrelationships among reactions, energetics and dynamics.

CHEM 443. Inorganic Chemistry III. (2). Prerequisite, CHEM 442. A continuation of CHEM 442. Applied and industrial aspects of inorganic chemistry.

CHEM 451. Physical Chemistry I. (4). Prerequisites, CHEM 333, MATH 132, PHYS 267. Corequisite, CHEM 321. An advanced study of properties of matter, thermodynamics, thermochemistry and atomic and molecular structure.

CHEM 452. Physical Chemistry II. (4). Prerequisite, CHEM 451. Corequisite, CHEM 454. A continuation of CHEM 451. Topics include entropy, chemical bonding, molecular structure and chemical kinetics.

CHEM 453. Physical Chemistry III. (4). Prerequisite, CHEM 452. Corequisite, CHEM 455. A continuation of CHEM 452. Topics include liquid theory, phase equilibrium, solutions and electrochemistry.

CHEM 454. Physical Chemistry I Laboratory. (1). Corequisite, CHEM 452. Hands-on collection of data and treatment of experimental data by manual and computer methods.

CHEM 455. Physical Chemistry II Laboratory. (1). Corequisite, CHEM 453. A continuation of CHEM 454.

CHEM 457. Selected Topics in Physical Chemistry. (2). Prerequisite, CHEM 453. An advanced course in physical chemistry. Topics will be chosen from molecular spectra, crystals, electrical and magnetic properties of molecules, surface chemistry, catalysis and chemical bonding.

CHEM 482. General Biochemistry I — The Chemistry of Biological Compounds. (4). (3 lecture, 3 laboratory). Prerequisite, CHEM 333. An introduction to the chemistry of biologically important compounds. The chemistry of the organic compounds in the living system will be stressed, but inorganic chemistry will be included.

CHEM 483. General Biochemistry II — Intermediary Metabolism. (4). (3 lecture, 3 laboratory). Prerequisite, CHEM 482 or its equivalent. A detailed study of the chemistry of living processes including the regulation of intermediary metabolism.

CHEM 484. General Biochemistry III — Intermediary Metabolism and Physical Biochemistry. (4). (3 lecture, 3 laboratory). Prerequisite, CHEM 483. Continuation of CHEM 483. Enzyme kinetics, the physical chemistry of macromolecules, and the molecular organization of the cell will be emphasized.

CHEM 491. Glass Blowing. (1). (3 laboratory). Demonstrations and practice in techniques of glass blowing and repair of laboratory glass equipment.

CHEM 493. Special Topics in Chemistry. (3). Prerequisite, permission of instructor. Study of current topics in chemistry, e.g., forensic chemistry, food chemistry, industrial chemistry, etc.

CHEM 495. Seminar in Teaching Chemistry. (2). This course is designed for seniors, graduates and inexperienced teachers to prepare them for the task of setting up, organizing, and running a high school chemistry laboratory and classroom.

CHEM 499. Seminar, and Research in Chemistry. (1-3). Designed to introduce the student to chemical research and current chemical literature. The student will initiate and pursue an investigation of a specific topic in chemistry or chemical education. At least 25 clock hours per quarter hour will be spent on the investigation. Oral and written reports are required.

Communication

d-COMM 110. Public Speaking I. (3). An introduction to the principles and practices of platform speaking. Particular attention will be given to basic theory, purposes, planning, modes of proof, delivery and audience analysis.

i-COMM 111. Communication: Interpersonal. (3). This course focuses on the processes of dyadic communication such as listening, self awareness, assertiveness, perception, language and their relationship to self improvement.

d-COMM 112. Public Speaking for Reluctant Students. (3). A course designed to enable reluctant students to learn basic principles and experience success in one-to-many speaking situations. By excluding the more courageous and proficient students, this course should provide maximum opportunity with minimum threat. Admission by permission of instructor.

d-COMM 120. Logic in Practice. (3). 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; the concept of superstition; development of logos.

COMM 130. Voice and Speech Improvement. (3). A study of the speech mechanism through frequent instructor and peer evaluations of class readings. The International Phonetic Alphabet is employed as a method for recording speech sounds.

COMM 140. Principles of Mass Communication. (3). An introductory study of the techniques and theories of mass communication, including electronic media, film and print, and its significance in contemporary society.

COMM 170. Oral Interpretation (3). (2 lecture, 2 laboratory). A study in the oral communication of literature, especially prose and poetry. Laboratory experience includes substantial student performance in individual and group presentations.

e-COMM 210. Laboratory Forensics. (Maximum 3). To provide experience in intercollegiate forensics, students interested in individual events or readers theatre may register for one hour; those interested in debate may register for two hours; and those interested in debate and individual events may register for three hours. No student may earn more than eight total hours.

d-COMM 212. Argumentation and Debate. (3). 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.

i-COMM 220. Nonverbal Communication. (3). A study of nonverbal communication precepts associated with human communication. One focus is the relationship between nonverbal and verbal communication associated with communication accuracy, attraction, or influence. A second focus is the investigation of nonverbal cues associated with a specific minority group, nation/state, or professional group.

e-COMM 250. Public Speaking II. (3). Prerequisite, COMM 110, high school public speaking experience or consent of instructor. A course designed to provide practical experience in current modes of public communication in one-to-many relationships. The student will participate in three to five speeches and will evaluate others in terms of appropriate theory.

COMM 270. Readers Theatre. (3). Prerequisite, COMM 170, Oral Interpretation, or the permission of the instructor. A course in the theory and practice of group performances of orally interpreted literature. Content will include selection and adaptation of scripts, theories and techniques of performance, and practical experience in performing Readers Theatre.

i-COMM 302. Small Group Communication. (4). This course is an introductory study of the theories and techniques applicable to the problem-solving and decision-making in small groups. Emphasis is placed on the relationship between communication and group variables such as leadership, roles and cohesiveness.

COMM 310. Principles of Interviewing. (3). This course will focus on the process of interviewing from the perspective of both the interviewer and the interviewee. Among the types of interviews to be examined will be information seeking/giving, persuasive, employment, appraisal, counseling, grievance, and exit.

COMM 312. Argumentation Theory. (3). This lecture-discussion course focuses on the nature of argument, the reasoning process, and evidence-claim relationships. Theories of argumentation shall be examined as they apply to courtroom advocacy, political debate, general public debate, and academic intercollegiate and interscholastic debate.

i-COMM 323. Interpersonal Communication Theory. (4). Prerequisite, COMM 111 or equivalent. This course focuses on the philosophical and theoretical issues of self-perception and relationships as they are affected by verbal and nonverbal interaction.

e-COMM 330. Organizational Communication. (3). This class is designed to investigate the nature of organizations and the dynamics of communication within those organizations. Special emphasis is placed upon strategies, practices and effects of organizational communication.

COMM 340. Radio Production. (3). (2 lecture, 2 laboratory). A series of courses designed to help the student acquire basic production vocabulary, working knowledge, and skills in radio. The course can be repeated in series for credit under different subtitles; for example; Introduction to Radio, Advanced Radio, etc.

COMM 341. Methods of Teaching in the Secondary School — Communication. (4). Prerequisite to student teaching. This course is taken in the department in which student teaching is done. It 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.

COMM 342. Television Production. (4). (2 lecture, 4 laboratory). Prerequisite, COMM 340 or consent of instructor. This course is designed to teach basic television vocabulary, procedure and production skills. In a laboratory setting, students apply their knowledge to the actual development and production of several short television programs.

COMM 345. Broadcast Advertising. (3). A course which emphasizes the development of the individual's skill in the preparation of broadcast advertising. Practical training for writing various types of commercials is offered in the course.

COMM 346. Radio Drama. (3). (1 lecture, 4 laboratory). Prerequisite, COMM 170, COMM 340 or consent of instructor. This course is designed to give media students an opportunity to write original scripts, adapt scripts from literature and to produce broadcast quality drama for radio.

COMM 348. Broadcast Management. (3). A course of study designed to acquaint students with usual procedures, responsibilities and problems encountered by management personnel of radio and television stations.

COMM 375. Oral Interpretation of Children's Literature. (3). (2 lecture, 2 laboratory). Prerequisite, COMM 170. A study of the theory and practice of oral interpretation of children's literature, especially poetry and prose. Choral reading and Readers Theatre for children will also be experienced.

COMM 380. Communication in Education Environments. (4). This course is designed to be both theoretical and pragmatic, attempting to provide prospective teachers with both the underlying rationale for the use of certain communication strategies and the practical, experiential utilization of those strategies. Research findings of the Speech Communication discipline will be applied to the instructional environment.

COMM 400. Theories of Group Process. (3). Prerequisite, COMM 302. A systematic overview of current theory and knowledge of discussion as derived and synthesized from significant empirical investigation.

COMM 420. General Semantics. (4). An interdisciplinary course designed to show the relationship among language, thought and behavior. The goals of the course will be to learn to think more clearly, to speak and write more effectively, and to listen and read with greater understanding. Emphasis is placed on innovative and effective teaching methods.

COMM 422. Individual Studies. (Maximum 4). 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 chairperson of the department. Application for COMM 422 *must* be submitted two weeks prior to pre-registration. Not for General Education credit.

COMM 423. Communication Practicum. (4). Prerequisite, consent of instructor. An individualized special activity emphasizing the application of particular communication skills.

The particular focus will be determined by the student and the supervising faculty member. Application for COMM 423 must be submitted two weeks prior to registration. Open to communication majors and minors only. S/U grading.

COMM 442. Advanced Television Production. (4). (2 lecture, 4 laboratory). Prerequisite, COMM 342. This course is directed toward the refinement of skills learned in the introductory class, plus development of new skills in more sophisticated areas of television production.

COMM 450. Speech Composition. (3). A study of what is involved in the writing of speeches. Speech models are used for study and analysis, and each student will prepare and deliver short extempore speeches.

COMM 452. Seminar in American Public Address. (3). This seminar is a study of the theory and practice of rhetorical criticism and the application of criticism to selected American speakers, speeches and movements.

COMM 455. Rhetoric of Feminism. (3). This course will focus on the rhetorical dimensions of feminism including persuasive genre, methods and strategy. The course will explore the nature and function of rhetoric in both historical and contemporary contexts.

COMM 460. Persuasion. (3). This course is a lecture-discussion seminar designed to investigate the major variables surrounding attitude change and human persuasion.

Variables to be considered will include such items as source credibility, message organization and personality traits of auditors.

e-COMM 486. Seminar in Directing Communication Activities. (3). A study of philosophy, principles, methods, and problems of directing debate, individual events and mass communication activities at the secondary school level.

COMM 490. Workshop in Communication. (3). (Maximum 9). The class will concentrate on the communication and behavioral strategies in one substantive area such as: Social Protest Groups, Foreign Policy, Environmental Issues, and Intercultural Relationships. The course may be repeated only under the different subtitles.

College Student Personnel Administration

CSPA 160. Career and Self Exploration. (3). This course is designed to acquaint students with the career development process and decision making skills through self exploration and occupational information.

CSPA 260. College Resident Assistant. (1). Consent of instructor. A comprehensive training experience designed to acquaint the Resident Assistant with his/her responsibilities. Emphasis placed on student development and its application to the residence hall environment.

Economics

ECON 100. Introductory Economics. (5). 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. Credit not allowed toward ECON major.

ECON 102. Contemporary Economic Problems. (3). Prerequisite, ECON 100. Some principles of economic analysis will be treated in greater depth than in the introductory course. Application will be made of these principles to current problems in our society. Credit not allowed toward ECON major.

f-ECON 110. Principles of Economics: Microeconomics. (4). An introduction to microeconomics for the business and economics major. Topics to be covered will include the supply-demand mechanism in the goods and resource markets, the consumer, the firms, competition in goods and service markets, income distribution and economic regulation.

f-ECON 120. Principles of Economics: Macroeconomics. (4). Introduction to macroeconomics and models of aggregate economic analysis. Course emphasis will be on income, expenditures, employment, inflation and growth. Topics for discussion will include Keynesian economics of income, money and banking, inflation and unemployment, international trade and finance, and forecasting.

f-ECON 145. Urban Economics. (3). Prerequisite, ECON 100. A study of the economic interrelationships of individuals, firms and government within urban area confines with attention given to analysis of various urban markets, socio-economic problems, government policy, and economic growth.

ECON 200. The Price System. (4). Prerequisite, ECON 100 or equivalent. An introduction to the theory of the firm as it relates to the prices of goods and services in the context of resource allocation.

ECON 202. Money and Banking. (5). Prerequisite, ECON 100. A study of the origins and present roles of our monetary system, commercial banking and Federal Reserve System.

f-ECON 205. Labor Economics. (3). Prerequisite, ECON 100. This course will first examine the labor market, wages, and employment, and will then give major attention to collective bargaining goals, conflicts, and to current public policy and labor legislation.

ECON 241. Public Finance. (5). 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 solution of public debt.

ECON 242. State and Local Finance. (3). 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. (3). A survey of socio-economic reform movements, including Utopian schemes, mercantilism, monopolistic capitalism, socialism, communism, fascism and modified capitalism.

f-ECON 260. Radical Economics. (3). Prerequisite, ECON 100. An exploration of economic concepts that have tended to threaten the status quo of established economic thought and theory.

ECON 304. Women and the Economy. (3). An exploration of the economic status of women and the institutions that have affected her economic decisions.

ECON 305. Labor-Management Relations. (3). A study into the origins of the labor movement and an examination of the impact of trade unionism on contemporary industrial organization.

ECON 306. Economics of Poverty and Discrimination. (3). Prerequisite, ECON 102 or consent of the instructor. ECON 305 recommended. The objective of the course is to analyze the actual and alleged conditions which give rise to poverty and/or discrimination. Theoretical models will be supplemented with empirical data for a more realistic exploration of the poverty-discrimination phenomena.

f-ECON 315. World Food Economics. (3). Prerequisite, ECON 100. Major emphasis will be placed first on the functioning of the agricultural sector of the American economy, and then attention given to world food production, demand, and trade.

ECON 320. Russia's Soviet Economy. (3). A synthesis of available knowledge regarding all major sectors of the Soviet economy, particularly as regards their organization and operation.

ECON 330. Economics of Crime and Punishment. (3). Prerequisite, ECON 100. This course will consider the economic causes and consequences of crime and punishment in this country during the 20th century by considering models dealing with the causes and effects of crime and punishment.

f-ECON 332. Planning Economics. (3). Prerequisite, ECON 100. The purpose will be to examine underlying economic factors that influence economic growth — changes in spatial distribution of per capita income and locational shifts in American industry. Employing appropriate economic models, the student will study these factors as they apply to urban and regional economic growth problems.

ECON 334. Land Resource Economics. (3). Prerequisite, ECON 100. A study of the physical and biological factors determining supply and demand for land resources; economic principles affecting human's use of land resources; impact of institutional factors on land use and upon the manner in which people hold and enjoy rights in real property.

f-ECON 350. Income and Employment Analysis. (4). Prerequisite, ECON 100. The essential theoretical tools used in macroeconomic analysis at the undergraduate level are considered. These

topics include the multiplier, consumption, investment, supply and demand for money, and the ISLM model.

f-ECON 359. International Economics. (5). Prerequisite, ECON 100 or 110. The "open economy" is discussed and its environment is analyzed with various economic models.

The impact and origin of trade flows are traced and evaluated in the context of economic welfare. International Finance, dealing with the monetary side of an open economy, forms the final part of the course.

ECON 360. Economics of Growth and Development. (3). Prerequisites, ECON 100, 200, or consent of instructor. An analysis of the theory, processes, and history of economic growth and development, with attention given to resource use and productivity increases in less developed areas.

f-ECON 377. Government and Business. (3). 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. (3). 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 400. Managerial Economics. (3). Prerequisites, ECON 100, 200. Primarily an introduction to the economics of decision making as it affects the manager. Special attention will be given to certain "optimization-techniques," cost and demand analysis. Capital budgeting will also be discussed.

ECON 401. The Economics of Health and Health Care. (3). A rigorous introduction to the demand for and production of health and health care. Topics to be covered will include the various outputs and inputs of the industry, physician pricing, hospital administration and health maintenance organizations.

ECON 402. Welfare Economics. (3). Prerequisites, ECON 100, 200. This course will include the history of welfare theory from the start of the marginal conditions school to the present-day theories of welfare maximization. Attention will be given to the effects of monopoly power, inflation, compensation debate, and the theory of the second best.

ECON 403. Natural Resource Economics. (3). Prerequisite, ECON 100. Considers the relationship of population to land or natural resources. Land utilization takes place within a physical; institutional, economic framework.

ECON 451. Introduction to Quantitative Economics. (3). Prerequisites, ECON 100, 200, or 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 453. Engineering Management and Economic Analysis. (3). Prerequisite, ECON 100. An introduction to the techniques used for project evaluation and cost optimization. Special emphasis will be given to multiple project alternatives, annual cash flow,

present-worth values, benefit-cost analysis, replacement vs. repair analysis.

ECON 460. Economic Colonialism and Imperialism. (3). 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. (3). 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. (3). 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.

Curriculum and Instruction

EDCI 101. Orientation to Education. (2). Designed to familiarize students with teaching at several educational levels, pre-schools, elementary schools, middle and junior high schools, high schools, and schools of higher education.

EDCI 102. Orientation to Middle Schools. (2). Introduction to the history, philosophy and current curriculum of middle schools. Emphasizes the organizational plans of the middle schools, skills required of the teachers, nature of the curriculum and the problems of articulation with other schools in a system.

EDCI 422. Individual Studies. (1-4). 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 chairperson of the department.

EDCI 551. Problems in Teaching Minority Groups. (3). An in-depth study of minority groups — with special emphasis on the psychological educational and social needs of the Mexican American school child of the Southwest. Acquaint educators with teaching methods and techniques that seem to work with minority children.

Early Childhood Education

EDEC 308. Early Childhood Workshop. (1-15). An opportunity to study problems in early childhood education. The area to be covered in any one workshop will be determined by the workshop subtitle. No subtitle may be repeated for credit. S-U final mark.

EDEC 422. Individual Studies. (1-4). Qualified undergraduate students outline and spend a minimum of 25 clock hours per

quarter hour on a problem. A copy of a well-written paper must be filed with the instructor before credit is given. Not for General Education credit.

EDEC 460. Nursery — Kindergarten Education. (PTE) (3). This course is designed to acquaint the student with theories and practices for the education of nursery-kindergarten aged children with an emphasis on curriculum, organization, and scheduling.

EDEC 462. Classroom Management in Early Childhood. (3). This course is concerned with problems involved in working with young children, paraprofessionals, and parents. *Enrollment limited to juniors and seniors only.*

EDEC 463. Diagnostic Teaching in Early Childhood. (3). This course is concerned with tools appropriate for measuring a young child's progress in learning and with techniques of individualizing instruction.

Enrollment limited to juniors and seniors only.
EDEC 464. Introduction to Early Childhood Education. (3). This course is designed to identify sound educational practices which are predicated upon basic principles of child growth and development. Base learnings in child growth and development are translated into implications for teaching, classroom management, curriculum organization, and a positive learning environment. *Enrollment limited to juniors and seniors only.*

EDEC 467. Compensatory Programs in Early Childhood. (3). This course examines the origin, purpose, and nature of selected model programs designed for compensatory early childhood education. Focus is placed upon the sociological and cultural elements which influence the design of programs for educationally disadvantaged children.

Enrollment limited to juniors and seniors only.

Elementary Education

EDEL 101. Introduction to Bilingualism/Multiculturalism Education. (2). This course is designed to assist the student to understand the theoretical concept of bilingualism/multiculturalism and to aid the prospective teacher and others to become aware of the educational problems language minority groups possess. Course will synthesize the student to the multicultural educational process.

EDEL 308. Elementary Education Workshop. (1-15). An opportunity to study problems in elementary education. The area to be covered in any one workshop will be determined by the workshop subtitle. No subtitle may be repeated for credit. S-U final mark.

EDEL 312. Introduction to Elementary School Curriculum. (3). A course to introduce and instruct prospective teachers in elementary school curriculum. Emphasis will be on open classroom, team teaching, continuous progress, self-contained classroom, education change as it affects the curriculum, classroom management, multicultural education, and relationship of the various subject areas to each other and to accomplishing goals of education.

EDEL 320. Improvement of Instruction in Mathematics in the Elementary School. (PTE) (4). A comprehensive analysis of the meaning theory and its application to developmental methods of instruction, the sequencing of instruction to accommodate the wide range of educational needs and abilities found in typical classrooms, consideration of various resources and physical materials, and means of diagnosing and evaluating daily learning.

EDEL 330. Teaching Handwriting and Spelling in the Elementary School. (PTE) (2). 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) (4). An examination of the nature, functions, and acquisition of language which serves as the basis for developing an adequate program of instruction in English. Methods, materials, selection of content, diagnosis, and evaluation are considered. Provision will be made for the wide range of elementary students' abilities and problems.

EDEL 350. Improvement of Instruction in Social Studies in the Elementary School. (PTE) (4). A detailed treatment of the essentials of modern day social studies including attention to learning and the child, curricular concerns, program planning and organization, functional instructional practices, and useful materials and resources together with major attention to the social studies for children with special needs in a pluralistic society.

EDEL 422. Individual Studies. (1-4). Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. A copy of a well-written paper must be filed with the instructor before credit is given. Not for General Education credit.

EDEL 471. Curriculum I for the Bilingual Multicultural Elementary Classroom. (PTE) (3). Prerequisites, EDRD 310, EDEL 320, EDEL 350, SCED 470, and consent of instructor. This course expands on the concepts of bilingual education. It provides an opportunity to explore the various types of bilingual education programs and their components. Emphasis will be on understanding the linguistically and culturally different child.

EDEL 472. Curriculum II for the Bilingual Multicultural Elementary Classroom. (PTE) (3). Prerequisites, EDRD 310, EDEL 320, EDEL 350, SCED 470, and consent of instructor. This course provides the student with knowledge of curriculum content in the bilingual multicultural elementary classroom. Emphasis will be on understanding methodologies, techniques, evaluation procedures, and selection of appropriate materials to be used in the elementary school with children of culturally different backgrounds.

EDEL 474. Teaching in a Second Language in the Elementary Bilingual and Bicultural School. (PTE) (3). Prerequisite, MAS 300 or

permission of instructor. This course is designed to prepare the elementary bilingual and bicultural teacher to teach Spanish as a second language or English as a second language. Special consideration is given to methods in instruction, selection of materials, and student evaluation.

Educational Media

e-EDM 195. Library Resources, Organization and Usage. (3). A practical study emphasizing the efficient use of library resources in academic work and in current and on-going personal educational experiences. Library organization and services and a basic approach to the planning and methodology of research are covered.

EDM 410. Introduction to Educational Media. (PTE) (2). Education, like the society it reflects, is increasingly dependent on non-print media. A brief background in communication and learning theory is provided. The major emphasis is on helping pre-service teachers select, obtain and use non-print materials appropriately. Operation of the necessary equipment is included.

EDM 420. Design and Construction of Graphic Materials. (3). 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 for slides and other reproduction.

EDM 422. Individual Studies. (Maximum 4). Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. One copy of a well-written paper must be filed with instructor before credit is given. Not for General Education credit.

e-EDM 430. Problems of Organizing Classroom and Library Materials. (3). A basic knowledge of the philosophy, terminology and practices used in the preparation, storage and retrieval of materials is important to Media Center personnel. This information is also valuable to classroom teachers, particularly those who are using many file cabinet-type materials to individualize instruction.

EDM 434. Reference Materials: Basic School Reference Service. (3). A discussion of suitable reference materials for elementary and secondary school resource centers. Covers selection principles and use of reference materials.

Foundations of Education

EDF 308. Workshop in Foundations of Education. (1-6). An opportunity for undergraduate students to study problems in foundations of education. The area to be covered in any one workshop will be determined by the workshop subtitle. No subtitle may be repeated for credit.

i-EDF 345. Foundations of Human Interaction. (3). A course designed to help

students become more effective in understanding why people behave the way they do; to understand the basic assumptions, beliefs, attitudes, and values upon which such behavior is predicated; and to increase skills in communicating with and relating to others.

EDF 360. Community Awareness Experience. (3). This course is designed to introduce students to the dynamics and culture of urban and rural communities. Emphasis on student's ability to identify and make use of community resources, both personally and professionally.

EDF 366. Foundations of Education. (PTE) (4). Designed to examine the historical and current social, psychological and pedagogical awarenesses pertinent to the teaching/learning processes for education in a democratic society. Teaching for multi-cultural/multi-ethnic needs is stressed and emphasis is placed on the nature and growth of an effective teaching self.

EDF 367. Philosophy of Education. (PTE) (3). The course is predicated on the notion that a teacher's methodology is based on the basic assumptions held by that person about knowledge, truth, and values. Emphasis is on "doing" philosophy as it engages the educator and student with a consideration given to schools of thought and philosophic positions. Application is made to specific problems of education.

EDF 370. Foundations of Experiential Education. (3). This course is designed primarily to promote an awareness, an appreciation, and an understanding of experiential education. The emphasis of the course will be an examination and analysis of assumptions about learning as it pertains to the teaching/learning process, with particular focus on the structuring of learning environments to facilitate experiences that are personal and individual, and maximize the benefits derived by the learner.

EDF 380. Women in Education. (3). A course designed to increase awareness and understandings relative to the role and status of women involved in all areas of American Education. Emphasis will be on how women educators "see" themselves, how they are perceived by others, and how are such perceptions related to the materials, methods and purposes of schooling.

EDF 385. Law and the Classroom Teacher. (3). This course will focus on the legal rights, roles, responsibilities, and liabilities of classroom teachers; with particular emphasis on the legal responsibilities of teachers to students, administrators, school boards, and the public.

EDF 390. Advanced Topics in Foundations of Education. (1-4). An opportunity for advanced study of topics in Foundations of Education. These topics may derive from a need generated by other courses in Foundations of Education or from the need of a particular group of students. The area to be covered in any one course will be determined by the course subtitle. No subtitle may be repeated for credit.

EDF 422. Individual Studies. (1-4). Qualified 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 chairperson of the department.

EDF 445. Comparative Studies in International Education. (12 or 15). 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. (3). This course is designed to help students understand and appreciate the development of American Education; of the school as an institution; and of pedagogy as a science. The course will focus on the concepts of human nature and community, on the assumption that the way men and women define themselves and their ideal society has had important implications for educational thought as well as practice.

Educational Field Experiences

EDFE 270. Teacher Aide. (1-4). Prerequisite consent of instructor. Practical experience for those who definitely plan to become teachers. Student may request any public or private school (pre-school through grade 12). Recommended for credit, every quarter as well as summer, early September, December and spring breaks. (Summer registrants not limited to public or private schools.) Must be registered for 270 when aiding to receive credit. Placement application required each quarter. S-U final mark.

EDLS 360. Clinical Experience: Primary. (PTE) (2). Prerequisite consent of instructor. Designed for Early Childhood/Elementary Education majors who need work with K - 3 students. Continuous interaction with children provided. Four hours per week in the classroom plus weekly seminars on Thursday at 3:35 p.m. All students will be video-taped.

EDLS 361. Clinical Experience: Intermediate. (PTE) (2). Prerequisite consent of instructor. Designed for the Elementary Education major. Student is assigned to a fourth, fifth, or sixth grade class. Continuous student and curricular interaction provided. Four hours per week in the classroom plus weekly seminars on Tuesday at 3:15 p.m. All students will be video-taped.

EDLS 362. Clinical Experience: Middle School. (PTE) (2). Prerequisite consent of instructor. Student is assigned to a specific subject matter, class, and supervisor. Designed for Middle School, Secondary, and/or Elementary majors who desire to work with sixth to eighth grade students. Five classes per week plus a weekly arranged seminar with the supervisory teacher. All students will be video-taped.

EDLS 363. Clinical Experience: Secondary. (PTE) (2). Prerequisite consent of instructor. Taken concurrently with special methods. Students are assigned to a class in their

subject matter area. Students are continuously involved in planned classroom activities that call for application of basic skills/practices of teaching. Five classroom days per week, one-two hours of seminar plus preparation time. All students will be video-taped.

EDFE 401. Practicum. (1-4). Open only by invitation to resident undergraduate students. Supervised professional activity in the student's major field. Two copies of a well-written paper must be filed before credit is given, one with the instructor and one with the chairperson of the department. S-U final mark.

EDFE 422. Individual Studies. (1-4). 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 chairperson of the department.

EDFE 444. Supervised Teaching (PTE) (1-18). Meets the student teaching requirement for teacher certification. Supervision provided by a college consultant and a certified teacher whose endorsement is consistent with that of the student teacher. The experience includes the significant and continuous involvement of the cooperating teacher in the evaluation of the student teacher. S-U final mark.

EDFE 445. Advanced Supervised Teaching (PTE) (1-18). Prerequisite EDFE 444. Available to students who have completed the minimal supervised teaching requirement for certification but who need or wish to improve their teaching techniques with an additional field experience. May be repeated; is taken only with permission of the instructor. S-U final mark.

Reading Courses

e-EDRD 103. Introduction to Reading. (3). This course will focus primarily on developmental reading skills. Areas covered are textbook study techniques, lecture note taking, exam preparation, comprehension improvement, critical reading, and library use.

e-EDRD 130. College Reading Study Skills. (2). A course designed to enable college students to develop proficiency in the reading 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.

e-EDRD 131. Speed Reading. (2). 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. S-U final mark.

EDRD 308. Reading Workshop. (1-15). The subtitle will indicate whether the workshop is for elementary or secondary teachers. Topics related to remedial reading (diagnosis, causation, and remediation), word perception, study skills, reading in the content fields, and trends and issues will be treated in various workshops. No subtitle may be repeated for credit. S-U final mark.

EDRD 310. Improvement of Instruction in Reading in the Elementary School. (PTE) (4). Detailed consideration of content, methods, materials, and evaluation used in kindergarten through sixth grade. Specific attention to meeting the wide range of educational needs and abilities of "normal" and exceptional children.

EDRD 314. Improvement of Instruction in Literature in the Elementary School. (PTE) (3). Consideration of interests and abilities governing the choice of literature appropriate for kindergarten through sixth grade, including the survey of this literature. Chief emphasis on modern selections. Emphasis on the use of literature in individualizing reading instruction and use in content fields.

EDRD 411. Approaches to Reading Instruction. (PTE) (3). Prerequisite, EDRD 310 and EDFE 444 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. (3). Required of undergraduates preparing to be secondary 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.(1-4). Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. A copy of a well-written paper must be filed with the instructor before credit is given. Not for General Education credit.

Special Education and Rehabilitation

EDSE 100. Education of Exceptional Children. (3). 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.

e-EDSE 160. Introduction to Speech/Language Disorders. (3). A survey of identifying characteristics, causes, diagnosis and treatment of common speech and language disorders.

EDSE 201. Undergraduate Practicum. (1-4). Open only to Sophomore majors in the School of Special Education and Rehabilitation. Supervised professional activity in the student's major field, approximately one hour of credit granted for every twenty hours of practicum. Two copies of a well-written paper must be filed with the instructor before credit is given.

d-EDSE 250. The Structure of Language. (3). A syntactical and morphological approach to language as it applies to the child. Stress

will be placed on the understanding of the structure of the English language, as well as an understanding of how language is learned.

EDSE 260. Introduction to Phonetics. (3). The formation and characteristics of American English speech sounds and the phonetic symbols used to represent these sounds. Applicable for students in communication, reading, linguistics, as well as other majors.

EDSE 264. Introduction to Clinical Practicum I. (2). Prerequisite, EDSE 160. An introduction to the Speech/Language Pathology Clinic in terms of principles, procedures and forms. Clinical observations and participation arranged.

e-EDSE 265. Acoustics of Speech. (3). Prerequisite, MATH 117, or equivalent. The physics of sound as it relates to speech and hearing.

d-EDSE 266. Speech and Language Development. (3). Normal language and speech development and their relationship to other aspects of child development. Appropriate for persons dealing with young children.

EDSE 267. Anatomy and Physiology of Speech and Hearing. (5). The speech and hearing mechanism in terms of structure and physiology.

e-EDSE 270. The Structure and Pathology of the Auditory and Vestibular Systems. (3). Concentrated study of the structure, physiology and pathology of the auditory/vestibular mechanism.

EDSE 274. Clinical Observation in Audiology. (1-6). Overview by observation of the field of audiology. S-U final mark.

EDSE 290. Orientation to Rehabilitation and Related Services. (3). 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 301. Undergraduate Practicum. (1-4). Open only to Junior majors in the school of Special Education and Rehabilitation. Supervised professional activity in the student's major field, approximately one hour of credit granted for every twenty hours of practicum. Two copies of a well-written paper must be filed with the instructor before credit is given.

EDSE 302. Counseling Parents of Exceptional Children. (3). This course is designed to present the techniques for working with parents of special education, general education, nursing, counseling and other related personnel.

EDSE 303. Behavioral Objectives and Educational Programming for Exceptional Children. (1). Complete self-instructional learning module requiring no class attendance except scheduled testing period. Competency assessed through a series of criterion measures. Content focuses on writing, classifying and evaluating goals and learning objectives and the relationship to educational programming.

EDSE 304. Introduction to Measurement of the Handicapped. (3). 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/language impaired, and interpretation of test results in light of the various handicaps.

EDSE 305. Education Prescription and Programming for Exceptional Children. (4). Prerequisites, EDSE 304, EDRD 310.

Techniques of educational evaluation and program planning which can be used by classroom teachers for the individualization of instruction.

EDSE 306. Identification of Learning Disabilities in Early Childhood. (3). Course designed to introduce the student to the learning disabilities of early childhood which are highly resistant to modification by conventional remedial techniques.

EDSE 308. Workshop in Special Education. (1-4). A workshop for beginning teachers and clinicians. Topics will be introduced such as: observation techniques, programming for the handicapped, community relations, child development as related to exceptional children, evaluation of children for placement. Materials prescribed by specific workshop as offered.

EDSE 309. Introduction to Special Education Student Teaching. (PTE) (2). Prerequisite, EDSE 100. 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. S-U final mark.

EDSE 310. Introduction to Mental Retardation. (4). 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 311. Education of the Trainable Mentally Retarded. (4). Prerequisite, EDSE 310. Organization of special class and school programs for trainable mentally retarded children. Diagnosis and classification, development of teaching materials and techniques. Community organizations and parent education.

EDSE 312. Seminar: Teaching the TMR. (2). Prerequisites, EDSE 100, 310, 311. A course designed to provide the student with opportunities to participate in educational programs of the TMR before his or her actual student teaching experience and to relate these field experiences with in-class presentations of materials through a weekly one hour seminar.

EDSE 313. College for Living Lab. (1-4). A laboratory course for students in selected Special Education courses. In this laboratory, they will be working with retarded young adults, teaching social interaction skills and

the development of a sense of independence. Also, the lab participants will be creating curriculum materials in the area of reading, writing and arithmetic based upon the needs of the individual students.

EDSE 320. Introduction to the Education of Socially and Emotionally Disturbed Children. (3). 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.

e-EDSE 326. Introduction to Teaching Learning Disabled Children. (3). Overview of the field of learning disabilities including concepts, practices, and trends.

EDSE 330. Care and Pathology of the Physically Handicapped. (3). Prerequisite, EDSE 100 or 602. A course designed for teachers in special education. Medical and educational problems in the areas of the crippled (cerebral palsy, muscular dystrophy, etc.) and other health impaired (diabetes, epileptic, etc.) will be discussed.

EDSE 331. Problems of Teaching the Physically Handicapped. (3). Methods, techniques and teaching procedures with the various types of physically handicapped children; study of programs and materials; curriculum planning with adaptations and aids used in the education of the physically handicapped child.

e-EDSE 350. Introduction to the Hearing Impaired. (3). History and philosophy of education of the deaf. Problems in organization, support and maintenance of programs for deaf and hard of hearing children. Presentation of types of instruction appropriate for the hearing impaired.

EDSE 356. Introduction to Manual Communication Skills. (3). A course for teachers and prospective teachers to begin developing basic skills in total communication through use of signs and fingerspelling. Cued speech, oralism, auralism and interpreting will also be studied.

EDSE 357. Introduction to Hearing Aids and Amplification Systems. (3). Prerequisite, EDSE 370. A basic study of the effective use of amplification systems for acoustically handicapped individuals, including component parts, electroacoustic measurements, evaluation, orientation and counseling.

EDSE 358. Auditory Training and Speechreading. (4). Prerequisite, EDSE 357, 370. The development of reception of language through the auditory and visual channels. Emphasis is placed on methods of developing auditory discrimination and speechreading skills in hearing impaired children.

EDSE 360. Articulation Disorders I. (3). Prerequisite, EDSE 160, 260. Causation, diagnosis and treatment of articulatory disorders.

EDSE 361. Voice Disorders I. (3). Prerequisite, EDSE 160, 267. Causation, diagnosis and treatment of voice disorders.

EDSE 363. Introduction to Organic Disorders. (3). Prerequisite, EDSE 369. Causation, diagnosis and treatment for the

speech/language disorders associated with cleft palate, cerebral palsy and aphasia.

EDSE 364. Introduction to Clinical Practicum II. (1-4). (Customarily 2 hours earned for each of 2 consecutive quarters.) Prerequisite, EDSE 264. A more extensive view of the Speech/Language Pathology Clinic in terms of professional involvement related to clinical principles, procedures and forms. Clinical observation and participation will be arranged.

EDSE 365. Language Disorders in Children I. (3). Prerequisite, EDSE 266. Causation and treatment of various types of language problems in children. Also, an introduction to procedures of language sampling used in evaluation.

EDSE 367. Research Writing in Communication Disorders. (1-3). (Customarily 1 hour earned for each of 3 quarters.) Research writing related to speech/language disorders. Research papers will be critiqued for writing style, format and content. To satisfy the general education requirement for intermediate composition, all three hours must be taken.

EDSE 369. Neurological Bases for Speech, Language and Hearing. (5). Prerequisite, EDSE 267. Functional neurology and neuroanatomy of the central nervous system as related to communication disorders.

EDSE 370. Introduction to Audiology. (3). Prerequisites, EDSE 265, EDSE 270 or equivalent. Introduction to area of audiology, including pure-tone testing procedures, methods of speech audiometry, interpretation of results in terms of physical, social, and educational handicap. No student will be allowed to take this course unless prerequisites have been met.

EDSE 371. Introduction to Aural (Re)habilitation. (3). Prerequisite, EDSE 357. This course establishes the basis for upper-level course work in the habilitation or rehabilitation of the hearing impaired child, adult and geriatric. Emphasis is placed on the establishment of basic knowledge on a broad range of topics including terminology related to hearing, the impact of hearing impairment and general information on therapy procedures and hearing aids.

EDSE 372. Advanced Audiology. (5). Prerequisite, EDSE 370. Theory and practice of advanced audiometric assessment techniques.

EDSE 374. Advanced Observation in Audiology. (2-12). Maximum 12, at 2 hours each quarter. Prerequisite, EDSE 274 and 370. Concentrated guided observation of diagnosis and aural (re)habilitation in the Audiology Clinic. S-U final mark.

EDSE 380. Introduction to the Education of the Gifted and Talented Student. (3). An introductory class which would give the beginning teacher an understanding of the talented and gifted child. Emphasis would be placed on the characteristics and needs of the gifted and strategies and materials which benefit gifted children.

EDSE 390. Introduction to Social and Rehabilitation Services. (3). Prerequisite, EDSE 290. 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. An understanding of the objectives and the organizational basis of rehabilitation programs is provided.

EDSE 391. Seminar: Problems in Social and Rehabilitation Services. (3). 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 is considered.

EDSE 394. Practicum in Social and Rehabilitation Services. (2-8). 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. Open to juniors and seniors only. One copy of a well-written paper and an agency supervisor's evaluation must be filed with the instructor before credit is given. S-U final mark.

EDSE 401. Undergraduate Practicum. (1-4). Open only to Senior majors in the School of Special Education and Rehabilitation. Supervised professional activity in the student's major field, approximately one hour of credit granted for every twenty hours of practicum. Two copies of a well-written paper must be filed with the instructor before credit is given.

EDSE 404. The Resource Program Teacher. (3). This course provides undergraduates with an orientation to the various types of resource programs, and personnel, designed to serve handicapped children.

EDSE 405. Handicapped Students in Regular Classrooms. (3). Introductory course to acquaint non-special education majors with an overview of handicapping conditions, role of special and general educators, identification and assessment procedures, and delivery systems used in serving the handicapped student. This course should be taken prior to EDSE 406 or 407 and is limited to non-special education majors.

EDSE 406. Working with Handicapped Students in the Elementary School. (2). Prerequisite, EDSE 405. This course will overview specific methods and techniques to be used in working with handicapped students in regular elementary schools.

EDSE 407. Working with Handicapped Students in the Secondary School. (2). Prerequisite, EDSE 405. This course will overview specific methods and techniques to be used in working with handicapped students in regular secondary schools.

EDSE 411. Vocational Preparation of the Mentally Retarded. (3). Prerequisites, EDSE 100 or 602. Emphasis will be on discussing techniques in the following areas: 1) evaluating vocational fitness, 2) job placement, 3) working with related disciplines, 4) understanding of the implication of vocational experiences on curriculum, 5) on-the-job supervision, and 6) follow-up services.

EDSE 412. Curriculum Development and Methodology for Mentally Retarded: Elementary Level. (4). Prerequisites, EDSE 100 or 602, 310 and EDRD 310. This course will have as its main purpose the development of integrated experience-units for elementary level mentally retarded youngsters.

EDSE 414. Problems in Teaching Trainable Mentally Retarded Children. (4). Prerequisites, EDSE 310 and EDSE 311. Technique of developing curriculum, strategies for teaching the trainable mentally retarded child from onset of the school program to the vocational level.

EDSE 415. Vocational Training for TMRs (4). Prerequisites, EDSE 310, 311, 414 or permission from instructor. Course is designed to acquaint the student with pre-vocational and vocational programs for the trainable mentally retarded in terms of assessment, skill training, job placement, and community living.

EDSE 416. Education of the Severely/Profoundly Retarded. (4). In-depth study of physical management of severe/profound retardation. Emphasis is on medical aspects, assessments, instructional models, interdisciplinary concept, curriculum content, and teaching strategies.

EDSE 417. Curriculum Development and Methodology for the Mentally Retarded: Secondary Level. (4). Prerequisites, EDSE 100 or 602, EDRD 310. Emphasis is placed on content, methods and materials appropriate for teaching junior and senior high school classes for mentally retarded youngsters.

EDSE 418. Clinical Experiences with the Severe/Profound Mentally Retarded. (1-18). Provide clinical programming experience in an institutional or community center setting with severe/profound retarded individuals.

EDSE 421. Introduction to Classroom Management. (2). To introduce undergraduate and graduate students to terminology and learning principles in the field of behavior modification applied to the classroom setting.

EDSE 422. Individual Studies.(1-4). 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 chairperson of the department. Not for General Education credit.

e-EDSE 440. Survey of Education of Visually Handicapped. (3). Educational, social, emotional implications of visual impairment. Overview of history and current practices in educational and rehabilitational planning. Organization and scope of various educational services — early childhood through college. Review of public and private agencies, their philosophies and programs. Legislative measures.

EDSE 441. Listening Skills for Learning. (3). To promote effective listening in and out of the classroom, the course explores theoretical foundations, sequential development, commercially produced and teacher prepared materials, and special techniques. Practice labs are provided.

e-EDSE 442. Rehabilitation of the Visually Handicapped. (3). To learn how rehabilitation of visually handicapped persons is accomplished through counseling, evaluation, higher education, providing coping skills, preparing for employment and living independently even if not employed (elderly blind). To learn about eye conditions and their implications for employment. To remove stereotype ideas.

EDSE 443. Teaching Daily Living for the Visually Handicapped. (2). Study and use of adapted materials and techniques for teaching to the visually handicapped such skills as grooming, eating, cleaning, cooking, sewing and simple home repairs. Additional one hour lab required.

EDSE 450. Speech Development for the Hearing Impaired I: Theory. (3). Prerequisites, EDSE 250, 350, 357 and 358, or permission of instructor. PTE. To develop the competencies necessary to describe the process of speech for the hearing impaired individual and its relationship to language, to evaluate the speech functioning of the hearing impaired individual and to provide a foundation for methods of teaching speech to the hearing impaired.

EDSE 451. Speech Development for the Hearing Impaired II: Methods. (3). Prerequisites, EDSE 250, 350, 357 and 358, or permission of instructor. PTE. To develop competencies necessary to teach speech to the hearing impaired; to select methods, materials and techniques appropriate to individual needs; and to develop a speech program for the hearing impaired.

EDSE 452. Language Development for the Hearing Impaired I: Theory. (3). Prerequisites, EDSE 250, 350, 357 and 358, or permission of instructor. PTE. To develop the competencies necessary to determine the language problems of the hearing impaired, to evaluate the receptive and expressive language functioning of the hearing impaired and provide a foundation for methods of teaching language to the hearing impaired.

EDSE 453. Curriculum and Content for the Hearing Impaired. (4). Prerequisites, EDEM 410, EDSE 250. PTE. An understanding of the purpose and nature of curriculum and how to plan, implement, and evaluate learning experiences for hearing impaired children, including the ability to design methods of evaluation based upon measurable objectives, select, design, and produce media materials and resources.

EDSE 455. Methods of Teaching Reading to the Hearing Impaired. (3). Prerequisites, EDSE 350, EDRD 310, or 420, EDRD 411. PTE. Relationships between expressive and receptive communication skills will be premises. Development of 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 456. Manual Communication Skills: Signed English. (3). To increase students level of signing proficiency beyond the instructional level of comprehension. Receptive skills as well as experience will be

emphasized. Advanced interpreting principles will be included.

EDSE 457. Curriculum: Language and Speech for the Hearing Impaired. (3).

Course designed to provide audiology and speech/language majors an understanding and application of the teaching techniques used by teachers of the hearing impaired. Specific language and speech methods used for remediating the deficits experienced by hearing impaired children.

EDSE 458. Language Development for the Hearing Impaired II: Methods. (3).

Prerequisites, EDSE 250, 350, 357 and 358, or permission of instructor. PTE. To develop the competencies necessary to teach language to the hearing impaired preschool through secondary levels; to select methods, materials and techniques appropriate for each level; and to develop a comprehensive language program for the hearing impaired.

EDSE 459. Undergraduate Seminar in Education of the Hearing Impaired. (3).

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 462. Stuttering I. (3).

Prerequisite EDSE 160. Causation, diagnosis and treatment of stuttering.

EDSE 464. Clinical Practicum in Speech/Language Pathology. (2-10, with 2 hours customarily earned per quarter).

Prerequisite, EDSE 364. Students learn general principles relevant to the entire clinical process as well as develop skills in evaluating therapy. Students with a minimum GPA of 3.00 and the consent of the clinical coordinator will have the opportunity to provide supervised therapy to communicably impaired clients. Each student clinician is responsible for all information in the latest revision of the Clinic Handbook.

EDSE 466. Neuropathologies Related to Communications Disorders. (3).

Common causes of brain damage, associated problems, sites of lesion related to symptoms, signs of damage and the role of specialists concerned with brain damaged individuals having speech or language disorders.

EDSE 467. Diagnosis in Speech/Language Pathology. (3).

Prerequisite EDSE 360, and EDSE 365, or consent of instructor. Clinical diagnosis and evaluation of persons with speech and language disorders.

EDSE 469. Introductory Laboratory in Diagnostics. (2).

To be taken concurrently with EDSE 467. Students given introductory laboratory experiences with diagnostic evaluation procedures for communicably impaired people.

e-EDSE 470. Introduction to Communication Disorders of the Aging. (3).

Course designed for non-majors. An introduction to disorders of communication which affect aging persons, their psycho/social and communicative impact, how the disorders are assessed, how they are treated, suggestions for recognizing those disorders and procedures for dealing efficiently with persons who possess them

within the health care facility and in the community.

EDSE 471. School Audiology. (3). Course designed to provide an understanding of the implications of the incidence and classification of the hearing impaired in the schools, the educational and speech/language symptomatology, alternative assessment procedures and their administration, inservice techniques, the total management of the hearing impaired in the schools, due process for hearing impaired children, their parents, and the schools.

EDSE 474. Clinical Practices in Audiology. (2-10, Maximum 10, 2 hours each quarter).

Prerequisite EDSE 372 or appropriate background essential. Performance of supervised assessment with infants, children, adults and the elderly.

EDSE 475. Practicum in Rehabilitative Audiology: Pediatric. (2-10, Maximum 10, 2 hours each quarter).

Prerequisite, appropriate background is essential. Observation and performance of supervised therapy in the rehabilitation of acoustically handicapped children.

EDSE 476. Practicum in Rehabilitative Audiology: Adult and Geriatric. (2-10, Maximum 10, 2 hours each quarter).

Prerequisite, appropriate background is essential. Observation and performance of supervised therapy in the rehabilitation of acoustically handicapped adults and aging clients.

EDSE 491. Interviewing Techniques in Social and Rehabilitation Services. (3).

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 492. Casework Techniques in the Social and Rehabilitation Services. (3).

Prerequisite, EDSE 491. 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.

EDSE 493. Juvenile and Adult Offender Rehabilitation. (3).

This course is designed to provide students with an orientation to the general field of corrections and correctional rehabilitation. Emphasis is on the correctional systems of justice from the point of arrest throughout, with discussion of alternative possibilities. Innovative programs and points of rehabilitation intervention are explored.

EDSE 494. Supervised Field Practice in Social and Rehabilitation Services. (8-15).

Prerequisite, core courses must be completed. 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 students can become totally involved in providing services to persons seeking help from various agencies. Written application must be submitted to Department of Social and Rehabilitation Services at least one quarter prior to quarter of field experiences. S-U final mark.

English Education

EED 205. Oral English for the Teacher. (4).

This course is designed to help prospective teachers interpret poetry, fiction, and drama orally and promote group discussion and interpersonal communication in order to increase their students' comprehension; it also seeks to improve the prospective teachers' command of spoken English.

EED 341. Methods and Materials for Teaching Language and Composition in the Secondary School. (PTE) (4).

Prerequisite to student teaching. Methods and materials for teaching language and composition in the secondary schools. Includes curriculum and classroom organization, evaluation, procedures and materials, relationship of language and composition to the total secondary program. Teaching techniques are a point of emphasis.

EED 402. Methods and Materials for Teaching Literature in the Secondary School. (PTE) (5).

Methods and materials for teaching literature in the secondary schools. Principles for the selection of literature for high school pupils. Use of media in relation to literature. Includes curriculum and classroom organization, testing and evaluation, procedures and materials, relationship of literature to the total secondary program. Teaching techniques are a point of emphasis.

EED 403. Workshop in the Teaching of English. (PTE) (Maximum 9).

A series of workshops in special problems in the teaching of English, conducted by authorities of the field.

EED 405. The Teaching of Language. (PTE) (4).

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. (4).

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.

EED 408. Language Arts and Outdoor Education. (4). (3 lecture, 2 activity).

A study of the various skills in the domain of the language arts, both at the elementary and secondary levels, and exploration of the out-of-doors as a rich teaching resource in the development of those skills. Not to be counted toward English major or minor.

English

ENG 100. Writing Clinic. (No credit). A laboratory designed to help students improve their writing.

ENG 101. Elementary Composition. (3). The first of the two quarters of elementary expository writing, with introduction to functional grammar, sentence structure, punctuation, paragraph organization, and the essay.

c-ENG 102. The College Research Paper. (3). Prerequisite, ENG 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.

c-ENG 103. Basic Technical Writing. (3). Prerequisite, ENG 101. A study of the basics of communication essential to the technician, engineer, and scientist; an analysis of technical writing's order of presentation, sentence structure, and use of illustration, with emphasis on arranging and stating information clearly.

c-ENG 105. Communications on a Theme. (4). Prerequisite, ENG 101. Themes for the course will be chosen from ideas of historical influence and/or contemporary problems. Readings and class discussion will serve as background for writing essays and investigating other modes of communicating ideas.

d-ENG 106. Word Power. (4). The acquisition of new words, and the effective use of them through care and taste; includes levels of usage; urges specific rather than general expression, fresh rather than trite diction; stresses conciseness and exactness of diction; encourages a feeling for words. Not to be counted toward English major or minor.

g-ENG 111. Introduction to Poetry. (4). Critical approaches to poetry. Qualified students may be exempted by examination.

g-ENG 112. Introduction to Fiction. (4). Critical approaches to short stories and novels. Qualified students may be exempted by examination.

g-ENG 113. Introduction to Drama. (4). A study of selected plays, ancient and modern, to develop the student's skills in dealing with drama as literature.

d-ENG 114. Introduction to Language. (4). A basic survey of the methods and conclusions of modern language study. Briefly covers English phonology, grammar, and semantics; stylistic, cultural, and dialectal variations; spelling; and socio-political problems in language. Not a remedial course.

g-ENG 115. Introduction to Fiction and Drama. (4). Critical approaches to selected pieces of fiction and drama to develop students' skills in reading these genres. Similarities and differences between the two genres will be emphasized. Credit will not be given for ENG 115 if a student has had either ENG 112 or ENG 113.

ENG 128. Composition Laboratory. (1). Composition laboratory (taken concurrently with ENG 101). Student-led discussion and evaluation of student writing. Students will be expected to develop a critical standard for competent expository writing, to apply that

standard in analyzing student papers, and to edit collegial work, emphasizing means to writing improvement.

ENG 180. Expository Writing for Foreign Students. (4). This is a course in English as a second language designed for students of intermediate and advanced levels of proficiency. It helps students develop competence in expository writing and lays the foundation for writing research papers.

c-ENG 202. Writing about Language. (4). Prerequisite, ENG 101, 114. Introduces expository writing skills beyond those of Freshman English, including reports, abstracts, summaries, and a brief research paper. Reviews language concepts presented in English 114; special emphasis on language in the context of society.

g-ENG 211. Medieval Literature. (4). A study of selected works from the Old English and Middle English periods.

g-ENG 212. Renaissance Literature. (4). 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.

g-ENG 213. The Restoration and Eighteenth Century. (4). A study of selected authors (such as Dryden, Pope, Swift, Defoe, Fielding, Boswell, Johnson, Sheridan) and genres (such as comic drama, satiric poetry, the novel, biography) representative of literature in England from 1660 to the end of the 1700's.

g-ENG 214. The Romantic Movement. (4). 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.

g-ENG 215. Victorian Prose and Poetry. (4). A survey course covering a number of Victorian writers and the themes running through their writings. Special emphasis upon intellectual currents of the age, such as Utilitarianism, the problems raised by industrialism, attitudes toward science, and the new aestheticism.

g-ENG 216. American Literature to the Civil War. (4). 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.

g-ENG 217. American Literature: The Civil War to 1914. (4). A study of selected American writers and/or themes from the years 1865 to 1914.

g-ENG 220. English Literature: 1900 to 1939. (4). A study of English literature from approximately 1900 to the beginning of World War II, as selected by the instructor.

g-ENG 221. English Literature: 1940 to the Present. (4). A study of English literature from approximately 1940 to the present, as selected by the instructor.

g-ENG 225. American Literature: 1914 -1939. (4). An intensive study of selected American writers and/or themes of the years 1914 - 1939.

g-ENG 226. American Literature: 1940 to the Present. (4). An intensive study of

selected American writers and/or themes of the years 1940 to the present.

g-ENG 230. Lectures on Literary Themes. (2). (Maximum 8). The study of several works of literature centered round a specific theme. Topics will be designated by subtitle. No subtitle may be taken more than once for credit.

g-ENG 231. Great Writers in England or America. (Maximum 12). The in-depth study of one English or American writer not otherwise examined at length in another course. Subject of the course to be determined by subtitle. No subtitle may be taken more than once for credit.

ENG 232. Great Writers of the World. (Maximum 12). An in-depth study of one writer of the world, excluding those of England and America, not otherwise examined at length in another English Department course. Subject of the course to be determined by subtitle. A subtitle may be taken only once for credit.

g-ENG 235. The World in Literature. (Maximum 12). This is a variable content course on the literature of countries other than Great Britain and the United States. Readings may be of thematic, comparative, geographic, or generic nature, depending upon the instructor of the respective subtitle under this general listing. (No subtitle may be taken more than once.)

d-ENG 240. Creative Writing: Introduction to Poetry. (4). An introduction to the techniques involved in writing poetry.

d-ENG 241. Creative Writing: Introduction to Fiction. (4). An introduction to the techniques involved in writing fiction.

d-ENG 242. Creative Writing: Introduction to Theater, Film and T.V. (4). An introduction to the techniques involved in writing for the theater, films and T.V.

d-ENG 250. History of the English Language. (4). A history of the development of the English language, the historical basis of usage and grammar and the sources of the English vocabulary.

g-ENG 260. Women's Biography. (4). A course which briefly evaluates biography as a genre and primarily stresses the content of selected life stories about and by women who have struggled to succeed in a male-dominated world.

g-ENG 310. Shakespeare: Early Plays. (4). The reading and understanding of the early plays of Shakespeare.

g-ENG 311. Shakespeare: Later Plays. (4). The reading and understanding of the later plays of Shakespeare.

d-ENG 319. Advanced Expository Techniques. (4). Prerequisite, ENG 101. A course devoted to the reading, writing and formal analysis of various prose pieces, the definition of tropes, the description of and identification of the logical fallacies — particularly in modern political speeches — through the examination of the classical rhetoricians, ancient and modern.

ENG 321. Generative-Transformational Grammar. (4). Prerequisite, ENG 250. 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.

g-ENG 322. The Writer: Artist-Politician. (4). A study of the tension that exists between a writer's personal fidelity to transcendent inner vision and his/her political-social responsibility to reshape the world from which the writer borrows his/her images.

Major authors studied: Alexander Solshenitsyn, Richard Wright, Nikos Kazantzakis, and Denise Levertov.

g-ENG 325. Studies in Science Fiction. (4). Reading and discussion of works of science fiction and a view of science fiction's history and relevance.

g-ENG 326. Advanced Studies in Science Fiction. (Maximum 12). In-depth study of the works of one or more science fiction writers. Authors to be studied will be designated by subtitle, for example: Asimov, Heinlein, and Clarke. No subtitle may be taken more than once for credit. Only 4 credit hours of ENG 326 may be applied toward the English major or minor.

g-ENG 327. Women and Sex in Science Fiction. (4). A study of the treatment of women and sex in science fiction from the 1930's to the present.

ENG 340. Creative Writing: Advanced Poetry. (4). Prerequisite, ENG 240. A course for students to improve their writing of poetry.

ENG 341. Creative Writing: Advanced Fiction. (4). Prerequisite, ENG 241. A course for students to improve their writing of fiction.

g-ENG 360. Chaucer. (4). An introduction of the language and literature of Geoffrey Chaucer.

g-ENG 402. The Short Story. (4). The study of typical modern short stories to observe the methods of modern writers and interpretation of our present-day life embodied in this form of literature.

g-ENG 403. Techniques of the Novel. (5). 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.

g-ENG 404. Modern Literature about Childhood and Adolescence. (4). 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.

g-ENG 405. Contemporary American Drama. (4). A comprehensive view of the best dramatic literature of the modern American theatre.

g-ENG 406. Modern Drama Since Ibsen. (4). A study of the developments in modern European and American drama since the time of Ibsen.

g-ENG 407. Advanced Studies in Poetry. (4). 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.

g-ENG 408. Elizabethan Drama Exclusive of Shakespeare. (4). 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.

g-ENG 409. Literary Criticism. (4). A study of the theory and history of literary criticism of Plato to Wayne C. Booth, with some application of critical theory.

g-ENG 410. History of Ideas in Literature. (4). An intensive chronological study of various of the significant themes in literature.

g-ENG 411. Biography and Autobiography. (4). A selection of critical essays concerning the genre of biography and autobiography followed by the reading of seven or eight widely varied examples. Particular interests of individual students in the class will be considered.

ENG 414. Greek and Comparative Mythology. (4). A study of Greek myths as one of the important sources of literary allusion and imagery and comparison of Greek myths with those of other cultures to show what is common to all mythologies.

g-ENG 415. Literature of the Old Testament. (4). A study of selected books of the Old Testament with emphasis on their literary qualities, and on the moral and religious progress they reveal.

g-ENG 416. Literature of the New Testament. (4). 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.

g-ENG 418. Grammatical Analysis. (4). A study of 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 surveying the texts that advocate each system.

g-ENG 419. Advanced Topics in Syntax. (4). Prerequisite, ENG 321. A study of selected topics of concern to current linguistic theory. Topics selected will be studied from two currently opposed generative-transformational positions.

g-ENG 420. Stylistics. (4). Prerequisite, ENG 321. 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.

ENG 422. Individual Studies. (Maximum 4). Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Not for General Education credit.

g-ENG 425. Literature By and About Women. (4). An investigation of the contributions of important early and modern women writers. Novels, plays, and poetry or short stories of world writers (primarily English, American, and European) will be studied.

g-ENG 430. Studies in World Literature. (Maximum 12). The study of a particular theme, form or problem that cuts across periods and national boundaries. Topic will be designated by subtitle. No subtitle may be taken more than once for credit.

ENG 440. Creative Writing: Poetry and Publication. (4). Prerequisite, ENG 240 and ENG 340. A course for students to continue

to improve their writing of poetry at a very advanced level and to seek literary outlets for submission of their work.

g-ENG 441. Colloquium in Literature. (Maximum 12). The study of one great work of literature or of a small group of such masterpieces which are closely related either in form or idea. The selections vary with the needs of students and the interest of the instructor. Particular studies will be designated by subtitles. No subtitle may be taken more than once for credit.

g-ENG 450. Studies in Russian Literature. (4). A study of selected Russian writers to acquaint students with Russia's unique culture and social milieu.

Environmental Studies

g-ENST 110. Introduction to Environmental Studies. (3). This course is designed to introduce beginning students to the nature of the environment and environmental problems. It will provide the student with an overall understanding of the complexity of these problems and suggest a variety of possible solutions.

f-ENST 120. Humans' Attitudes Toward Their Physical and Social Environments. (3). Prerequisite, ENST 110 recommended. This course will study the nature of human perceptions and attitude formation toward the environment, as well as the various behavioral change strategy alternatives that are involved in attempts to understand and solve current environmental problems.

g-ENST 130. The History of the Environmental Movement. (3). The course is designed to focus on the evolution of the environmental movement through its preservationists, conservationists, and environmentalists phases. In addition, the course will evaluate the prospects for the future particularly with regard to the creation of an environmental ethic in the American people.

h-ENST 209. Energy and the Environment. (3). A study of past, present and future methods of energy production and limitations imposed by the laws of physics. Applications to transportation, home and industry are discussed.

h-ENST 210. Reactors and Radiation. (3). An elementary course which presents the basics of nuclear reactors and nuclear radiation. Topics include: history of the development of nuclear radioactivity, fission, nuclear reactors, energy, the waste disposal problem, radiation and its biological effects, fusion, and the promise and problems of nuclear energy. Taught by the Physics Department.

h-ENST 211. Chemistry and the Environment. (3). This course will cover the natural chemical cycles, the impact of human's activity on those cycles, and the limits and restrictions to their restoration. Topics to be covered will include nuclear wastes, food additives, water and air pollution, pesticides and more.

h-ENST 220. Population Dynamics and Genetic Probabilities. (3). Methods of animal population analysis with particular reference

to human populations. Includes consideration of population size, its regulation and factors influencing changes in size; statistical methods applicable to population studies; genetic variation within populations and between different populations, and lateration of the gene pool with its implications for the future of humanity.

f-ENST 230. Economics of Natural Resources. (3). Concepts, theories and institutions relating to both public and private resource use and policy; analytical methods for evaluating alternative resource use patterns in both the public and private sector.

f-ENST 240. Politics and the Environment. (3). An intensive study of environmental destruction which has emerged as one of the most salient political issues for policy-makers in this era. Policies, laws, and their consequences are investigated as well as the local, state, and national political processes and institutions insofar as they affect the environment.

h-ENST 250. Man's Atmospheric Environment. (3). The structure and nature of the atmosphere as it relates to the varied activities of humans; the role of inversions on pollution concentrations; principles and elements of air pollution; the ozone layer and man's impact on it; climatic modification.

h-ENST 260. Ecological Interpretations. (3). This course is based on recognition of the existence of functional and structural ecosystems. The interpretation of these systems in relation to human survival is the main aim of this course.

f-ENST 270. Social Implications of Ecology. (3). A view of ecology as it applies to human groups, particularly in the urban setting, and the value system associated with present ecological practices: consumership, materialism, alienation, Gailbraith's social balance and the tactics of community organization and change agents.

h-ENST 280. Natural Resources and Technology. (3). This course is a study of the rise of agricultural, industrial, domestic, transportation and environmental technologies and their impacts on natural resources and the environment.

g-ENST 281. The Politics of the Nuclear Age. (3). The nuclear issue will be viewed in its broadest sense, focusing primarily on nuclear energy worldwide and national security measures. Also under discussion will be the topics of proliferation and legacy considerations, examined in light of pending world problems.

h-ENST 300. The General Systems Approach. (4). (3 lecture, 2 laboratory). The course is designed to introduce the student to General Systems Theory. The systems approach and the IBM 370 computer will be employed to solve selected environmental problems. Emphasis will be placed on the general systems approach as an analysis and management tool to serve as a basis for making decisions pertinent to a sanative coexistence between humans and the natural environment.

f-ENST 304. Environment and the Law. (3). This course surveys the major attempts to control degradation of the environment by use of law. Statutory, administrative and

judicial controls will be examined. Major emphasis will be placed on the questions of air and water quality, land use, and energy-related environmental problems.

h-ENST 309. Solar and Alternative Power Systems. (3). Prerequisite, ENST 209 or PHYS 262 or PHYS 267. An elementary study of proven and proposed methods of supplying energy using direct solar, wind, geothermal and other alternative energy sources. Basic construction, cost, and efficiency of home heating and electrical generating systems will be covered. Taught by the Physics Department.

ENST 340. Internship in Environmental Studies. (5-18). This course is intended to provide the student with practical, on-the-job learning experience and training in a variety of professional areas related to the environment. The exact amount and applicability of credit hours and the exact nature of the experience to be engaged in by the student is individually arranged. Consult the Environmental Studies Coordinator for further information.

h-ENST 350. Environmental Health. (3). This course is designed to acquaint the student with many of the current environmental problems and relate how these problems directly or indirectly affect the health of humans.

d-ENST 361. Art and the Environment. (3). An in-depth identification with the process of art as it relates to the different environments of human existence.

g-ENST 362. Literature and the Environment. (4). An exploration of writing about nature, or human relationships with nature, from various periods and cultures. The course will explore how economic, scientific, philosophic, and religious attitudes emerge from attitudes toward nature, and how such attitudes influence the ways in which the natural is treated by human beings.

ENST 400. Senior Seminar. (3). Current environmental issues will be discussed in an in-depth, detailed manner on the basis of student background, library resources, interviews, and guest speakers. Problems will be analyzed and presented by individuals and small interdisciplinary groups.

ENST 422. Individual Studies. (Maximum 4). Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on an environmental investigation of particular interest. Documentation in the form of a final paper must be filed before credit is given. See Environmental Studies Coordinator for further details.

Earth Science

h-ESCI 105. Earth Science. (3). The purpose of this course is to help students gain a basic understanding of some aspects of Planet Earth and its place in the Universe. Various topics, such as the Solar System, our weather, the origin of landscapes, oceans, space travel, air pollution, and continental drift, will be treated. Credit may not be applied toward Earth Science major or minor.

ESCI 111. Earth Science Mini-Course. (1). A variety of specific Earth Science topics will be scheduled each quarter under this heading, and students will receive credit for as many different ones as they take. Most of the mini-courses will be three weeks long.

c-ESCI 291. Scientific Writing. (3). Expository writing and its use in scientific writing. Emphasis will be placed upon achieving clarity and precision in written work.

ESCI 424. Gemology. (3). This course will cover the theory and practice of the scientific testing of gemstones. Emphasis will be on rapid recognition and evaluation of popular gemstones. Each class will include practical work with students handling and identifying a wide range of gems.

h-ESCI 484. Earth Sciences Field Experiences. (Maximum 15). Prerequisite, consent of instructor. In-depth field studies in astronomy, geology, meteorology, and/or oceanography in regions both within and outside the United States. Field work will be preceded by preparatory work on the UNC campus. Specific areas and topics to be investigated will be indicated in the Schedule of Classes each time the course is offered.

ESCI 499. Seminar in Earth Science. (2). An investigation of earth science curriculum materials, field experiences, and teaching strategies to develop major concepts and principles in the secondary classroom.

Fine Arts

FA 180. Introduction to Art. (4). Comprehensive introduction to the many and diverse applications of style, meaning, and process in art today.

d-FA 181. History of Art I. (4). A general survey of Western art from Pre-historic (20,000 B.C.) through the early-Christian era (5th Century A.D.). Emphasis is placed on major movements, methods of analysis, historical and cultural context and development of styles.

d-FA 182. History of Art II. (4). A general survey of Western art from early Medieval of the sixth century through the Renaissance (1600). Emphasis is placed on major movements, methods of analysis, historical and cultural context, changes and development of styles.

d-FA 183. History of Art III. (4). A general survey of Western Art from the Baroque period (1600 A.D.) through Modern art (20th century). Emphasis is placed on major movements, methods of analysis, historical and cultural context and development of styles.

FA 184. Drawing and Design I. (3). Fundamentals of drawing: technique, materials, and expression; studies involved with seeing, rendering, and pictorial organization.

FA 185. Drawing and Design II. (3). Prerequisite FA 184. Drawing as a basis for two-dimensional organization; aerial and linear perspective, shapes, and value contrast.

FA 186. Color Theory. (3). Prerequisite, FA 185. Color phenomena and mixing of

pigments; theory of color organization in pictorial and three-dimensional design.

FA 187. Three-Dimensional Design. (3). Prerequisite, FA 186. Principles of mass, volume, space, and linearity related to direct use of materials and shaping/construction techniques.

d-FA 190. Art Appreciation. (4). A course designed to further and enhance understanding and appreciation of the functional and expressive nature of works of Architecture, Painting, Sculpture, and the Applied Arts.

d-FA 210. Ceramics for Non-Art Majors. (3). Historical development of pottery and the contemporary craftsman's attitude toward clay; instruction in basic technology of pottery-making with attention to aesthetic and functional values.

FA 211. Ceramics I. (3). Prerequisite, Foundations. The design and construction of pottery in coil and slab techniques with emphasis on form and texture. General background in clay bodies, glazes, and firing.

FA 212. Ceramics II. (3). Prerequisite, Foundations. Introduction to throwing on the potter's wheel. Emphasis will be placed on techniques of centering, opening, and raising clay into basic pottery forms.

d-FA 220. Fibers for Non-Art Majors. (3). A lecture and studio approach to the historical and cultural study of fiber construction and studio techniques of fibers as an art form.

FA 221. Fibers I. (3). Prerequisite, Foundations. A studio course involving one or more of the processes of fabric surface treatments in two and three-dimensions.

FA 222. Fibers II. (3). Prerequisite: Foundations. An experimental studio approach to the problems of working with contemporary materials in non-loom fiber construction techniques.

FA 223. Weaving. (3). Prerequisite, FA 221, 222. An introduction to the fundamentals of loom weaving as an art form, emphasizing applied design problems. Concentration will be on hand-controlled techniques.

d-FA 230. Drawing for Non-Art Majors. (3). Studio experience in drawing fundamentals along with an historical approach to the study of the functional and expressive aspects of the medium of drawing.

FA 231. Painting I. (3). Prerequisite, Foundations. Basic procedures in studio oil painting surface preparation, the color palette, underpainting, glazing, and color distribution.

FA 232. Painting II. (3). Prerequisite, Foundations. Basic instruction in the techniques of water-media painting; transparent water color and the opaque use of tempera, gouache, and acrylic paints.

FA 233. Introduction to Life Drawing. (3). Prerequisites, FA 184 and FA 185. Studio work in the fundamentals of life drawing. Emphasis on proportion, simple anatomy, and aesthetic relationships.

FA 234. Interpretive Drawing. (3). Prerequisites, FA 184 and FA 185. Visual problem-solving emphasizing personal philosophy, individual interpretation, imagination, pictorial composition, and working to a theme.

d-FA 235. Painting for Non-Art Majors. (3). Lecture and studio approach to the study of painting as craft and the historical implications of pictorial art.

d-FA 240. Lettering. (3). Studio practice and study of the history of lettering and manuscripts for students with little or no experience in art.

d-FA 250. Printmaking for Non-Art Majors. (3). A combined lecture and studio approach to the study of the art print and its aesthetic and communicative impact on society.

FA 251. Printmaking I. (3). Prerequisite, Foundations. Theory and technical instruction in the intaglio processes of printmaking; etching, engraving, soft ground, lift ground, and aqua-tint.

FA 252. Printmaking II. (3). Prerequisite, Foundations. Theory and technical instruction in the relief, stencil, and planographic processes of printmaking including two or more of the following: woodcut, monoprint, silkscreen, or lithography.

FA 253. Monoprints. (3). Prerequisites, FA 251 and FA 252. A study of orthodox and experimental techniques in the production of the monoprint.

FA 254. Silkscreen Prints. (3). Prerequisites, FA 251 and FA 252. A study of the silkscreen stencil process of printmaking, including the use of photo-sensitized screens and color.

d-FA 260. Sculpture for Non-Art Majors. (3). A survey of traditional, modern and experimental sculpture; problems of sculptural form related to expressive and functional needs.

FA 261. Sculpture I. (3). Prerequisite, Foundations. Basic sculpture studio procedures with emphasis on three-dimensional design theory and theory of replication. Instruction in modeling techniques and simple mold-making.

FA 262. Sculpture II. (3). Prerequisite, Foundations. Basic sculpture studio procedures with emphasis on direct use of materials and tools. Instruction in the processes of construction and assemblage.

d-FA 290. Visual Thinking and Visual Images. (3). Explores concepts of visual thinking and visual communication, including broad applications to careers. Combines some work with art materials along with personal interaction, reading, discussion, viewing art examples and forms.

FA 308. Workshop in Fine Arts. (1-4). Workshops in specialized areas of the Fine Arts. The subject to be completed in any one workshop will be determined by the course subtitle. May be repeated for credit with different subtitles.

FA 311. Ceramic Design. (3). Prerequisite, FA 211 or FA 212. An exploration of various methods of constructing large hand-built forms with emphasis on sculptural considerations.

FA 312. Ceramics III. (3). Prerequisite, FA 212. Intermediate throwing on the potter's wheel. The forming of bowls, vases, pitchers, lidded pots and related forms with experience in stacking and firing combustible fuel kilns.

FA 314. Glaze and Clay Body Formulation. (3). Prerequisite, FA 212 (or equivalent). An exploration of ceramic glazes and clay bodies

with emphasis on developing original glazes and clay bodies to suit individual modes of ceramic expression.

FA 321. Design on Fabric. (3). Prerequisites, FA 221, 222. Continued study and exploration of the processes of fabric surface treatment and their design application.

FA 323. Weaving. (3). Prerequisite, FA 223. Continued study of loom weaving as an art form, the emphasis being on loom-controlled techniques.

FA 324. Non-Loom Fiber Construction. (3). Prerequisites, FA 221, 222. Continued exploration in non-loom fiber construction techniques.

FA 331. Oil Painting. (3). Prerequisites, FA 231 and FA 232. Advanced painting studio to provide students more time to develop individual expression and mastery of painting media. Emphasis will be on appropriate use of media.

FA 332. Water-Media Painting. (3). Prerequisites, FA 231 and FA 232. Problems in water-media painting with emphasis on developing individualized use of specific materials, tools, and techniques.

FA 333. Life Drawing. (3). Prerequisite, FA 233. Advanced studio study from life. Student is encouraged to experiment and develop personal interpretations of the human form.

FA 334. Interpretive Drawing. (3). Prerequisite, FA 234. Advanced work in visual problem solving with emphasis on personal philosophy and working to a theme.

FALS 340. Clinical Experience: K-12 Art. (2). Prerequisite, consent of instructor. Designed for Art Education majors to provide practical experience in the classroom with a variety of materials, subject matter, and with various age-groups K-12. Classroom observation and participation plus a weekly required seminar. All students will be videotaped.

FA 344. Methods of Teaching Art in the Elementary School. (5). Prerequisite, admission to PTE. Practical experience in a wide variety of media suitable for use in the elementary classroom. The study of selected philosophies of art in education, teaching techniques, procedures, materials, and evaluation. This course is not for Art Education majors.

FA 348. Art for the Handicapped. (3). An overview of characteristics, needs and instructional adaptations suitable for teaching the handicapped student involved in the visual arts.

FA 351. Intaglio and Relief Printmaking. (3). Prerequisites, FA 251 and FA 252. Individual development in creative printmaking with emphasis on advanced technical processes including photoplate, combined techniques and the use of color.

FA 353. Monoprints. (3). Prerequisite, FA 253. Advanced study of orthodox and experimental techniques in the production of the monoprint.

FA 354. Silkscreen Prints. (3). Prerequisite, FA 254. Advanced study of the silkscreen stencil process of printmaking, including the use of photo-sensitized screens and color.

FA 361. Sculpture: Modeling and Casting. (3). Prerequisites, FA 261, FA 262. Theoretical and practical experience in

traditional and experimental approaches to making sculpture with emphasis on clay and wax modeling for casting.

FA 362. Sculpture: Construction and Assemblage. (3). Prerequisites, FA 261, FA 262. Application of design and technical skills to sculptural problems with emphasis on fabrication of wood, metal, and plastics.

FA 380. Art: Analysis and Criticism. (4). Prerequisite, Foundations. Critical studies of the art object; analysis of the inter-relationships of theme, context, formal elements and process—toward a basis for critical judgement.

FA 381. Tribal Art. (4). A study of the arts, concepts, and cultures of tribal societies with emphasis on African, Oceanic, South Seas, and American Indian Art.

FA 382. African Art. (4). The relationship of art to life in sub-Saharan Africa. A cross-cultural survey of types, styles, history, and values of arts ranging from personal decoration to the state festivals.

FA 383. Pre-Columbian Art. (4). A study of the history and arts of Central-America with emphasis on Olmec, Maya, Mixtec, Zapotek, Aztec, Toltec civilizations and related sub-groups.

FA 384. Classical Art. (4). This course traces the development of the culture and related arts of the ancient world with emphasis on Aegean, Greek, and Roman civilization.

FA 385. Medieval Art. (4). A detailed study of 12th, 13th, and 14th century European Art as it relates to Medieval philosophy and its cultural context.

FA 386. Renaissance Art. (4). A detailed study of Renaissance Art (1265-1600) with emphasis on the humanistic aspects.

FA 387. Baroque Art. (4). An in-depth study of art and religious and social changes from the Mannerist Period (1525) through Baroque (1600-1710), focusing on the major Baroque centers of Italy, Belgium, Holland, France, and Spain.

FA 388. 19th Century Art. (4). The development of European Art through the 19th century from the Revivalist styles to the brink of Modern Art.

FA 389. Modern Art: 1905-1945. (4). An in-depth study of major art movements of the first half of the 20th century from the development of Cubism through Dada and Surrealism.

FA 390. Modern Art: 1945 to Present. (4). An in-depth study of major art movements in the United States and Europe since 1945.

FA 401. Practicum in Fine Arts. (1-4). Supervised professional activity in the student's major field or a related career area. A student must spend a minimum of 20 clock hours per quarter hour of credit on the practicum. The practicum must be completed and an evaluation and one copy of a written report filed with the instructor of record.

FA 411. Ceramic Design. (3). Prerequisite, FA 311. A study involving the application of various ceramic decorative processes to hand-build and wheel-thrown clay forms.

FA 412. Ceramics IV. (3). Prerequisite, FA 312. Advanced throwing on the potter's wheel. Emphasis on complex pottery forms

such as tea pots, matched sets and objects using combined forming techniques.

FA 421. Design on Fabric. (3). Prerequisite, FA 321. Advanced concentration in a selected process of fabric surface treatment to provide the student more time for personal design development and expertise.

FA 422. Individual Studies in Fine Arts. (1-4). Qualified undergraduate students will outline a proposed project and spend a minimum of 25 clock hours per quarter hour on the project. Two copies of a written report must be filed with the instructor and department chairperson before credit is given.

FA 423. Weaving. (3). Prerequisites, FA 323. Advanced study in weaving to provide the student more time to develop personal design and mastery of the medium.

FA 424. Non-Loom Fiber Construction. (3). Prerequisite, FA 324. Advanced concentration in a selected non-loom fiber construction technique.

FA 431. Painting Studio. (3). Prerequisite, FA 331. Advanced painting studio to provide students more time to develop individual expression and mastery of painting media. Emphasis will be on appropriate use of media toward creative ends.

FA 432. Water-Media Painting. (3). Prerequisite, FA 332. Advanced individual problems in water-media painting.

FA 433. Life Drawing. (3). Prerequisite, FA 333. Advanced studio study from life. Student is encouraged to experiment and develop personal interpretations of the human form.

FA 434. Interpretive Drawing. (3). Prerequisite, FA 334. Advanced work in visual problem solving with emphasis on person philosophy and working to a theme.

FA 440. Cultural Studies in the K-12 Curriculum. (4). Intensive instruction in basic research, writing, and oral presentation techniques aimed at the inclusion of cultural studies in the art curriculum.

FA 441. Readings in Art Education. (3). Prerequisite, completion of PTE course requirements. A selected survey of literature in visual arts education and such related areas as philosophy, psychology, learning theory, aesthetics, and the non-visual arts. Take concurrently with FA 442, 443, 444, 445.

FA 442. Studies in Visual Growth and Development. (3). Prerequisite, completion of PTE course requirements. An overview of research in the area of visual growth and development including cognitive developmental, perceptual, and psychological theory. Take concurrently with FA 441, 443, 444, 445.

FA 443. Art Education Studio and Strategies. (4). Prerequisite, completion of PTE course requirements. The development of art learning activities through traditional and alternative processes and strategies. The study of facilities utilization and arrangement, materials and inventory, and budgeting and ordering. Take concurrently with FA 441, 442, 444, 445.

FA 444. Curriculum in the Visual Arts. (3). Prerequisite, completion of PTE course requirements. Curriculum development for

appropriate learning experiences in elementary and secondary art education. Take concurrently with FA 441, 442, 443, 445.

FA 445. Seminar in Visual Arts Education. (2). Prerequisite, completion of PTE course requirements. Analysis and criticism of contemporary issues in elementary and secondary art education. Take concurrently with FA 441, 442, 443, 444.

FA 451. Intaglio and Relief Printmaking. (3). Prerequisite, FA 351. Intensive individual development in creative printmaking with emphasis on advanced technical processes.

FA 453. Monoprints. (3). Prerequisite, FA 353. Advanced application and experiment in the monoprint techniques.

FA 454. Silkscreen Prints. (3). Prerequisite, FA 354. Advanced application and experiment in the silkscreen printing techniques.

FA 461. Sculpture: Modeling and Casting. (3). Prerequisite, FA 361. Advanced application of modeling techniques for casting in metal and plastics.

FA 462. Sculpture: Construction and Assemblage. (3). Prerequisite, FA 362. Advanced application of design and technical skills to fabrication of sculpture with wood, metal, and plastics.

UNC Program for Comparative Studies in Italy

d-FA 111. Arts, Man and Culture—In Florence. (4). A general survey of Western Art from the sixth century through late Renaissance, with the emphasis on the Italian art and artists of the Middle Ages and Renaissance, as well as other historical information, historical criteria, methods of analysis, changes and development of styles, social, and cultural significance.

FA 306. Special Problems in Art—In Florence. (3). Supervised projects in studio or research and reporting of student designed and originated problems in art.

FA 308. Workshop in Fine Arts—In Florence. (1-4). One to four week workshops in specialized areas of Fine Arts conducted by specialists in the field. The subject to be completed in any one workshop will be determined by subtitle. No subtitle may be repeated for credit.

FA 312. Mosaics, Intaglio, and Intarsio—In Florence. (3). Will meet for six hours a week to study the technical application and historical background of these techniques.

FA 313. Filmmaking and Photography Techniques—In Florence. (3). Will meet for six hours a week and be given the basic techniques of filmmaking and photographic processes. Stress will be on the observation those artistic patterns that go beyond normal photography.

FA 314. Crafts—In Florence. (3). Designed to advanced students only with techniques of various crafts of the area being introduced.

FA 320. Oil Painting Studio—In Florence. (3). Advanced study in oil painting to provide

the student with more time to develop individual expression and mastery of the medium.

FA 331. Sculpture Studio—In Florence. (3). Individual application of design and technical skill in making sculpture. Emphasis is on significant form and expression.

FA 340. Craft Studio—In Florence. (3). An in-depth workshop in one specific craft techniques; developing skills and individual expression. The course will be listed under separate sub-heading each session.

FA 355. Fine Arts Workshop—In Florence. (1-3). Workshop in specialized areas of art for the UNC Comparative Studies Program in Florence, Italy. The subject to be completed in any one workshop will be determined by subtitle. No subtitle may be repeated for credit.

FA 359. Intaglio and Relief Printmaking—In Florence. (3). Problems in an intaglio printmaking including technical process, etching and monoprints.

FA 365. Classical Art—In Florence. (3). An in-depth study of classical art.

FA 367. Baroque Arts—In Florence. (3). An in-depth study of the Art of Mannerism and Baroque styles.

FA 384. Dante, Giotto, and Giovanni Pisano—In Florence. (3). A study of similarities found in different artistic media, and the search for an environment common to all the artists of the Middle Ages.

FA 385. Monographs on Living Florentine Artists—In Florence. (3). Limited to advanced students worked on an individual one-to-one basis, each study will reflect the fruits of the collaboration between the artist and the student.

FA 386. Museum Science and Restoration of Works of Art—In Florence. (3). A behind-the-scene study of museum, organization, architectonic design, illumination problems, logistics of movement, selection problems, and advantage of the expertise of one of the world's foremost laboratories for restoration of art.

d-FA 387. Contemporary Art—In Florence. (3). A look at modern works connecting the past and the present.

d-FA 388. History of Architecture—In Florence. (4). Study of Italian architecture from Classical and Etruscan to modern architecture.

FA 389. Renaissance Sculpture—In Florence. (3). A study of the culture at that particular period of time and how it is manifest through the sculptures studied, conducted in class as well as in related museums. A critical and philosophical analysis is made, connecting the past and the present.

FA 391. Renaissance Painting—In Florence. (3). A study of the culture at that particular period of time and how it is manifest through the painting studied, conducted in class as well as in related museums, etc. A critical and philosophical analysis is made, connecting the past and the present.

FA 392. Medieval Tuscan Art—In Florence. (3). A study of the art of the Middle Ages as compared to the writings and philosophies of the time. Classes will often be held in

churches and museums.

FA 393. Comparative Urbanistics—In Florence. (3). Study of science of urbanistics as related to different culture patterns; conducted to read urbanistics as artistic languages.

d-FA 394. Museum and Studio Experiences—In Florence. (3). Absorb unhurriedly and privately the communications of museums; learn aspects, problems, techniques and philosophies of practicing artisans, artists and craftsmen and their work in their studios.

d-FA 395. Modern Man's Relationship—In Florence. (3). Investigation of artistic expression and various forms and changes they have undergone in relation to our position as modern people.

FA 396. Old Master's Technique—In Florence. (3). Extensive study of techniques used in various periods of painting applied to study of the individual artist as selected by students.

FA 420. Oil Painting Studio—In Florence. (3). Advanced study in oil painting to provide the student with more time to develop individual expression and mastery of the medium.

FA 428. Seminar in the Arts—In Florence. (3). Intercultural team-teaching seminar in which all artistic problems will be analyzed and discussed.

FA 430. Seminar in Art Education—In Florence. (2). Research and philosophical issues in contemporary elementary and secondary art education.

FA 431. Sculpture Studio—In Florence. (3). Individual application of design and technical skills in making sculpture. Emphasis is on significant form and expression.

FA 459. Intaglio and Relief Printmaking—In Florence. (3). Advanced creative intaglio printmaking including advanced technical process and monoprint mixed media.

Foreign Language

FL 131. Foreign Language House. (1). Prerequisite, permission of the department. Gives students a practical experience in the use of their foreign language. Students speak their language at all times and participate in various activities sponsored by the language house. Course may be repeated for a total of 3 hours credit. S-U grading.

FL 150. Europe on Five Languages a Day. (5). An introduction to five European languages and cultures. The course will include an introduction to high-frequency expressions (such as greetings and restaurant, hotel, and transportation needs) and cultural characteristics of French-, German-, Italian-, Russian-, and Spanish-speaking countries. S-U grading.

FL 331. Teaching Foreign Language in the Middle School. (2). Prerequisite, intermediate standing or permission. Students will cooperate in planning, creating and presenting foreign language materials in a clinic capacity at the middle school level. The emphasis will be oral.

FL 341. Methods of Teaching in the Secondary School. (PTE) (3). 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.

d-FL 410. Linguistics. (3). 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.

French

d-FR 101. Elementary French I. (5). Summer Quarter: Must enroll for FR 102 and 103.

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.

d-FR 102. Elementary French II. (5). Summer Quarter: Must enroll for FR 101 and 103. Continuation of FR 101.

d-FR 103. Elementary French III. (5). Summer Quarter: Must enroll for FR 101 and 102. A continuation of FR 102.

d-FR 201. Intermediate French I. (4). Prerequisites, two years of high school French or one year of college French. Grammar review, study of idioms, imitative composition.

d-FR 202. Intermediate French II. (4). Prerequisite, FR 201 or equivalent. A continuation of FR 201.

d-FR 203. Intermediate French III. (4). Prerequisite, FR 202 or equivalent. A continuation of FR 202.

g-FR 210. French Civilization and Culture. (4). The study of French civilization and culture including the essential historical, political and artistic developments and accomplishments from early times to the present. The stress will be on those events which contribute most significantly to the life style of the contemporary French person. This course will be offered only to participants of the study abroad program.

g-FR 215. Explication De Textes. (3). Prerequisite, three years of high school French or equivalent. An introduction to French literature through 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.

d-FR 235. Conversational French. (4). A conversation course taken simultaneously with FR 103 or FR 203. The course is designed to provide intensive training in listening and speaking along with practice in structural and idiomatic forms and exposure to current events. The course will be offered

only to participants of the study abroad program.

FR 280. Seminar in French Drama. (3). (Maximum 6). Prerequisite, three years of high school French or equivalent. Course may be taken twice for 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.

d-FR 313. Intermediate French Conversation. (3). Prerequisite, three years of high school French or equivalent. 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.

d-FR 314. Intermediate French Composition. (3). Prerequisite, three years of high school French or equivalent. A course designed to perfect the student's ability to express himself or herself 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.

d-FR 315. Intermediate Review Grammar. (3). Prerequisite, three years of high school French or equivalent. Students will review principle elements of French grammar within the context of oral and written usage of the language. The classwork includes oral discussion and oral presentations along with some composition writing. This class is considered as preparatory to the conversation and composition courses and will be conducted in French.

g-FR 340. French Civilization I. (3). Prerequisite, three years of high school French or equivalent. Recommend FR 215. The study of French civilization and culture from prehistoric times to the classical period. The course includes the historical, geographical, economic, political, artistic, and literary development of the country. The class will be conducted in French.

g-FR 341. French Civilization II. (3). Prerequisite, three years of high school French or equivalent. Recommend FR 215. The study of French civilization and culture from the classical period to the end of the Third Republic. The course includes the historical, geographical, economic, political, artistic, and literary development of the country. The class will be conducted in French.

g-FR 342. Contemporary France. (3). Prerequisite, three years of high school French or equivalent. Recommend FR 215. The study of the customs and institutions of modern France, including the investigation of social customs, the educational, political and economic systems, and the activities which make up the life style of the contemporary Frenchperson. The course will include the artistic and literary development of twentieth century France. The course will be conducted in French.

d-FR 400. Problems in Oral French. (3). Prerequisite, three years of high school 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 or her particular shortcomings. French phonetics will also be studied.

FR 401. Study Abroad Program: Coursework. (8). Prerequisite, three years of high school French or equivalent. This course is designed to give students a practical experience in the use of French. Study will include formal instruction in conversation, composition, and culture at the foreign study center. To be taken with FR 402.

FR 401. Study Abroad Program: Project. (4). Prerequisite, three years of high school French or equivalent. This course is designed to give students an opportunity to research the contemporary and historical cultural phenomena of France through the completion of an area studies project in the region of the study center. This course is to be taken with FR 401.

g-FR 418. Literature of the Middle Ages and the Renaissance. (3). Prerequisite, two years of college French or the equivalent. A study of French literature from its beginnings in the Middle Ages through its development during the Renaissance. The selected readings will be examined within their historical and cultural context. The class will be conducted in French.

g-FR 419. Literary Currents in the Seventeenth and Eighteenth Centuries. (3). Prerequisite, two years of college French or the equivalent. In this course literary currents such as the classical theater of Racine, Corneille, and Moliere, as well as the major works of the seventeenth century moralists will be examined. In addition, the important role of writers like Diderot, Voltaire, and Rousseau will be viewed in the light of literary developments in the Age of Reason. This course will be conducted in French.

d-FR 420. Advanced Conversation. (3). Prerequisite, FR 313 or permission of instructor. A course designed to promote fluency in conversation beyond the level of the everyday situation. Topics of current interest will be discussed and additional vocabulary and idiomatic expressions studied. The course will be conducted in French.

FR 421. Advanced Grammar. (3). Prerequisite, FR 315 or permission of instructor. A course designed to help the student understand the more difficult grammatical structures of the language and their use in basic sentence patterns. Special emphasis will be placed on structures which present special difficulties in the teaching of the language. The course is conducted in French.

FR 422. Individual Studies. (1-4). 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 chairperson of the department. Not for General Education credit.

g-FR 425. The Romantic Movement. (3). Prerequisite, two years of college French or equivalent. This course deals with the French

romantic movement from its beginnings in the eighteenth century to its rise and fall in the nineteenth century. The course will be conducted in French.

g-FR 450. Twentieth Century French Theater. (3). Prerequisite, three years of high school French or equivalent. 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.

g-FR 451. Twentieth Century French Prose. (3). Prerequisite, three years of high school French or equivalent. The main currents of French prose in the twentieth century. Emphasis will be placed in Gide, Proust, Mauriac, Malraux, St-Exupery, Sartre, Camus, and the "nouveau roman" novelists. The class will be conducted in French.

g-FR 455. Nineteenth Century French Prose. (3). Prerequisite, three years of high school French or equivalent. The rise of French prose in the form of the novel, the short story and the theater from post-revolutionary France to the beginning of the twentieth century. The course will be conducted in French.

g-FR 459. Trends in French Poetry. (3). Prerequisite, permission of instructor. The study of the major poetic movements from the sixteenth to the twentieth century including the Pleiade, the Romantic movement, symbolism and contemporary poetry. The class is conducted in French.

Geography

f-GEOG 100. World Geography. (5). World survey of the interrelationships of humans and their culture to the climates, animal life, minerals, soils and surface features of the earth.

f-GEOG 120. Physical Geography I. (3). The study of the relationship between man/woman and his/her physical environment, with an emphasis on the climatic and edaphic qualities of the earth.

f-GEOG 121. Physical Geography II. (3). The study of the relationship between man/woman and his/her physical environment, with an emphasis on landforms — their characteristics, distribution, and effects upon human settlement.

f-GEOG 123. Cultural Geography. (3). A study of how the elements of culture and the values of society give characteristic examination expression to an area. A basic examination of the human response to the physical environment and the resulting cultural and social modifications.

f-GEOG 148. Geography of the United States and Canada. (5). A study of regions and their interdependence. Land use, social and economic problems emphasized.

f-GEOG 200. Location of Human Behavior. (4). The study of the role of location and locational questions in human behavior. Includes examination of locational factors which influence behavior, as well as examination of resulting geographic patterns.

f-GEOG 312. Economics Geography. (5). Geographic and economic conditions affecting the products, industries, commerce and resources of the world. Special emphasis on the United States.

f-GEOG 315. Resource Management. (3). An exploration of the theoretical nature of human-environment systems from the geographical viewpoint, accompanied by an examination of specific resource management and problem-solving practices in current use in our society. Emphasis is on the geographical component of these practices.

GEOG 318. Australia and the Pacific. (2). 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.

f-GEOG 326. Africa. (5). Relationships between the physical and cultural patterns. Land use, resource development, social and political problems.

f-GEOG 336. Geography of Mexico and the Caribbean. (3). 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 its role as a leading Latin American country.

GEOG 337. Geography of Central America. (3). A study of the physical and cultural conditions of the Central American countries. Attention will be given to current economics and social problems facing these populations.

f-GEOG 338. South America. (3). 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.

f-GEOG 342. Geography of the Mediterranean. (2). A study of the unique physical and cultural characteristics of Spain, southern France, Italy, and Greece with significant reference to Israel, Egypt, and northwest Africa. Special attention will be devoted to an examination of the major economic and political problems identified with this region.

f-GEOG 343. Western Europe. (3). A study of the relationships between the physical and cultural environments, including land use, resources, economics and political problems.

f-GEOG 344. Asia. (3). The countries of Asia in terms of their physiography, climates, regions, cultural landscapes, social organizations and economics activities.

GEOG 348. Physical Geography of the United States. (4). Prerequisites, GEOG 120 and 121, or permission of instructor. The study of the major climatic, edaphic, vegetational, and landform patterns of the United States, with an emphasis on Colorado. Weekend field trip.

f-GEOG 350. Geography of Colorado. (3). A study of the geographical and human resources of Colorado. The course is concerned with the physical features,

climate, landform 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.

f-GEOG 353. Geography of the Great Plains. (2). A study of the physical and cultural landscapes of the great plains. Emphasis will be placed on the unifying character of the physical environment and those aspects of culture that have contributed in making this a distinct geographic region.

f-GEOG 355. Population Geography. (3). Investigates the distribution of world population through the related topics of migration, settlement, urbanization and utilization of natural resources.

f-GEOG 356. Agricultural Geography. (2). 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.

f-GEOG 357. Transportation Geography. (3). A study of the mechanism of areal exchange, emphasizing modes and networks of transportation and their effect on the spatial distribution of human activities.

f-GEOG 360. Political Geography. (3). 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.

f-GEOG 364. Maps and Their Uses. (2). This 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.

f-GEOG 365. The Soviet Union. (5). 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.

f-GEOG 370. Historical Geography of the City. (3). The origins of cities and the distribution, growth, and structure of pre-industrial and industrial cities.

f-GEOG 371. Urban Geography of the Contemporary City. (3). Analysis of land-use patterns, transportation, and functions of North American cities.

f-GEOG 372. Urban-Social Geography. (4). Analysis of the social, behavioral, political and demographic factors which influence the spatial arrangements and environmental patterns of the contemporary North American city.

GEOG 392. Field Course in geography. (3-15). (Undergraduate and Graduate). Study and application of the techniques used in solving the geographic problems in the field, together with the effective presentation of the results of such studies.

GEOG 402. Cartography. (4). A fundamental

course on the theory and practice of maps and graphic representation. Two one-hour lectures and two credit hours for arranged laboratory work.

GEOG 422. Individual Studies. (Maximum 4). 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 chairperson of the department. Not for General Education credit.

GEOG 470. Urban and Regional Planning. (3). Principles and practices employed in urban and regional planning and how they are affected by public policy and private interests. Prerequisite, consent of the instructor or any two of the following: Historical Geography of the City; Urban Geography of the Contemporary City; Urban-Social Geography; Urban Ethnology; Urban Economics; Urban Politics; Urban Sociology.

GEOG 475. Quantitative Techniques in Geography. (3). Prerequisite, MATH 151 or consent of the instructor. An examination of elementary statistical techniques which are useful to the analysis of geographical data. Some background in mathematics would be useful.

GEOG 490. Problems in Geography. (Maximum 9). 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.

h-GEOL 100. General Geology. (4). (3 lecture, 2 laboratory). A general survey of geology designed primarily for non-science majors. Topics include origins and classifications of rocks and minerals, origins of landscapes, interior of the earth, earthquakes and volcanoes, mountain building, continental drift, fossils, and earth history. Field trips required. Students cannot receive credit for both GEOL 100 and GEOL 201.

h-GEOL 201. Physical Geology. (5). (4 lecture, 3 laboratory). An in-depth introduction to geology designed primarily for science majors. Earth materials and the physical processes operative on and beneath the earth's surface. Laboratory activities include rock and mineral identification and a study of topographic and geologic maps. Field trips required. Students cannot receive credit for both GEOL 100 and GEOL 201.

h-GEOL 202. Historical Geology. (5). (4 lecture, 3 laboratory). Prerequisite, GEOL 100 or 201. Geologic history of the earth and techniques and principles geologists use to interpret this history from rocks. Topics include geologic time, history of earth's physical features, origin of atmosphere and hydrosphere, origin and evolution of life on earth, fossils, and local geologic history. Field trips required.

GEOL 320. Mineralogy. (5). (3 lecture, 6 laboratory). Prerequisites, GEOL 201, Trigonometry, CHEM 105. This course includes introductory work in crystallography, descriptive and determinative mineralogy, and the study of mineral occurrences and associations. The laboratory stresses identification of minerals by means of physical and x-ray techniques. One Saturday field trip required.

h-GEOL 330. Earth Materials. (4). (2 lecture, 4 laboratory). Prerequisite, GEOL 100 or 201. A study of crystals, minerals, and igneous, sedimentary and metamorphic rocks; their origins, descriptions and bases for classification.

GEOL 340. Paleontology. (5). (3 lecture, 6 laboratory). Prerequisite, GEOL 202. A study of fossil animals and plants — their morphologies, classifications, life histories, trends of evolution, ecologies, and their uses as stratigraphic tools.

GEOL 350. Sedimentology. (4). (3 lecture, 3 laboratory). Prerequisite, GEOL 202. A study of processes of sedimentation, environments of deposition and genesis, classification, and analysis of sedimentary rocks.

GEOL 370. Structural Geology. (5). (4 lecture, 3 laboratory). Prerequisites, GEOL 201, PHYS 260, Trigonometry. This course deals with the description and classification of the geologic structures of the Earth's crust, with the mechanics of rock deformation, and with the theories and ideas concerning the origins of geologic structures. Four Saturday field trips required.

h-GEOL 390. Colorado Geology. (3). Various aspects of Colorado geology, including rocks, minerals, landforms, fossils, mining activities, oil and gas, oil shale, geologic history, and environmental aspects, will be explored in an informal atmosphere. A four-day field trip will be taken to investigate geological features in their natural setting. Not for geology majors.

GEOL 420. Optical Crystallography and Petrography. (5). (3 lecture, 6 laboratory). Prerequisites, 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 422. Individual Studies. (Maximum 4). 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 chairperson of the department.

GEOL 425. Economic Geology. (3). 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 455. Stratigraphy. (4). (3 lecture, 3 laboratory). Prerequisite, GEOL 202. Principles and techniques of analyzing and interpreting sedimentary rock strata to determine the geologic story of the earth.

Regional stratigraphy of northeastern Colorado will be investigated.

GEOL 460. Geomorphology. (4). (3 lecture, 3 laboratory). Prerequisite, 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.

h-GEOL 464. Glacial and Quaternary Geology. (3). Prerequisite, GEOL 100 or 201. A survey of geologic phenomena which characterized the Quaternary Period with emphasis on the behavior of glacier — the dynamics, growth and recession; associated landforms and sediments, and climatic implications. Two Saturday field trips required.

GEOL 468. Introduction to Soils. (4). (3 lecture, 3 laboratory). Prerequisites, GEOL 100 or 202, and CHEM 105 or equivalent. Physical, chemical, and biological properties of soils, soil-forming processes and controls, description and classification of soils, and applications of soils to Quaternary stratigraphy. Emphasis will be placed on field and laboratory experience.

GEOL 480. Geologic Field Methods. (5). (3 lecture, 6 laboratory). Prerequisites, GEOL 202, GEOL 370, and consent of instructor. An introduction to the techniques employed by the field geologist to obtain and record information from rocks in the field. Using standard geologic field equipment each student will conduct investigations and prepare a geologic map of an area of moderately complex structure.

GEOL 490. Rocky Mountain Geology Seminar. (3). Prerequisite, consent of instructor. Focus of course is three-day field trip to an area within the Rocky Mountains. In class, topics relevant to geology of area visited will be discussed in seminar format. Students will use geologic literature to research specific topics, and will prepare and deliver oral reports on these topics.

GEOL 495. Marine Geology. (3). Prerequisites, GEOL 202 and 301. A study of marine geologic processes and forms, including continental margin and oceanic basic structure and geomorphology, marine sedimentation, nearshore processes and coastal landforms.

German

d-GER 101. Elementary German I. (5). 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, dialogues, and free conversation. Supplementary work in the language laboratory is required. Language structure is covered inductively.

d-GER 102. Elementary German II. (5). A continuation of GER 101.

d-GER 103. Elementary German III. (5). A continuation of GER 102.

GER 105. Tirolean Folk Dance. (1). The course is designed to teach Tirolean Folk

Dance in the German language with student participation also in German. The academic goal is the advancement of proficiency in German and to familiarize students with the folk dances so that they will know how to teach the dances if they teach German in public schools. S-U grading.

d-GER 106. Contemporary German Drama. (2). (1 lecture, 2 activity). Prerequisite, two years of high school German or equivalent. Study of a representative contemporary German play or several skits. This will be studied and scenes will be performed in public and in class. The course will be conducted in German.

d-GER 107. German Choir. (1). The German Choir is open to all students who enjoy singing the German literature for mixed voices. A love for singing is the main requirement for registration. Stress will be placed upon developing correct German pronunciation. The group will perform for local community and university events.

d-GER 201. Intermediate German I. (4). Prerequisite, two years of high school German or equivalent. 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 use with continued drill in the language laboratory.

d-GER 202. Intermediate German II. (4). Prerequisite, GER 201. A continuation of GER 201.

d-GER 203. Intermediate German III. (4). Prerequisite, GER 202. A continuation of GER 202.

g-GER 210. German Civilization and Culture. (4). The study of German civilization and culture including the essential historical, political and artistic developments and accomplishments from early times to the present. The stress will be on those events which contribute most significantly to the life style of the contemporary German. This course will be offered only to participants of the study abroad program.

d-GER 235. Conversational German. (4). A conversation course taken simultaneously with GER 103 or GER 203. The course is designed to provide intensive training in listening and speaking along with practice in structural and idiomatic forms and exposure to current events. The course will be offered only to participants of the study abroad program.

g-GER 318. Eighteenth Century German Literature. (3). Prerequisite, three years of high school German or equivalent. 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.

g-GER 319. Nineteenth Century German Literature. (3). Prerequisite, three years of high school German or equivalent. 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.

g-GER 320. Twentieth Century German Literature. (3). Prerequisite, three years of high school German or equivalent. The most important aspects of twentieth-century German literature; neo-romanticism, symbolism, expressionism, and other movements. Readings and lectures in German.

g-GER 325. Post War Literature Since 1945. (3). Prerequisite, three years of high school German or equivalent. The course will deal with the re-emergence of the short story and the "Horspiel," two predominant forms used by German writers since 1945. The course will be conducted in German.

d-GER 335. Intermediate German Conversation. (4). Prerequisite, three years of high school German or equivalent. 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. (4). Prerequisite, three years of high school German or equivalent. 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. (4). Prerequisite, three years of high school German or equivalent. 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 340. German Drama. (3). Prerequisite, two years of college German or the equivalent. An analysis of representative plays in Germany's dramatic history including the 20th century radio play. Conducted in German.

GER 345. Phonetics of the German Language. (3). Prerequisite, four years of high school German or equivalent. 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. (3). Prerequisite, four years of high school German or equivalent. 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: Coursework. (8). Prerequisite, two years of 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, composition, and culture at the foreign study center. To be taken with GER 402.

GER 402. Study Abroad Program: Project. (4). Prerequisite, two years of college German

or permission of the department. This course is designed to give students an opportunity to research the contemporary and historical cultural phenomena of Germany through the completion of an area studies project in the region of the study center. To be taken with GER 401.

g-GER 410. German Civilization. (3). Prerequisite, three years of high school German or equivalent. 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.

g-GER 411. Contemporary Germany. (3). Prerequisite, three years of college German or the equivalent. The study of the institutions and customs of modern Germany including its social, political, educational, and economic structures. The course will focus on those facets of German life which most heavily influence the life style and *Weltanschauung* of today's German. The course will be conducted in German.

GER 422. Individual Studies. (1-4). 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 chairperson of the department. Not for General Education Credit.

g-GER 430. German Poetry. (3). Prerequisite, four years of high school German or equivalent. 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.

g-GER 431. Die Novelle. (3). Prerequisite, three years of high school German or equivalent. The course will deal with the genre of Novelle from Kleist to those contemporary authors making use of this form. The form Novelle will be considered primarily as an art form. The course will be conducted in German.

g-GER 440. Medieval Literature. (3). Prerequisite, three years of high school German or equivalent. The main emphasis will be placed on writings produced during the humanistic and reformation periods. Consideration will also be given to the folk epic, the courtly epic and the courtly lyric of the twelfth and thirteenth centuries. The course will be conducted in German.

g-GER 441. Goethe. (3). Prerequisite, three years of high school German or equivalent. This course is designed as an introduction to the life and work of Germany's greatest classic. Special emphasis is placed on developing understanding of Goethe's *Weltanschauung* and his contributions to *Sturm and Drang*. Classicism and Romanticism. The course will be conducted in German.

Gerontology

e-GERO 205. Introduction to Gerontology. (3). A survey of the characteristics and special concerns of older persons. An

introduction to the social, psychological and cultural factors associated with age. Attention is given to services, programs, and careers in the field of gerontology. The class provides an opportunity for working with an older adult.

GERO 375. Social Problems of Aging. (3). A survey of critical, problematic conditions confronting older persons in American society. Classroom simulations of social problems and investigation of problem areas by students are a part of the learning experience. Recommended solutions to identified problems will be considered.

GERO 397. Direct Practice with Older Persons. (3-4). Emphasizes direct practice strategies with older adults. Major consideration is given to the knowledge base in gerontology that relates to communication skills, interviewing, counseling and group work with older persons and their families. The role and function of the professional gerontologist in working directly with elders is explained throughout the course. A two hour lab is required for those taking course for four credit hours (required of majors).

GERO 485. Practicum/Seminar. (3). (Prior to intern, senior year.) Practicum is offered twice a year, fall and spring quarters. Course designed to assist the student with integration of knowledge of aging with beginning professional goals and experience. Practicum assists the students in the preparation of objectives and selection of internship site. Orientation to the agency is accomplished with the student spending one hour in class and three hours in the agency during the practicum.

GERO 490. Management and Administration in the Aging Network. (3). Course is designed to provide an initial entry level management/administrative survey of the aging network. This includes settings, funding, demography, economics of the gerontological work force, organizations/agencies and their relationships with aging programs. These topics are analyzed from the perspective of the mid-manager/administrator of aging programs. A comprehensive and overview of the public and private sector, administrative roles and functions will be evaluated.

GERO 493. Management/Administration of Long Term Institutional Care Facilities for the Aged. (3). The course provides comprehensive coverage in general administration, labor relations, personnel policy development and implementation, nursing home technology, medical records, housekeeping, public relations, licensing, financial management, budgeting, and other essential management/administrative concerns of the long term institutional care facility administrator.

GERO 495. Internship in Gerontology. (18). Prerequisites, GERO 205, HPER 236, HPER 251, SOC 341, GERO 375, GERO 397, PSY 433, GERO 490. An educational experience designed to assist the student in relating theories and skills in gerontology to practice situations. The student functions as a professional in an agency serving older persons under competent supervision. Field

learning context is selected in consultation with student intern.

GERO 497. Seminar: Current Issues in Gerontology. (2). The course intends to focus on the rapid and current developments in the field of aging. Topics to be covered include the following: recent legislation, funding prospects in aging, job opportunities, state/national developments in aging including university activities and research efforts.

Home Economics

Laboratory courses may require a fee to cover the cost of materials used.

i-HEC 101. Self Identification. (2). Designed to assist in developing self awareness through use of critical thought, problem solving, exploration of feelings and expression.

HEC 108. Investigating the Home Economics Profession. (2). (1 lecture, 2 laboratory). Exploration of the roles and responsibilities, professional and personal outcomes of careers in home economics.

i-HEC 111. Management for Effective Living. (3). Analysis of needs, values, attitudes, goals, standards, resources and decision making basic to managing individual roles.

e-HEC 171. Design in Living. (3). Introduction to basic design concepts with application to a variety of uses. Consideration given to development of aesthetic preferences.

e-HEC 181. Basic Textiles. (5). (3 lecture, 4 laboratory). Fundamentals of fibers, yarns, fabric construction methods and the selection, use and care of textiles.

e-HEC 190. Fundamentals of Clothing Construction. (3). (1 lecture, 4 laboratory). Basic principles of garment construction, fitting and pattern adjustment are presented.

HEC 193. Creative Clothing Construction. (4). (2 lecture, 4 laboratory). Prerequisite: HEC 190 or satisfactory performance on challenge exam and permission of instructor. Construction of garments of special fabrics using methods appropriate to the pattern and fabric. Speed techniques of tailoring included.

HEC 207. Think Metric. (1). Theory and application of the principles of the metric system.

i-HEC 212. Management Dynamics. (3). Prerequisite, HEC 111. Designed to analyze concepts underlying the management process, and to establish guidelines basic to judicious use of family resources in goal attainment.

i-HEC 221. Human Relationships. (3). Focuses attention on the total person, emphasizing influence of attitudes, needs, beliefs, values and goals and how these affect personal and family living.

HEC 241. Principles of Food Preparation I. (4). (2 lecture, 4 laboratory). Selection, preparation, and storage, including the physical and chemical changes, of fruits, vegetables, cereals, starch, breads, eggs, milk.

HEC 242. Principles of Food Preparation II. (4). (2 lecture, 4 laboratory). Prerequisites: HEC 241, HEC 250 or 251. Continuation of selection, preparation, storage, including physical and chemical changes, of cakes, pastries, meats, fats, crystalline cookery, and preservation of foods.

e-HEC 249. Food Module. (1). Each module will explore a specific food topic or issue and will carry a subtitle. No one subject may be repeated for credit.

e-HEC 250. Principles of Human Nutrition. (3). A study of contemporary nutrition issues influencing human's well being.

HEC 251. Nutrition I. (3). Prerequisite: CHEM 130. Essential nutrients and their metabolic function in promoting total well being of the individual during different stages of the life cycle.

HEC 259. Nutrition Module: Medical Terminology. (1). Study of terminology used in medical sciences.

f-HEC 291. Communication of Dress. (3). How clothing choices communicate values and attitudes of the wearer; societal factors which influence the selection of clothing; dressing for a chosen role or goal.

HEC 308. Workshops in Home Economics. (1-4). Provide opportunities to investigate various issues in Home Economics and meet specific needs of students. Each workshop will have a subtitle and no subtitle may be repeated for credit.

e-HEC 315. Consumer Education. (3). Exploration of issues relevant to analysis and resolution of consumer problems relating socio-psychological factors to consumer behavior.

f-HEC 316. Consumer Protection. (3). Information concerning local, state, and federal organizations and agencies and their functions, including existing laws and pending legislation written for the protection of the consumer

f-HEC 317. Consumer Issues. (3). Issues of current interest in the consumer area will be explored.

f-HEC 318. The Consumer and the Environment. (3). Current environmental issues focusing on air, water, energy concerns and their effect on consumers.

i-HEC 321. Role Behavior in the Intimate Environment. (4). Examination of various factors which underlie individual and situational role expectations and behaviors as well as changing role patterns.

e-HEC 340. Contemporary Food Preparation. (4). (2 lecture, 4 laboratory). Non-majors study of food selection and preparation principles in relationship to meal planning.

HEC 349. Food Module. (1). Prerequisites vary according to module. Each module will explore a specific food topic or issue and will carry a subtitle. No one subject may be repeated for credit.

f-HEC 351. Nutrition for the Older Adult. (3). Prerequisites: HEC 250 or successful completion of self study program. Nutrition principles applied to changed needs of the mature adult focusing on bio-psycho-social factors.

HEC 353. Applied Nutrition. (4). Prerequisites: HEC 251, 259, 359 and ZOO

250. Study of the nutrition intervention for acute and chronic stressors.

e-HEC 355. Nutrition and Physical Fitness. (3). Prerequisites: HEC 250 or 251. Evaluation of the relationship between dietary practices and physical performance.

HEC 357. Therapeutic Nutrition.(3). Prerequisites: HEC 251, ZOO 250. Study of adaptive nutrition patterns for acute and chronic stressors throughout the life cycle.

HEC 359. Nutrition Module: Interpreting Laboratory Data. (1). Evaluation of nutritional status based on laboratory data.

HEC 362. Demonstration Techniques. (2). (1 lecture, 3 laboratory). Prerequisites for dietetic majors HEC 242; all other majors HEC 193, 242. Theory and practice in conducting educational and commercial demonstrations of equipment and principles used in all areas of home economics.

HECV 363. Curriculum in Home Economics Education. (3). Prerequisites: VTEF 310 or consent of instructor. Purpose, content, and organization of curriculum. Emphasis placed on social, psychological and economical influences on program development.

HECV 367. Evaluation in Home Economics Education. (3). Prerequisites: HEC 363. Emphasis on the examination and development of formal and informal evaluation devices for use in evaluating student growth and development in the home economics classroom.

HECV 369. Laboratory Management and Maintenance. (1). Prerequisites: HEC 111, 181, 193, 242, and 363. Techniques for management of resources in the educational setting. Organization and management of the department's budgeting and accounting procedures, acquisition of supplies and equipment.

e-HEC 371. Design for Shelter. (4). (2 lecture, 4 laboratory). Prerequisite: HEC 171. Basic planning concepts applied to the design of living space appropriate to a variety of situational needs. Content includes construction techniques, systems for temperature control, electrical requirements, financing fundamentals.

HEC 372. Design for Interiors. (3). Prerequisites: HEC 171, 371. Planning principles related to furnishing shelter applied to a variety of situational needs. Materials, construction techniques, processes and quality features investigated in order to provide criteria for satisfactory decision making.

e-HEC 373. Applied Home Furnishings. (3). (2 lecture, 4 laboratory). Individual and class projects will include drapery, slipcovers and simple upholstery techniques.

e-HEC 374. Consumer Aspects of Household Equipment. (4). (2 lecture, 4 laboratory). Principles are studied and techniques developed in selection, methods of operation and care of household equipment.

e-HEC 381. Leisure Time Activities. (4). (2 lecture, 4 laboratory). Focus on solution of problems facing the through participation in various arts and crafts activities.

e-HEC 382. Consumer Textiles. (3). (2 lecture, 2 laboratory). Selection, care and

use of household and clothing textiles.

HEC 384. Seminar in Textiles and Clothing. (3). Research and discussion of topics of current interest in the fields of textiles and clothing. Each seminar will have a subtitle and no subtitle may be repeated for credit.

e-HEC 392. Recreational Sewing. (3). (2 lecture, 2 laboratory). Construction of camping equipment and sportswear for outdoor activities. Techniques of sewing with leather, stretch fabric, wind and water repellent fabrics, and down filled garments will be included.

f-HEC 393. Field Experiences in Cultural Awareness. (1-10). Opportunity to develop appreciation of cultural and historical backgrounds and contributions of various population groups in the USA or foreign countries.

HEC 395. Fashion Design — Flat Pattern Drafting. (4). (2 lecture, 4 laboratory). Prerequisite: HEC 193. Fashion sketching and principles of fashion design through the application of flat pattern methods.

HEC 396. Fashion Design in Draping. (4). (2 lecture, 4 laboratory). Creative experiences in fashion design through draping fabric on a form.

HEC 408. Seminar in Home Economics. (1). Investigation of current career opportunities, preparation for employment; discussion of current issues for professional involvement. Seniors only.

HEC 409. Home Economics Internship. (3-15). Departmental approval should be obtained one quarter in advance.

Prerequisites: majors only, minimum junior standing, minimum GPA of 2.7, consent of faculty coordinator. Field experiences which integrate academic knowledge into a practical setting for career preparation.

f-HEC 417. The Dual Career Woman. (3). A look at women in the home and labor force, their challenges, problems, and management practices.

HEC 419. Management for Contemporary Living. (3). (1 lecture, 4 laboratory). Prerequisites: HEC 111, 242, 349 (Meal Planning), 374. Experiences in creative approaches to various lifestyles, such as: low income, affluent, handicapped, two career families and basic self sufficient approach. Simulated living situations in Home Management residence.

HEC 422. Individual Studies. (Maximum 4). Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. A paper must be filed with the instructor and chairperson.

HECV 432. Teaching Child Development and Family Living in Secondary Schools. (3). Particular skills needed in planning and teaching child development and family living in the secondary schools.

f-HEC 444. Food for a Small Planet. (3). (2 lecture, 2 laboratory). World food supply, ecological problems and nutritional effects of traditional American diets investigated with emphasis on alternative diets and foods.

HEC 445. Experimental Food Studies. (4). (2 lecture, 4 laboratory). Prerequisites: HEC 242, 250 or 251, CHEM 130 or permission of instructor. Research and assessment of

chemical and physical changes in food due to various manipulations.

HEC 446. Food Service Administration. (3). Prerequisites: HEC 242, 251. 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. (4). (1 lecture, 6 laboratory). Prerequisite: HEC 446. Application of the principles of meal planning, food purchasing, food preparation, and food service through laboratory experiences at food service facilities on and off campus.

HEC 448. Organization and Management of Food Service. (3). Prerequisite: HEC 447, BUS 180. Principles of organization, personnel management and financial control; layout, selection of design; equipment selection; use of work measurement and data processing.

HEC 449. Food Module. (1). Each module will explore a specific food topic or issue and will carry a subtitle. No one subject may be repeated for credit.

HEC 451. Nutrition II. (3). Prerequisites: HEC 251, CHEM 281. Advanced study of nutrients and their integration at the cellular level.

HEC 453. Nutritional Intervention Practicum. (3). (1 lecture, 4 laboratory). Prerequisites: HEC 353, HEC 354. Application of the principles of clinical nutrition through laboratory and clinical experiences.

f-HEC 456. Infant and Child Nutrition. (3). Prerequisite: HEC 250. A study of changing nutritional needs to promote maternal, infant and child health.

f-HEC 457. World Food Problems. (3). Interrelationship of food supply and world conditions, problems of production, marketing, U.S. consumer practices and protection.

HECV 460. Home Economics Wage Earning. (3). Prerequisites: HECV 363. Overview of occupational home economics program at the secondary, post secondary and college levels to prepare a student for the role as teacher coordinator in home economics occupational programs.

HECV 462. Preparation for Teaching Home Economics. (3). Prerequisite: HECV 363. Strategies for successful student teaching experience.

HECV 464. Reading in Home Economics. (2). Preparation of materials based on reading principles for the teaching of reading simultaneously with the teaching of home economics.

HECV 465. Teaching Improvement Seminar in Vocational Home Economics. (2). Discuss problems in student teaching. Taken concurrently with EDFE 444.

HEC 473. Drapery-Making Fundamentals. (2). (1 lecture, 2 laboratory). Fundamentals of making lined draperies. Exposure to commercial techniques included, including an overview of commercial techniques.

HEC 494. Tailoring. (4). (2 lecture, 4 laboratory). Prerequisite: HEC 193 or permission of instructor. Develop skill in the construction of tailored garments.

e-HEC 497. Evolution of Fashion. (3). Development of fashion through the ages and

its influence on designs of present day clothing.

HEC 499. Consumer and Fashion Market. (3). Complex relationships among the various aspects of the fashion industry; designing, manufacturing, wholesaling, retailing are considered for their influence on individual and family clothing selection.

History

HIST 100. The American Past, 1492-1800.

(4). HIST 100 is a chronological survey of American history featuring two lectures and two hours of seminar research weekly. The period covered will begin with the Columbian discovery and end with the Inauguration of Thomas Jefferson. For history majors and minors, and social science majors only.

HIST 101. The American Past, 1800-1900.

(4). HIST 101 is a chronological survey of American history featuring two lectures and two hours of seminar research weekly. The period covered will begin with the Inauguration of Thomas Jefferson and end with the assassination of William McKinley. For history majors and minors and social science majors only.

HIST 102. The American Past, 1900-Present. (4). HIST 102 is a chronological survey of American history featuring two lectures and two hours of seminar research weekly. The period covered will begin with the assassination of William McKinley and end with the departure of Richard Nixon. For history majors and minors and social science majors only.

g-HIST 110. African Civilization. (4). A survey of the development of African civilization from 1500, emphasizing social, political, and cultural change. The course will include lectures, discussions, slide presentations, and films.

g-HIST 115. Asian Civilization. (4). A survey of the historical and cultural transformations occurring within the Great Traditions of East and Southeast Asia. Among topics discussed will be the Asian response to the West.

g-HIST 130. Western Civilization I. (4). A survey of Western Civilization with a focus on the development of the Near East, the Aegean World, Rome, and its successor kingdoms, through Charlemagne.

g-HIST 131. Western Civilization II. (4). A survey of Western Civilization emphasizing the development of the medieval monarchies, the rise of the state, and the assertion of the Christian Commonwealth from Charlemagne up to 1789.

g-HIST 132. Western Civilization III. (4). The interaction of world politics from the French Revolution to the present. Nationalism, romanticism, and totalitarianism are among topics discussed.

g-HIST 170. United States History, 1607-1815. (4). United States history to 1815, European background of American history, the age of discovery and colonization, the imperial rivalries, the revolution and the new nation.

g-HIST 171. United States History, 1816-1899. (4). Nationalism and sectionalism, the War between the states, reconstruction,

the emergence of modern America, the United States as a world power, the new nationalism.

g-HIST 172. United States History, 1900 to Present. (4). The new Freedom World War I, prosperity and depression, the New Deal, the long armistice, World War II, post-war problems since 1945.

g-HIST 175. Themes in American History. (4). A topical approach to American history concentrating on specific themes which have shaped America's past and continue to influence its destiny. Not open to history majors or minors.

g-HIST 218. History of Mexico. (4). An introduction to Mexican history from pre-Columbian times to the present. Emphasis will be on the nineteenth and twentieth centuries stressing events leading to the 1910 Revolution and its aftermath. Social, cultural, and economic changes also will be covered.

g-HIST 220. Geographic Influences in United States History. (2). Relationship of geography to the discovery, exploration, settlement, and development of the United States.

g-HIST 222. History of the Early West. (4). The westward movements 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.

g-HIST 224. History of Colorado. (3). 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.

g-HIST 226. The Hispano in the American Southwest. (4). 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.

g-HIST 228. History of the Black Man/Woman in America I. (4). 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 229. History of the Black Man/Woman in America II. (4). A study of the Black human'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.

g-HIST 230. History of the Black Man/Woman in America III. (4). 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.

g-HIST 232. The Quest for Security: The United States and its Military from 1770-1970. (3). The course will survey the development of American military and naval policy from its inception before the American Revolution to the rise of the modern military-industrial complex.

g-HIST 234. Dissent in America: An Historical Survey. (3). The course will survey the thought and actions of selected Americans who have dissented from the prevailing ideological consensus of their day.

g-HIST 238. The Second World War. (4). An introduction to the history of the Second World War. Among topics discussed will be the causes and consequences of the war and the crucial military and diplomatic decisions and events which determined its outcome.

HIST 240. The Vietnam Legacy in America. (4). An analysis of the Vietnam War's impact on American society and institutions, concentrating in particular on the experience of veterans, the anti-war movement, the media and the power elite. It seeks to answer the question: "What have we learned?"

g-HIST 260. Intellectual and Cultural History of Medieval Europe, 4th - 16th Centuries. (3). A survey of history from the end of ancient times to the beginnings of Modern Europe. Open to sophomores.

g-HIST 261. Intellectual and Cultural History of Early Modern Europe, 1600 to 1800. (3). 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.

g-HIST 262. Intellectual and Cultural History of Modern Europe, 1800 to the Present. (3). A survey of intellectual and cultural developments from the Romantic period to the present. Open to sophomores.

g-HIST 264. History of Greece. (4). An advanced course in the history of Ancient Greece placed in the context of the river valley civilization of the Near East. Emphasis is placed on the various aspects of Hellenic and Hellenistic life and culture in the light of recent archaeological and historical discoveries.

g-HIST 266. History of the Renaissance. (4). A study of political, social, economic, religious and cultural development of 1300-1500.

g-HIST 268. Russian History from the Beginning to Alexander I, 860-1801. (4). A survey of the main political, economic, social and cultural developments from the establishment of Kievan Russia through the rise of Muscovy and the reigns of Peter the

Great and Catherine the Great.

g-HIST 269. Imperial Russia, Alexander I to the Fall of Nicholas II, 1801-1917. (4). To provide a comprehensive overview of the salient characteristics of Russian civilization from the turn of the nineteenth century to the February Revolution of 1917. Emphasis will be placed on the movement toward more representative government and the effort to overcome economic backwardness.

g-HIST 270. Communist Russia Under Lenin and Stalin, 1917-1953. (4). 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.

g-HIST 290. American Immigration. (4). An examination of immigration to the United States emphasizing the nineteenth and twentieth centuries. While focus will be on immigration to the United States, there will be comparative reference to migrations to other countries. Among the major immigrant groups studied will be the Irish, English, Germans, Italians, Scandinavians, Jews, Chinese, and Japanese.

c-HIST 299. Introduction to Historical Research. (3). This course introduces the student to the tools and methodology of the professional historian and examines the current function and status of the teacher-historian in our society today.

g-HIST 300. History of Africa to 1800. (4). A general history of the African continent from earliest times to the beginning of the 19th century.

g-HIST 301. History of Africa, 1800-1885. (4). A survey of 19th century Africa prior to colonial rule emphasizing the spread of Islam, the end of the slave trade, the creation of new empires, and the first modern contact with the Europeans.

g-HIST 302. History of Africa, 1885 to the Present. (4). A study of the impact of imperialism and colonialism upon Africa, the growth of nationalism and the independence movements, with emphasis on the development of the African states, their politics, economics, and society.

g-HIST 307. History of China to 1840. (4). The history of China to 1840 will be considered from the point of view of political and cultural development.

g-HIST 308. History of Modern China. (4). An historical analysis of China 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 institutions in China.

g-HIST 309. Modern Southeast Asia. (4). An historical analysis of those areas of southeast Asia which have been recently thrust into collusion with the modern world. Included will be a study of Thailand, Burma, Indonesia, Vietnam, and the Philippines.

g-HIST 310. History of Japan to 1868. (4). The history of Japan up to 1868 will be considered from a cultural and political aspect. Emphasis also is placed upon social development.

g-HIST 311. History of Modern Japan. (4). An historical analysis of Japan in modern times, beginning with the late Tokugawa

period (mid-nineteenth century) and continuing up to the present. Emphasis will be on internal changes in political, social, economic and cultural institutions in Japan.

g-HIST 312. The United States and Asia. (4). An historical analysis of the American role in Asia, concentrating in particular on the American impulses towards China, Japan, Vietnam and the Philippines, and the American impact on these societies since the 1890's.

g-HIST 313. History of India and Pakistan. (4). 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.

g-HIST 314. History of Latin America: Colonial Period. (4). A survey of Spanish America and Brazil from their discovery, conquest and colonization through the Bourbon and Braganza reforms.

g-HIST 315. History of Latin America: National Period. (4). A survey of the Latin American countries from their wars of independence through the Cuban Revolution.

g-HIST 320. The Early Colonial Period: 1492-1689. (4). 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.

g-HIST 321. Eighteenth Century America: 1689-1763. (4). An investigation in depth of the development of the North American British colonies in the 18th century. Emphasis is placed on the origin of the Empire and on the colonial economy, political structure, and society.

g-HIST 322. Emergence of the New Nation: 1763-1789. (4). 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 the changing social, economic, and political patterns discernible in the revolutionary generations.

g-HIST 323. The Early Republic, 1789-1815. (4). The study of the establishment of a new federal government, the administration 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.

g-HIST 330. History of the Trans-Mississippi West: 1821-1890. (4). Examination of the Westward movement from the settlement of Texas to the end of the frontier. Major topics are: frontier monetary problems; relations of Mormons to the westward movement; pre-emption and homestead acts; forty-niners and fifty-niners; transcontinental railroads; and the range-cattle industry.

g-HIST 332. American Foreign Policy to Lincoln. (4). 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.

g-HIST 333. American Foreign Policy: Lincoln to FDR. (4). A survey of American diplomatic history from 1889 to 1945, emphasizing the problems of peace and war and the internationalist-isolationist conflict in the first half of the twentieth century.

g-HIST 334. Recent American Foreign Policy. (4). An analysis of the theory and practice of American foreign policy since World War II, significance of the Cold War.

g-HIST 335. Carnegie-Rockefeller Era. (4). Examination of the economic, political, social, and cultural developments in the United States during the Gilded Age from 1868 to 1892. Activities of business leaders such as Carnegie and Rockefeller, the struggling labor movement, and the low tone of political morality will be stressed.

g-HIST 336. Reform: Populism to Wilson. (4). A study of the reform movements that were a response to America's great transformation of the late nineteenth century. Agrarian agitation, populism and free silver, progressivism, and Wilson's New Freedom will be stressed.

g-HIST 340. Constitutional History of the United States to 1865. (4). 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.

g-HIST 341. Constitutional History of the United States since 1865. (4). The development of Constitutional interpretation from the post Civil War era. A study of Supreme Court decisions tracing changing interpretation during the eras of laissez-faire, Populist-Progressivism, the New Deal, through the present.

g-HIST 348. Great Men in American History. (3). 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.

g-HIST 349. History of American Labor. (4). A survey of the organized labor movement in the United States from colonial times to the present, emphasizing the post-Civil War.

HIST 351. Era of the French Revolution, 1786-1799. (4). A study of the classical pattern of revolution; the causes of the French Revolution, its significance in French, European and world history.

HIST 352. The Age of Napoleon I, 1799-1815. (4). A political, social, and cultural history of Napoleonic Europe with particular emphasis on the development of the modern political state, nationalism, and romanticism.

g-HIST 360. Ancient History. (4). The life and institutions of the Ancient Near East and Greece, cultural development, living conditions, and recent archaeological discoveries.

g-HIST 361. Roman History. (4). An advanced study of Roman Civilization from the founding of the Republic to the decline of the Empire. Roman life, institutions and cultural heritage are emphasized.

g-HIST 362. History of Medieval Europe. (4). An examination of the basic political,

social, and economic facts and interpretations of medieval Europe from the fall of the Roman Empire to the Renaissance.

g-HIST 363. History of Medieval Thought. (4). 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.

g-HIST 364. Constitutional History of Medieval England. (4). The development of English, legal, constitutional and administrative institutions from the Anglo-Saxon period to 1485. Emphasis will be placed on the development of the common law, the system of courts, juries, and representative institutions. The course is especially recommended for pre-law students.

g-HIST 367. History of the Reformation. (4). This course in Reformation history will provide the advanced student with the basic political, religious, social and economic facts and interpretations from about 1517 to about 1648.

g-HIST 368. History of England, 1471-1660. (4). 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.

g-HIST 369. History of England, 1660-1832. (4). The course will trace the developments in English constitutional, political, economic, and social life from the restoration to the great reform bill. Emphasis will be placed on the growth of aristocratic power and the beginning of the Industrial Revolution.

g-HIST 370. History of England, 1832 to the Present. (4). A study of the development of political liberalism in England and of the role which she has played in the modern world. The rise of the British empire will also be studied.

g-HIST 371. The Old Regime: 1648-1789. (4). A study of Western European political, economic, intellectual and cultural developments; beginning with the Peace of Westphalia and ending with the outbreak of the French Revolution. Among the states considered are Spain, the Hapsburg Empire, and France. Aspects examined will be the "age of reason" and the Enlightenment.

g-HIST 372. History of Spain and Portugal, 1469 - Present. (4). A survey of Spanish and Portuguese history which will treat topics including the Reconquista, marriage of Ferdinand and Isabella, Inquisition, colonization in the New World, decline of the the Hapsburg Monarchy, Bourbon rule, loss of empire, fall of monarchy, failure of democracy, Civil War, twentieth century Fascism.

g-HIST 374. Czarist Life and Thought. (4). An inquiry into the main developments of Russian thought, literature, painting, music, and architecture from Catherine the Great to World War I.

g-HIST 375. The Bolshevik Revolution, 1917-1921. (4). The political, social, economic, intellectual and international factors in the fall of the Romanov dynasty, the failure of the Provisional Government, the

Bolshevik seizure of power, and the Civil War are traced from the February Revolution of 1917 through to Lenin's adoption of the New Economic Policy.

g-HIST 378. Soviet-Chinese Conflict. (4). Beginning with the founding of the Chinese Communist party in 1921, the course examines Stalin's failure in China in the 1920's, the Korean War, and the Moscow-Peking conflict from the late 1950's to the present precarious relationship.

g-HIST 380. Europe: 1815-1870. (4). 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.

g-HIST 382. Bismarck's Germany. (4). A survey of German history stressing the foundations of the second Reich under Bismarck to the outbreak of World War I. Special emphasis will be laid on Bismarck, his diplomacy, Germany's social and economic developments, and the German role in the outbreak of World War I.

g-HIST 384. Adolf Hitler and the 3rd Reich. (4). Emphasizing the psycho-historical approach, this course will examine the mind and personality of Adolf Hitler, and the basic features of his Germany within the historical framework of the period, 1930-1945.

g-HIST 385. History of Modern France: 1815 to the Present. (4). The course will examine significant 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.

g-HIST 386. Modern Italy. (4). This course will emphasize the Resorgimento, Italy's role in the New Imperialism, World War I, the rise and development of Mussolini's Italy, Italy's checkered career in World War II, her inclusion in the Common Market, and future trends.

g-HIST 418. History of Argentina, Brazil and Chile, 1500 to the Present. (4). An in-depth study of the ABC countries from the discovery of Brazil through the *justicialismo* of Peron, the *Estado Novo* of Vargas, and the flirtations with socialism in Chile. To be offered every other year.

g-HIST 419. History of the Andean Republics, 1532 to the Present. (4). An in-depth study of the Andean Republics from the conquest of the Incas through contemporary movements for social reform. To be offered every other year.

g-HIST 420. Nationalism and Sectionalism in America, 1815-1848. (4). 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.

g-HIST 421. The Civil War and Reconstruction. 1848-1877. (4). 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 422. Individual Studies. (Maximum 4). Qualified undergraduate students outline and

spend a minimum of 25 clock hours per quarter on a problem. A well-written paper must be filed with the instructor and chairman before credit is given.

g-HIST 425. Recent United States History, from 1918 to the Present. (4). A cultural, political, and economic history of the United States from the "Red Scare" of 1919-1920, the "roaring twenties," and the Great Depression to the present, emphasizing the New Deal, world war and "police actions," and such aspects of the social rebellion as Black Power and other minority "power" movements.

g-HIST 429. American Intellectual History since 1865. (4). This 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.

g-HIST 470. History of Modern Germany. (4). 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.

g-HIST 472. Europe: 1870-1914. (4). A study of political, social, economic, intellectual, and diplomatic developments from the Franco-Prussian War to the beginning of World War.

g-HIST 474. Europe and the Age of Colonial Expansion, 1870-1970. (4). The course will survey the development of European colonialism and imperialism from its inception in the late 19th century to the end of the colonial period.

g-HIST 486. Contemporary European History. (4). An advanced study of European developments in recent times which will investigate the period from about 1900 to the present. The course will discuss the ideologies of communism, socialism, fascism and democracy in their world setting, and the causes and consequences of two world wars.

HIST 499. Interdisciplinary Readings in History. (Maximum 12). A course for history majors and minors dealing with the contributions that the social and behavioral sciences make to the reconstruction of the past.

History: UNC Program for Comparative Studies in Italy

g-HIST 359. Ancient Tuscany. (4). An introduction to the history, culture, and ways of life of the ancient Italians of Tuscany from 800 B.C. to 400 A.D. through the study of historical documents and archaeological remains.

Health, Physical Education and Recreation

General Education Courses

These courses are numbered from 101-191 inclusive with courses numbered from 101-190 counting towards the completion of the electives in the General Education Program. These activity courses are graded

on an individualized option basis with the student electing either satisfactory-unsatisfactory or a letter grade for the course on a non-revocable basis. These courses may be repeated for credit upon recommendation of an HPER instructor. When an activity is offered at more than one level of skill it will be noted in the printed class schedule.

e-HPER 102. Billiards. (1).

e-HPER 103. Badminton. (1).

e-HPER 105. Self Defense. (1).

e-HPER 108. Gymnastics. (2).

e-HPER 109. Physical Fitness and Conditioning. (1).

e-HPER 110. Orienteering. (1).

e-HPER 111. Softball. (1).

e-HPER 112. Tennis. (2).

e-HPER 113. Soccer. (1).

e-HPER 115. Volleyball. (1).

e-HPER 116. Golf. (2).

e-HPER 118. Basketball. (1).

e-HPER 119. Rugby Football. (1).

e-HPER 120. Bowling. (1).

e-HPER 121. Racquetball. (1).

e-HPER 122. Fencing. (2).

e-HPER 125. Swimming. (1).

e-HPER 126. Skiing. (1).

e-HPER 128. Roller Skating. (1).

e-HPER 129. Back Packing and Hiking. (1).

e-HPER 130. Modern Dance. (1).

e-HPER 132. Jazz Dance. (1).

e-HPER 133. Social Dance. (1).

e-HPER 134. Folk Dance. (1).

e-HPER 135. American Square and Couple Dance. (1).

e-HPER 136. Ballet. (1).

e-HPER 137. Tap Dance. (1).

e-HPER 138. Ethnic Dance. (2).

e-HPER 141. Varsity Football. (2).

e-HPER 143. Varsity Basketball. (2).

e-HPER 145. Varsity Wrestling. (2).

e-HPER 147. Varsity Gymnastics. (2).

e-HPER 149. Varsity Swimming. (2).

e-HPER 150. Freshman Baseball. (2).

e-HPER 151. Varsity Baseball. (2).

e-HPER 153. Varsity Track. (2).

e-HPER 155. Varsity Tennis. (2).

e-HPER 157. Varsity Golf. (2).

e-HPER 166. Varsity Volleyball (Women). (2).

e-HPER 168. Varsity Softball (Women). (2).

f-HPER 191. Personal and Family Health. (3). Designed to provide very practical and usable information and discussions concerning health problems or health concerns of the college student. Such topics as medical aspects of pollution, drug usage, sexuality, family planning, venereal disease, and consumer health will be discussed as well as other critical health problems confronting the U.S. today.

HPER 192. Advanced Life Saving and Aquatic Instruction. (3). Prerequisite, Advanced swimming skills and adequate physical fitness. Instruction in Advanced Life Saving techniques and methods of teaching swimming with emphasis on stroke mechanics and skills analysis. Upon successful completion the student will have earned American Red Cross certification in advanced life saving and water safety instruction.

Special Certification Courses

Advanced Life Saving and Water Safety Instruction: HPER 192.

First Aid: HPER 262, 263, 264, 269.

Driver and Traffic Safety Education:

Teachers assigned to teach the subjects of driver education, traffic safety, and related courses in Colorado must have successfully completed 18 quarter hours of college level courses as follows: Required, HPER 471, Safety Education, 3 hours; HPER 474, Driver and Traffic Safety Education I, 3 hours; and HPER 475, Driver and Traffic Safety Education II, 3 hours, for a total of 9 hours. The remaining 9 hours may be elected from a variety of elective courses designed to improve teaching competency in this area of specialization. All teachers assigned to teach the subject of Motorcycle Safety Education must meet all of the above requirements plus completion of the course Motorcycle Safety Education. Students may secure complete information from the Department of Health and Safety Education.

Professional Courses for School Majors and Minors

Courses numbered 200 or higher are intended primarily for the professional preparation of degree candidates completing a major or minor in the school.

HPER 200. Introduction to Health Education. (3). Designed to orient freshman majors with the breadth, scope, and nature of the professional program in health education.

HPER 202. Introduction to Physical Education. (2). Designed to orient freshman majors with the breadth, scope and nature of the professional program in physical education.

HPER 203. Introduction to Recreation. (3). Designed to orient freshman majors with the breadth, scope, and nature of the professional program in recreation.

e-HPER 205. Issues in Health. (3). A variety of forces which currently affect the well-being of human population groups on a national and international level shall be analyzed.

h-HPER 220. Anatomical Kinesiology. (3). (1 laboratory to be arranged). A study of the structural components of human movement with special attention being given to the analysis of movement problems.

h-HPER 221. Mechanical Kinesiology. (3). (1 laboratory to be arranged). A study of the mechanical components of human movements with special attention being given to the analysis of movement problems.

h-HPER 222. Physiological Kinesiology. (3). (1 laboratory to be arranged). A study of the physiological components of human movement with special attention being given to the analysis of movement problems.

f-HPER 223. Psychological Kinesiology. (3). (1 laboratory to be arranged). A study of the neuropsychological components of human movement with special attention being given to the analysis of movement problems.

HPER 224. Maturational Kinesiology. (3). (1 laboratory to be arranged). Prerequisites, HPER 222 and 223. A study of the maturational components of human

movement with special attention being given to the analysis of movement problems.

e-HPER 231. Women in Sport. (2). A course designed for students to study the potential benefits and contributions derived from the participation of women in sport.

HPER 235. Teaching Experience Seminar. (1). To provide early teaching experience. To give opportunity for discussion and group reaction to problems. To provide experienced leadership to assist in solving problems of teaching.

f-HPER 236. Introduction to Health Aspects of Gerontology. (3). This course is designed to introduce the student to current basic aspects of health factors influencing aging. A brief introduction to current theories and scientific research regarding the aging process will be presented.

f-HPER 238. Contemporary Issues in Drug Abuse. (3). This course is designed to provide the student with current information concerning the physiological, psychological, and sociological aspects of drug use, misuse, and abuse. The availability and function of drug abuse programs and agencies dealing with prevention and rehabilitation will also be presented as will current research and effective teaching methods and materials.

HPER 250. Therapeutic Recreation. (3). 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 251. Leisure, Recreation, and the Older Adult. (3). This course uses an interdisciplinary approach involving the role of leisure and recreation as it relates to understanding and working with older adults. An overview is presented including concepts, practices, trends, and discussion of current issues. (Observation and practicum required.)

HPER 252. Social Recreation. (3). 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 homes.

HPER 253. Camp Counseling. (3). 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. (3). Prerequisites, HPER 256, 295, 297. Basic techniques, movement analysis and composition for the advanced dance student.

e-HPER 256. Improvisation and Composition Forms. (3). Prerequisites, HPER 295, 297. 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.

e-HPER 262. Standard First Aid and Personal Safety. (2).

e-HPER 263. Advanced First Aid and Emergency Care. (3). Prerequisite, HPER 262.

HPER 264. Instructor's Course in Standard First Aid and Personal Safety. (1).

Prerequisite, HPER 262, 263.

HPER 265. Recreation Skills. (3). An introductory course, designed to acquaint the undergraduate Recreation major with the skills necessary to organize and conduct activities with emphasis on the lifetime approach.

HPER 266. Outdoor Recreation Skills. (2). This course is designed to acquaint the student with experiences whereby he or she may acquire knowledge and skill in the many outdoor activities.

HPER 267. Outdoor Recreation Programming. (3). An introductory course designed to acquaint the undergraduate recreation major with practical application and experience in the effective planning, organization, and management of different types of outdoor recreation programs.

HPER 268. Analysis and Movements of Flag Football. (1). Movements, skills, rules, and strategies.

HPER 269. Instructor's Course in Advanced First Aid and Emergency Care. (1).

HPER 270. Analysis and Movements of Weight Training and Conditioning. (1). Principles, methods, and techniques of weight training for athletics.

HPER 271. Analysis and Movements of Soccer. (1). Movement skills, rules and strategies.

HPER 272. Analysis and Movements of Field Hockey. (1). Movement skills, rules and strategies.

HPER 273. Analysis and Movements of Basketball. (2). Movement skills, rules and strategies.

HPER 274. Analysis and Movements of Volleyball. (2). Movement skills, rules and strategies.

HPER 275. Analysis and Movements of Wrestling. (2). Movement skills, rules and strategies.

HPER 276. Analysis and Movements of Football. (2). Movement skills, rules and strategies.

HPER 277. Analysis and Movements of Track. (2). Movement skills, rules and strategies.

HPER 278. Analysis and Movements of Softball. (2). Movement skills, rules and strategies.

HPER 279. Analysis and Movements of Self Defense. (1). The purpose of this course is to provide students with the necessary skills to protect themselves in all situations.

HPER 280. Analysis and Movements of Badminton. (1). Movement skills, rules and strategies.

HPER 281. Analysis and Movements of Fencing. (1). Movement skills, rules and strategies.

HPER 282. Analysis and Movements of Bowling. (1). Movement skills, rules and strategies.

HPER 283. Analysis and Movements of Swimming. (2). Movement skills, rules and strategies.

HPER 284. Analysis and Movements of Tennis. (2). Movement skills, rules and strategies.

- HPER 285. Analysis and Movements of Beginning Tumbling and Gymnastics. (2).** Movement skills, rules and strategies.
- HPER 286. Analysis and Movements of Archery. (1).** Movement skills, rules, and strategies.
- HPER 287. Analysis and Movements of Golf. (1).** Movement skills, rules, and strategies.
- HPER 288. Physical Education Activities for the Elementary School. (2).** 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 289. Mechanical Analysis and Spotting of Advanced Gymnastics Skills. (2).** Prerequisite HPER 285 or the equivalent. Designed to prepare the student to teach, spot, and analyze more advanced gymnastics skills.
- HPER 290. Analysis and Movements of Folk and Square Dance. (2).** Fundamental and advanced skills of folk and square dance.
- HPER 291. Rhythmic Education in the Elementary School. (2).** Methods and materials of creative dance, singing games and folk dances including the movement exploration approach.
- HPER 292. Analysis and Movements of Baseball. (2).** Movements skills, rules and strategies.
- HPER 293. Analysis and Movements of Modern Dance. (2).** The analysis and techniques of movement in relation to the aspects of time, space, and force.
- HPER 294. Problems In Dance Composition. (2).** Prerequisite, HPER 293. Problems in dance composition include rhythmic analysis and accompaniment for dance.
- e-HPER 295. Modern Dance Theory and Technique. (2).** The study of the basic principles and theories of dance movement and a basic discussion of the body's structure and movement potential.
- HPER 296. Rhythmic Analysis and Dance Accompaniment. (2).** Prerequisites, HPER 295, 297. A course designed to present the fundamental principles of rhythm and dance accompaniment through practical dance application.
- d-HPER 297. Dance Composition. (2).** Prerequisite, HPER 295. The study of basic principles of modern dance composition: movement manipulation and phrasing, spatial design; and choreographic form.
- f-HPER 299. Community Health. (3).** Designed to introduce the student to major health problems and various community health programs, agencies, and services which relate to solutions of community based problems. It is structured to include discussions of methods used to control community health problems in today's society.
- HPER 303. Health Education in the Elementary School. (PTE) (2).** Designed to give the prospective elementary school teacher a foundation in the school health program. Opportunities will be provided to develop skills in organizing and presenting learning experiences in a comprehensive and sequential health curriculum.
- HPER 326. Teaching of Dance. (PTE) (2).** Prerequisites, HPER 290, 292, 293, 294. Teaching procedures of dance activities for the physical education major student.
- f-HPER 336. Human Sexuality. (3).** This course shall be designed to survey the psychosocial and biophysical dimensions of man's and woman's growth and development toward optimal expression of sexual being.
- f-HPER 337. Socio-Psychological Concepts of Leisure. (3).** It is the purpose of this course to familiarize the student with basic sociological and psychological concepts of leisure.
- HPER 342. Modern Concepts of Health and Disease. (3).** Designed to discuss in-depth the mechanism of disease and its effect on the human body. Discussions will include current theories of and defenses against disease and analysis of the major diseases which affect the various systems of the body.
- HPER 343. Methods and Observation of Health Education. (PTE) (5).** 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) (3).** 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 Observation of Teaching Physical Education in the Secondary School. (PTE) (2).** 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 346. Assistant Teaching. (1).** Should be taken concurrently with HPER 235. Designed to afford undergraduate students an opportunity to teach under-close supervision with immediate feedback and discussion with the supervising teacher.
- f-HPER 350. Introduction to Environmental Health. (3).** This course is designed for the undergraduate student of all disciplines within the university. An interdisciplinary approach involving the relationships of environmental pollution to the ecosystem in which we live and man's health will be emphasized. The major areas of environmental pollution; i.e., water pollution, air pollution, solid waste, pesticides, radioactive wastes, and population pressures will be analyzed.
- HPER 355. Coaching of Gymnastics. (2).** Prerequisite, HPER 285. Designed to prepare the student in the techniques and strategies of coaching competitive gymnastics.
- HPER 356. Coaching of Field Sports. (2).** Prerequisites, HPER 271, 272. Designed to prepare the student in the techniques and strategies of coaching competitive field sports.
- HPER 357. Coaching of Volleyball. (2).** Prerequisite, HPER 274. Designed to prepare the student in the techniques and strategies of coaching competitive volleyball.
- HPER 358. Coaching of Tennis. (2).** Prerequisite, HPER 284. Designed to prepare the student in the techniques and strategies of coaching competitive tennis.
- HPER 359. Coaching of Swimming. (2).** Prerequisite, HPER 192 or current WSI. Designed to prepare the student in the techniques and strategies of coaching competitive swimming.
- HPER 360. Coaching of Softball. (2).** Prerequisite, HPER 278. Designed to prepare the student in the techniques and strategies of coaching competitive softball.
- HPER 361. Coaching of Football. (2).** Prerequisite, HPER 276. Designed to prepare the student in the techniques and strategies of coaching competitive football.
- HPER 362. Coaching of Basketball. (2).** Prerequisite, HPER 273. Designed to prepare the student in the techniques and strategies of coaching competitive basketball.
- HPER 363. Coaching of Track and Field. (2).** Prerequisite, HPER 277. Designed to prepare the student in the techniques and strategies of coaching competitive track and field events.
- HPER 364. Coaching of Baseball. (2).** Prerequisite, HPER 292. Designed to prepare the student in the techniques and strategies of coaching competitive baseball.
- HPER 365. Coaching of Wrestling. (2).** Prerequisite, HPER 275. Designed to prepare the student in the techniques and strategies of coaching competitive wrestling.
- HPER 366. Sports Officiating. (1).** Course number may be repeated, but sport designation may not. Designed to provide the background and understanding of the rules and techniques of officiating in various sports as indicated in the schedule of classes. Practical experience provided where possible.
- HPER 367. Adapted Aquatics. (2).** Methods of teaching swimming to students with disabilities including: orthopedic, learning disabilities, mentally retarded, emotionally disturbed, sight and hearing difficulties, etc. Course leads to Red Cross Instructor of Adapted Aquatics.
- HPER 380. Prevention and Care of Sports Injuries. (2).** 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.
- HPER 381. Practical Experiences in Care of Athletic Injuries. (1).** (May be repeated for total of 6 hours credit.) Consent of Instructor. Prerequisite, HPER 380. Practical application and experience in the prevention, management, and rehabilitation of injuries occurring in the school athletic program.
- HPER 406. Topics in Birth Control and Contraception. (1-4).** An interdisciplinary

study of basic biological, medical, and guidance principles used in birth control and abortion counseling at the UNC Sexuality Center. Emphasis is placed upon effective referral of clients to sources of professional help and information. (Limit of one credit hour per enrollment.)

HPER 410. Clinical Aspects in Therapeutic Recreation. (3). An introduction to common disabilities and illnesses with concentration on treatment procedures and/or medications and their side effects. Implications for therapeutic recreation. (restricted course)

HPER 411. Client Assessment in Therapeutic Recreation. (3). Course is designed to expose students to methods and techniques used for assessing leisure needs and determining appropriate goals. (restricted course)

HPER 412. Goal Achievement in Therapeutic Recreation. (3). Designed to develop student competencies in facilitation techniques regarding the achievement of client goals and objectives. (restricted course)

HPER 422. Individual Studies. (Maximum 4). 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.

HPER 426. Tests and Measurements in Physical Education. (PTE) (3). 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) (3). 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 436. Sociological Interpretations in Physical Education and Sport. (PTE) (3). The purpose of this course is to examine basic sociological concepts and issues, group dynamics theories and attitudes and value formation as they apply to sport and physical education.

HPER 438. Physical Education for the Mentally Impaired. (3). This course is designed to provide students with the skills required to develop, implement, and evaluate physical education programs for the mentally retarded, emotionally disturbed, and learning disabled. Course content will emphasize program development according to federal regulations.

HPER 439. Physical Education for the Physically Handicapped. (3). This course is designed to provide students with the skills required to develop and implement a physical education program for the physically handicapped. Course content will address student placement in the least restrictive alternative.

HPER 440. Perceptual-Motor Learning Theories. (3). Designed to help the student

understand the background of the perceptual-motor-movement and plan a program of perceptual-motor activities.

HPER 441. Administration of Intramural Sports and Student Recreation Programs. (2). (Laboratory required). The administrative problems confronted by the Intramural Director: Organization, supervision, scheduling, facility management, financing, equipment, and evaluation.

HPER 444. Recreation and the Voluntary Agencies. (3). This course is designed to provide students with an orientation to the various voluntary agencies that operate unique programs of recreation in the community. Special attention will be given to organization, employment practices, staff, supervision, and financing.

HPER 450. Administration of Physical Education. (PTE) (3). 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, Park and Recreation. (5). Prerequisite, HPER 368. 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. (18). 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 453. Advanced Internship in Recreation. (18). Prerequisite, HPER 452. Open only by permission of department chairperson. Opportunity provided for students to assume the normal responsibilities in the conduct of various kinds of recreation activities. One quarter of fulltime activity is required.

HPER 454. Internship in Health.(9-18). This course is designed to give the health major (non-teaching) the opportunity to work with official and/or voluntary health agencies. The experience will provide specific assignments and responsibilities for the intern under the guidance and supervision of the cooperating agency and the staff in the Department of Health and Safety Education. At the conclusion of the internship experience, a written evaluation will be submitted to the department for purposes of evaluation and recording.

HPER 456. Workshop in Modern Dance. (3). Prerequisites, HPER 255, 256, 295, 297. Problems connected with the staging of dance performances.

g-HPER 457. Dance History and Philosophy. (4). History and development of dance as it is culturally determined and the philosophy influencing dance.

HPER 459. Dance Production in High School and College. (2). Prerequisites, HPER 295, 297, 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. (4). Emphasis will be placed on initiating and developing outdoor recreation programs through multi-disciplinary (team approach), involving state and national professional education associations, governments, organizations, and private agencies.

HPER 468. Programs in Recreation. (4). Prerequisites, HPER 200, 252, 265, 266, 267. 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 470. Administration of Athletics. (3). 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. (3). 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. (4). Prerequisite, HPER 468. Reading, reports and projects covering the philosophy, methods, and materials for the recreation leader. Observation and practicum required.

HPER 474. Driver and Traffic Safety Education I. (3). Fundamentals, principles, practices and content of high school driver education and safety programs. Primary emphasis is placed on teaching the classroom phase of driver and traffic safety education.

HPER 475. Driver and Traffic Safety Education II. (3). Study of problems related to administration, instruction, evaluation and research in driver and traffic safety education programs. This course will also include directed laboratory experiences in teaching off-street driving through the use of simulation and multi-vehicle driving range and on-street driving through the use of dual control automobiles.

HPER 480. Adult Fitness Principles. (3). A course designed to familiarize the student with the special exercise needs of the adult including the use of exercises as a preventive measure in the degeneration of aging.

HPER 495. Senior Seminar. (2-4). Research, observation, participation, presentation and discussion of current events by students aimed at developing a personal and professional philosophy for their chosen professions.

Humanities

Administered by English Department.

- g-HUM 111. The Classical Ages: Greece and Rome.** (4). Selected studies in Western culture from its beginnings to the decline of Rome.
- g-HUM 112. The Middle Ages and the Renaissance.** (4). Selected studies in Western culture from the decline of Rome to the seventeenth century.
- g-HUM 113. The Age of Reason to the Age of Romanticism: 17th Through 19th Century.** (4). Selected studies in Western culture from the seventeenth through the nineteenth century.
- g-HUM 114. The Twentieth Century.** (4). Selected studies of Western culture during the twentieth century.
- g-HUM 115. The Literature and Arts of the Orient.** (4). An introduction to the literature, arts, and thought of the Orient.
- g-HUM 120. Literature and Film.** (4). A comparative study of literary and film-making techniques, the course focuses attention on significant works appearing in both media and considers the problems of translating stories from one media to another, the effects of mutual influence, and the dimensions of perception which each affords.
- d-HUM 121. The Popular Film.** (4). A study of cinematic genres (e.g., westerns, musicals, spy and detective thrillers, police and gangsters, horror and science fiction, war and violence, costume epics, silent and screwball comedy, romance, social consciousness, and documentaries) to examine the role these types have in the history of the film and as social commentary.
- g-HUM 140. Mythology and the Arts.** (4). A study of Greek and world myths as important sources of inspiration and allusion in literature, music, and the pictorial and sculptured arts. A comparison of Greek myths with those of other cultures to show what is common to all mythologies will be made.
- g-HUM 210. Themes or Problems in the Humanities.** (Maximum 12). An interdisciplinary study of one of the recurring themes in the development of civilization or of a great philosophical, esthetic, social or political problem as reflected in the arts, music, literature, philosophy.
- g-HUM 230. The Divided Self.** (4). Since simple self is also compound self, and often complex, this course studies perspectives in the divided self from Plato and Augustine to Dostoevsky and Rollo May.
- g-HUM 235. Castle and Cathedral: Aspects of Medieval Life.** (4). An introduction to secular and religious art, architecture, and general life style of the Middle Ages, with some reference to their many contributions to modern culture.
- g-HUM 240. Cultural and Historical Origins of Myth.** (4). Primary attention is given to theories explaining the origins of myths. Students will investigate the value and validity of these theories through specifically selected primary sources. The first quarter focuses on language, culture and historical phenomena.
- g-HUM 241. Psychological Origins of Myth.** (4). Primary attention is given to psychological explanations for the origins of myths. Students will apply these theories to specially selected primary sources. These studies will also point to biological or organic theories of origin. Primary sources will include painting and sculpture as well as literature.
- g-HUM 250. The Wisdom of India and China.** (4). Selected readings in the literature and some of the other arts of India and China. Emphasis will be on the concept of man as it is reflected in the art and literature of India and China.
- g-HUM 252. Japanese Literature and Art.** (4). An introduction to Japanese poetry, tales, novels, painting, and other arts, as well as their aesthetic and philosophic backgrounds
- g-HUM 253. Asian Studies — Modern China.** (4). An interdisciplinary introduction to modern Chinese culture through the study of Chinese Literature in translation, 1917-1952. Utilizing literary texts as a base, special attention will be given to the historical development, and religious, political, and philosophical traditions of the Chinese.
- HUM 260. Three Sons of Florence.** (4). A study of the Italian Renaissance during the fifteenth and sixteenth centuries, as centered in three important sons of Florence — namely, Lorenzo Medici (1449-1492), Machiavelli (1469-1527), and Michelangelo (1475-1564).
- d-HUM 320. The Art of the Film.** (4). An introduction to the major creative filmmakers — Griffith, Welles, Bergman, Antonioni, etc. — and to their characteristic technical and thematic concerns.
- g-HUM 330. Born in the Grave.** (4). The West has declined and the American Dream is dead. So we are told. Yet is it possible, even though we may live among the ruins, to be born in the grave? Without denying death, this course challenges participants with the possibility of reconstruction.
- g-HUM 331. Images of Women in Literature.** (4). Open to men and women. Investigation of stereotypes, dreams, roles, and goals of women manifested in creative works by and about women. Poetry, fiction, drama, and happenings of various countries, time-periods, and techniques will be analyzed and compared; secondary examples will be chosen from essays, art, and the popular arts.
- g-HUM 360. Creators of the Italian Renaissance.** (4). A study of major figures in the arts and letters of the Italian Renaissance, their lives, works and the world they lived in. The choice of persons to be studied will depend upon the instructor but may include Giotto, Petrarch, Brunelleschi, Botticelli, Leonardo da Vinci, Boccaccio, Lorenzo de Medici, Castiglione, Michelangelo, or others.
- HUM 377. Origins of the Gospels.** (3). An introduction to the four Gospels of the Bible, in particular an investigation into the sources and texts which make up the present Gospel narratives of the New Testament.
- g-HUM 410. Advanced Course in the Humanities.** (Maximum 12). A study of one or more great literary or artistic works in relation to history, philosophy, and other arts.

Humanities: UNC Program for Comparative Studies in Italy

- g-HUM 310. Themes, Topics, or Problems in the Humanities: Florence.** (Maximum 12). An interdisciplinary study of literature, art, philosophy, and music which reflect a recurring theme or topic or problem in the development of civilization, especially that of Italy and its influence on other countries.
- HUM 311. Studies in World Literature: Florence.** (Maximum 12). A study of a particular theme, form, or problem as reflected in Italian and other world literature.
- HUM 312. Comparative Studies in the Humanities: Florence.** (Maximum 12). A comparative study in the art, music, philosophy and literature of Italy and those of other countries.
- HUM 314. The Italian Humanists: Florence.** (4). A study of the rise of humanism in Florence in the fifteenth century. The major contributors to this movement and their ideals.
- HUM 318. Studies in Poetry: Florence.** (4). Studies of the writing and traditional poetic forms and free verse related to the visual imagery of poetry.

Industrial Arts and Technology

- IAT 100. Introduction to Industrial Arts and Technology.** (1). Orientation course describing issues and opportunities in industrial arts and technology.
- e-IAT 118. General Plastics (Synthetic Materials).** (3). (2 lecture, 3 laboratory). Introduction to the basic materials and processes in the plastics industry. Includes reinforcing (fiberglass), lamination, expandable materials, casting, assembling and finishing.
- e-IAT 141. Graphic Arts Fundamentals.** (3). (2 lecture, 3 laboratory). Basic typesetting, block printing, silk screen printing.
- e-IAT 150. Wood Processing.** (3). (2 lecture, 3 laboratory). Introduction to basic skills and knowledge of woodworking. Includes use of hand and power tools.
- e-IAT 160. General Drafting.** (3). (2 lecture, 3 laboratory). Exploratory drafting techniques, procedures, reading, sketching and mechanical drawings.
- e-IAT 161. Principles of Drafting.** (3). (2 lecture, 3 laboratory). Lettering, orthographic projections, sections, auxiliaries and dimensioning.
- e-IAT 170. Basic Metals Technology.** (3). (2 lecture, 3 laboratory). Introduction to materials and processes of metals industry with emphasis on foundry, sheet metal, bench metal, heat treatment of metals and industrial production methods.
- e-IAT 180. General Electricity.** (3). (2 lecture, 3 laboratory). Basic principles and applications of electricity/electronics. Emphasis on laboratory equipment, soldering,

component symbols and terminology, electron theory, magnetism, methods of producing electricity, resistance, current voltage and Ohm's Law in series, parallel and series-parallel circuits.

e-IAT 190. Introduction to Power. (3). (2 lecture, 3 laboratory). Energy sources and machines which convert energy into useful work. Emphasis on broad overview of entire field of power and its importance to our world.

e-IAT 210. General Bookbinding. (3). (2 lecture, 3 laboratory). Basic skills in hand bookbinding for elementary, middle and junior high school programs.

e-IAT 214. Understanding Home Maintenance Activities. (3). (2 lecture, 3 laboratory). Provide students with experiences in variety of maintenance, repair and construction activities that are necessary and commonly performed in and about the house.

e-IAT 215. Industrial Crafts. (3). (2 lecture, 3 laboratory). Design, construction and demonstration experiences in crafts, materials and areas as they apply to industrial arts shops, general shops, club activities and recreational craft programs.

e-IAT 216. Leathercraft. (3). (2 lecture, 3 laboratory). Basic skills in leathercraft, including designing, tooling, carving and constructing leather projects for industrial arts programs, club activities and recreational programs.

e-IAT 219. Plastics. (3). (2 lecture, 3 laboratory). Design, skills and techniques in use of industrial plastics. Includes thermoforming, molding, mold jigs, form making and machining.

c-IAT 222. Writing and Research in Industrial Arts and Technology. (3). Practice in basic descriptive technical writing, technical education writing and basic related research.

e-IAT 223. Industrial Mathematics. (2). Provides introduction to mathematics as applied to industrial arts and technology, specifically: manufacturing, construction, power and energy, graphics and communications. Related topics include: metric system, mini-computer operation and systems analysis as applied to materials selection.

e-IAT 241. Graphic Arts. (3). (2 lecture, 3 laboratory). Basic duplicating, intaglio, stencil, planographic and photographic reproduction processes.

e-IAT 250. Machine Woodworking. (3). (2 lecture, 3 laboratory). Prerequisite, IAT 150. Emphasis on use of woodworking machines and basic furniture construction.

e-IAT 251. Woodturning. (2). (1 lecture, 3 laboratory). Basic skills and techniques in spindle and faceplate and woodturning.

e-IAT 256. Upholstery. (3). (2 lecture, 3 laboratory). Techniques and processes in the various types of upholstery for all grade levels.

IAT 259. Industrial Arts Activities for the Exceptional Child. (3). (2 lecture, 3 laboratory). Designed to acquaint elementary teachers with industrial arts activities for the classroom.

e-IAT 261. Pictorial and Working Drawings. (3). (2 lecture, 3 laboratory). Pictorial and advanced orthographic projection.

e-IAT 272. Gas and Electric Welding. (3). (2 lecture, 3 laboratory). Basics in welding and welding technology with exposure to various welding techniques, positions and materials. Major emphasis on skill development.

e-IAT 274. Machine Tool Operation. (3). (2 lecture, 3 laboratory). Basics in the operation of machine tools, including lathes, drill presses, milling machines and surface grinders. Precision measurement and production techniques are emphasized.

IAT 281. Electro-Mechanical Equipment and Measuring Instruments. (3). (2 lecture, 3 laboratory). Prerequisite, IAT 180.

Introduction to alternating current and applications of electromagnetic principles. Emphasis on AC-DC motors and generators, alternators, meter movements; operation/calibration of oscilloscopes, inductance, capacitance, resonance, wiring and illumination and basic semi-conductor theory.

e-IAT 290. Bicycle Maintenance. (2). (1 lecture, 3 laboratory). Acquaint students with general repair and maintenance of bicycles, foreign and domestic. Purchasing, lubrication, tire care, brakes and transmissions. S-U final mark.

e-IAT 291. Internal Combustion and Reciprocating Engines. (3). (2 lecture, 3 laboratory). Two-cycle and four-cycle internal combustion, reciprocating engines. Emphasis on principles of operation and calibration of various systems of the engine.

e-IAT 299. Understanding the Automobile, a Course for Women. (3). (2 lecture, 3 laboratory). Introduction to mechanical systems of the automobile. Emphasis on explanation of operational problems and basic maintenance exercises. All presentations and exercises organized for those having little or no technical knowledge of the automobile.

IAT 308. Workshop. (1-6). Concerned with instructional problems of participants; however, problems attacked would vary according to experts conducting workshop. Each workshop will have a subtitle and no subtitle may be repeated for credit. Not open to graduate students.

e-IAT 315. General Crafts. (3). (2 lecture, 3 laboratory). Techniques, construction and demonstration in the crafts areas with simple tools and inexpensive materials with laboratory experiences.

IAT 317. Industrial Plastics. (3). (2 lecture, 3 laboratory). Development of skills and knowledge in use of thermosetting and thermoplastic materials with emphasis on industrial applications including the designing and construction of molds and forms.

IAT 320. Course Organization. (3). Organizational techniques used to develop or revise course materials.

IAT 325. Equipment Maintenance in Industrial Arts and Technology. (3). (2 lecture, 3 laboratory). Techniques of maintenance and repair of tools and machines used in industrial arts and technology laboratories. Management and

selection of supplies used in various materials areas are covered.

IAT 329. Industrial Internship. (Maximum 15). Prerequisite, adviser's recommendation and department permission. Provides industrial arts and technology majors an opportunity to improve their technical and professional skills and knowledge in a specific occupational field related to their major area of study. Each field experience is carefully planned by the student and adviser to meet the needs of the student. A complete report of experiences is required. Not open to graduate students. S-U final mark.

IAT 330. Methods of Teaching Industrial Arts in Secondary Schools. (PTE) (3). Includes curriculum, classroom organization, testing, evaluation, procedures, materials and the relationship of the area to the secondary program.

IAT 335. History and Philosophy of Industrial Education. (3). Origin and development with philosophical thought of selected leaders.

IAT 336. Principles of General Shop Organization. (3). (2 lecture, 3 laboratory). Introduction to concepts of organization and administration together with brief history, philosophy and development of the general shop. Emphasis on objectives, program planning, equipment selection and methods of teaching. Areas included are: bookbinding, leather and plastics crafts.

IAT 340. Graphic Arts Design and Layout. (3). (2 lecture, 3 laboratory). Typographic design — its origin, development and applications.

e-IAT 342. Basic Photography. (3). (2 lecture, 3 laboratory). Consent of instructor. Fundamentals of black and white photography. Tools, materials, processing, printing and finishing techniques.

IAT 345. Publication Production. (5). (3 lecture, 6 laboratory). Printing as related to publishing. Practical application in layout, design, photography and production.

e-IAT 349. Color Photography — Transparencies. (3). (2 lecture, 3 laboratory). Exposing, processing and finishing color reversal films and materials for effective visual presentations.

IAT 353. Furniture and Cabinet Making. (3). (2 lecture, 3 laboratory). Prerequisite, IAT 250. Design and construction of period and modern furniture.

e-IAT 354. Woodfinishing. (2). (1 lecture, 3 laboratory). Techniques and processes in woodfinishing. Experience with traditional and new materials.

IAT 357. Construction Technology. (3). (2 lecture, 3 laboratory). To give students experience with tools and practices associated with various trades of the construction industry.

IAT 359. Construction Activities in the Elementary Classroom. (3). (2 lecture, 3 laboratory). Designed to acquaint people with background and methods for teaching industrial arts activities at the elementary school level. Emphasis on integrating construction activities with the class level curriculum.

IAT 362. Working Drawings. (3). (2 lecture, 3 laboratory). Detail, assembly, piping,

structural, welding and limit dimensioning and tolerances.

IAT 363. Graphic Solutions. (2). (1 lecture, 3 laboratory). Developments, intersections and elementary descriptive geometry.

IAT 370. Advanced General Metalwork. (3). (2 lecture, 3 laboratory). Advanced bench metalwork, sheet metalwork, forge and foundry work.

e-IAT 371. Metal Arts. (3). (2 lecture, 3 laboratory). Tooling, etching, forming and spinning.

e-IAT 372. Advanced Welding. (3). (2 lecture, 3 laboratory). Prerequisite, IAT 272 or equivalent. Advanced skills in welding developed by exercises in AC-DC arc welding and oxy-acetylene welding of various metals. Experiences in TIG and MIG welding of both ferrous and non-ferrous metals are provided. Consideration given to principles of teaching, curriculum, supplies and equipment for teaching welding at the secondary and post-secondary levels.

e-IAT 373. Jewelry Design and Construction. (3). (2 lecture, 3 laboratory). Processes and techniques in jewelry and lapidary.

e-IAT 374. Machine Tool Technology. (3). (2 lecture, 3 laboratory). Prerequisite, IAT 274. Provides advanced experiences in the operation of machine tools with emphasis on machine tool curriculum development and utilization at the secondary and post-secondary levels. Units include: tool and die making, precision jigs and fixtures, selection, testing and utilization of materials and heat treatment.

IAT 377. Manufacturing Technology. (3). (2 lecture, 3 laboratory). Concepts and techniques associated with manufacturing.

e-IAT 390. Solar Energy. (3). (2 lecture, 3 laboratory). Solar energy systems. Emphasis on solar energy system component design and construction. Thorough study of underlying principles of solar energy collection and utilization.

IAT 392. Jet, Turbine and Rocket Engine Principles. (2). (1 lecture, 3 laboratory). Various continuous combustion engines. Includes gas turbines, jets and rocket engines. Emphasis on principles of operation, design, construction and application.

IAT 393. Automotive Electrical Systems. (3). (2 lecture, 3 laboratory). Prerequisite IAT 180 or consent of instructor. Automotive electrical systems from basic electricity to electronic ignition and voltage regulation. Balance of theory and practical laboratory exercises.

IAT 395. Automotive Fuel Systems, Carburetion and Fuel Injection. (3). (2 lecture, 3 laboratory). The theory of design and operation of automotive fuel preparation systems from basic carburation to electronic fuel injection. Emphasis is on balancing theory with practical laboratory experiences, periodic maintenance, repair and troubleshooting of automotive fuel preparation systems.

IAT 396. Automotive Engine Overhaul and Repair. (3). (2 lecture, 3 laboratory). Prerequisite, consent of instructor. Disassembly, analysis, reassembly and calibration of internal combustion

reciprocating engines. Careful, accurate standards in all procedures common to engine overhaul and repair. Required project, overhaul and calibration of an automotive engine.

IAT 418. Plastics Technology. (3). (2 lecture, 3 laboratory). Industrial processes in the plastics industry with emphasis on molding, casting, thermoforming processes, and fabrication.

IAT 422. Individual Studies in Industrial Arts and Technology. (Maximum 4). Qualified undergraduate students must 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 chairperson of the department. Not open to graduate students. Not for general education credit.

IAT 433. Industrial Materials. (3). Origin of materials used in industrial arts and technology classes and processes involved in the manufacture of each material. Ways of presenting the related information and consumer knowledge of each material are considered.

IAT 434. Industrial Occupations. (3). Industrial occupations as related to vocational, technical and industrial arts education. Includes types of occupations, entrance requirements, sources of training and other related information which would be of benefit to the industrial education teacher.

IAT 440. Organization of the Graphic Arts Laboratory. (3). (2 lecture, 3 laboratory). Planning techniques, including objectives, educational specifications, equipment, management and content.

e-IAT 442. Black and White Photography. (3). (2 lecture, 3 laboratory). Experimental, interpretive and communicative photography. Advanced camera and printing techniques.

IAT 443. Fundamentals of Photo Offset Lithography. (3). (2 lecture, 3 laboratory). Copy preparation, camera work, platemaking and offset press operation.

IAT 444. Problems of Design in the Graphic Arts. (3). (2 lecture, 3 laboratory). Selection and development of individual projects for the classroom which emphasize various design principles.

e-IAT 446. Color Photography — The Print. (3). (2 lecture, 3 laboratory). Current methods and techniques of color printing from negatives and transparencies.

e-IAT 447. Photographic Illustration. (3). (2 lecture, 3 laboratory). Still life photography in black and white and color. Studio techniques for architectural, industrial-technical and commercial applications.

IAT 448. Portrait Photography. (3). (2 lecture, 3 laboratory). Posing, lighting, printing and finishing portraits in black and white and color.

IAT 449. Advanced Color Photography — Transparencies. (3). (2 lecture, 3 laboratory). Prerequisite IAT 349 or consent of instructor. Advanced techniques in the use of color reversal materials for effective multi-projector visual presentation.

IAT 452. Problems in Woodworking. (3). (2 lecture, 3 laboratory). Problems the

specialized teacher in woodworking in secondary schools must meet.

e-IAT 454. Antique Furniture Restoration. (3). (2 lecture, 3 laboratory). A study of the purchasing and restoration of antique furniture.

e-IAT 455. General Woods. (3). (Summers). (2 lecture, 3 laboratory). Acquaint students with the tools, materials and processes of woodwork. Non-majors only.

IAT 459. Industrial Arts for Special Need Students. (2). (1 lecture, 3 laboratory). Prerequisite, EDSE 405. This course may be substituted for EDSE 407. Instruction will deal with specific methods and techniques to be used in working with handicapped students in an industrial arts facility.

e-IAT 461. Architectural Drawing. (3). (2 lecture, 3 laboratory). Planning, drawing and specifications of homes.

IAT 462. Problems in Drafting and Planning. (3). (2 lecture, 3 laboratory). Content from selected areas in terms of individual needs.

IAT 463. Machine Drawing. (3). (2 lecture, 3 laboratory). Limit and tolerance dimensioning, screwthreads, cams and gears.

IAT 480. Electronic Circuit Applications. (Maximum 9). (For 3 credit hours — 2 lecture, 3 laboratory). Electronic hardware and component applications to common circuits found in electronic equipment. Emphasis on control circuits, digital computer logic theory, solid state devices, printed circuits, power supplies, amplifiers, oscillators, transmitters, receivers and fundamentals of TV. Assignments established on individual needs and interests. Amateur radio and various FCC licenses can be earned in this course. May be repeated for credit.

e-IAT 485. Digital and Microprocessor Basics. (Maximum 9). (For 3 credit hours — 2 lecture, 3 laboratory). Introductory course which deals with digital IC gates, IC families/numbering systems, flip-flops and counters, shift registers, memory units (RAM-ROM), arithmetic logic units and microprocessor basics. Application of op-codes and interfacing techniques (A/D/D-A converters) for 8-bit microprocessor families are taught on a laboratory trainer. May be repeated for credit.

IAT 494. Transmission of Power. (3). (2 lecture, 3 laboratory). Various methods of converting power to useful work. Mechanical, hydraulic and pneumatic transmission. Lecture and laboratories on mechanical drives, hydraulic and pneumatic circuits, pumps, valves and support equipment.

The Instructor/Course Unit

f-ICU 102. Seminar on Human Values. (3). Season. This course is designed to help individuals identify and critique their own values and to help them learn to cope with the value commitments and expressions of others. S-U final mark.

ICU 108. Impact of Computers on Society. (3). McNerney. The study of computers and their influence upon society will be the emphasis of this course. The issues of automation and employment, privacy,

individuality, and abuse of power will be stressed. The influence of the computer upon education, science, art and music, business, and law enforcement will also be studied.

ICU 109. Reaching Beyond the Rational.

(3). **Fields.** Discusses a present mood of skepticism about the quantifying, objective methods of science; the rise to a state of acceptance of the scientific method; and concepts which lie between scientific and irrational. It will be shown that the concepts of rationality are a function of our ability to understand the universe.

ICU 112. Folk Furniture and Musical Instruments. (3). **Cordiner.** A creative approach to the design and building of useful objects, utensils or musical instruments based on the apprehension of personal, cultural, social or other needs.

ICU 113. Chinese Sumi-e Lettering. (3). **Shin.** A study of basic Chinese Sumi-e Lettering. Provides a general understanding of the Chinese cultural experience. Handling and care of brushes, preparing the ink and paper. Holding the brush and brush practice with Chinese Lettering.

f-ICU 202. Technology: Its Impact on Society. (3). **Jelden.** This course will deal with the impacts of industry and technology on our modern society. Emphasis placed on invention, power and energy, transportation and communication, new materials, agriculture and construction, and socio-economic impacts; implications and impacts on the natural, physical psychic, and social environment. Technology will be viewed as an intellectual discipline.

h-ICU 205. Human Sexuality. (3). **Malumphy.** A study of the physiological, psychological, and sociological aspects of human sexuality. Special emphasis is given to the biological basis of sexuality. An understanding of sex differences, institutional structures, and sociological processes are developed from the biological foundations. Sex role development and identity as well as other issues of human sexual behavior are discussed.

e-ICU 206. Contemporary Solutions to Automotive Environmental Pollution and Energy Problems. (3). **Roy.** A course with emphasis on providing information and developing basic skills which all persons may use to lower emissions from their automobiles and increase engine efficiency. A comprehensive review of private and governmental organizations involved in solving or regulating pollution caused by the automobile.

ICU 207. Leisure and the Outdoors. (4). **Cyphers.** A course designed to provide direct experience participation in outdoor pursuits related to the natural environment. Group living experiences in a field campus setting and in an outdoor living situation will be offered. Emphasis will also be given to career opportunities in outdoor related fields.

i-ICU 208. Liberation: Myth to Ms. (5). **Willcoxon.** Interdisciplinary approaches will be used to ascertain how myth has affected the identity, roles and attitudes of the "male world" and of women in relationship to themselves and society. Projects will range from traditional research papers to critical

and investigative analyses of current efforts toward perpetuating myth or developing "Ms."

f-ICU 210. Death and Dying. (3). **Inglis.** Examining current American's view of death and dying from various perspectives of psychology, religion, medicine, and sociology, an attempt will be made to help students explore attitudes toward death, including their own. Also the course will deal with grief and mourning and reactions to dying persons to imminent death.

ICU 211. Utopias, Dystopias in Literature. (4). **Huff.** An historical and critical view of fictional societies through selected readings of utopian and anti-utopian literature.

ICU 213. Theatre: A Place to be Somebody — Else. (3). **Norton.** A course designed to aid the student in defining Theatre through the use of his or her own inner resources, experience and dramatic instinct.

ICU 219. Asian Studies: The Great Traditions of South Asia. (3). **Edgerton.** An interdisciplinary introduction to the culture of India and South Asia with special attention to the historical development, socio-economic patterns, political traditions, religious, philosophical, literary and artistic accomplishments of the area.

ICU 222. Introduction to Folklore. (4). **Manley.** An introduction to some of the basic genres of folklore, with an examination of the relationship between folklore and the arts and of that between folklore and society.

ICU 223. An American Identity. (4). **Rea.** This class will attempt to grapple with that nagging question of the American character, and will demand that the student attempt to determine to what extent he or she is the product of various cultural forces.

ICU 226. General Kinesiology: A Study in Human Movement. (3). **Barham, Sage.** An introduction to the scientific analysis of motor performance. Special emphasis is given to the mechanical, physiological and psychological components of performance. These components will be studied in both the classroom and laboratory settings.

ICU 302. Contemporary Issues in Drug Abuse. (3). **Harrison.** This is a course designed to provide the student with current information concerning the physiological, psychological and sociological aspects of drug use, misuse and abuse. The availability and functionability of drug abuse programs and agencies dealing with prevention and rehabilitation will also be presented as will current research.

i-ICU 304. The American Nightmare: Protest Against the Dream. (4). **Willcoxon.** The components of the American Dream will be discussed, with students then determining what areas of protests against the Dream and what areas of protest against the lack of realizations of the Dream should be analyzed.

ICU 305. POP! Went the Dream. (4). **Bowles.** An attempt to determine the nature of popular culture and the extent to which its development is related to the American Dream. Such typical manifestations as art, motion pictures, radio, television, music, reading matter, and sports will be examined with each student determining his or her own area of interest.

ICU 307. Casinos, Gambling and Game Simulation. (3). **Heiny.** Study of alternative decisions and their probabilities, odds and payoffs in gambling games. Lotteries, numbers, racetracks, and athletic betting will be covered. The premiums, payoffs, and odds in insurance investing will be investigated. Simulation of games on the computer will be used for instruction. No math or computer prerequisite. S-U final mark.

ICU 309. Ethical Values and Children's Literature. (3). **Hodapp.** This course will delve into the underlying and explicit moral values found in children's literature. The literature will encompass folk tales to modern children's literature. The course will culminate in the creative effort of the student in creating a children's story.

i-ICU 310. Effective Parenting. (2). **Sawatzky.** A study of parenting techniques based upon the Transactional Analysis model. Includes a comparative study of theories regarding the emotional needs of children through growth and development, and information about effective parenting messages and techniques as well as parent messages and behaviors that are disruptive or destructive.

ICU 317. Latin American Magical Realism in Short Story and Novel. (3). **Hoffman.** The course is an introduction to the best of the recent Latin American novelists and short story writers. Authors to be studied are Jorge Lues Borges, Julio Cortazar, Carlos Fuentes, Juan Rufo and Gabriel Garcia Marquez.

ICU 319. Sexism in Management: Changing Roles for Men and Women. (3). **Holmbee, Saam.** Ideas, theories, and models from various disciplines will be applied to management problems created by recent legislation concerning sex discrimination. Students will be given opportunities to investigate their leadership styles, their behavioral roles in small groups, their reactions under stress and competition, their unique problems, their bargaining behavior, and their relationships and expectations of the sexes under these conditions.

ICU 320. The Question of Love. (3). **Malnati.** A study of the diverse expressions and imitations of love in the lyrics of Dante, Petrarca and Boccaccio as they relate to their own 20th century question of love.

ICU 322. The Lore and Logic of Chess. (4). **Anders.** This course will explore the philosophical concepts which underlie the evolution of chess; introduces the mechanisms by which computers make chess move decisions; develop judgment, logic and imagination in electing from an infinite number of chess moves. S-U final mark.

ICU 324. Politics, Technology, and Political Science. (3). **Mazurana, Watson.** A revolution in the science and technology of knowledge and communication involving computers and electronic media has substantially altered the environment of contemporary politics, public administration, and political science. The purpose of this course is to explore the interconnections between practical politics, the academic discipline of political science, and these

revolutionary changes in the contemporary era.

ICU 326. The Court of Louis XIV. (3). Brown. An examination of the art, music and literature of the court of Louis XIV, and the social and moral values which they reflect. Ideas to be discussed include role-playing, the trend toward the ceremonial, class distinction and ethics as seen through authors such as Racine, Moliere and Pascal.

ICU 329. Philosophical Concepts of Science. (3). Fadner. A non-mathematical study of philosophical problems in science as viewed by scientists, including topics such as social influences in the rise of science, casualty, determinism, inter-dependence of natural objects, correspondence principles, conservation principles, particle-wave duality, measurement, the validation of theories, free will.

ICU 332. Who Rules America? (4). Perchlik. An analysis of the nature of power and of the means of attaining it in contemporary society. Particular attention will be paid to theoretical and real conflict between participatory democracy and elitist and special interest government. Recent sociological, economic, and political developments will be discussed.

f-ICU 334. Seminar on Awakening Creativity. (3). Heckman. A course designed to awaken and activate the creative powers which are present in every individual. The focus will be on the creative potential which involves all common areas of living, such as study, leisure, relationships, work and personal growth. Participation in class and contributions of thoughts and ideas required for successful completion. S-U grading.

ICU 337. Job Readiness Skills. (3). Scharf. To provide the disabled and able-bodied an opportunity to interact concerning the world of employment, as they mutually discover the equalizing factors which determine job seeking success. It will be a learning experience for each group.

ICU 341. Student Power. (4). Trahan. An historical and sociological examination of student awareness of their current and potential role in institutional and community discussion making. Students will be required to become familiar with literature on student activities and directly observe and analyze local and community discussion making processes.

f-ICU 342. Ethno-Gormandistics. (3). Kilewer. A study of various cultures — their histories, customs, and cuisine. Typical foods of each culture studied will be prepared and sampled by the class as an aid to understanding and appreciating the people.

ICU 343. Current Issues in American Law. (3). Seymour. This course is intended to provide a foundation for understanding and coping with our legal procedure, tort and criminal law, taxes, consumer and protection, environmental protection, employment law, antitrust law, and family law (marriage, women's rights, children, and divorce).

ICU 345. Juries, Justice, and Jurisprudence. (3). Crawford. This class is a lecture-discussion course designed to investigate American trial advocacy, criminal justice, and the role of the American courtroom lawyer.

f-ICU 346. Dictators, Violence and Repression in Latin America. (3). Higgins, Hoffman. Dictatorial regimes come and go in Latin America, and the coup d'etat and the military junta are common phenomena. Violence, repression and dictatorships are common themes in much of the contemporary literature and art. The course will deal with the social, economical and historical reasons for dictatorships and with the literary and artistic expressions of the dictator and violence theme.

f-ICU 347. Contemporary Dissident Movements in U.S.S.R. (3). Owechko. The course is designed to investigate the causes (reasons), goals and possible effects of different kinds of dissident movements in today's U.S.S.R. and to analyze some literary, publicistic, artistic works and religious activities which became a target of the Soviet government's persecution of authors and their followers.

ICU 400. Sociology of Sport in American Society. (3). Sage. The main objective of this course is to utilize basic sociological concepts and theories for an analysis of sport in American society.

ICU 402. Science and Christianity. (3). Peoples, Viens. A practical and non-denominational examination into the roles of the natural sciences and the Christian religion in the life of today. Emphasis is placed upon such topics as the origin of life, origin of man, purpose of being, the human environment, family relations and future of society.

ICU 400. Sociology of Sport in American Society. (3). Sage. The main objective of this course is to utilize basic sociological concepts and theories for an analysis of sport in American society.

ICU 402. Science and Christianity. (3). Peoples, Viens. A practical and non-denominational examination into the roles of the natural sciences and the Christian religion in the life of today. Emphasis is placed upon such topics as the origin of life, origin of man, purpose of being, the human environment, family relations and future of society.

Interdisciplinary Studies

d-ID 102. Composition Skills I. (4). An intensive study of sentence structure and sentence combining techniques, with instruction in the conventions of standard edited English and in the use of several rhetorical patterns (description, exemplification, analysis, comparison) for the development of paragraphs and essays.

d-ID 104. Individualized Reading. (3). This course is designed for students who need additional development and reinforcement of their reading skills. At the outset, each student's instructional reading level and strengths are assessed, and a program is then assigned to meet his particular needs. One-to-one instruction predominates. Consent of instructor.

d-ID 106. Composition Skills II. (3). Continued instruction in essential composition skills, with an introduction to some additional rhetorical patterns (definition, summary, process, causation) and an emphasis on spelling and vocabulary improvement. Consent of instructor.

d-ID 107. Introduction to Technical Writing. (2). Instruction in the composition techniques and skills required for organizing and writing resumes, business letters, persuasive essays, and research papers with emphasis on the principles of sound critical thinking. Consent of instructor.

ID 150. Writing Skills for the Business and Professional Community. (2). A two-week seminar designed to improve substantially the writing skills of members of the business and

professional community. It will focus on strengthening practical grammar skills. Specific areas of emphasis include increasing spelling accuracy, improving sentence construction and mechanics, as well as vocabulary expansion. The thrust of the course is toward quickly developing a functional understanding of the basics of clear writing for members of the community who cannot spend the time to take a regular twelve-week writing course.

g-ID 176. The Ideas of America. (5). The American Studies approach will be used to present a survey analysis of how the development of art, architecture, music, literature, and thought influenced and reflected the American experience and used to trace the significance of our past experience to present concerns.

ID 202. Computer Science I — Elementary Modeling. (4). (3 lecture, 2 laboratory). This course will cover the concepts of elementary modeling. A simple computer language will be mastered at the outset (most likely BASIC). During the course, ten different modeling problems will be solved with the computer. These problems will include population and economic models which are basic to elementary modeling studies.

ID 203. Computer Science II — Advanced Modeling. (4). (3 lecture, 2 laboratory). Prerequisite, a computer language course or permission of instructor. This course will cover advanced modeling concepts such as social, educational, energy, business and organizational models. Modeling is a tool used to find an optimum solution to a complex problem, usually before the problem is underway. This course is a continuation of ID 202, and although ID 202 would be helpful for this course, it is not a prerequisite. Students will concentrate in three of above-mentioned modeling areas.

ID 204. Computer Science III — PL/1. (4). (3 lecture, 2 laboratory). This course will cover the non-mathematical, non-business aspects of the PL/1 language. Computer science phases of PL/1 will be emphasized, including string and list programming.

ID 205. Computer Science IV — Assembly Language. (4). (3 lecture, 2 laboratory). This course will teach the fundamental assembly language of the IBM 360 computer, the CDC 6600 computer and the assembly languages of smaller computers. Emphasis will be on the computer science aspects of assembly language (the why and whereas) rather than the (how). Mathematics and business applications will not be studied.

ID 206. Elementary Computer Logic. (3). This course will utilize logical truth tables in the complete design of a computer. This is not a "hardware" course. Elementary arithmetic will be used in the development of the design. Students will learn sufficient detail to enable them to understand how simple pocket computers and large complex computers work.

ID 207. Artificial Intelligence. (3). This course focuses on milestones in achievement of intelligent behavior by machine, simulation of cognitive processes which include computer models of human behavior in solving logic problems, models of verbal

learning behavior, predictive behavior in two-choice experiments, and concept formation. In the film "2001, A Space Odyssey" a computer named Hal was given human attributes; this course will question whether or not a robot like Hal can be created.

g-ID 302. Cultural Pluralism. (3). This course is designed to provide general education students and those in the helping professions an opportunity to become more aware of ways to better understand cultural differences in a pluralistic society.

ID 308. Workshop. (1-15). An opportunity for undergraduate students to study problems in education. The area to be covered in any one workshop will be determined by the workshop subtitle. No subtitle may be repeated for credit.

ID 337. History and Art of Africa. (4). A social and cultural history of Africa over the last three hundred years, with particular emphasis on artistic developments. The areas of concentration will include Nigeria, Angola, Ghana, Ivory Coast, Liberia, and Zaire. The course will include lectures, discussions, slide presentations and films. Team-taught with Fine Arts Department.

ID 350. Race, Poverty, and Change in Urban America. (3). This course is to be 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 organization, and the sociological and biological concepts of race.

ID 375. Human Relations. (4). This course is designed to contribute to the student's awareness of social and race relations. Emphasis is given to social positions, values, issues, and aspirations. An interdisciplinary approach will be used.

i-ID 404. Leadership Skill Development. (2). Permission of the instructor. The course is designed for students who are engaged in leadership positions on campus. The student participates in a seminar exploring concepts and dynamics of leadership. Includes readings and individual project activities pertaining to the student's leadership position. S-U final mark. 8 hours maximum.

ID 423. Microteaching. (2). The course endeavors to have teachers improve in their teaching competence by presenting micro teaching episodes, video and/or audio taping them, evaluating the tape, and humanistic questioning and discussion techniques will be stressed.

ID 424. Orientation to Educational Accountability. (3). Educational accountability and procedures essential to its implementation. Covers terminology, historical development, professional and lay involvement, implications for state departments and means of planning for accountable programs. Emphasis on performance contracting, educational vouchers and program evaluation. Offered by Department of Industrial Arts and Technology.

ID 425. Professional Teacher Competencies. (3). Ten basic functions of classroom teacher and specific tasks which

must be performed within each. Organization of class material is such that competencies are on facilitating instruction, managing the learning environment, improving individual competencies, designing programs, designing instruction, providing professional service, evaluation programs, nurturing humaneness and utilizing research. Offered by Department of Industrial Arts and Technology.

ID 426. Orientation to Computer Assisted/Managed Instruction. (3). Orientation in utilizing computer for both instructional tool and management tool. Emphasis on systems terminology, basic problem language for classroom teachers and steps of procedures for converting traditional teacher-lecture materials to computer managed instruction. Opportunities to experience interactive and non-interactive instruction program also provided. Discussion will provide information on commercial CAI/CMI systems available to public school personnel. Offered by Department of Industrial Arts and Technology.

ID 438. American Politics: History and Theory. (3). Analysis of significant texts in political philosophy by Americans and of the historical circumstances in which those texts were written; close attention will be given to the political philosophies of Madison, Jefferson, Hamilton, Calhoun, Thoreau, Bellamy, Dewey, and Lippmann.

ID 480. Interdisciplinary Field Research and Study. (3-15). This course, designed primarily for students in the Interdisciplinary Studies Program, offers an opportunity to engage in extensive or intensive field work or to hold an internship in an area relevant to the student's interdisciplinary program. It will be supervised by the student's principal advisor or another faculty member approved by that advisor.

Individualized Education

IE 201. Individual Tutorial. (Maximum 15). Study with a faculty tutor on individualized projects which may involve library, laboratory, or independent field work. The nature and duration of each project will be determined by consultation between student and tutor. One to fifteen hours of ungraded credit.

IE 401. Individual Tutorial. (Maximum 15). Study with a faculty tutor on individualized projects which may involve library, laboratory, or independent field work. The nature and duration of each project will be determined by consultation between student and tutor. One to fifteen hours of ungraded credit.

Individual Studies

IS 422. Individual Studies. (Maximum 4). 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 chairperson of the department.

Italian

d-ITAL 101. Elementary Italian I. (5). 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.

d-ITAL 102. Elementary Italian II. (5). A continuation of ITAL 101.

ITAL 103. Elementary Italian III. (5). A continuation of ITAL 102.

ITAL 422. Individual Studies. (1-4). 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. Not for General Education credit.

Journalism

All journalism courses ending in the ten numbers as designated in the categories below belong to that journalism area of study:

- 1- 9 General courses and Internships
- 10-19 Writing and Reporting
- 20-29 Individual Study and Research
- 30-39 Teaching
- 40-49 Broadcast
- 50-59 Editing and Layout
- 60-69 Community Journalism and Management
- 70-79 Photography and Graphics
- 80-89 Advertising and Public Relations
- 90-99 Press Criticism, History, Law

d-JOUR 100. Introduction to Journalism. (2). Description and analysis of the news and information media in the United States from the point of view of the consumer and the prospective journalist. Recommended for freshmen and sophomores.

c-JOUR 110. Newswriting. (4). Prerequisite, functional skill in typewriting and successful performance on departmental test of proficiency in English grammar, spelling, and word use. Designed to sharpen judgment and skill in selecting, reporting and writing news for print and broadcast with emphasis on newspaper newswriting.

JOUR 115. Advanced Newswriting. (4). Prerequisite, JOUR 110. Covering assignments outside the classroom, with emphasis on the reporting and writing of public affairs.

JOUR 210. Feature Writing for News Media. (3). Prerequisites, JOUR 110, 115. Analyzing, researching, and writing the longer feature with emphasis on current subjects usable in the local press.

JOUR 250. News Editing. (3). Prerequisite, JOUR 110. Principles and practice in editing copy and pictures, writing headlines; use of editorial judgment.

JOUR 255. Publications Layout. (3). Copy and picture layout for the printed media.

JOUR 284. Techniques of Advertising. (3). A copywriter's approach to the study of advertising. Emphasis is on creating copy both for print and broadcast advertising, and the layout and illustration of advertisements.

JOUR 301. Journalism Internship. (2). Practical experience in at least two of the following areas (prerequisites noted in parenthesis): advertising (JOUR 284); newspaper (JOUR 110, 115, 250); news service (JOUR 110, 115, 210); sports writing (JOUR 110, 115, 210); broadcast (JOUR 110, 340, COMM 340 or 342); publications (JOUR 250, 255); photography (JOUR 370); adviser aide (teaching)(JOUR 330, 435).

JOUR 310. Analytical Reporting. (4). Prerequisites, JOUR 110, 115. Preparing interpretive articles, investigative stories, editorials, columns, critical reviews (drama, films, books, music, recordings, art, radio and television).

JOUR 330. Teaching Secondary School Journalism. (PTE) (3). Methods of teaching, use of teaching materials, and use of communications theory applied to journalism teaching.

JOUR 340. Broadcast Newswriting. (3). Prerequisite, JOUR 110. step-by-step practice in writing news for broadcast, leading to preparation of newscasts, mostly for radio but with some attention to television.

JOUR 360. Community Newspaper. (3). Prerequisites, JOUR 110, 115, 250. A realistic look at the problems and prospects of weeklies and small dailies, and the environments that shape them. Study will include cases, practical experience, and meetings with community journalists.

JOUR 370. Photojournalism. (3). (Laboratory arranged). Prerequisites, JOUR 110 and IAT 342. How to report news with a camera, design picture pages, write and illustrate photo features and essays, and write cutlines. Students must provide their own adjustable-lens camera.

JOUR 380. Public Relations. (3). A survey of the theories, concepts, and procedures fundamental to the understanding and practice of public relations. Application to business, government and other organizations is discussed.

JOUR 384. Direct Mail Advertising. (1). The technique and procedure of creating the mailing piece as well as securing of a productive mailing list.

JOUR 385. Media Planning. (1). Methods and procedures used in planning the media mix to be used in an advertising campaign. Emphasis given to use of advertising in newspapers, magazines, radio, and television.

JOUR 386. Advertising Regulation. (1). Study of controls on advertising by use of professional codes, postal laws, and federal and state regulatory agencies.

d-JOUR 397. Master Journalists and Their Times. (3). American journalism history concentrating on great American journalists, emphasizing their writings, standards of journalism, and their contributions to journalism and to society.

d-JOUR 399. Press Criticism and Current Affairs. (3). How to follow and understand today's news in today's world with some attention to past events that contribute to current trends. How to analyze and judge how well the mass media report and interpret news. How to evaluate the influence of press councils, journalism reviews, ombudsmen and other ways to improve the media.

JOUR 401. Journalism Intern. (15). Prerequisites, junior or senior status and permission of journalism adviser. Journalism majors only. One quarter of full-time work off-campus in news, public relations, advertising and other journalistically related organizations.

JOUR 408. Workshop. (1-4). Special workshops or short courses in various content areas of journalism and journalism education will be offered during the summers and other quarters as the need and opportunity arises. Course may be graded S or U.

JOUR 422. Journalism Individual Studies. (1-4). 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 chairperson of the department. Not open to graduate students. Not for General education credit.

JOUR 430. Scholastic Publications. (PTE) (3). Analysis of purpose and problems of school newspapers and yearbooks; techniques in advising newspapers, yearbooks, and magazines.

JOUR 435. Teaching by Newspaper and Broadcast. (PTE) (2). Use of newspaper-in-the-classroom program for teachers of varied study areas, and use of radio and television to supplement classroom instruction.

JOUR 460. Newspaper Management. (3). Prerequisites, JOUR 110, 115, 250, 284. Production, circulation and advertising management; bookkeeping and supply ordering; buying; ownership regulation for the smaller daily and the weekly. Attention is given to production and trends in publishing technology.

d-JOUR 492. Ethics and Libel. (3). Prerequisite, junior or senior status. Study of current ethical and legal problems of the printed and broadcast media; designed for the prospective newsperson, publisher-manager, school administrator, and journalism teacher.

d-JOUR 496. Profiles of 20th Century Journalists. (3). Intensive examination of the lives and careers of ten or fewer distinguished journalists of the twentieth century as revealed by their biographies or autobiographies, such as those of Edward R. Murrow, Dorothy Thompson, Theodore H. White, and Heywood Broun.

Mexican American Studies

g-MAS 101. Introduction to Mexican American Studies. (4). A general course designed to provide an understanding of Mexican American Studies. This course provides a background for more effective understanding of the other courses in the MAS department. This course also analyzes the relative position of the Mexican American community in the general Anglo American society.

d-MAS 215. Spanish Music for the Classroom. (3). Prerequisite, two years of high school Spanish or one year of college

Spanish. The purpose of the course will be to provide the students with Spanish songs that can be used in the classroom as a tool to introduce culture, vocabulary, pronunciation, and other aspects of language development.

MAS 260. Mexican American Dance Production in the Bilingual Bicultural School. (2). (1 lecture, 1 laboratory). History of the origin and development of Spanish, Indian, Mexican and Mexican American dance in a bilingual bicultural school program. Dealt with will be the choreographic, set and costume, problems involved in the direction and production of a cultural Mexican American school program.

g-MAS 270. History of Mexico I. (3). This course will cover the significant aspects of Mexican history and civilization from 1500 to 1810. Emphasis will be on the conquest of the Mexican nation by the Spaniards, the growth of New Spain, significant events of the colonial period and the reemergence of the Mexican Nation, which led to independence.

g-MAS 280. History of Mexico II. (3). A study of historical events from 1810 to 1920. Emphasis will be on the growth of the Mexican Republic; its relations with the United States. The loss of lands to the United States, the Mexican War and American capitalism in Mexico.

f-MAS 302. Social Stratification in the Mexican American Community. (3). Designed to help the student understand the social, economic, political and religious differences in the Mexican American community, this course will investigate the socialization process within the Chicano community. Special emphasis will be given to the study of contrasting differences and similarities between the Chicano, Hispano, Spanish American and the Mexican American.

i-MAS 304. Bicultural Systems. (3). This course studies the dominant cultures in the American Southwest, the Spanish-Mexican Culture and the Anglo-American Culture. This is designed to help the student understand the problems facing culturally different people. The effects of cross cultural conflict on family values and individual behavior patterns.

f-MAS 305. Chicana Psychology. (4). Designed as a systematic exploration of the behavior of Chicano men and women within the current setting of the large Anglo society, this course will address such issues as value judgments, motivation, power, self-control, bilingualism, identity and psychological testing. Insights from Chicano studies are synthesized into an understanding of the subordinated condition of Chicanos.

g-MAS 306. History of the Chicano in the Southwest. (3). This course studies the predecessor of the present-day Chicano man and woman. The heritage of the Spaniard, the Indian and the Mestizo are examined. Special emphasis on the contributions made by these people in the development of the Southwest.

g-MAS 307. La Chicana. (4). An in-depth study of the problems facing the Mexican American female with changing life-styles and situations (domestic survival, family structure,

public roles, institutions, etc.) in Western society.

MAS 401. Spanish for Bilingual Education I. (5). Prerequisites, two years of college Spanish or the equivalent and placement test scores at 3rd level proficiency. Designed to develop the Spanish language skills of Bilingual Education majors in the area of Language Arts. The progressive development of speaking, reading and writing skills requires that the classes be taken in sequence. Students must pass the Bilingual Education Spanish proficiency exam after completion of MAS 403 in order to receive Bilingual education certification.

MAS 402. Spanish for Bilingual Education II. (5). Prerequisite, MAS 401. This course is designed to teach Bilingual Education majors the vocabulary necessary for teaching science and math in the elementary school. The progressive development of speaking, reading and writing skills requires that classes be taken in sequence. Students must pass the Bilingual Education Spanish proficiency exam after completion of MAS 403 in order to receive Bilingual Education certification.

MAS 403. Spanish for Bilingual Education III. (5). Prerequisites, MAS 401, 402. Course is designed to teach Bilingual Education majors the vocabulary necessary for social studies, geography, and general culture. Particular focus will be placed on Southwest culture. The progressive development of speaking, reading, and writing skills requires that classes be taken in sequence. Students must pass the Bilingual Education Spanish proficiency exam after completion of MAS 403 in order to receive Bilingual Education certification.

MAS 409. Survey of Contemporary Chicano Literature. (3). A survey of present-day literature that deals with social protest. Other literature that has contributed to the rich literary heritage of the present-day Chicanos will also be studied. This course may be substituted for SPAN 409.

MAS 412. Mexican American Art. (3). A course whose purpose is to familiarize the student with the great Mexican artists and their artistic creations. This course will also explore the rich artistic heritage that has been passed on to the present-day Mexican American.

g-MAS 414. Mexican American Philosophical Thought. (3). A study of major philosophical views on problems and of ethics affecting the contemporary Mexican American thought.

MAS 422. Individual Studies. (Maximum 4). MAS 422 is the equivalent of IS 422. Catalog regulations governing the purpose, method and reporting of IS 422 also apply for students enrolled for MAS 422. Students enroll for a minimum of 1 hour of independent studies under the supervision of a faculty adviser. It is recommended that a student not enroll for more than three hours of MAS 422 per quarter.

d-MAS 425. Linguistics Applied to Chicano Spanish. (3). A linguistic analysis of the Spanish spoken in the Southwest emphasizing similarities and differences with

universal Spanish. This course may be substituted for SPAN 425.

MAS 430. Survey of Mexican Literature. (3). This course will study the great Mexican authors and poets, such as Sor Juana Inez, Jose Joaquin de Lizardi, Manuel Almirano and others that have influenced contemporary literature. This course may be substituted for SPAN 430.

MAS 440. Patterns of Mexican American Culture. (4). Prerequisite, MAS 101. Designed to further the identification, significance, analysis and synthesis of the contemporary Mexican American community's cultural realities within the larger multicultural society. Work outside of the class will consist of observation and/or participation in those community cultural activities relevant to the course.

MAS 451. Senior Project or Thesis. (1-3 hours, maximum 5 hours). The course carries one to three hours of credit each quarter. During the senior year the student will gain assistance with his project or thesis from a professor assigned to him by the department. The professor advises the student concerning the subject or project for study. The student will hand in an acceptable written report at least three weeks before the student is to be graduated.

MAS 474. Teaching in a Second Language in the Elementary Bilingual and Bicultural School. (PTE) (3). This course is designed to prepare the elementary bilingual and bicultural teacher to teach Spanish as a second language or English as a second language. Special consideration is given to methods of instruction, selection of materials and student evaluation. May also be taken as EDEL 474.

MAS 481. History and Philosophy of Bilingual Education. (PTE) (3). An introductory course into the history of bilingual education. A consideration of the major educational points of view considering the monolingual and bicultural approach to education. May also be taken as EDEL 471.

Mathematics

MATH 101. Fundamental Mathematical Skills. (3). This course consists of topics from arithmetic and algebra: operations with real numbers, linear equations and inequalities, operations on polynomials, factoring, solution of two simultaneous equations (linear); word problems, proportions, graphing linear equations and inequalities and use of formulas to find perimeter, area and volume. S-U grading.

h-MATH 110. Mathematics and the Liberal Arts. (3). The purpose of this course is to display several topics from mathematics. These topics are presented in an intuitive manner and in such a way as to help those students who feel they need to know more about mathematics. This course is not open to mathematics majors or minor.

MATH 113. Professional Renewal. (1-12). This course is concerned with various topics of interest in mathematics. The topics will depend on the instructor conducting the course. Each course will have a subtitle and no subtitle may be repeated for credit.

h-MATH 115. Essentials of Mathematics I. (3). Prerequisite, MATH 123 or two years of high school algebra or equivalent. The purpose of this course is to present the essential concepts of algebra to students of business, economics, sociology, education and others. Topics include graphing, equations, matrices, logarithms, simple trigonometry, and analytic geometry. The course is not open to mathematics majors or minors.

h-MATH 116. Essentials of Mathematics II. (3). Prerequisite, MATH 115, or a recent background in high school algebra. The course continues with further topics in algebra, trigonometry and analytic geometry but especially considers concepts of calculus from an intuitive point of view. The course is not open to mathematics majors or minors.

MATH 117. Elements of Mathematics. (3). For the student without an extensive background in high school mathematics. Topics covered: signed numbers, fractions, integers, exponents, factoring polynomials, polynomial arithmetic, linear equations, ratios and percentages.

MATH 123. Intermediate Algebra. (5). Prerequisite, 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.

h-MATH 124. College Algebra. (5). 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.

h-MATH 125. Plane Trigonometry. (5). Prerequisite, MATH 124. This is a course in modern plane trigonometry which emphasizes the circular functions and their applications. The inverse trigonometric functions and trigonometric identities are emphasized. Complex numbers are covered through DeMoivre's Theorem.

h-MATH 127. Elementary Functions. (5). For the student who has had a good background in high school mathematics, (three years or more) but who needs to review the development of those skills which are required in the calculus. Topics covered include polynomial functions, exponential and logarithmic functions, trigonometric functions, vectors, analytic geometry, and polar coordinates.

h-MATH 130. Analytic Geometry. (4). Prerequisite, high school mathematics through trigonometry. This is a standard course in analytic geometry covering the following topics: Cartesian coordinates, distances, parallels, perpendiculars, locus of an equation, line forms including normal form, conic section including general quadratic forms in two variables, polar coordinates, and selected topics in solid analytic geometry.

h-MATH 131. Calculus I. (5). Prerequisite, MATH 130. The first course in a three-course

sequence in beginning calculus. Elementary phases of both differential and integral calculus, along with various applications of these subjects are considered.

- MATH 132. Calculus II.** (5). Prerequisite, MATH 131. A continuation of MATH 131.
- MATH 133. Calculus III.** (4). Prerequisite, MATH 132. A continuation of MATH 132.
- h-MATH 151. Introduction to Statistical Analysis.** (4). Prerequisite, MATH 123. 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.
- f-MATH 180. Computers and Their Impact Upon Society.** (3). The study of computers and their influences upon society will be the emphasis of this course. In addition to the issues concerning the impact of the computer upon society, the BASIC language, flowcharting, and simple computer design will be studied. Opportunity for "hands-on" computer experience will be provided.
- MATH 191. Mathematics for the Elementary School Teacher I.** (3). The first of a three-course sequence which is particularly pertinent for the prospective teacher of arithmetic, 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 on understanding mathematical structures.
- MATH 192. Mathematics for the Elementary School Teacher II.** (3). Prerequisite, MATH 191. A continuation of MATH 191.
- h-MATH 193. Informal Geometry.** (3). The emphasis is upon informal Euclidean geometry which is suitable for the K-8 curriculum. Laboratory techniques are employed where applicable.
- MATH 202. Theory of Sets.** (3). Prerequisites, MATH 193, or MATH 131. 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 203. Basic Mathematical Logic.** (3). Prerequisite, MATH 193 or MATH 131. A course designed to introduce the student to those tools and techniques of logic as applied to mathematics. Introduces terminology and basic forms of logic along with concepts of truth value. Statement calculus and treatment of proof are discussed. The restricted predicate calculus is analyzed and applications to mathematics are discussed.
- MATH 250. Elementary Probability Theory.** (4). Prerequisite, MATH 131. 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 251. Elementary Statistics Theory.** (4). Prerequisite, MATH 250. A continuation of

- MATH 250 in which statistical topics will be covered, assuming the probability background. Specific topics will be: jointly distributed random variables, Central Limit Theorem, sampling distributions, maximum likelihood estimation, properties of estimation, confidence intervals, and tests of hypothesis.
- h-MATH 280. Beginning Computer Programming in BASIC.** (3). (2 lecture, 2 laboratory). This is an elementary computer programming course designed to familiarize the non-math major with the fundamentals of flowcharting and with the writing of computer programs in the BASIC language. The programs which are written will involve nontechnical applications of computer programming and be of general nature.
- h-MATH 305. Mathematics of Finance.** (5). 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 321. Elementary Linear Algebra.** (4). Prerequisite, MATH 131. This course provides an introduction to the topics of linear algebra including vector spaces, basis, determinants, linear transformations, matrices, eigenvalues and eigenvectors. Applications will also be included.
- MATH 322. Introduction to Abstract Algebra.** (4). Prerequisite, MATH 321. This course provides an introduction to the topics and concepts of abstract algebra including rings, integral domains, integers, fields, groups and polynomial rings.
- MATH 325. Elementary Matrix Algebra.** (4). Prerequisite, MATH 321. This course presents an introduction to vector spaces and matrix theory including row operations, determinants, independence and linear transformations.
- MATH 327. Elementary Functions from an Advanced Viewpoint.** (4). Prerequisite, MATH 133. A course in analysis for prospective high school teachers. Topics will include the standard analysis concepts but organized in such a way as to give emphasis to a careful treatment of the elementary functions.
- MATH 335. Differential Equations I.** (4). Prerequisite, MATH 133. A study of the theory and solution of differential equations. Ordinary differential equations are treated along with numerous applications.
- MATH 336. Differential Equations II.** (4). Prerequisite, MATH 335. A continuation of MATH 335. Topics to be covered include series solutions of differential equations, systems of equations, partial differential equations, Fourier series and boundary value problems.
- MATH 341. Introduction to Modern Geometry I.** (3). Prerequisite, high school geometry. The first of three courses designed to give the student a broad background in geometry. This course will build upon the student's high school background in the areas of Euclidean constructions, expanding to Mascheroni and inversive techniques, and proof of some classical as well as modern Euclidean theorems.

- MATH 342. Introduction to Modern Geometry II.** (3). Prerequisite, high school geometry and Math 130. The main emphasis will be placed on the study of Euclidean geometry concepts of congruence and similarity through the use of transformation geometry. In this study, the analytic approach to the transformational geometry through the use of the Cartesian coordinate system will be covered.
- MATH 343. Introduction to Modern Geometry III.** (3). Prerequisite, MATH 341 or MATH 342. In this course, the main emphasis will be placed on the study of the structure of geometric ideas. Types of geometry to be studied will be finite geometries, projective geometry, affine geometry and non-Euclidean geometries.
- MATH 380. Computer Programming.** (4). (3 lecture, 3 laboratory). Prerequisite, MATH 124. This course in computer programming is designed for mathematics and science students in the arts and sciences. Programs will be written in the FORTRAN IV and BASIC and run on the IBM 360 and the Hewlett-Packard 2007A system. Programs are chosen for their applicability to the secondary classroom.
- h-MATH 381. Problem Solving with Calculating Devices.** (2). Prerequisite, MATH 124. The emphasis in this course is on problem solving with hand-held and desk calculators, both programmable and nonprogrammable. An overview of computing and algorithmic processes is also included.
- MATH 395. Activities in Elementary Mathematics.** (2). Prerequisites, MATH 191, 192. Students explore topics in elementary mathematics in an informal laboratory/discussion environment and develop a packet of materials and equipment suitable for later use in the elementary school, middle school, or early junior high school. S-U final mark.
- MATH 402. Foundations of Arithmetic.** (3). 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, operations in it, and special numbers.
- MATH 403. Structure of Numbers.** (3). 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 409. Foundations of Mathematics.** (3). Prerequisite, Senior status, mathematics major or minor. An introductory treatment of the foundations of mathematics and of the concepts that are basic to mathematical knowledge. Topics will include formal axiomatics, sets, logic and philosophy.
- MATH 411. Topics in Mathematics.** (1-3). (Maximum 12). Prerequisite, approval of instructor. Topics from mathematics not available through existing courses and which reflect the specific interest of available

instructors or the specific needs of students. Topics from geometry, analysis, algebra, statistics, numerical analysis, topology, number theory or other areas may form the focus of an offering of this course.

MATH 422. Individual Studies. (Maximum 4). 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 chairperson of the department.

MATH 432. Basic Analysis I. (4).

Prerequisite, MATH 133. 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. Basic Analysis II. (4).

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. Basic Analysis III. (4).

Prerequisite, MATH 433. The third course in a sequence of three courses. From the background built up on 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 464. Introduction to the History of Mathematics. (3). Prerequisite, MATH 133. A survey of the history of mathematics from antiquity to the present with emphasis upon both the development of mathematics concepts and the people involved in this development.

MATH 481. Computer Mathematics I. (4). (3 lecture, 3 laboratory). Prerequisites, MATH 133, MATH 380. A continuation of MATH 380. This course consists of advanced FORTRAN and advanced BASIC as they apply to elementary mathematics. The student will program for the IBM 360 and Hewlett-Packard 2007A.

MATH 482. Computer Mathematics II. (4). (3 lecture, 3 laboratory). Prerequisites, MATH 133, MATH 380 (MATH 481 is recommended as a prerequisite). This course deals with two new languages, ALGOL and PL (1) each basic to the field of computer science. Mathematical applications of these languages will include elementary numerical analysis.

MATH 483. Computer Mathematics III. (4). (3 lecture, 3 laboratory). Prerequisites, MATH 133, 380. This course will explore the assembly languages of the Hewlett-Packard 2007A mini-computer system and the IBM 360. Unique mathematical applications of assembly languages will be stressed.

MATH 491. Theory of Equations. (4). A study of properties of polynomials and

methods of finding roots of polynomial equations.

Mathematics Education

MED 341. Methods of Teaching Mathematics. (3). For prospective teachers of middle school, junior and senior high school mathematics students. Opportunity provided for gaining skill in constructing teaching strategies, understanding curriculum problems, and applying basic theories in teaching and learning mathematics. (Prior early field experiences desirable. Must enroll in EDLS 363 simultaneously. Cannot count toward mathematics major or minor.)

MED 370. Mathematical Instruments and Surveying. (4). 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 422. Individual Studies. (Maximum 4). 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 chairperson of the department.

MED 471. Instructional Materials in Secondary School Mathematics. (3). (2 lecture, 3 laboratory). Prerequisite, MATH 131. This course introduces the student into the rich area 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.

Meteorology

Courses in meteorology are administered by the Department of Earth Sciences.

h-MET 110. Climate and Humans. (3). A general education course designed to explore the interrelationships between humans and climate. The influence of climate on historical events as well as modern activities. Human's impact on climate. Climatic fluctuation.

h-MET 200. General Meteorology. (4). (3 lecture, 2 laboratory). The basic course in meteorology, required for most subsequent courses. Considers the atmosphere, its composition and thermal structure; pressure, temperature, humidity, wind, precipitation and their measurement; clouds and weather associated with air masses and fronts; simple map analysis.

h-MET 301. Elements of Meteorology. (4). (3 lecture, 2 laboratory). Prerequisite, MET 200. An in-depth consideration of the weather elements of pressure, temperature, humidity, radiation and the earth's heat budget, precipitation processes, atmospheric stability concepts, adiabatic diagrams; development of clouds and their modification, severe storms; interpretation of weather charts.

MET 302. Dynamic Meteorology. (4). (3 lecture, 2 laboratory). Prerequisite, MET 301.

A continuation of principles developed in MET 301. Atmospheric motion, the general and secondary circulations, jet streams, Rossby waves, vorticity, air masses, cyclogenesis, frontogenesis, tropical weather systems.

h-MET 315. Meteorological Instruments, Observations and Codes. (3). (2 lecture, 2 laboratory). Prerequisite, MET 200 or 301. Design of meteorological instruments and their operation, weather observations and codes, data transmission, and plotting of weather data on charts.

h-MET 320. Climatology. (3). 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. (3). Prerequisites, MET 200 and 301 or MET 500. Radiation processes in the atmosphere, meteorological optics, elementary radar concepts. Growth of cloud and precipitation particles; weather modification. Atmospheric electricity.

MET 422. Individual Studies. (Maximum 4). 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 chairperson of the department.

MET 440. Synoptic Meteorology. (4). (2 lecture, 4 laboratory). Prerequisite, MET 302 or MET 500. In depth treatment of fundamental topics such as air masses, fronts and their movement, long- and short-waves in the upper atmosphere, and the development of mesoscale storm systems. Elementary analysis and forecasting exercises in the laboratory will apply these topics to current weather situations, utilizing maps of the National Weather Service.

MET 450. Severe Weather Phenomena. (3). Prerequisite, MET 301 or MET 500. A study of the development and structure of thunderstorms, squall lines, tornadoes, and hurricanes.

Medical Technology

This major is administered by the Department of Chemistry.

These courses are open only to majors in Medical Technology.

MTEC 410. Clinical Chemistry. (5). This course covers the basic principles of clinical chemistry and of the methods utilized. Major topics include instrumentation, quality control, automation, blood gases and electrolyte interpretation, liver function, enzymology, renal function, endocrine function and tests utilizing isotopes. Interpretation of normal and abnormal test results is included.

MTEC 411. Chemistry Laboratory I. (3). This course is an introduction to a clinical chemistry laboratory, covering both the theoretical and technical aspects of semi-

automated and manual chemistry procedures, quality control requirements, and test data flow. Topics include carbohydrate metabolism, kidney and liver function, electrolytes, and toxicology. Students, under supervision, utilize patient specimens.

MTEC 412. Chemistry Laboratory II. (2).

This is a continuation of Chemistry Laboratory I where proficiency is gained in advanced studies of enzymology, liver function, iron and protein metabolism, and lipid dyscrasias.

MTEC 413. Special Chemistry Laboratory. (2).

This is an introduction to sequential multiple analysis and to various electrophoretic and other specialized procedures.

MTEC 430. Immunohematology. (2). This lecture course discusses the basic principles of the methods utilized in the blood bank as well as the entire subject of the use of blood transfusions and component therapy in medicine. Some subjects included are the basic theory of blood factors, cross matching methods, isoantibodies, transfusion reactions, donor processing and transfusion therapy.

MTEC 431. Immunohematology

Laboratory. (4). This course covers the principles and procedures of Blood Banking. Included are the selection and drawing of blood donor processing, pre-testing and crossmatching recipients' blood for transfusions, storage of blood and its components, and the preparation of blood and blood components for transfusions. Patient specimens are utilized under supervision.

MTEC 440. Medical Microbiology. (4). This lecture course discusses the laboratory aspects of identifying human pathogenic bacteria and fungi as well as the role viruses, rickettsia, bacteria and fungi play in causing diseases. Some of the subjects discussed include antibiotic therapy, antibiotic susceptibility testing and quality control in microbiology.

MTEC 441. Medical Microbiology

Laboratory I. (3). This course involves the study of clinically significant bacteria. Included are collection of specimens, initial inoculation procedures, organism isolation and identification, staining methods, biochemical and serological testing methods, susceptibility testing and quality control. Patient specimens are utilized under supervision and test results are evaluated in relation to the disease process.

MTEC 442. Medical Microbiology

Laboratory II. (3). This course involves laboratory study of the less frequently isolated clinically significant bacteria plus studies of parasites and fungi that cause disease in humans.

MTEC 460. Urinalysis and Clinical

Microscopy. (2). This lecture course includes the basic principles of the various tests performed on urine specimens and the significance of these tests in clinical medicine. The principles and interpretation of tests done on gastric secretions are also discussed.

MTEC 461. Urinalysis and Coagulation Laboratory. (2). This course covers routine urinalysis, gastric analysis, pregnancy tests

and basic coagulation procedures. Students, under supervision, perform tests on patient specimens. Emphasis is placed on proficiency and accuracy of test performance, understanding test principles and the clinical significance of test results.

MTEC 470. Medical Parasitology. (1). This lecture course discusses the methods utilized in studying and identifying parasites in humans. The life cycle of parasites and the diseases caused by these parasites are also discussed.

MTEC 480. Serology. (2). This lecture course includes a basic introduction to immunology and to serologic techniques as well as specific discussions of many serologic tests such as those for syphilis, rheumatoid arthritis, infectious mononucleosis, streptococcal infections, immunoglobulin abnormalities and hypersensitivity diseases.

MTEC 481. Serology Laboratory. (1). This course includes the theory and techniques associated with performance of serologic and immunologic procedures. Procedures on patient specimens, under supervision, are performed; such as those for syphilis, rheumatoid arthritis, infectious mononucleosis, streptococcal infections, immunoglobulins and anti-nuclear antibodies.

MTEC 490. Hematology. (3). This course includes basic principles of the methods utilized in hematology as well as discussions of the blood dyscrasias and other hematologic abnormalities. Subjects included are anemias, leukemias and changes in hematologic tests associated with multiple other diseases. The coagulation system and application of coagulation tests in patient problems are discussed.

MTEC 491. Hematology Laboratory I. (3). This course includes the theory and technique of drawing blood specimens for complete blood count analysis utilizing manual and automated procedures. Platelet counts, reticulocyte counts and sedimentation rates are included as well as organization of work flow, quality control and evaluation of test results as related to patient problems.

MTEC 492. Hematology Laboratory II. (3). This is a continuation of Hematology Laboratory I giving the student a chance to gain proficiency in techniques and procedures learned in Hematology I. Diagnosis of blood dyscrasias and other hematologic abnormalities from blood smears is also included.

Music

MUS 100. Recitals, Concerts and Productions. (no credit). All undergraduate students enrolling in the School of Music as majors are required to attend all weekly departmental recitals in their major area plus a minimum of eight major recitals, concerts and productions each quarter in residence.

MUS 101. Sight-Singing and Theory I. (4). 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. This course is not

intended for beginners in music. The student must have had prior musical training to take this class.

MUS 102. Sight-Singing and Theory II. (4). 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. (4). 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.

d-MUS 140. Introduction to Music. (3). 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.

d-MUS 141. Music Literature and Styles I. (2). Topics for this quarter include: the raw materials of music and how they are used for stylistic analysis, classicism and romanticism, folk music and Gregorian chant and their influence on other styles of music.

d-MUS 142. Music Literature and Styles II. (2). This quarter is concerned with the general characteristics of stylistic periods from the Renaissance to the present. The composers and literature of the Baroque and Classical periods will also be considered.

d-MUS 143. Music Literature and Styles III. (2). This quarter is devoted to the composers and literature of the nineteenth and twentieth centuries.

MUS 150. Beginning Jazz Improvisation. (3). Prerequisite, MUS 101, 102. This course will teach the student basic skills necessary to create and perform jazz solos involving rather simple chord progressions, harmonic structures and rhythmic frameworks. Also covered will be effective techniques and materials used in teaching these skills to secondary level students.

MUS 151. Jazz Theory. (2). Prerequisite, MUS 103, or permission of instructor. This course covers chords, chord symbols and scales as they relate to chords. Included will be major, minor and dorian tonality and scales which can be used with each. Also covered will be chord progressions, and chord substitutions. The student will gain a basic jazz piano technique from this class.

c-MUS 152. Writing and Scholarship in the Performing and Visual Arts. (3). A study of the basics of communication and scholarship necessary to students of Music, Fine Arts and Theatre, with emphasis on problems of style, organization, logical thinking and sources which are unique to these areas.

MUS 156. Voice Class I. (1). The first of three consecutive courses designed to prepare the piano major for applied voice study. Students will earn the basic elements of vocal technic and be introduced to the anatomy of the larynx and its breath support

system. Art songs from Italian and early English repertoire are studied.

MUS 157. Voice Class II. (1). Prerequisite, MUS 156. The second of three consecutive courses designed to prepare the piano major for applied voice study. The science of vocal acoustics is introduced and applied to the study of vowel modification for voice building. The development of vocal technic is emphasized, Italian, German, French and English art songs may be studied.

MUS 158. Voice Class III. (1). Prerequisites, MUS 156, 157. The third of three consecutive courses designed to prepare the piano major for applied voice study and/or public school vocal teaching. The vocal and pedagogical theories presented in the previous two courses are related to the treating of specific vocal problems found in young and changing voices. Art songs are studied.

d-MUS 160. Beginning Class Piano I. (1). 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.

d-MUS 161. Beginning Class Piano II. (1). 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 162. Beginning Class Piano III. (1). 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, style necessary to the playing of simple accompaniments, community songs and other piano music.

MUS 163. Beginning String Instruction I. (1). 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 problem of string playing and their solution.

MUS 164. Beginning String Instruction II. (1). 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. (1). 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.

MUS 201. Advanced Sight-Singing and Theory I. (3). 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. (3). Prerequisite, MUS 201. A continuation of MUS 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. (3). Prerequisite, MUS 202. A continuation of MUS 202 but primary emphasis in the written work will be placed on 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.

d-MUS 204. Music Fundamentals. (2). An introduction to music fundamentals for non-music majors with little or no musical background. Basic skills in music will be developed through group singing, rhythmic experience, musical listening, rudimentary piano techniques and other instrumental skills. Class may be challenged.

d-MUS 205. Experiencing Music. (1). Prerequisite, MUS 101 or MUS 204. Development of song repertoire and performance confidence through singing, conducting small ensembles and playing autoharp, recorder, bells, and rhythm instruments. Required for elementary education majors who must take MUS 204, 205, and 206 in sequence. Offered each quarter.

MUS 206. Music Methods and Materials for Elementary Teachers. (2). Prerequisites, MUS 101 or 204 and 205. A comprehensive course for the elementary classroom teacher covering the teaching of musical concepts through singing, rhythm activities, listening and playing instruments, including the integration of handicapped children in the music class. Required for elementary education majors. Elementary education majors must arrange to take MUS 204, 205 and 206 in sequence. Offered each quarter.

MUS 210. Introduction to Music Education. (2). Prerequisite, MUS 103. An introduction course for prospective teachers of music covering the history and present status of music, the qualifications of the music teacher, and a consideration of beginning instructional problems. For music majors only. Two hours per week of observation and aiding required.

MUS 221. Jazz Sextet I. (1). Audition required. The sextet is limited in enrollment to one trumpet, one tenor saxophone, one trombone, piano, bass and drums. The sextet will perform on campus. Open to any UNC student.

MUS 224. Vocal Jazz Ensemble. (1). Audition required. The ensemble is limited in enrollment to 20 voices: 4 sopranos, 4 altos, 4 tenors, 4 baritones, 4 basses, plus rhythm section and horns. Singing standard jazz literature, scat singing and dealing with contemporary jazz notation will be the focus of this ensemble. The ensemble will perform on and off campus. Open to any UNC student.

MUS 226. Antiphonal Brass Choir. (1). An ensemble of brass instrumentalists, working

to improve their musicianship by continually stressing the fundamentals of good performance practice. A great deal of Renaissance antiphonal brass literature is employed.

d-MUS 230. String Ensemble. (1).

d-MUS 231. Brass Ensemble. (1).

d-MUS 232. Woodwind Ensemble. (1).

d-MUS 233. Percussion Ensemble. (1).

d-MUS 234. Piano Ensemble. (1).

d-MUS 235. Classical and/or Jazz Guitar Ensemble. (1). Audition required. This

ensemble is designed to provide guitarists with an opportunity to perform in an ensemble in which melodic playing is stressed. In addition, the ensemble will deal with reading and notation problems, and the interpretation of all styles of music.

MUS 236. Dixieland Jazz Band. (1). Audition required. This band is limited in enrollment to 1 clarinet, 1 trumpet, 1 trombone, 1 tenor sax, piano, bass, tuba and drums. This organization will perform both Chicago and New Orleans style dixieland music. Open to any UNC student.

MUS 237. Jazz Octet. (1). Audition required. The Jazz Octet is limited in enrollment to 1 trumpet, 1 trombone, 1 tenor sax, piano, guitar, bass, drums, and percussionist. The Jazz Octet will perform on campus. Open to any UNC student.

MUS 238. Old Times Jazz Band. (1). Audition required. This band is limited in enrollment to 3 saxophones, 3 trumpets, 1 trombone, piano, bass, guitar, and drums. An additional vocalist may be added. This organization will perform music written in the 1920's to today. Open to any UNC student.

MUS 239. Jazz Sextet II/Quartet. (1). Audition required. This jazz ensemble is open to a variety of instruments, but limited to 5 horns, 2 pianos, 2 bass, 2 drums and 2 guitars. This group will perform standard jazz literature on and off campus. Open to any UNC student.

MUS 240. Jazz Septet. (1). Audition required. The Jazz Septet is limited in enrollment to 1 alto sax, 1 tenor sax, piano, bass, drums and percussionist. An additional guitar may be added. The Jazz Septet will perform on campus. Open to any UNC student.

MUS 241. Jazz Bebop Quintet. (1). Audition required. This quintet is limited in enrollment to 2 solo instruments, piano, bass, and drums. An additional guitar and/or percussion may be added. The quintet will perform on and off campus. Open to any UNC student.

MUS 242. Jazz Quintet. (1). Audition required. The Jazz Quintet is limited in enrollment to two solo instruments, piano, bass and drums. An additional guitar and/or percussionist may be added. The Jazz quintet will perform on campus. Open to any UNC student.

d-MUS 243. History of Music I. (3). The historical change in music from earliest times to the end of the sixteenth century with emphasis on the changes in style.

d-MUS 244. History of Music II. (3). Prerequisite, MUS 243. 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.

d-MUS 245. History of Music III. (3). Prerequisite, MUS 244. A study of the musical changes caused by the Romantic, Post-Romantic and Impressionistic periods from 1800 to 1920.

d-MUS 246. Music In American History and Culture. (3). The purpose of this course is to examine select areas of American music in a historical and cultural framework. Material to be discussed includes musical traditions of various ethnic groups, music composed as a result of certain events or for particular purposes, and the use of specifically American elements in classical music.

d-MUS 247. Music Cultures of the World. (3). The purpose of this course is to increase the student's understanding and appreciation of the music of other cultures through many types of folk music and an introduction to the methods of ethnomusicology.

MUS 250. Intermediate Jazz Improvisation. (3). Prerequisite, MUS 101, 102, 103. Beginning Jazz Improvisation or demonstrated equal knowledge and proficiency. This course will further develop the student's ability to create and perform jazz solos involving more complex chord progressions and more complex rhythmic and formal frameworks. Also covered will be effective techniques and materials used in teaching these skills to secondary level students.

MUS 260. Intermediate Class Piano I. (1). 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.

MUS 261. Intermediate Class Piano II. (1). 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.

MUS 262. Intermediate Class Piano III. (1). 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.

MUS 267. Repertory Orchestra. (1). Designed to explore the literature appropriate for high school and junior high school orchestras. The group will provide ensemble experience for string players not able to secure a position in the University Symphony Orchestra and for string majors wanting experience on a secondary instrument.

d-MUS 268. Summer Festival Orchestra. (1-6). Audition required. The Festival Orchestra is selected from among the finest collegiate players in the country. The group is the nucleus of the summer music festival

presenting five concerts and accompanying the opera.

MUS 269. Individual Performance in Voice for Those with Non-Voice Emphasis. (2). Consent of instructor. Instruction will concentrate on the fundamental principles of voice production such as proper breathing for singing, diction, resonance, etc. Development of rhythmic and melodic accuracy will receive primary consideration. Work on the fundamentals of good singing will be carried through the entire program.

MUS 270. Individual Performance in Voice. (2-4). Consent of instructor.

MUS 271. Individual Performance in Piano. (2-4).

MUS 272. Individual Performance in Organ. (2-4). Consent of instructor.

MUS 273. Individual Performance in Strings. (2-4).

MUS 274. Individual Performance in Woodwinds. (2-4).

MUS 275. Individual Performance in Brass. (2-4).

MUS 276. Individual Performance in Percussion. (2-4).

MUS 277. Individual Instruction in Composition. (2-4). Consent of Instructor.

MUS 278. Individual Performance in Harp. (2-4). Consent of instructor.

MUS 279. Individual Performance in Guitar. (2-4). Consent of instructor.

d-MUS 280. Mixed Concert Choir. (1). Membership is limited to approximately 60 singers and open to all students on an audition basis. 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 and is in demand throughout the region for concert appearances. Quarterly concerts are given on campus in addition to one yearly tour.

d-MUS 281. University Chorus. (1). Membership to the group of some 70 singers is open to all university students on an audition basis. The chorus performs concerts of its own on campus as well as joining with the Concert Choir in large works for chorus and orchestra.

d-MUS 282. University Singers. (1). Prerequisite, membership in Concert Choir or by special permission. A select group of approximately 35 voices open by audition only. Repertoire is extremely varied ranging from motets of the Renaissance to Contemporary songs to the Bach b-minor Mass.

d-MUS 283. Women's Concert Choir. (1). 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.

d-MUS 284. Varsity Men's Glee Club. (1). 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 university and community audiences.

d-MUS 285. Opera Workshop. (1-3). 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.

d-MUS 286. Chorus and Orchestra Workshop. (1). 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.

d-MUS 287. Summer Symphonic Band. (1). This ensemble pursues the highest levels of musicianship and performance. Presenting five concerts each summer, the total group energy is directed towards artistic interpretations of the finest compositions for winds and percussion.

d-MUS 288. Opera Orchestra. (1). This group rehearses as a pit orchestra for performances of opera and musical comedy

d-MUS 289. Laboratory Orchestra. (1). A laboratory course to provide practice orchestra experience in stringed instruments. Orchestra materials and the use of them for continued development of string students will be discussed and demonstrated.

d-MUS 290. Wind Ensemble. (1). Audition required. An assemblage of the most outstanding wind and percussion performers on campus. The total group energy is directed towards artistic interpretations of the finest compositions. Experiences range from small ensemble performances of a Mozart Serenade to the use of the full ensemble for a performance of the Symphony for Band by Hindemith.

d-MUS 291. Symphony Band. (1). Audition required. Although a large number of music majors participate in the group, membership also consists of talented students from other areas. This ensemble pursues the highest levels of musicianship. Concerts of outstanding literature are performed each quarter on campus. The band has numerous opportunities to experience the finest in aesthetic achievement.

d-MUS 292. Marching Band. (1). Open to all 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 of all freshman, sophomore and junior wind and percussion majors on campus who are pursuing the instrumental music education degree. Transfer students may transfer a maximum of one quarter credit in Marching Band with additional requirements to be determined by advisement. A minimum of one quarter of Marching Band is required of all transfer students.

d-MUS 293. University Band. (1). This group offers the non-music major an opportunity to enjoy creating music with limited performance demands. The goal is maximum enjoyment with a minimum time commitment. Auditions are not required for members of this group and instruments are available. Members achieve musical results with

challenging literature while taking a brief break from the routine of their major disciplines.

d-MUS 294. Jazz Ensemble. (1). The instrumentation in a Jazz Ensemble is designed for brass, woodwind and rhythm players. This unit is concerned with jazz idiom music: show music, dance music, and concert jazz. The goal of this type of ensemble is to give the student a thorough training in preparation for teaching at both the secondary and college levels. Members of the Jazz Ensemble who are music majors must be enrolled in a major ensemble.

d-MUS 295. University Brass Choir. (1). A select performing ensemble of 21 brass and percussion students. Concentration is upon familiarization of literature for the brass instrumental media, as well as upon development of musical sensitivity, phrasing, style and intonation. This organization presents many concerts during the year, and takes an annual tour.

d-MUS 296. University Symphony Orchestra. (1). 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.

d-MUS 297. Chamber Orchestra. (1). 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 301. Counterpoint. (3). 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. (3). 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. (3). 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. Teaching General Music in Elementary-Middle Schools. (PTE) (3). Comprehensive study of the teaching of music to students in elementary and middle schools.

MUS 311. Teaching General Music in Junior-Senior High Schools. (PTE) (3). Prerequisite, MUS 310. A study of the role of required and elective general music courses in junior-senior high schools.

MUS 312. Teaching Instrumental Music in Elementary Schools. (PTE) (2). An examination of materials, methods and procedures for teaching instrumental music in elementary schools.

MUS 313. Teaching Instrumental Music in Secondary Schools. (PTE) (2). An investigation of factors relating to the teaching of instrumental music in secondary schools.

MUS 314. Guitar in the Classroom. (1). Prerequisite, music majors only. An introduction to playing guitar. Presentation of pedagogical techniques and conceptual ideas leading to the development/ establishment and/or inclusion of a guitar program in the public school music curriculum.

MUS 315. Music and Recreation. (2). 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 helping others listen to music intelligently. For non-music majors.

MUS 316. Teaching Music Listening. (3). Music majors prerequisites, MUS 210 and 310. Non-music major prerequisites, MUS 206 and 310. Exploring teaching methodology and materials within structured school music listening programs.

MUS 317. Choral Literature for Elementary Through High School Age Students. (2). Prerequisite, MUS 321, or MUS 324, or instructor permission. An examination of choral literature for use with elementary through high school age choral organizations.

MUS 318. Music in Early Childhood. (3). Prerequisite, MUS 203 or MUS 206. Broad range of innovative teaching ideas explored which nurture musicality in children.

MUS 320. Instrumental Techniques and Conducting I. (1). 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. (1). 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. (1). Prerequisite, MUS 321. The techniques and practice of instrumental conducting. The development of hand and baton techniques. 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. (1). Prerequisites, MUS 101, 102, 103, 141, 142, 143. This course is designed to develop a basic conducting technique for the choral musicians. 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. (1). Prerequisite, MUS 323. This is a continuation of the work begun in 323. 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. Conducting and Teaching Choral Music in the Junior and Senior High School. (2). Prerequisite, MUS 321 or MUS 324. Continuing the conducting experiences initiated in the vocal and instrumental conducting sequence, this course also examines materials, methods and procedures relevant to the teaching of vocal music in the Junior and Senior High School.

d-MUS 340. Survey of History and Literature of Jazz. (3). A survey of the history and literature of jazz music from its beginnings to the present. This course is open to all students.

d-MUS 341. Introduction to the Arts. (2). An interpretative examination of music, visual art, theatre and dance. Emphasis will be placed upon artistic encounters which through interpretation lead to heightened understandings of the Arts.

d-MUS 344. Women in Music. (2). The course will explore the lives, achievements and problems of past and present female musicians. Through the use of recordings, interviews, reports and extensive classroom discussion of articles, interdisciplinary approaches will be employed to study the problems and accomplishments of women in music and to relate them to those in other creative and artistic areas.

d-MUS 345. Bach and Handel. (3). The purpose of this course is to increase the enjoyment of music through the understanding of and familiarity with the works of two outstanding composers. The class will study and compare their lives, works and compositional styles. Emphasis will be on aural comprehension of the music.

MUS 350. Principles of Piano Teaching I. (2). Prerequisite, piano performance level II or above. The art and science of teaching (including discussions of works by Maslow, Piaget, Montessori, Kodaly, Ortmann, Koussevitsky, Dooley, Whitehead, and etc.). Observation of private and group lessons.

MUS 351. Principles of Piano Teaching II. (2). Prerequisite, MUS 350. Comparative study of current piano methods. Study of technical and musical problems with the beginning student. Observation of private and group lessons.

MUS 352. Principles of Piano Teaching III. (2). Prerequisite, MUS 351. Developing musicianship and pianistic skills. Observation of private and group lessons. Supervised teaching internship required.

MUS 359. Woodwind Class. (1). This course is required of all music majors with vocal, piano, and general emphasis (B.M.E.). The fundamentals of woodwind instruments and training literature for woodwinds will be covered.

- MUS 360. Voice Class. (1).** Beginning instruction in singing. The course is designed primarily for the student who is not a voice major in a music curriculum. Study will involve the elements of a basic technique for singing and beginning solo repertoire.
- MUS 361. Flute and Saxophone Class. (1).** To develop a teaching knowledge of flute and saxophone, 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 problems of tone production and to acquire sufficient skill to demonstrate the instruments.
- MUS 362. Clarinet Class. (1).** To develop a teaching knowledge of the members of the clarinet family, their specific problems, their functions and their possibilities. To acquaint the prospective teacher with the pedagogic and concert literature and develop sufficient skill to demonstrate the instruments.
- MUS 363. Double Reed Class. (1).** 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 Horn Class. (1).** 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. (1).** To develop a teaching knowledge of trombone, baritone, and tuba. To acquire sufficient skill for purposes of demonstration.
- MUS 366. Percussion Class. (1).** 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. (1).** This course is required of all music majors with vocal, piano, and general music emphasis (B.M.E.). The fundamentals of brass and percussion instruments and brass and percussion training will be covered.
- MUS 368. String Class. (1).** 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 400. Pedagogy of Music Theory. (3).** Prerequisites, MUS 203, 301, 302, 303. This course is designed to familiarize potential theory teachers with methods and materials available for the teaching of theory courses on all levels, and to provide them with practical experience in theory teaching under the guidance of qualified-instructors. (Observation and practice teaching will be required in this course and will be arranged at the convenience of the teacher and student.)
- MUS 401. Improvisation. (2).** 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. Church Music. (2).** This course gives a brief survey of music in the history of the Christian church. The philosophy of church music and its real function in worship is studied. The administration of the total music program in the church is outlined. Suitable materials for all occasions are evaluated and classified.
- d-MUS 403. Acoustics of Music. (3).** A study of the physical properties of sound and musical instruments: frequency, amplitude, waveforms, wave motion, resonance, the harmonic series, tuning and temperament, as compared with the psycho-acoustical properties; timbre, pitch, loudness, masking. Emphasis is placed on practical applications in music.
- MUS 406. Jazz Arranging I. (2).** Prerequisite, MUS 203 or instructor consent. An introduction to the Art of Calligraphy for the first several class meetings, followed by an introduction to the basics of arranging for small jazz ensembles.
- MUS 407. Individual Coaching in Musical Theatre Repertory I. (2).** Prerequisite, THEA 360, MUS 269 and/or 469 (6 hours) or by audition. An introductory laboratory course to provide the advanced student in acting, dance, and vocal music (especially Music/Theatre degree majors) with training and practice of integrating music and theatre techniques. Emphasis is placed on the technical and aesthetic tasks of professional music-theatre performance. Class meets 4 hours per week.
- MUS 408. Introduction to String Pedagogy. (2).** This course is designed to introduce future string teachers to the pedagogical writings of master violinists and cellists. Students should have enough technique on an instrument to try out the concepts presented in the various sources.
- MUS 409. Individual Coaching in Musical Theatre Repertory II. (2).** Prerequisite, MUS 407. A continuation of MUS 407. Role preparation and styles. The course focuses on developing necessary skills to approach and prepare audition materials and new roles. Class meets 4 hours per week.
- MUS 410. Introduction to Vocal Pedagogy. (2).** The study of the problems related to establishing basic techniques for singing.
- MUS 411. Individual Coaching in Musical Theatre Repertory III. (2).** Prerequisite, MUS 409. A continuation of MUS 409. Interpretation and development of musical theatre roles, integrating vocal, dance, and character development. The course focuses on advanced stage presence in solo and ensemble roles for musical comedy and opera. Emphasis is on developing repertoire. Class meets 4 hours per week.
- MUS 412. Instrument Repair and Care. (1).** 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. (3).** An introduction to important philosophical and psychological thought which has influenced music education.
- MUS 414. Music for Students with Special Needs. (3).** Prerequisite, MUS 206 (non-music majors); MUS 310 (music majors). A course designed to help with the process of integrating students with special needs into the elementary and secondary school music programs.
- MUS 415. Piano Literature I. (2).** Prerequisite, piano performance level II or above. Keyboard music from the earliest beginnings through the English Virginalists and other national schools (French, Italian, and German) up to and including Couperin, Rameau Scarlatti, and Handel. Offered every fourth year in the Fall quarter.
- MUS 416. Piano Literature II. (2).** Prerequisite, piano performance level II or above. This portion of the series will be concerned with the keyboard works of Bach, and Bach's sons, Haydn and Mozart. Special attention will be given to the piano concertos of Mozart. Offered every fourth year in the Winter quarter.
- MUS 417. Piano Literature III. (2).** Prerequisite, piano performance level II or above. This section will deal with the pianoworks of Beethoven and Schubert. Beethoven's Sonatas will be thoroughly reviewed and their relation to Schubert's work in that form will be explored. Offered every fourth year in the Spring quarter.
- MUS 418. Piano Literature IV. (2).** Prerequisite, piano performance level II or above. The beginnings of Romanticism as evidenced in the work of Weber will be studied. Special consideration will be given to the work of the leading composers of the German Romantic School: Mendelssohn, Schumann, and Brahms. Offered every fourth year in the Fall quarter. This course to be offered 1980-81.
- MUS 419. Piano Literature V. (2).** Prerequisite, piano performance level II or above. The contribution of Chopin and Liszt will be studied in detail. The significance of Debussy, as representative of the Impressionistic School will be considered. Offered every fourth year in the Winter quarter. This course to be offered 1980-81.
- MUS 420. Piano Literature VI. (2).** Prerequisite, piano performance level II or above. This course will be devoted to the literature of the modern period. The work of Ravel, Bartok, Stravinsky, Schoenberg, and Prokofieff will be examined. Recent trends will be discussed. Offered every fourth year in the Spring quarter. This course to be offered 1980-81.
- MUS 421. Jazz Sextet I. (1).** Audition required. The Jazz Sextet is limited in enrollment to 1 trumpet, 1 tenor saxophone, 1 trombone, piano, bass and drums. The Jazz Sextet will perform on campus. Open to any UNC student.
- MUS 422. Individual Studies in Music. (1-4).** Qualified undergraduate students will 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 chairperson of the department.

MUS 423. Practicum in Band Conducting and Performance. (3). A laboratory course in advanced band conducting and performance. Supervised conducting experience under actual conditions is provided. Marching and football band performance will also be covered.

MUS 424. Vocal Jazz Ensemble. (1). Audition required. The ensemble is limited in enrollment to 20 voices: 4 sopranos, 4 altos, 4 tenors, 4 baritones, 4 basses, plus rhythm section and horns. Singing standard jazz literature, scat singing and dealing with contemporary jazz notation will be the focus of this ensemble. The ensemble will perform on and off campus. Open to any UNC student.

MUS 425. Practicum in Orchestral Conducting and Performance. (3). A workshop course in advanced orchestral conducting and performance. Provides opportunity for supervised conducting, analysis of orchestral material, problems of organization, a study of the literature of orchestral conducting and practice.

MUS 426. Antiphonal Brass Choir. (1). An ensemble of brass instrumentalists, working to improve their musicianship by continually stressing the fundamentals of good performance practice. A great deal of Renaissance antiphonal brass literature is employed.

MUS 427. Orchestral Excerpts (Strings). (1). Intensive study of passages which usually trouble string players along with a general survey of the literature. Separate classes in violin, viola, cello and bass will be offered, depending on the need.

MUS 428. Orchestral Excerpts Class (Brass). (1). Prerequisite, available upon recommendation of the student's applied teacher only. Depending on the need, separate excerpt classes in trumpet, horn and low brass will be offered. Course may be repeated for credit.

MUS 429. Orchestral Excerpts Class (Woodwind). (1). Prerequisite, available upon recommendation of the student's applied teacher only. Depending on the need, separate excerpt classes in bassoon, clarinet, flute, and oboe will be offered. Course may be repeated for credit.

MUS 430. String Ensemble. (1).

MUS 431. Brass Ensemble. (1).

MUS 432. Woodwind Ensemble. (1).

MUS 433. Percussion Ensemble. (1).

MUS 434. Piano Ensemble. (1).

MUS 435. Classical and/or Jazz Guitar Ensemble. (1). Audition required. This ensemble is designed to provide guitarists with an opportunity to perform in an ensemble in which melodic playing is stressed. In addition, the ensemble will deal with reading and notation problems, and the interpretation of all styles of music.

MUS 436. Dixieland Jazz Band. (1). Audition required. This band is limited in enrollment to 1 clarinet, 1 trumpet, 1 trombone, 1 tenor sax, piano, bass, tuba and drums. This organization will perform both Chicago and New Orleans style dixieland music. Open to any UNC student.

MUS 437. Jazz Octet. (1). Audition required. The Jazz Octet is limited in enrollment to 1 trumpet, 1 trombone, 1 tenor sax, piano, guitar, bass, drums, and percussionist. The Jazz Octet will perform on campus. Open to any UNC student.

MUS 438. Old Times Jazz Band. (1). Audition required. This band is limited in enrollment to 3 saxophones, 3 trumpets, 1 trombone, piano, bass, guitar and drums. An additional vocalist may be added. This organization will perform music written in the 1920's to today. Open to any UNC student.

MUS 439. Jazz Sextet II/Quartet. (1). Audition required. This jazz ensemble is open to a variety of instruments, but limited to 5 horns, 2 pianos, 2 bass, 2 drums, and 2 guitars. This group will perform standard jazz literature on and off campus. Open to any UNC student.

MUS 440. Jazz Septet. (1). Audition required. The Jazz Septet is limited in enrollment to 1 alto sax, 1 tenor sax, piano, bass, drums and percussionist. An additional guitar may be added. The Jazz Septet will perform on campus. Open to any UNC student.

MUS 441. Jazz Bebop Quintet. (1). Audition required. This quintet is limited in enrollment to 2 solo instruments, piano, bass, and drums. An additional guitar and/or percussion may be added. The quintet will perform on and off campus. Open to any UNC student.

MUS 442. Jazz Quintet. (1). Audition required. The Jazz Quintet is limited in enrollment to two solo instruments, piano, bass and drums. An additional guitar and/or percussionist may be added. The Jazz Quintet will perform on campus. Open to any UNC student.

MUS 443. Instrumental Literature. (3). This course explores the instrumental literature of public school bands and orchestras. Some discussion will be directed toward programming practices.

MUS 444. Marching Band Techniques. (2). A course 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. (2). A course in performance of nineteenth and twentieth century German Art Song, with particular emphasis upon style and diction.

MUS 446. Vocal Repertoire: French Art Song. (2). A course in performance of nineteenth and twentieth century French Art Song, with particular emphasis upon style and diction.

MUS 447. Vocal Repertoire: Italian Song. (2). A course in performance of songs and airs before the nineteenth century, with particular emphasis upon style and diction.

MUS 448. Collegium Musicum. (1). 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.

d-MUS 449. History of Musical Instruments. (3). 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 450. Dalcroze-Eurhythmics in the General Music Classroom. (1). This course is designed to help develop the musical sensitivity of children through movement and rhythms based on the Dalcroze-Eurhythmics concepts.

MUS 451. Kodaly—His Impact on American Music Education. (1). A workshop approach on the music teaching of the Hungarian composer-music educator and ways of adapting those methods to the classrooms of the United States.

MUS 452. Orff Schulwerk in American Schools. (1). The study of The Orff approach to teaching music in the United States, including philosophy, instructional principles, activities and current materials.

MUS 453. Creativity in Music Education. (1). Through a workshop approach, students will explore topics such as: defining and evaluating music creativity, and developing creative music experiences for school children.

MUS 454. Pedagogical Approaches to the Keyboard Literature I. (2). Open to all undergraduate and graduate piano majors and others with the consent of the instructor. Various pedagogical approaches to the keyboard literature are evaluated through student participation in teaching and performing. Concentration on the early Baroque through early Classic periods.

MUS 455. Pedagogical Approaches to the Keyboard Literature II. (2). Open to all undergraduate and graduate piano majors and others with the consent of the instructor. Various pedagogical approaches to the keyboard literature are evaluated through student participation in teaching and performing. Concentration on the Classical and Romantic periods.

MUS 456. Pedagogical Approaches to the Keyboard Literature III. (2). Open to all undergraduate and graduate piano majors and others with the consent of the instructor. Various pedagogical approaches to the keyboard literature are evaluated through student participation in teaching and performing. Concentration on the Impressionism and 20th Century music.

MUS 457. Public Relations in School Music. (1). Prerequisite, MUS 210. A consideration of how to work effectively with faculty, staff, parents, merchants, news media, fellow professionals, and general public.

MUS 458. Public School Music Management. (1). Prerequisite, MUS 210. The course will present the problems of management in grades K-12. It will include areas of scheduling, financing, programming, certification, school law, insurance, purchasing, festivals, professional responsibility, and other concerns relative to the course title.

MUS 459. Art Song. (2). Prerequisite, MUS 445, 446 and 447. A course outlining the art song from the late 18th century to the 20th century.

- MUS 460. Principles of Violin and Viola Teaching. (2).** This is a laboratory course which includes observation, participation, and instruction in group and individual violin and viola.
- MUS 461. Principles of Piano Teaching IV. (2).** Prerequisite, piano performance Level II or above. Review of piano teaching literature for beginning through early advanced levels. Supervised internship required.
- MUS 462. Principles of Piano Teaching V. (2).** Prerequisite, MUS 461. Creativity at the keyboard (including teaching: improvisation, composition, memorization, sightreading, ensemble playing). Teaching pre-school children, adult piano classes, piano classes in the public schools. The use of audio-visual aids in piano teaching. Supervised teaching internship required.
- MUS 463. Principles of Piano Teaching VI. (2).** Prerequisite, MUS 462. Advanced Pedagogy Seminar. Provided for specialization in such areas as keyboard study in early childhood, adult piano classes, piano for special students, group piano teaching, and etc. Supervised teaching internship required.
- MUS 464. Jazz Arranging II. (2).** Prerequisite, MUS 406 or instructor consent. Continuation of Jazz Arranging I with some emphasis on small jazz ensemble arranging followed by an introduction to large jazz ensemble and vocal jazz ensemble arranging.
- MUS 467. Repertory Orchestra. (1).** Designed to explore the literature appropriate for high school and junior high school orchestras. The group will provide ensemble experience for string players not able to secure a position in the University Symphony Orchestra and for string majors wanting experience on a secondary instrument.
- d-MUS 468. Summer Festival Orchestra. (1-6).** Prerequisite, audition. The Festival Orchestra is selected from among the finest collegiate players in the country. The group is the nucleus of the summer music festival presenting five concerts and accompanying the opera.
- d-MUS 469. Individual Performance in Voice for Those with Non-Voice Emphasis. (2).** Consent of instructor. Instruction will concentrate on the fundamental principles of voice production, such as proper breathing for singing, diction, resonance, etc. Development of rhythmic and melodic accuracy will receive primary consideration. Work on the fundamentals of good singing will be carried through the entire program.
- MUS 470. Individual Performance in Voice. (2-4).** Consent of instructor.
- MUS 471. Individual Performance in Piano. (2-4).**
- MUS 472. Individual Performance in Organ. (2-4).** Consent of instructor.
- MUS 473. Individual Performance in Strings. (2-4).**
- MUS 474. Individual Performance in Woodwinds. (2-4).**
- MUS 475. Individual Performance in Brass. (2-4).**
- MUS 476. Individual Performance in Percussion. (2-4).**
- MUS 477. Individual Instruction in Composition. (2-4).** Consent of instructor.
- MUS 478. Individual Performance in Harp. (2-4).** Consent of instructor.
- MUS 479. Individual Performance in Guitar. (2-4).** Consent of instructor.
- d-MUS 480. Mixed Concert Choir. (1).** Membership is limited to approximately 60 singers and open to all students on an audition basis. 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 and is in demand throughout the region for concert appearances. Quarterly concerts are given on campus in addition to one yearly tour.
- d-MUS 481. University Chorus. (1).** Membership to the group of some 70 singers is open to all university students on an audition basis. The chorus performs concerts of its own on campus as well as joining with the concert Choir in large works for chorus and orchestra.
- d-MUS 482. University Singers. (1).** Prerequisite, membership in Concert Choir or by special permission. A select group of approximately 25 voices open by audition only. Repertoire is extremely varied, ranging from motets of the Renaissance to Contemporary songs to the Bach b-minor Mass.
- d-MUS 483. Women's Concert Choir. (1).** 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.
- d-MUS 484. Varsity Men's Glee Club. (1).** 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 university and community audiences.
- d-MUS 485. Opera Workshop. (1-3).** Workshop offering practical experience in production of a musico-dramatic show. Techniques of acting, singing, direction, and other facets necessary for preparation of a show for public performance will be offered.
- d-MUS 486. Chorus and Orchestra Workshop. (1).** 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.
- d-MUS 487. Summer Symphonic Band. (1).** This ensemble pursues the highest levels of musicianship and performance. Presenting five concerts each summer, the total group energy is directed towards artistic interpretations of the finest compositions for winds and percussion.
- d-MUS 488. Opera Orchestra. (1).** This group rehearses as a pit orchestra for performances of opera and musical comedy.
- d-MUS 489. Laboratory Orchestra. (1).** 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.
- d-MUS 490. Wind Ensemble. (1).** Prerequisite, audition. An assemblage of the most outstanding wind and percussion performers on campus. The total group energy is directed towards artistic interpretations of the finest compositions. Experiences range from small ensemble performances of a Mozart Serenade to the use of the full ensemble for a performance of the Symphony for Band by Hindemith.
- d-MUS 491. Symphony Band. (1).** Prerequisite, audition. Although a large number of music majors participate in the group, membership also consists of talented students from other areas. This ensemble pursues the highest levels of musicianship. Concerts of outstanding literature are performed each quarter on campus. The band has numerous opportunities to experience the finest in aesthetic achievement.
- d-MUS 492. Marching Band. (1).** Open to all 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 of all freshman, sophomore and junior wind and percussion majors on campus who are pursuing the instrumental music education degree. Transfer students may transfer a maximum of one quarter credit in Marching Band with additional requirements to be determined by advisement. A minimum of one quarter of Marching Band is required of all transfer students.
- d-MUS 493. University Band. (1).** This group offers the non-music major an opportunity to enjoy creating music with limited performance demands. The goal is maximum enjoyment with a minimum time commitment. Auditions are not required for members of this group and instruments are available. Members achieve musical results with challenging literature while taking a brief break from the routine of their major disciplines.
- d-MUS 494. Jazz Ensemble. (1).** The instrumentation in a Jazz Ensemble is designed for brass, woodwind and rhythm players. This unit is concerned with jazz idiom music: show music, dance music, and concert jazz. The goal of this type of ensemble is to give the student a thorough training in preparation for teaching at both the secondary and college levels. Members of the Jazz Ensemble who are music majors must be enrolled in a major ensemble.
- d-MUS 495. University Brass Choir. (1).** A select performing ensemble of 21 brass and percussion students. Concentration upon familiarization of literature for the brass instrumental media, as well as upon development of musical sensitivity, phrasing, style and intonation. This organization presents many concerts during the year, and takes an annual tour.
- d-MUS 496. University Symphony Orchestra. (1).** 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 Spring Quarter chorus and orchestra event.

d-MUS 497. Chamber Orchestra. (1). 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.

Nursing

NURS 300. A Conceptual Foundation of Nursing Practice: Nursing Process/Adaptation Nursing. (4). An introduction to Nursing Process as the basis for professional nursing practice using Roy's model of adaptation nursing. Common positive behavioral responses throughout the life span will be explored.

NURS 302. A Conceptual Foundation of Nursing Practice: Beginning Nursing Intervention Methodology. (4). An overview of the professional nurses role in patient care. Emphasis will be placed on communication, teaching-learning, management and physical care/environmental manipulation.

NURS 303. Techniques and Skills in Nursing Practice I. (6). (12 laboratory). Prerequisite, School of Nursing Clinical Level I Status⁷³. A laboratory course involving simulation and living laboratory experiences which enable the student to achieve beginning clinical nursing skills in assisting patients in activities of daily living and skills in therapeutic nursing measures. S-U final mark.

NURS 305. Nursing Theory: Adaptation Model. (3). Prerequisites, NURS 300, 302, and Clinical Level II status. Explores in greater depth the Adaptation Model of nursing with applications to simulated patient care situations. The model is extended to include examination of professional role socialization.

NURS 307. Parent-Infant Nursing. (5). Prerequisites, NURS 300, 302, 303, and Clinical Level II status. A study of the nursing care of the childbearing family and the newborn infant and of women experiencing reproductive system disorders. Emphasis is placed on assessment of and intervention for positive adaptation of the total family in the reproductive experience. To be taken concurrently with NURS 370.

NURS 308. Mental Health Nursing. (4). Prerequisites, NURS 300, 302, 303, and Clinical Level II status. An in-depth study of psychosocial adaptive modes in relation to the maintenance and restoration of mental health. Continues the study of psychosocial development theories and principles of communication and interpersonal relations. Group processes are explored in-depth including the basic skills of leadership. To be taken concurrently with NURS 380.

NURS 309. Nursing Care of the Hospitalized Adult. (5). Prerequisites, NURS 300, 302, 303, and Clinical Level II status. A

study of concepts essential for effective nursing care of adults requiring medical or surgical intervention because of illness or injury. Emphasis is placed on the physiological adaptation needs of the hospitalized patient with consideration of influencing factors such as developmental level, cultural variations and psychosocial adaptation. To be taken concurrently with NURS 390 and 395.

NURS 310. Professional Practices Issues. (3). Prerequisites, NURS 300, 302, 305, and Clinical Level II status. A study of the current issues challenging the professional practice of nursing.

e-NURS 318. Orientation to the Concept of "Health" and the Health Care Delivery System. (3). Explores philosophical, historical, political, and professional relationships that exist in health care delivery systems.

NURS 320. Physical Assessment. (3). Prerequisites, NURS 300, 302, 303, and Clinical Level II status. Provides the student with the opportunity for both simulated and clinical laboratory experience in history and physical examination of clients of all age groups and from a variety of cultural and ethnic backgrounds. Emphasis is placed on the synthesis of data for the derivation of a nursing diagnosis within the adaptation framework.

NURS 370. Clinical Practicum in Parent-Infant Nursing. (5). (10 laboratory). Prerequisites, NURS 300, 302, 303, and Clinical Level II status. Clinical application of nursing process with individual and families during the childbearing experience and with women experiencing reproductive disorders.

NURS 380. Clinical Practicum in Mental Health Nursing. (6). (12 laboratory). Prerequisites, NURS 300, 302, 303, and Clinical Level II status. Clinical application of nursing process with individuals and families principally in the psychosocial adaptive modes.

NURS 390. Clinical Practicum in the Nursing Care of the Hospitalized Adult. (7). (14 laboratory). Prerequisites, NURS 300, 302, 303, and Clinical Level II status. Clinical application of nursing process with acutely ill adults.

NURS 395. Techniques and Skills of Nursing Practice II. (2). (4 laboratory). Prerequisite, Clinical Level II status. A laboratory experience involving simulation experiences which enables the student to achieve mastery of the therapeutic nursing skills used in the hospital setting. To be taken concurrently with NURS 390. S-U final mark.

NURS 402. Community Health Nursing. (4). Prerequisite, Clinical Level III status. An in-depth study of family community adaptive modes in relation to maintenance and promotion of health and prevention of disease. Emphasis is placed on holistic care of the individual, family and community with particular consideration of influencing factors such as developmental level and cultural variations. To be taken concurrently with NURS 420.

NURS 403. Nursing Care of Children in Wellness and Illness States in a Variety of Settings. (5). Prerequisite, Clinical Level III

status. A study of concepts essential for nursing care of children in illness and wellness states in a variety of settings. Emphasis is placed on the interaction of multiple physiological, psychosocial, and developmental adaptation needs of children and influencing factors. To be taken concurrently with NURS 430.

NURS 404. Advanced Nursing Care of the Adult in Acute, Long-Term and Rural Settings. (5). Prerequisite, Clinical Level III status. A study of advanced concepts essential for nursing care of adults requiring medical or surgical intervention because of illness or injury. Emphasis is placed on the interaction among multiple physiological and psychosocial adaptation needs and influencing factors. To be taken concurrently with NURS 440.

c-NURS 405. Nursing Theory and Research. (3). An introductory exploration of scientific inquiry including the research critique and identification of researchable problems in nursing practice. The adaptation model of nursing is viewed in relation to clinical nursing research.

NURS 408. Nursing Workshop. (1-5). An opportunity for registered nurses to increase their nursing knowledge and skills. The area to be covered in any one workshop will be determined by the workshop subtitle. No subtitle may be repeated for credit.

NURS 410. Leadership in Nursing. (3). Prerequisite, Clinical Level III status. Examines aspects of the leader's role in planned change. Builds on concepts of leadership within the framework of psychosocial adaptation introduced in NURS 308. Emphasis is placed on the analysis of situational variables influencing both leader behavior and the change process.

NURS 420. Clinical Practicum in Community Health Nursing. (7). (14 laboratory/week). Prerequisite, Clinical Level III status. Clinical application of the nursing process in family and community health care with a focus on promotion of adaptation in health throughout the life cycle.

NURS 422. Individual Studies. (1-4). 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 Dean.

NURS 430. Clinical Practicum in Nursing Care of Children in a Variety of Settings. (5). (10 laboratory/week). Prerequisite, Clinical Level III status. Clinical application of nursing process with well, acute and chronically ill children. Emphasis is placed on deriving multiple alternatives in the immediate and long term plan of care for children.

NURS 440. Clinical Practicum in the Advanced Nursing Care of the Adult. (8). (16 laboratory/week). Prerequisite, Clinical Level III status. Advanced clinical application of nursing process with chronically and acutely ill adults. Emphasis is placed on deriving multiple alternatives in the immediate

⁷³Clinical Status requires application to and acceptance by the School of Nursing. (See admission criteria, Page 52, UNC Bulletin: 1981-82.)

and long term plan of care and organization of patient care.

NURS 441. Techniques and Skills of Nursing Practice III. (1). (2 laboratory). Prerequisite, Clinical Level III status. A laboratory experience involving simulation experiences which enables the student to achieve mastery of the therapeutic nursing skills used in the hospital setting. To be taken concurrently with NURS 440. S-U final mark.

The 400 level nursing courses listed below will not be offered after 1981-82. The content has been reorganized — NURS 404/440 and NURS 403/430.

NURS 445. Patient Care Organization. (5). (25 laboratory for four weeks). Prerequisite, Clinical Level III status. A clinical course designed to provide the student with experience in the management of patient care in acute care settings. Emphasis is placed on the use strategies in deriving sound clinical judgements when responsible for managing the care of a large group of patients with multiple adaptive needs. To be taken concurrently with NURS 450. S-U final grade.

NURS 450. Selected Professional Nursing Roles. (6-9). (15-40 laboratory for six weeks). Prerequisite, Clinical Level III status. A clinical preceptorship designed to provide the student with a choice of practice settings. Emphasis is placed on the application of major nursing concepts including nursing process, adaptation, research and leadership. S-U final mark.

Oceanography

Courses in Oceanography are administered by the Department of Earth Sciences.

h-OCN 110. Man and the Sea. (3). A course to introduce the various aspects of humans and technology concerning the oceans. Considers food and minerals from the sea, underwater habitats, submersibles, diving, recent technological developments, pollution and international political implications of the oceans.

h-OCN 200. General Oceanography. (4). (3 lecture, 2 laboratory). An introduction to the field of oceanography for non-science majors. The geological, physical, chemical and biological aspects of the oceans and ocean basins will be treated.

h-OCN 301. Principles of Oceanography I. (3). A descriptive treatment of the historical, geological and technological aspects of oceanography including oceanographic tools and techniques, exploration and exploitation, origin of the oceans and ocean floors, marine sediments and geomorphology. Students cannot receive credit for both OCN 200 and 301.

h-OCN 302. Principles of Oceanography II. (3). Prerequisite, OCN 301. A descriptive treatment of the physical and biological aspects of the ocean, including the general character of water masses, ocean circulation and currents, waves, tides, the distribution and ecology of marine organisms and the general productivity of the ocean.

OCN 310. Coral Reefs. (2). A course to introduce the various geological and biological aspects of coral reefs. Emphasizes reef types from the Pacific Ocean and Caribbean Sea which will be studied in detail.

OCN 422. Individual Studies. (Maximum 4). 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 chairperson of the department.

Outdoor Education

OED 250. Outdoor Education and Environmental Awareness. (4). A course designed to develop appreciation and awareness for the natural environment through direct experience participation in field trips in many environmental settings. Cognitive learnings will be taught followed by definite concentration on affective and psychomotor learnings. The interdisciplinary approach, involving faculty from many academic disciplines and resource persons from allied educational agencies will be utilized.

OED 308. Workshop. (1-5). This workshop is designed to provide a variety of experiences and understanding in the broad areas of Outdoor/Environmental education. The topic will depend on the expert(s) conducting the workshop but will be primarily outdoor activity oriented. Each workshop will have a sub-title and no sub-title may be repeated for credit.

OED 350. Leisure and the Outdoors. (4). Emphasis will be placed on the unique contribution Outdoor Education can make toward educating people for their leisure. Students will engage in outdoor leisure pursuits in the natural environment. Emphasis will be placed on the use of the outdoors in preparation for the worthy use of leisure time.

OED 351. Beginning Kayaking I. (3). This course is designed to give the student the basic fundamental skills to safely pursue the art of white-water kayaking in a systemized sequence.

OED 401. Practicum in Outdoor Education. (2-4). Prerequisite, OED 250 or permission of instructor. Open only by invitation to undergraduate students. Supervised professional activity in the student's major or minor field with a minimum equivalent of twenty-five clock hours per hour of credit. One copy of a well-written report must be filed with the instructor before credit is given.

OED 450. Curriculum and Program Development in Outdoor Education. (3). A course designed to acquaint the student with the varied programs in Outdoor Education and related areas. Traditional and innovative programs will be explored and analyzed to determine the feasibility and effectiveness of these programs in meeting educational and societal needs.

OED 451. Practices in Outdoor Education. (3). An experientially based course that stresses direct experience learning related to in-class instruction. Emphasis will be given to cognitive, affective, and psycho-motor learning that can most effectively be offered beyond the classroom.

OED 452. Alpine Skills and Environmental Interpretation. (3). This course is designed to give the student fundamental skills and awareness in ski touring, winter camping/travel, cold weather survival techniques, and an appreciation of the winter environment.

OED 453. Outdoor Leadership Techniques. (3). Prerequisite: undergraduates, OED 250, 450; graduates OED 650, 450. This course is designed to develop outdoor leadership skills and logistical procedures needed to function effectively in beyond-the-classroom experiences in natural and community environments.

OED 454. Wilderness Survival Education. (3). Prerequisite, OED 250. A course designed to familiarize the student with survival problems and necessary skills in order to function effectively in a variety of environments. Intent is to offer personal enrichment and information helpful to those involved in preparing participants and leaders in survival education.

Philosophy

g-PHIL 100. Introduction to Philosophy. (4). This course may focus on any of the following: in-depth textual or conceptual analysis; specific problems in the history of philosophy; the development of analytic and expository skills; the application of philosophical reasoning to moral issues. A variable content course which the student may elect more than once.

g-PHIL 105. Philosophical Perspectives on Current Issues. (4). An examination in depth of a specific issue of lively current interest (e.g., abortion, energy and the environment, gay rights). A variable content course which the student may elect more than once.

c-PHIL 120. The Art of Philosophical Writing. (3). Prerequisite, ENG 101. A practical introduction to the art of writing philosophy. When taken concurrently with PHIL 121, this fulfills the prerequisite for several upper level courses in philosophy. See descriptions of upper level courses below.

g-PHIL 121. Methods in Philosophical Research. (1). An introduction to materials and methods useful in the researching of a philosophical topic. When taken concurrently with PHIL 120, this fulfills the prerequisite for several upper level courses in philosophy. See descriptions of upper level courses below.

g-PHIL 140. Basic Symbolic Skills. (3). This course is designed to acquaint students with techniques of symbol manipulation in a variety of contexts. An attempt will be made to demonstrate the utility of such techniques in areas as diverse as philosophy, mathematics, and the sciences.

PHIL 141. Fundamental Concepts in Logic. (1). This course is intended as an introduction to some of the basic concepts upon which all symbol systems depend. Particular emphasis will be placed on exposition of the fundamental principles of logical inference. In addition, methods of recognizing formal and informal fallacies will be considered.

g-PHIL 200. Textual Analysis. (4).

Prerequisite, PHIL 100 or consent of instructor. An introduction to the techniques of textual analysis in philosophy by means of detailed analysis of specific philosophical texts.

g-PHIL 205. Movements in the History of Philosophy. (4). Prerequisite, PHIL 120 and 121 or consent of instructor. A variable content course which the student may elect more than once. This course will normally focus on primary source material selected from philosophical works associated with specific movements in the history of philosophy (e.g., Existentialism).

g-PHIL 215. Periods in the History of Philosophy. (4). Prerequisite, PHIL 120 and 121 or consent of instructor. A variable content course which the student may elect more than once. This course will normally focus on primary source material selected from philosophical works representative of specific periods in the history of philosophy. Offerings under this heading may include any period in the history of philosophy (e.g., Medieval).

g-PHIL 225. Figures in the History of Philosophy. (4). Prerequisite, PHIL 120 or 121 or consent of instructor. A variable content course which the student may elect more than once. This course will focus on the contributions of significant figures in the history of philosophy. Offerings under this heading may include any of the important figures in the history of philosophy (e.g., Hume).

g-PHIL 235. Issues in the History of Philosophy. (4). Prerequisite, PHIL 120 or 121 or consent of instructor. A variable content course which the student may elect more than once. This course will focus on philosophical issues which have engaged the attention of major philosophers. Offerings under this heading may include any issues of enduring interest in the history of philosophy (e.g., free will and determinism).

PHIL 240. Formal Logic. (4). Prerequisite, PHIL 140 and 141 or consent of instructor. An introduction to techniques of formal reasoning. The nature of valid inference; syllogistic; formal proof; deductive systems. Special emphasis will be placed throughout on the application of formal techniques to specific arguments.

g-PHIL 300. Topics in Philosophy. (4). Prerequisite, PHIL 120 and 121 or consent of instructor. A variable content course which the student may elect more than once. Sections of this course will provide coverage of areas of philosophical interest which are *not* covered in the topics courses regularly offered at the 300 level in the department. Offerings might include such topics as Philosophy of Law.

g-PHIL 310. Philosophy of Feminism. (4). Focusing upon conceptual analysis of *women* and *feminism*, the class will examine traditional ways of thinking about women and develop an analysis based upon the feminist perspective. Ramifications of the feminist conceptual analysis for ethics, epistemology, and metaphysics and such concepts as *freedom*, *equality*, and *happiness* will be covered.

g-330. Aesthetics. (4). Prerequisite, PHIL 120 and 121 or consent of instructor. An introduction to the philosophy of art. Topics to be investigated in some depth may include: the nature of the work of art; the character of the creative process; the character of aesthetic experience; the role of representation in the arts.

g-PHIL 335. Philosophical Ideas in Literature. (4). Prerequisite, PHIL 120 and 121 or consent of instructor. An in-depth examination of philosophic themes as expressed in selected classics of poetry and prose from ancient to contemporary times.

PHIL 341. Seminar in Advanced Logic. (4). Prerequisite, PHIL 240 or its equivalent. A continuation of PHIL 240, this course will consider such topics as the logic of relations and modalities, as well as such concepts as consistency and completeness. An attempt will be made to introduce some of the more important discoveries of contemporary logicians, including: Godel, Kripke, Russell and Tarski.

g-PHIL 350. Ethics. (4). Prerequisite, PHIL 120 and 121 or consent of instructor. An examination of a number of central issues in ethics. Topics to be investigated in some depth may include: ethical relativism and subjectivism; the possibility of moral knowledge; the structure of moral reasoning; freedom and responsibility.

g-PHIL 355. Social and Political Philosophy. (4). Prerequisite, PHIL 120 and 121 or consent of instructor. An examination of a number of central issues in social and political philosophy. Topics to be investigated in some depth may include: the concept of political obligation, freedom and dissent; equality and justice; human rights.

g-PHIL 370. Philosophy of Religion. (4). Prerequisite, PHIL 120 and 121 or consent of instructor. An examination of the nature and justification for traditional religious belief. Topics to be investigated in some depth may include: history and provenance of biblical texts, arguments for and against the existence of God; freedom and sin; cultism; mystical experience.

PHIL 375. Philosophy of Science. (4). Prerequisite, PHIL 240 or its equivalent. An examination of the nature of scientific inquiry. Topics of investigation may include: scientific method and its development; theory and observation; the role of experiment; the role of logic and mathematics; the limitations and value of scientific knowledge.

PHIL 385. Epistemology. (4). Prerequisite, PHIL 120 and 121 or consent of instructor. An introduction to theories regarding the nature and limits of human knowledge. Topics to be investigated in some depth may include: doubt and certainty; perception and intuition; knowledge and belief; faith and justification.

PHIL 390. Metaphysics. (4). Prerequisite, PHIL 120 and 121 or consent of instructor. An introduction to the study of some of the most fundamental problems of philosophy. Topics to be investigated in some depth may include: being; substance; causality; space and time.

PHIL 395. Seminar. (4). Prerequisite, consent of instructor. A specific philosophical issue will be studied in depth. Students will be

required to do some independent research and will be responsible for at least one oral presentation as well. Limited enrollment.

PHIL 400. Advanced Studies in the History of Philosophy. (4). Prerequisite, junior or senior standing and consent of instructor. Courses offered under this heading will be devoted to detailed studies relevant to the history of philosophy. Offerings might include such topics as The Concept of Dialectic. A variable content course which the student may elect more than once.

PHIL 410. Advanced Studies in Selected Areas of Philosophy. (4). Prerequisite, junior or senior standing and consent of instructor. Courses offered under this heading will be devoted to detailed investigation of specific problems relevant to selected areas of philosophy. Offerings might include, e.g., Theories of Meaning and Truth. A variable content course which the student may elect more than once.

PHIL 420. Advanced Studies in Contemporary Philosophical Issues. (4). Prerequisite, junior or senior standing and consent of instructor. Courses offered under this heading will be devoted to detailed investigation of specific issues of current interest to philosophers. Offerings might include, e.g., The Relation of Language to Thought. A variable content course which the student may elect more than once.

PHIL 422. Individual Studies. (Maximum 4). Prerequisite, instructor's consent. Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on one problem. Two copies of a well-written paper must be filed before credit is given, one with the instructor and one with the chairperson of the department. Not for General Education credit.

PHIL 495. Advanced Seminar. (4). Prerequisite, junior or senior standing and consent of instructor. A specific philosophical issue will be investigated in detail by the seminar. Students will be required to do a substantial amount of independent research, and will be responsible for at least one oral presentation as well. Limited enrollment.

PHIL 497. Student Internship. (2-4). Prerequisite, consent of instructor. Designed to provide the student with practical training in one or more areas of the profession, this course may be elected more than once to a maximum of twelve credits, no more than eight of which may be counted toward the major or minor. S/U grading.

Physics

PHYS 268, 363, and 364 cannot be counted toward all major and minor programs. The student should check with his advisor.

PHYS 100. Conceptual Physics. (3). (2 lecture, 3 laboratory). Non-mathematical approach to basic physics for the non-science student. Emphasis will be placed upon history and philosophy of physics and upon relating concepts of physics to environment. No credit towards physics major or minor.

h-PHYS 150. Principles of Physics. (5). (4 lecture, 3 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.

h-PHYS 160. Principles of Motion. (3). (2 lecture, 3 laboratory). A study of translatory and rotational motion which will include concepts of forces, momentum, and energy. The presentation of the material will be descriptive and the emphasis will be toward the applied. No credit towards major or minor.

PHYS 255. Elements of Computer Programming. (3). (2 lecture, 3 laboratory). Prerequisite, MATH 123 or equivalent. A non-theoretical applied course in elementary computer programming. A large portion of this course will involve the student programming the 360 computer system. *Not open to students with previous programming training.*

h-PHYS 260. Introductory Physics — Mechanics. (4). (3 lecture, 3 laboratory). Prerequisite, MATH 123. The first quarter of the introductory course treating classical and modern mechanics.

h-PHYS 261. Introductory Physics — Heat, Sound and Light. (4). (3 lecture, 3 laboratory). Prerequisite, PHYS 260. The second quarter of the introductory course treating classical and modern heat, sound and light.

PHYS 262. Introductory Physics — Electricity and Magnetism. (4). (3 lecture, 3 laboratory). Prerequisite, PHYS 260. The third quarter of the introductory course treating classical and modern electricity and magnetism.

PHYS 265. General Physics — Mechanics. (5). (4 lecture, 3 laboratory). Prerequisite, MATH 131, or taken concurrently. The first quarter of the general course in physics covering the laws, principles, and generalizations of mechanics.

PHYS 266. General Physics — Sound, Light, and Heat. (5). (4 lecture, 3 laboratory). Prerequisites, PHYS 265 and MATH 132 or concurrent. The second quarter of the general course in physics treats the laws, principles and generalizations concerning sound, light and heat.

PHYS 267. General Physics — Electricity. (5). (4 lecture, 3 laboratory). Prerequisites, PHYS 266 and MATH 133 or concurrent. The third quarter of the general course in physics covering the principles, laws, and generalizations in electricity and magnetism.

PHYS 268. Modern Physics. (4). (3 lecture, 3 laboratory). Prerequisite, PHYS 262 or concurrent PHYS 267. Fourth quarter of the general course in physics, intended as a terminal course. Not countable for a physics major. An elementary study of concepts of physics formulated since 1900, including atomic and nuclear physics. The laboratory will include detection and evaluation of atomic and nuclear radiation.

h-PHYS 302. Philosophical Concepts of Physical Science. (3). Prerequisite, one course in philosophy or one course in physics. A non-mathematical study of

philosophical problems, including causality and determinism, measurement, conservation principles, particle-wave duality, the uncertainty principle, the correspondence principle, the validation of physical laws, universal conclusions from locally valid laws, the broad structure of science, free will.

PHYS 310. Mathematical Applications in Physics. (3). Prerequisites, one year of physics or consent of instructor. A survey of mathematical applications used in advanced courses in physical sciences, including topics such as vector calculus, integration techniques, complex variables, Laplace and Fourier transforms, and matrix algebra.

PHYS 361. A.C. and Electronics I. (5). (4 lecture, 3 laboratory). Prerequisites, PHYS 262 or PHYS 267. A study of alternating circuits and instruments, electrical measurements, power supplies, amplification by transistors and vacuum tubes, oscillators, bridges.

PHYS 363. Environmental Radiation. (3). Prerequisites, MATH 101 or higher, plus ENST 209 or PHYS 260 or PHYS 265. An elementary course in the detection and evaluation of various types of radiation common in the environment from natural and man-made sources. Topics include types of radiation and detectors, effects of nuclear reactions, biological and medical applications, radioactive dating, x-rays, and laboratory experience in detecting and analyzing the various types of radiation. Enrollment restricted.

e-PHYS 364. Elementary Photography. (3). (2 lecture, 3 laboratory). Topics include physical principles as they apply to photography. Practical black and white lab work including developing, printing, and enlarging processes is emphasized.

PHYS 365. Mechanics I. (4). Prerequisites, PHYS 266 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. (4). Prerequisite, PHYS 267. 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 367. Optics I. (4). (3 lecture, 3 laboratory). Prerequisites, PHYS 266 and MATH 133. A study of geometric and physical optics: instrumentation, wave theory, light sources, and lasers.

PHYS 368. Atomic Physics. (5). (4 lecture, 3 laboratory). Prerequisite PHYS 267. PHYS 365 recommended. A study of modern physics concepts including probability quantization, x-rays, wave properties of matter, Heisenberg's uncertainty principle, the Schrodinger equation, the simple atom.

PHYS 422. Individual Studies. (Maximum 4). 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 chairperson of the department.

PHYS 462. Electronics II. (4). (3 lecture, 3 laboratory). Prerequisite, PHYS 361. A study of servo systems, operational amplifiers, pulse shaping, switching, timing, digital counting, and solid state devices.

PHYS 464. Thermodynamics. (4). Prerequisites, PHYS 267, MATH 133. An introduction to kinetic theory and statistical mechanics. This course covers thermodynamic systems, equations of state, the first and second laws of thermodynamics and an introduction to kinetic theory.

PHYS 465. Mechanics II. (3). Prerequisites, PHYS 365, MATH 133. 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 dimension, central field motion, accelerated reference systems.

PHYS 466. Electricity and Magnetism II. (3). Prerequisite, PHYS 366. 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 467. Applied Solar Energy. (3). Prerequisite, PHYS 262 or PHYS 267. A study of practical uses for solar energy. Topics include: the availability of the resource; home and industry heating systems; types of collector systems; transfer and storage in commercial applications; and special applications of interest.

PHYS 468. Nuclear Physics I. (5). (4 lecture, 3 laboratory). Prerequisites, PHYS 267 and PHYS 368 or CHEM 451. A study of nuclear reactions, decay schemes, sub-atomic particles, high energy reactions, the detection and evaluation of nuclear radiation.

PHYS 469. Solid State Physics. (4). Prerequisite, PHYS 368. A study of free electron theory of solids, semiconductor theory, imperfections in solids, transport properties, and statistical distributions.

PHYS 490. Senior Research. (2-4, repeatable up to 12 hours). Prerequisite, two years of physics courses which apply toward the major. An independent experimental or theoretical research project in physics along with weekly conferences with the research advisor and a paper and/or oral presentation are required.

PHYS 495. Seminar in Teaching. (2). Course designed for prospective teachers in physics and physical sciences at the secondary school level which will include a study of physics curricula and problems which the teacher may encounter in the classroom.

Political Science

f-PSCI 100. National Government of the United States. (5). 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. Required of all PSCI majors and minors.

f-PSCI 104. Contemporary Political Issues. (3). Several contemporary issues of domestic or international significance will be examined. Course content will vary, but representative issues include social welfare, environment, political participation, the national interest,

racial and ethnic concerns and institutional reform.

f-PSCI 105. Introduction to Political Science. (3). This course provides an overview of the historic philosophical concerns of political science in the context of a comparative analysis of contemporary political institutions, behavior and processes. Consideration is given to national, subnational and international aspects of politics and government. This course is required for all PSCI majors and minors.

PSCI 150. Introduction to Research in Political Science. (3). An introduction to the discipline of political science. Special attention will be devoted to library resources and the writing of research papers. A bibliographical essay on a topic chosen by the student will be required. Primarily intended for majors.

f-PSCI 200. Legislative Processes. (3). Prerequisite, PSCI 100. A survey of American legislative systems and processes. The structure and organization of legislatures and the process of statute law-making.

f-PSCI 201. State and Local Government. (5). Prerequisite, PSCI 100. The organization of state, county, and municipal governments.

PSCI 202. Legislative Processes II. (3-15). Prerequisites, PSCI 100, 200. Legislative Processes II offers a unique opportunity to combine a substantial amount of self-directed research on the part of a student under the supervision of the instructor with actual field experiences as an observer and assistant to an elected member of the Colorado State Legislature.

f-PSCI 205. Civil Liberties in the United States. (3). An analysis of judicial, executive and legislative actions which have threatened, violated and promoted civil liberties in the United States. Particular attention will be given to free speech, press and assembly, church-state relations, due process and the nationalization of the Bill of Rights.

f-PSCI 206. Politics and the Consumer. (3). An analysis of political action, past and present, aimed at protecting consumers in the economics market place. Legislative and administrative consumer law will be discussed. Political tactics of consumer advocacy will be analyzed in case studies and actual field projects.

f-PSCI 207. Politics of Feminism. (3). The study of the role of women in American politics and a description and analysis of the political factors and tactics used by feminists in moving toward their goals. Special attention will be given to an evaluation of contemporary feminist politics. The sexist bias of American political institutions will be explored.

f-PSCI 210. European Political Systems. (4). A comparative analysis of the political systems of selected European nations including Great Britain, France, and West Germany.

f-PSCI 220. International Relations. (4). An introduction to the basic principles and problems of the international political system.

f-PSCI 225. Great Decisions I. (2). Analysis of contemporary issues of international

politics utilizing the "Great Decisions" materials published annually on the Foreign Policy Association. Topics change annually. Course emphasizes small group discussion of current topics under student leadership. S-U grading.

f-PSCI 226. Great Decisions II. (1). Student leader for small group discussion of current topic in analysis of contemporary issue of international politics utilizing the "Great Decisions" materials. Topics change annually.

f-PSCI 300. Public Opinion and Pressure Groups. (4). 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.

f-PSCI 302. The President and the Bureaucracy. (3). 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, the problems of contemporary Presidential policy making are examined.

f-PSCI 303. The Administration of Justice. (3). A comprehensive analysis of the judicial process including the appellate and jurisdictional aspects of the legal system of the United States. The focus of the course is on the administration of criminal justice including the arrest, trial and rights of prisoners.

f-PSCI 305. The Politics of Bureaucracy. (4). This course focuses on the organization and management of governmental bureaucracies. Special emphasis will be placed on the politics of bureaucracies and continuity problems of control, accountability, personnel and finance.

f-PSCI 310. East European Government and Politics. (4). A study of the governments and political systems of the East European states of East Germany, Poland, Czechoslovakia, Hungary, Bulgaria, Romania, Yugoslavia, and Albania. Internal politics and external relationships with one another and with the Soviet Union will be given special attention.

f-PSCI 320. American Foreign Policy. (4). An analysis of the development of recent American foreign policy, especially since World War I.

f-PSCI 325. Politics and Conflict in the Middle East. (4). Focus will be on the structure, development and policies of major Middle Eastern political systems. Domestic and international conflicts and relations to the major powers will be discussed.

f-PSCI 330. Natural Law, Divine Law, and Human Virtue. (4). This course in political philosophy is addressed to the above topics and others as they appear in classical and medieval thinkers. Plato, Aristotle, Aquinas, and Luther will be read among others.

f-PSCI 331. Consent, Freedom, and Political Obligation. (4). This course in

political philosophy is addressed to the above topics and others as they appear in early modern thinkers. Machiavelli, Hobbes, Locke, Rousseau, and Tocqueville will be read among others.

f-PSCI 332. Equality, Democracy, and Revolution. (4). This course in political philosophy is addressed to above topics and others as they appear in modern thinkers. Paine, Saint-Simon, Marx, Lenin, and J.S. Mill will be read among others.

PSCI 340. Field Research and Study in Political Science. (3-15). Field Research and Study in Political Science offers an opportunity to combine a substantial amount of self-directed research on the part of the student under the supervision of the instructor with actual field experience as an observer and assistant to a public (governmental) policy maker.

PSCI 345. Readings in Political Science. (2). Prerequisite, upperclass standing in Political Science or consent of instructor. Major recent contributions to the study of politics will be explicated and criticized in periodic papers prepared by the student. The reading will be assigned according to the interests and needs of the individual student.

f-PSCI 350. Comparative Public Policy. (3). Prerequisite, PSCI 100 or 105. Cross-national comparison of public policy in such areas as education, transportation, taxation, population and income maintenance. Differences and similarities across policy areas within one country and difference and similarities cross-nationally within a policy area will be identified and explanations for those differences and similarities will be essayed.

f-PSCI 351. Politics of Food, Hunger, and Population. (4). This course surveys the problems of food production and utilization, of hunger and malnutrition, and of an increasing world population. The main focus of the course is on what policies the United States and other nations are using (or could use) to solve these problems.

f-PSCI 400. Political Parties. (3). Prerequisite, PSCI 100. 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.

f-PSCI 401. Minority Politics. (3). 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.

f-PSCI 402. Urban Politics. (4). A study and analysis of city government and politics. Attention will be given to structure, reorganization, and finance with special emphasis on political forces and strategies operating within the metropolitan areas of the United States. The problems of urban disorganization, mass transit, housing, and minority representation will be covered.

f-PSCI 403. Problems in United States Government. (3). Prerequisite, PSCI 100. 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.

f-PSCI 410. Government and Politics of Asia. (4). A comparative study of the major political systems of Asia, including China, Japan, India, and Indochina.

f-PSCI 411. Government and Politics of Latin America. (4). A comparative study of political systems of Latin America.

f-PSCI 412. The Politics of the Developing Areas. (4). 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.

f-PSCI 413. Political Systems of Sub-Saharan Africa. (4). Analysis of major types of political systems in Sub-Saharan Africa with case studies of selected countries exemplifying each type. Special problems of multiracial and multicultural societies.

f-PSCI 414. Government and Politics of the Soviet Union. (4). An intensive inquiry into the institutions and processes of the government of the Soviet Union.

PSCI 421. The United Nations. (3). The background and organization of the United Nations. Includes a detailed study of six organic bodies of the United Nations and its subsidiary agencies.

PSCI 422. Individual Studies. (1-4). 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 chairperson of the department. Not for General Education credit.

f-PSCI 425. Soviet Foreign Policy. (4). An analysis of recent and contemporary problems in the relations of the Soviet Union with Western, neutralist, and other communist nations.

f-PSCI 426. Foreign Policies in Asia. (4). This course examines the foreign policies of China, Japan, and India with special reference to the superpower rivalry between the United States and the Soviet Union in the post-World War II era.

PSCI 435. Problems in Political Philosophy. (3). Prerequisites, two of PSCI 330, 331, 332, or consent of instructor. Selected problems or philosophies will receive close and lengthy attention. Familiarization with a considerable literature and a substantial paper will be required.

Psychology

PSY 101. Introductory Seminar in Psychology. (1). Required no later than two quarters after declaration of PSY major. For PSY majors and prospective majors. Provides a general overview of psychology and career opportunities therein. Assists student in preparation of course of studies to optimize career opportunities in psychology.

f-PSY 120. General Psychology. (3). Study of basic psychological principles, methods, theories and research findings. Includes perception, cognition, maturation, motivation, learning, individual differences, mental health, and physiological correlates. Practical applications are identified.

f-PSY 121. Introduction to Psychology I. (4). Introduction survey of psychology as a science, basic statistics, learning, perception, sensation, motivation, and physiological psychology. Required for majors and minors.

f-PSY 122. Introduction to Psychology II. (4). Introductory survey of intelligence, personality, growth and development, maturation, socialization, abnormal psychology, social psychology, memory, cognition, and emotion. Required for majors and minors.

PSY 123. Current Orientations in Psychology. (3). Predominant contemporary forces in psychology (emphasis on psychoanalytic, behavioral, humanistic, and transpersonal). Contribution of each to understanding of human behavior and potential. Images of man/woman implicit in each is examined.

f-PSY 202. Principles and Philosophies of Guidance. (3). Introduction to guidance; examination of guidance activities and their use in industry, business, the classroom, and the professions.

f-PSY 230. Human Growth and Development. (5). Prerequisite, PSY 120. Basic concepts and issues of growth and development. Study of the individual from conception through senescence, with emphasis on cognitive, affective, psychomotor, and social development.

f-PSY 240. Principles of Learning. (5). Prerequisites, PSY 120, 121, or 122. A basic course in learning, including principles of conditioning and reinforcement, concept learning, problem solving, information processing, and memory.

i-PSY 250. Humanistic Psychology. (3). Exploration of humanistic psychological systems, conceptualizations, models, methods, tools, and research. Focus on means of developing understanding of self and others, effective interactions, sensitivity, and more humanistic and existentially meaningful lives.

PSY 251. Transpersonal Psychology. (3). Overview of emergent Fourth Force in psychology, including: religions, mystical, and peak experiences; yoga; meditation; cosmic unity; parapsychology; hypnosis; playfulness; sensory awareness; meta-needs; transcendence of self.

f-PSY 255. Psychology of Emotional Adjustment. (3). Individual adjustment to psychological stresses, both from internal and external sources. Emphasis on reaction patterns in coping with common and unique stress factors.

i-PSY 261. Human Relations and Awareness. (3). Examines human interactions from study of human relations, communication, and group dynamics theories and from a skill-building, experiential perspective. Practice in effective means of communicating in one-to-one and small group situations. Includes intercultural communication, conflict resolution, and skills in giving and receiving feedback.

f-PSY 265. Social Psychology. (3). Prerequisite, PSY 120 or 122. Survey of major areas of social psychology. Nature of and factors involved in human social behavior; impression management, prosocial

behavior, aggression, conformity, obedience to authority, attitude change and interpersonal attraction will be discussed.

f-PSY 271. Psychological Testing and Measurements. (3). Prerequisite, SRM 203. Introduction to psychological test theory, interpretation of results. Group and individual tests (cognitive, affective, and psychomotor); reliability, validity, standardization procedures.

f-PSY 341. Phenomenological Approaches to Perception. (3). Study of factors influencing openness to experience (physiological capacities, time, opportunity, need, expectations, language, self-perception). Emphasis on understanding dynamics of behavior from internal frame of reference; multidimensionality of perceptual possibilities, implications for educational processes.

PSY 343. Sensory and Perceptual Processes. (4). Prerequisite, PSY 121. Sensory mechanisms in humans: vision, audition; olfaction, etc., including research and theory about organization and interpretation of sensory input. Lab applications of psychophysical and other techniques.

PSY 345. Parapsychology. (3). Examines research in extra-sensory perception, telepathy, precognition, clairvoyance, psychokinesis, and other parapsychological or psi-phenomena.

i-PSY 346. Human Effectiveness in Education. (3). A human relations perspective, designed to enhance effectiveness of teachers with peers, supervisors, and students; provides skills useful in classroom management; explores and develops psychological skills to meet personal needs of the teacher.

PSY 347. Developmental Psychology for Teachers. (PTE) (3-4). Human growth and development through the school years; biological and environmental factors operating in affective, cognitive, physical, social domains; similarities and differences in humans with implications for teaching and learning. This course may not be applied to a psychology major or minor.

PSY 348. Learning Processes in Education. (PTE) (3-4). Prerequisite, PSY 347. Psychological concepts applied to teaching/learning process: motivation, classroom discipline concerns, teaching strategies, evaluation and grading, major theoretical approaches to human learning. This course may not be applied to a psychology major or minor.

i-PSY 365. Psychology of Prejudice. (3). Understanding of basic causes of prejudice and learning of prejudicial behavior. Experiences for increasing understanding of others and diminishing prejudice.

f-PSY 369. Ecological Psychology. (3). Prerequisite, PSY 120. Examination of literature in learning, social psychology, and ethology to consider affects of environment on behavior of organisms; implications of environmental changes for behavior; and use of principles of behavior to enhance survival of the human species.

PSY 375. Experimental Psychology. (5). Prerequisites, PSY 121, SRM 203. Majors

only. Introduction to experimental psychological research; practice in reviewing, conducting, reporting psychological research.

PSY 407. Introduction to Counseling Theory. (3). Prerequisites, PSY 457 and PSY 458. This course is designed to introduce students to the field of counseling, its historical antecedents, the place of counseling in the contemporary world, and to acquaint them with current theoretical approaches used in counseling with individuals and groups. The course is not intended to provide training in the application of various counseling approaches, but enough depth to serve as a basis for future study.

PSY 422 Individual Studies. (1-4). Permission of instructor and department chairperson required. Students define a problem or area of study and spend a minimum of 25 clock hours per quarter hour working independently, under faculty supervision. Two copies of a well-written paper must be filed before credit is given: one with the instructor, one with the department chairperson.

PSY 425. Seminar: Psychological Issues. (3). For majors and minors. Students will study, report and discuss psychological issues and problems identified through class discussion and study. Students will review and discuss research findings and conduct independent research projects.

PSY 431. Infancy and Childhood. (3). Human development from conception to, but not including, preadolescence. Emphasis on physical, mental, social and emotional development of infants and children.

PSY 432. Preadolescence and Adolescence. (3). Theories of preadolescence and adolescence, physical and intellectual development, emotional and social adjustment, family and social factors, alienation, and entering adulthood.

PSY 433. Maturity and Aging. (3). Concerns and decisions to be faced during maturity. Exploration of interrelationships among physiological, sociological and psychological variables which affect aging. Roles of aging in society; psychological reactions to death and dying.

PSY 443. Motivation. (3). Prerequisite, PSY 121 or permission of instructor. Motivational concepts and related research: drive, goals direction, incentive, reinforcement, external stimulation, emotion, homeostasis, biological aspects, instinct, and self-actualization.

PSY 444. Psycholinguistics. (3). Prerequisite, PSY 240. study of encoding and decoding to account for facts of language and use of language by humans. Current approaches to language acquisition; research in psycholinguistics.

PSY 445. Social Learning and Behavior Modification. (4). Prerequisite, PSY 121 or 240 or 348. A course in applied learning theory emphasizing principles such as operant conditioning, vicarious learning, modeling, desensitization and biofeedback. Students will have an opportunity to apply operant and social learning principles in a variety of settings.

PSY 457. Theories of Personality. (3). Prerequisites, PSY 120 or PSY 122. Psychological systems used to explain

personality development and functioning; may include type-trait, behavior-learning, psychoanalytic, neopsychoanalytic, and perceptual field theories.

f-PSY 458. Abnormal Psychology. (3). Prerequisites, PSY 122 or PSY 255. Study of abnormal behavior; causes, symptoms, characteristics, classification, prevention and treatment.

PSY 460. Paraprofessional Helpline Training. (3). Permission of instructor. Instruction and supervised practice in establishing and maintaining helping relationships, providing crisis intervention using both campus and community resources and referral agencies. Upon successful completion of course students are expected to work for the campus helpline phone service on a volunteer basis for one additional quarter.

PSY 465. Psychology of Human Sexuality. (3). Sex as an individual difference affecting learning and motivation throughout life. Social, biological, and psychological basis for sex differences and institutional structures will be examined as well as socialization processes in the development of sex role identity.

PSY 466. Industrial Psychology. (3). Basic method used by psychologists in selection, placement, training, and motivation of industrial personnel. Examination of psychological factors influencing morale, production, and job satisfaction.

f-PSY 468. Psychology of Women. (3). Prerequisite, at least junior standing. Theoretical bases and issues from psychology regarding and influencing the traditional concept of the "Female Personality," i.e., psychoanalytic theory and definitions of neurotic behavior, motivation, achievement needs, identity, ego-strength and self-esteem, and the interdependent influences upon the development of the "weaker sex."

PSY 475. Research Methodologies in Psychology. (3). Prerequisites, PSY 375, SRM 203. Advanced experimental and correlational research designs will be studied. Computer data analysis procedures most commonly used in psychological research will be implemented.

PSY 480. Physiological Psychology. (5). Prerequisite, introductory biology or zoology course and PSY 121 or permission of instructor. Introduction to neuroanatomy and neurophysiology. Functional relationship between nervous system and behavior, review of sensory and motor processes and investigative procedures. Biochemical correlates of learning and other behaviors will be considered.

PSY 481. Comparative Psychology. (4). Prerequisite, PSY 121 or permission of instructor. Innate and learned, individual and social, normal and abnormal behavior of insects, fish, amphibia, reptiles, birds and mammals. Ethological and experimental techniques explored through lecture and laboratory.

PSY 482. Behavioral Genetics. (3). Prerequisites, PSY 120 or PSY 121 and an introductory genetics course is recommended. Genetic basis of behavior in

humans and animals. contemporary issues including genetic counseling, eugenics, intelligence, and genetic correlates of psychopathology.

PSY 490. History and Systems in Psychology. (3). Psychological ideas and systems. Psychology and philosophy of science: goals, laws, paradigms, and the evolution of science as a human endeavor. (Students are advised that many graduate programs in psychology recommend this be taken at the undergraduate level.)

PSY 491. Field Experience. (5-15). Prerequisite, junior or senior psychology major and permission of instructor. Full or part-time experience for one or more quarters, working with professionals in psychology. Arrangements with the instructor and supervisor must be made during the quarter prior to registration.

PSY 499. Special Topics in Psychology. (1-4). Scheduled on an irregular basis. Exploration of special topics in psychology: an appropriate subtitle will describe each offering.

Russian

d-RUS 101. Elementary Russian I. (5). 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. Audio-visual aids will be used as needed.

d-RUS 102. Elementary Russian II. (5). A continuation of RUS 101.

d-RUS 103. Elementary Russian III. (5). A continuation of RUS 102.

d-RUS 125. The Russian's World. (3). The Russian's world, life, culture, and traditions of the people of the USSR. The course will be conducted in English. Students wishing this course for credit towards their Russian minor will be expected to do most of their outside readings and research papers in Russian.

d-RUS 201. Intermediate Russian I. (4). Prerequisite, RUS 103. Review of Russian Grammar, imitative composition and the reading of intermediate Russian texts.

d-RUS 202. Intermediate Russian II. (4). Prerequisite, RUS 201. A continuation of RUS 201 but emphasizing more intensive reading, oral reports, advanced composition and more extensive conversation.

d-RUS 203. Intermediate Russian III. (4). A continuation of RUS 202. More intensive reading, oral and written reports, advanced composition, translation.

d-RUS 335. Russian Conversation. (3). Prerequisite, three years of high school 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.

d-RUS 336. Advanced Russian Composition. (3). Prerequisite, three years of high school Russian or equivalent. The course is designed to increase the student's fluency in the language through the use of original compositions, translations, and resumes.

d-RUS 337. Advanced Russian Grammar. (3). Prerequisite, three years of high school

Russian or equivalent. A study of Russian syntax and the common difficulties in sentence structure. Emphasis is on many exceptional grammatical rules in Russian.
g-RUS 341. Pushkin. (3). Prerequisite, four years of high school Russian or equivalent. Life and works of A. Pushkin. Emphasis on his contribution as "The Son of Russian Literature." The course will converse in Russian.

RUS 422. Individual Studies. (1-4). 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.

Science Education

SCED 151. Introductory Science Field Experiences. (2). (Maximum 6). A course which provides prospective science teachers with practical experience in the classroom and community during their freshman, sophomore, and junior years.

SCED 260. Integrated Elementary Science Teaching Methods I. (1). Co-requisite, SCI 260, 261, or 262. This course integrates methods of elementary science teaching with content. Opportunities for field experiences provided. Open to freshman and sophomore elementary education majors.

SCED 261. Integrated Elementary Science Teaching Methods II. (1). Co-requisite, SCI 260, 261, or 262. This course integrates methods of elementary science teaching with content. Opportunities for field experiences provided. Open to freshman and sophomore elementary education majors.

SCED 262. Integrated Elementary Science Teaching Methods III. (1). Co-requisite, SCI 260, 261, or 262. This course integrates methods of elementary science teaching with content. Opportunities for field experiences provided. Open to freshman and sophomore elementary education majors.

SCED 276. Testing and Evaluation in K-12 Science. (3). 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 360. Science for the Handicapped. (2). An opportunity for students to examine commercial materials, to modify existing materials, and to develop science study units relating to science and the handicapped child. An individualized approach will be used to allow each student to concentrate on areas of special interest. Micro-teaching will be utilized — "live" on video-tape. Appropriate for pre-school, elementary, and secondary majors.

SCED 422. Individual Studies (Maximum 4). 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 with the instructor before credit is given. Not for General Education credit.

SCED 441. Methods of Teaching Secondary School Science. (3). Prerequisite, PTE and SCED 151 or equivalent. Co-requisite, EDLS 363. Prerequisite to student teaching. Includes a 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 442. Methods of Teaching Science in the Middle School/Junior High School. (3). Prerequisite, PTE and SCED 151 or equivalent. Co-requisite, EDLS 362. Prerequisite to student teaching. 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) (3). (2 lecture, 3 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.

SCED 475. Science for the Preschool Child. (3). The purpose of this laboratory centered course is to develop a knowledge of objectives, methods and materials, which the early childhood teacher will need for providing learning activities.

Science

These courses are taught by the appropriate departments.

h-SCI 100. History of Science and Modern Humans. (3). The course endeavors to trace the historical and philosophical development of scientific methods of investigation, their effects on the perceptions of modern man/woman and the contemporary reactions to them. The class will be restricted to an enrollment of 30.

h-SCI 103. Physical Science. (3). A general survey of special topics which are of current interest to society. Emphasis will be placed on the physical science concepts associated with these topics. Treatment will involve limited mathematics. Taught by the Physics or Chemistry Department.

SCI 106. Reaching Beyond the Rational. (3). This course discusses a present mood of skepticism about the quantifying, objective methods of science. The rise to a state of acceptance of the scientific method and a concept of a clockwork universe will be traced. Some concepts and ideas which lie on the ragged edge between scientific and irrational will be presented.

h-SCI 107. Energy: Humans and the Crisis. (3). Basic concepts of energy relating to humans and their environment. Topics include fundamental principles and limitations of energy conversion, human energy

requirements, environmental impact of large scale energy uses, the underlying causes of the impending energy crisis, and possible future energy alternatives. Limited mathematics required. Taught by the Physics Department.

h-SCI 108. Science and Society. (3). The relationship of science to society is investigated and discussed. An historical approach is used to show the growth of science and development of public attitudes toward science. Present relationships between science and society are emphasized. Taught by the Physics Department.

h-SCI 109. Relativity and Cosmology. (3). A treatment of the concepts of special and general relativity, leading to a discussion of a variety of cosmological models. The "big bang" and steady-state theories of cosmology are covered, as well as expanding, closed, open models of the universe, and black holes. Limited mathematics required. Taught by the Physics Department.

h-SCI 110. Sights and Sounds. (3). A descriptive study of the wave motion as applied to sound and light. Emphasis will be placed on sound associated with music and musical instruments, and on light associated with art. Taught by the Physics Department.

h-SCI 114. Science and the Ascent of Man/Woman. (3). A non-mathematical study of human history as seen from the scientist's viewpoint, following the television series and book by J. Bronowski. Taught by the Physics Department.

h-SCI 115. Meteorology by Inquiry. (3). This course is designed to illustrate how knowledge of weather is obtained by inquiry and investigation. The basic format is project oriented with opportunities for students to study local meteorology with simple equipment and apparatus. Field trips are made to relevant locations where meteorological information is collected. Taught by Science Education Department.

SCI 116. Chemical Evolution: Protons to People. (3). The evolution of atoms and biochemically important compounds will be emphasized. Based on current theories of the prebiotic chemical and physical conditions, probable mechanisms for the genesis of biologically active molecules will be discussed. Evidence for molecular evolution will also be considered in some detail.

g-SCI 117. Science, Religion, and Truth. (3). A consideration of reality as perceived by science and religion. Emphasis will be placed upon how science and Judao-Christian religions attempt to arrive at truth. Issues where apparent conflict exists will be dealt with and strengths, weaknesses and areas of common belief for the two approaches will be examined. No prerequisites.

SCI 150. A Laboratory Introduction to Earth Science. (1). (2 laboratory). Selected laboratories from Earth Science Curriculum Project, independent investigations, and related projects will comprise this laboratory-oriented course.

h-SCI 210. Values — Act(I) on Environment. (3). A general education interdisciplinary course which provides

students with opportunities for first hand investigation of environmental problems such as air and water pollution, population studies, and use of natural resources including land and energy. Controversial environmental issues are presented and value clarifying techniques used to examine students' relationships to their environments.

SCI 260. Earth Science Concepts for Elementary Teachers. (4). (3 lecture, 2 laboratory). Co-requisite, SCED 260, 261, or 262. Introductory course in earth science designed especially for elementary education majors.

SCI 261. Biological Science Concepts for Elementary Teachers. (4). (3 lecture, 2 laboratory). Co-requisite, SCED 260, 261, or 262. A study of some basic concepts in science with an emphasis on their application to living organisms. The course is designed for elementary education minors interested in a general understanding of science.

SCI 262. Physical Science Concepts for Elementary Teachers. (4). (3 lecture, 2 laboratory). Co-requisite, SCED 260, 261, or 262. A study of some basic concepts in science with an emphasis on their application to the physical world. The course is designed for elementary education majors interested in a general understanding of science.

SCI 301. History of the Physical Sciences. (3). 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. (3). (2 lecture, 3 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 305. Elementary/Middle School Earth Science. (3). (2 lecture, 3 laboratory). A study of general earth science concepts and principles. Special emphasis will be given to those concepts most commonly taught in elementary and middle school science classrooms. Attention will also be given to activities and methods for teaching these concepts to children.

SCI 309. Science for Elementary Teachers. (3). (2 lecture, 3 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.

h-SCI 310. Influence of Science on Modern Humans. (3). Historical and philosophical development of scientific methods of investigation, their effects on perceptions of modern man and how science affects how we look at life. Modern reactions to the traditional view of science will be emphasized including the Humanistic movement, extra-sensory perception, parapsychology, mystical religions, and their influence on modern scientific endeavor. Dr. Jacob Bronowski's

"The Ascent of Man," text and films serves as a major part of the course.

School of Educational Change and Development

SECD 102. Professional Development Experiences. (1-15). Freshman students in the School of Educational Change and Development may elect professional development experiences that are a part of their program approved by their Resource Board and Advisory Board. The nature of the experiences and the credit hours will be determined by the student's accepted proposal.

SECD 202. Professional Development Experiences. (1-15). Sophomore students in the School of Educational Change and Development may elect professional development experiences that are a part of their program approved by their Resource Board and Advisory Board. The nature of the experiences and the credit hours will be determined by the student's accepted proposal.

SECD 302. Professional Development Experiences. (1-15). Junior students in the School of Educational Change and Development may elect professional development experiences that are a part of their program approved by their Resource Board and Advisory Board. The nature of the experiences and the credit hours will be determined by the student's accepted proposal.

SECD 402. Professional Development Experiences. (1-15). Senior students in the School of Educational Change and Development may elect professional development experiences that are a part of their program approved by their Resource Board and Advisory Board. The nature of the experiences and the credit hours will be determined by the student's accepted proposal.

Sociology

f-SOC 100. Principles of Sociology. (5). This course serves as an introduction to the field of sociology. A brief overview of basic theories, methods, and concepts central to the discipline is provided.

i-SOC 120. Marriage and the Family. (4). This course will focus on the family as an institution in society. Alternative forms of the family will be examined and related to the changes that have taken place in the society as a whole.

f-SOC 145. Social Problems. (3). 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.

All of the following Sociology courses have a prerequisite SOC 100 or equivalent.

f-SOC 210. Social Movements. (3). 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 those movements on society's processes, goals, and values.

i-SOC 221. The Sociology of Sex Roles. (3). This course will be an examination of contemporary sex roles and their relationship to the society as a whole. Socialization, role change, and related topics will be discussed.

f-SOC 240. Criminology. (4). A general survey of criminal behavior including theories of causation, types of crime, extent of crime, law enforcement, criminal justice, punishment and treatment.

f-SOC 270. World Population Problems. (4). 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.

f-SOC 272. The Community. (3). 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.

i-SOC 310. Social Psychology. (3). 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.

f-SOC 311. Collective Behavior. (3). Relevant and appropriate sociological theory is directed to the subdiscipline of collective behavior. Mobs, riots, crowds, crazes, mass behavior, revolutions and reforms are unified through certain theoretical developments that permit the systematic examination of the social strains underlying collective effort and behavior.

SOC 312. Mass Communication and Propaganda Analysis. (3). An examination of the structure and policy of mass communications in relation to their economic, political, sociological, and psychological functions. An analysis of propaganda, its techniques, and its impact upon the masses will also be considered.

f-SOC 321. Political Sociology. (3). 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 323. Sociology of Religion. (3). A comparative study of the world's major religions, their origins and historical development, their doctrines, literature, customs, and relations to society.

SOC 325. Sociology of Medicine. (3). A systematic attempt to relate sociological concepts to the fields of physical health and

illness. An overview of socio-cultural concepts 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 330. Complex Organizations. (3). This course provides an introduction to the study of modern bureaucratic organizations. The social structure of complex organizations as well as human organizational behavior is analyzed from a social psychological perspective.

f-SOC 333. Social Stratification. (3). 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.

f-SOC 334. Sociology of the Future. (3). A sociological perspective of the future. Attention is given to an analysis of the future from several sociological perspectives, and interpretation of utopian designs for societies of the future, and the theoretical construction of future societies.

f-SOC 337. Soviet Society Today. (4). A sociological analysis of the Soviet Union's social institutions, social problems, and values 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.

f-SOC 340. Juvenile Delinquency. (4). 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 341. Sociology of Aging. (3). Survey of theories and research on the social aspects of aging with emphasis on later maturity and old age, social problems of the aged, retirement, and use of leisure by the aged.

i-SOC 345. Sociology of Minorities. (4). 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 350. History of Social Thought. (4). A systematic and historical development of social thought from primitive folk thinking to contemporary theories of society and social relations.

SOC 351. Social Theory I. (4). This course includes sociological theory from Auguste Comte to the early 20th century. It deals with the beginnings of sociology as a separate discipline up to its full emergence in the academic community. Emphasis is upon the more important theorists and the major schools of theory.

SOC 352. Social Theory II. (4). 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 402. Issues and Perspectives in Sociology. (3-9). This is a variable topic course is sociology. Possible topics will be the sociology of science, art forms, alternative life styles, formal organization or comparative sociology. This course may be taken three times if the topic is different each of the three times.

SOC 410. Small Groups. (3). Observing, analyzing, and comparing behavior in various small groups. Emphasis will be upon groups devoted to decision-making and problem solving.

SOC 415. The Sociology of Child Development. (3). A sociological approach to the field of child development. The primary emphasis is upon the social situation and how the child grows and develops within its context from birth to maturity.

f-SOC 420. Sociology of Education. (3). A systematic attempt to relate sociological concepts to the educational institution. This course will focus upon a scientific analysis of the social processes and social patterns involved in the educational system.

SOC 421. Industrial Sociology. (3). The processes involved in the development of industrial society; social organization of work; internal dynamics of the work plant as a social system; the development of the labor movement in the U.S., and the dynamics and impact of labor management relations.

SOC 422. Independent Study in Sociology. (Maximum 4). 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 chairperson of the department.

f-SOC 424. Sociology of Criminal Law. (4). An inquiry into the origins of criminal law, its administration, and the effect of legal sanctions.

SOC 430. Sociology of Fascism. (3). SOC 321 is recommended. An examination of the processes, relationships, and precipitating climate involved in fascism as a social system with special reference to both compatible and incompatible features in American life.

SOC 432. Occupations and Professions. (3). Description and analysis of selected occupations and professions in American society.

f-SOC 435. Socio-Cultural Change. (3). 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.

SOC 437. Seminar in American Society Today. (3). An advanced study of the main cultural and social structures of American society, the social relations, beliefs and values which characterize the people of the United States.

f-SOC 447. Social Deviance. (4). 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.

f-SOC 454. Social Conflict. (4). Analysis of the nature of social conflict, its origins, functions, dysfunctions, and how conflict is resolved or accommodations made to it.

SOC 460. Social Research I. (4). 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. (4). 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.

f-SOC 478. Urban Sociology. (3). Population, spatial, and social patterns characteristic of modern urban communities. Trends and problems in urban communities such as out-migration and urban blight.

f-SOC 479. Human Ecology. (3). The study of human-nature ecosystems with special regard to human's social role in environment alteration, utilization and destruction. The role of social institutions and processes in conservation and exploitation of natural resources.

SOC 480. Field Research Sociology. (4-15). Prerequisite, consent of instructor. This course offers an opportunity to combine a substantial amount of self-directed research under the supervision of the instructor with actual field experience as an intern in a relevant social agency.

For 500 level classes — see Graduate Catalog.

Spanish

d-SPAN 101. Elementary Spanish I. (5). 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 of the language.

d-SPAN 102. Elementary Spanish II. (5). A continuation of SPAN 101.

d-SPAN 103. Elementary Spanish III. (5). A continuation of SPAN 102.

d-SPAN 107. Spanish Songs for the Classroom. (1). The purpose of the course is to provide students with an activity where they can advance their proficiency in Spanish. It is open to all students who enjoys singing Spanish popular songs for different occasions, e.g., the Christmas celebration of "Los Posados." The group will be available for the performances in community functions. This course is especially valuable for students planning to teach Spanish in the public schools. S-U grading.

d-SPAN 111. Medical Spanish I. (3). A course designed to give students involved in the medical field a basic knowledge of Spanish. The course will include intensive practice in speaking and using vocabulary that would be essential for effective communication with Spanish speaking individuals in a hospital or clinical setting. Mexican-American folk medicine or "curanderismo" will also be discussed.

d-SPAN 112. Medical Spanish II. (3). Continuation of SPAN 111.

SPAN 113. Medical Spanish III. (3). Continuation of SPAN 112.

d-SPAN 201. Intermediate Spanish I. (4). Prerequisite, two years of high school Spanish or equivalent. 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 communications.

d-SPAN 202. Intermediate Spanish II. (4). Prerequisite, two years of high school Spanish or equivalent. A continuation of SPAN 201 but emphasizing more intensive reading, oral reports, advanced composition and extensive conversation based on Spanish and Spanish-American culture.

d-SPAN 203. Intermediate Spanish III. (4). Prerequisite, two years of high school or equivalent. A continuation of SPAN 202. Based on Spanish-American culture materials, sources, films, audio-visual materials and a higher level of all-round comprehension and fluent functional use of the language and culture.

d-SPAN 205. Spanish for Elementary Education Majors. (4). Prerequisite, SPAN 203 or equivalent. Spanish for Elementary Education majors will be taught on a college intermediate level. The purpose of the course will be vocabulary building by intensive reading and conversation. The materials to be used will provide the student with Spanish vocabulary more suited to an elementary specialization.

g-SPAN 210. Spanish Civilization and Culture. (4). The study of Mexican civilization and culture including the essential historical, political and artistic developments and accomplishments from early times to the present. The stress will be on those events which contribute most significantly to the life style of the contemporary Mexican. This course will be offered only to participants of the study abroad program.

SPAN 215. Spanish Music for the Classroom. (3). Prerequisite, two years of high school Spanish or one year of college Spanish. The purpose of the course will be to provide the students with Spanish songs that can be used in the classroom as a tool to introduce culture, vocabulary, pronunciation, and other aspects of language development.

d-SPAN 235. Conversational Spanish. (4). A conversation course taken simultaneously with SPAN 103 and SPAN 203. The course is designed to provide intensive training in listening and speaking along with practice in structural and idiomatic forms and exposure to current events. The course will be offered

only to participants of the study abroad program.

g-SPAN 300. Introduction to Hispanic Literature. (4). Prerequisite, three years of high school Spanish or equivalent. The course is designed to give the student a foundation for evaluating literature. The course will present and explain most of the tools of the literary critic, then involve the student in the process of criticism.

d-SPAN 310. Advanced Spanish Grammar. (4). Prerequisite, three years of high school Spanish or equivalent. A systematic study of the more complex theories and forms of Spanish grammar, with emphasis on mood, tense, and voice.

g-SPAN 315. Colonial Latin American Literature. (3). Prerequisite, three years of high school Spanish or equivalent. A study of the literature and civilization of Spanish America from the time of the earliest Spanish explorers until the nineteenth century.

g-SPAN 316. Nineteenth Century Latin American Literature. (3). Prerequisite, three years of high school Spanish or equivalent. The literature of the nineteenth century will be studied with particular emphasis on the development of *Americanismo Literario* and with emphasis on the general movements of Romanticism and Naturalism.

g-SPAN 317. Twentieth Century Latin American Literature. (3). Prerequisite, three years of high school Spanish or equivalent. A study of the main works of the contemporary period of Spanish American Literature.

d-SPAN 325. Advanced Spanish Composition. (3). Prerequisite, three years of high school Spanish or equivalent. A course designed to increase the student's fluency in the language through the use of original compositions, translations, and resumes.

d-SPAN 335. Spanish Conversation. (4). Prerequisite, three years of high school Spanish or equivalent. 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.

d-SPAN 345. Spanish Pronunciation. (4). Prerequisite, three years of high school Spanish or equivalent. A study of the mechanics of Spanish pronunciation. Methods of recognizing and correcting pronunciation errors.

g-SPAN 355. Spanish Literature of the Middle Ages. (3). Prerequisite, three years of high school Spanish or equivalent. A study of Spanish literature and civilization from the late medieval period to the Renaissance.

g-SPAN 356. Spanish Literature of the Golden Age. (3). Prerequisite, three years of high school Spanish or equivalent. 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.

g-SPAN 357. Nineteenth and Twentieth Century Spanish Literature. (3). Prerequisite, three years of high school Spanish or equivalent. A study of Spanish literature and civilization of the nineteenth and twentieth centuries, with greater emphasis on the more recent periods.

g-SPAN 375. Spanish and Latin American Drama. (3). Prerequisite, oral facility in the language. Study of the major periods and development of Spanish and Latin American Theatre. Representative dramatists will be studied and scenes and/or works will be staged in class and public performance.

d-SPAN 400. Problems in Oral Spanish. (3). Prerequisite, four years of high school Spanish or equivalent. 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: Coursework. (8). 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, composition, and culture at the foreign study center. To be taken with SPAN 402.

SPAN 402. Study Abroad Program: Project. (4). Prerequisite, two years of college Spanish or permission of department. This course is designed to give students an opportunity to research the contemporary and historical cultural phenomena of Spain through the completion of an area studies project in the region of the study center. To be taken with SPAN 401.

g-SPAN 405. Latin American Short Story. (3). Study of the Latin American short story from romanticism to the present. To include Quiroga, Borges, Rulfo, Cortazar, Marquez.

g-SPAN 406. Latin American Poetry. (3). Prerequisite, three years of high school Spanish or equivalent. Concentration will be on four general periods of Latin American poetry: Modernismo, Posmodernismo, Vanguardismo, and Posvanguardismo. These movements will be related to the foreign poetic influences and visual arts of the corresponding periods.

g-SPAN 409. Survey of Contemporary Chicano Literature. (3). A survey of present-day literature that deals with social protest. Other literature that has contributed to the rich literary heritage of the present-day Chicanos will also be studied. (MAS 409 may be substituted for this course.)

g-SPAN 410. Spanish Civilization. (3). Prerequisite, three years of high school Spanish or equivalent. 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.

g-SPAN 415. Twentieth Century Spanish Drama. (3). Prerequisite, three years of high school Spanish or equivalent. A study of Spanish drama in the twentieth century, the School of Benavente, the New Direction of Federico Garcia Lorca, the Post-War Theatre of Alfonso Sastre and Buero Vallejo.

g-SPAN 420. Cervantes. (4). Prerequisite, three years of high school Spanish or equivalent. 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 422. Individual Studies. (1-4). 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 chairperson of the department. Not for General Education credit.

g-SPAN 425. Chicano Spanish. (3). Prerequisite, three years of high school Spanish or equivalent. Chicano Spanish is a course designed to acquaint future Spanish teachers with the regional and social characteristics of the Spanish spoken by the Spanish speakers of the Southwestern United States. (MAS 425 may be substituted for this course.)

g-SPAN 430. A Panorama of Mexican Literature. (3). Prerequisite, three years of high school Spanish or equivalent. The study of Mexican literature from colonial times to the present-day. The class will be conducted in Spanish. (MAS 430 may be substituted for this course.)

g-SPAN 450. Latin American Culture and Civilization. (3). Prerequisite, three years of high school Spanish or equivalent. A course designed to give the student an understanding of the historical and cultural development of the countries of Latin America. A survey of the major historical events from the pre-Columbian period to the present will be included. Primary emphasis will be placed upon Mexico. The class is conducted in Spanish.

g-SPAN 475. Spanish Reading. (1-4). Prerequisite, three years of high school Spanish or equivalent. Designed to fit the reading abilities and interests of various students. Extensive reading is reported in class and in conference. Reading will be chosen from a specific movement of literature to be determined by the instructor.

Social Studies Education

SSED 341. Methods of Teaching Social Science in the Secondary School. (3). Prerequisite, PTE. Prerequisite to student teaching. 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.

SSED 470. Theory and Research in the Social Sciences. (4). A course designed to provide social science teaching majors with an introduction to theory and research in the social sciences. Special emphasis will be on the logic of social scientific theory and research and its applicability for the secondary teacher.

Statistics and Research Methods

SRM 203. Introductory Statistical Methods. (3). Basic statistical concepts and techniques; comprehension of research and literature in education and the other behavioral sciences using elementary statistical methods. Student

is expected to know basic arithmetic and elementary algebra.

h-SRM 303. Basic Statistical Inference. (3). Prerequisite, SRM 203 or its equivalent. The student will be acquainted at a service level with statistical procedures as used by the researcher. Emphasis will be upon applications. Topics will include simple hypothesis testing, analysis of variance, chi-square analysis, and elementary probability.

a-SRM 315. Statistics for Health Sciences. (3). This is an introductory course in statistical methods with applications to the biological and health sciences. Topics include frequency distributions, measures of central tendency, measures of dispersion, the normal distribution, standardized scores, hypothesis testing, chi-square correlation, and regression. Designed primarily for nursing, biology, and health science majors.

f-SRM 323. Introduction to Information Processing and Computers. (3). Introduces the computer, its nature, use and impact on education and society. Involves basic concepts programming and applications. Requires no previous knowledge of computer fundamentals.

SRM 422. Individual Studies. (1-4). 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 chairperson of the department. Not for General Education credit.

Theatre Arts

THEA 105, 106, 107. Individual Performance in Theatre. (2 each). Open to all students who desire to participate in production activities of The Little Theatre of the Rockies. S-U final marks or conventional grading. (Register for the proper section.) To receive S, students must participate a minimum of 60 hours.

d-THEA 110. Introduction to Stagecraft. (3). (2 lecture, 2 laboratory. Lab card required). A study of the arts, terminology, and materials of stagecraft and the physical theatre plant. Emphasis is placed in the laboratory experiences on basic stage construction, shifting and rigging procedures, and scene painting.

d-THEA 130. Introduction to the Theatre. (3). A survey of the history of the theatre with study of representative plays from each historical period.

d-THEA 160. Acting I. (Internals). (3). (2 lecture, 3 laboratory. Lab card required). 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. (1 each). A laboratory course in the development of the actor's basic tools, his/her body and his/her voice. Emphasis is placed upon skills needed to communicate various realistic modes of movement, strength, agility, and control.

THEA 204, 205, 206, 207. Individual Performance in Theatre. (2 each). Open to all students who desire to participate in

production activities of The Little Theatre of the Rockies. S-U final marks or conventional grading. (Register for the proper section.) To receive S, students must participate a minimum of 60 hours.

THEA 210. Stagecraft. (3). (2 lecture, 2 laboratory. Lab card required). Prerequisite, THEA 110. A study of advanced construction problems, rigging, and backstage organization and management. The laboratory experiences will include the development of basic skills in mechanical drafting, scenic and properties construction, and advanced painting techniques.

e-THEA 220. Beginning Stage Costuming. (3). (2 lecture, 2 laboratory. Lab card required). 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 240. Beginning Stage Directing. (3). (2 lecture, 3 laboratory. Lab card required). Prerequisites, THEA 110 and THEA 160. A basic course in the principles of directing a play. The major focus of the courses is on contemporary theories and practices of stage directing.

THEA 260. Acting II. (Externals). (3). (2 lecture, 3 laboratory. Lab card required). 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. (2). (1 lecture, 2 laboratory. Lab card required). A basic course designed to acquaint the student with the principles of the art of stage make-up.

THEA 280. Creative Drama in the Community. (3). (Laboratory arranged. Lab card required). A study in creative dramatics including content areas, methods of application, service to special community groups (e.g. the handicapped, the elderly) and use in recreation center programs.

THEA 281. Creative Drama in Education. (3). (Laboratory arranged. Lab card required). A study in creative dramatics including content areas, methods of application, communication and social skill development, and function in contemporary society; emphasizing all basic concepts usable within the framework of each student's own specific teaching methodology in education.

THEA 304, 305, 306, 307. Individual Performance in Theatre. (2 each). Open to all students who desire to participate in production activities of The Little Theatre of the Rockies. S-U final marks or conventional grading. (Register for the proper section.) To receive an S, students must participate a minimum of 60 hours.

THEA 310. Beginning Scene Design. (3). (2 lecture, 2 laboratory. Lab card required). Prerequisites, THEA 110, 210. A fundamental course in scene design. Emphasis is placed on the aesthetics and styles of stage design and the development of rendering skills and staging concepts.

THEA 320. Stage Costume Design I. (4 each). An introduction to designing costumes

for the stage, with emphasis on the historical, conventional and visual tools and media available to the designer for translating verbal script to visual and tactile form.

THEA 321. Stage Costume Design II. (4).

An introduction to designing costumes for the stage, with emphasis on the historical, conventional and visual tools and media available to the designer for translating verbal script to visual and tactile form.

d-THEA 330. History of the Theatre I. (3). A research 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.

d-THEA 331. History of the Theatre II. (3). A research study of European theatre and its development from the Italian Renaissance until the close of the 18th century.

d-THEA 332. History of the Theatre III. (3). A research study of American and European theatre and its development from the beginning of the 19th century to the present.

THEA 340. Directing Period Plays. (3). (2 lecture, 3 laboratory. Lab card required). Prerequisite, THEA 240. A production course in the directing of plays from Aeschylus to Ibsen for public performance. Particular attention will be given to the stylistic demands of each period.

THEA 341. Directing Experimental Plays. (3). (2 lecture, 3 laboratory. Lab card required).

Prerequisite, THEA 240. A production course in the directing of plays from various contemporary styles: symbolism, expressionism, "theatre of cruelty," "theatre of the grotesque," "theatre of the absurd," and other experimental styles.

THEA 342. Directing Musical Theatre. (3). (2 lecture, 3 laboratory. Lab card required).

Prerequisite, THEA 240. A study of specific techniques required of a director for the production of various styles of musical theatre. An historical look at musical theatre. A detailed study of production techniques.

THEA 350, 351, 352. Summer Theatre Workshop I, II, III. (15 each). Prerequisite, acceptance by Theatre Arts staff. Workshop in acting and technical theatre; eight weeks of eight hours daily rehearsal for six summer productions. Undergraduate majors in Theatre Arts receive credit for THEA 210, 220, 260 (with course instructor's permission) and two hours in Individual Performance in Theatre.

THEA 353. Theatre Production. (2). (6 laboratory). Prerequisite, acceptance by the Theatre Arts staff director. A laboratory class in the production and presentation of touring theatre before live audiences. Triple period, two days a week. Repeatable for eight hours maximum credit.

THEA 360. Acting III. (Musical Theatre). (3). (2 lecture, 3 laboratory. Lab card required). Prerequisite, THEA 160, MUS 130, THEA 170, 171, 172. The primary focus of the course follows the structure of THEA 260, Acting II (Externals) but in the medium of musical theatre. The laboratory experiences will include singing, dancing and acting.

THEA 361. Advanced Stage Make-Up. (2). (1 lecture, 2 laboratory. Lab card required). Prerequisite, THEA 261. A course designed to

prepare the student to produce professional quality make-ups, going beyond the basics into special problems in make-up, group make-ups, three dimensional prosthetics, make-up for other media, and make-up for the educational theatre.

THEA 370, 371, 372. Rhythmic and Dramatic Movement I, II, III. (1 each).

Prerequisites, THEA 170, 171, 172. A laboratory course in the continued preparation of the actor's skills in movement. Emphasis is upon the rhythmic demands of various styles of acting, period movement, and stage fighting.

THEA 380. Children's Theatre Production. (3). (Laboratory arranged. Lab card required).

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. Study of the literature in the field, technical problems, and the educational values of theatre for children will be emphasized.

THEA 385. Methods of Teaching Drama in the Secondary School. (PTE) (3). Prerequisite to student teaching. 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.

THEA 390. Chamber Theatre. (4).

Prerequisites, COMM 170 or THEA 240, or permission of instructor. A course designed to acquaint the student with the principles and production techniques of Chamber Theatre.

THEA 401. Practicum in Theatre. (1-4).

(Maximum 12). Qualified undergraduates; permission of instructor, student adviser, department chairperson. Supervised and specialized field-work in theatre, involving theory and methodology in practice; two to eight hours per week. Critical evaluation by instructor. Copies of a written evaluation of the work performed must be filed with the instructor and department.

THEA 404, 405, 406, 407. Individual Performance in Theatre. (2 each). Open to all students who desire to participate in production activities of The Little Theatre of the Rockies. S-U final marks or conventional grading. Register for the proper section.) To receive S, students must participate a minimum of 60 hours.

THEA 410. Advanced Staging Techniques. (4).

Prerequisite, THEA 310. An advanced study and practice of the modern trends and developments in scene design and staging methods and techniques, with emphasis on stage management, new materials, the staging and design of the multi-set production, and the care and maintenance of equipment.

THEA 411. Stage Lighting. (3). (2 lecture, 2 laboratory. Lab card required). Prerequisite, THEA 210. An introduction to lighting theory and lighting design applicable to staging practices.

THEA 422. ID Research in Theatre. (1-4). (Maximum 12). Qualified undergraduates; permission of instructor, student adviser, department chairperson. Supervised

individual research in theatre, involving the standards and methodologies of research procedures; two to eight hours of research/writing per week. Critical evaluation by instructor. Copies of a standard research paper must be filed with the instructor and department.

THEA 430. Dramatic Theory I. (3). A seminar study of the development of dramatic theory and criticism in Western Civilization from the classical period through the early German Romantic period, through student research reports on the theory and criticism and papers applying the theory to contemporary plays.

d-THEA 431. Dramatic Theory II. (3). A seminar study of the development of dramatic theory and criticism in Western Civilization from the early German Romantic period until present-day developments, through student research reports on the theory and criticism and papers applying the theory to contemporary plays.

THEA 440. Directing the One-Act Play. (2).

Prerequisites, THEA 340 and 341 or permission of instructor. A practicum in play direction giving the student the opportunity to produce a one-act play under staff supervision. Two copies of a well-written paper, defending the purpose and success of the production, and one prompt book will be required.

THEA 460. Serious Styles of Acting. (2). (4 contact hours per week). 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, nineteenth century Romantic drama, Ibsen and Strindberg.

THEA 461. Comic Styles of Acting. (2). (4 contact hours per week). 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 eighteenth century, and nineteenth century farce and comedy.

THEA 462. Problems in Acting Conventions. (2). (4 contact hours per week). Prerequisite, THEA 260. An advanced laboratory course in acting, concentrating on 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 465. Musical Theatre Repertory I. (2). (4 contact hours per week. Taken concurrently with MUS 407). Prerequisites, THEA 260 or THEA 360. An introductory laboratory course to provide the advanced student in acting, dance, and vocal music (especially Music/Theatre degree majors) with training and practice of integrating music and theatre techniques. Emphasis is placed on the technical and aesthetic tasks of professional music-theatre performance. Class meets 4 hours per week.

THEA 466. Musical Theatre Repertory II. (2). (4 contact hours per week. Taken concurrently with MUS 409). Prerequisite, THEA 465. A continuation of THEA 465. Role preparation and styles. The course focuses on developing necessary skills to approach and prepare audition materials and new roles. Class meets 4 hours per week.

THEA 467. Musical Theatre Repertory III. (2). (4 contact hours per week. Taken concurrently with MUS 411). Prerequisite, THEA 466. A continuation of THEA 466. Interpretation and development of musical theatre roles, integrating vocal, dance and character development. The course focuses on advanced stage presence in solo and ensemble roles for musical comedy and opera. Emphasis is on developing repertoire. Class meets 4 hours per week.

THEA 475. Musical Dance Workshop. (2). (4 contact hours per week). The course is designed for students cast in the winter quarter musical theatre production. The workshop focuses on practical experience in dance and stage movement of a musical theatre production. Techniques of dancing and movement for the preparation of a show for public performance will be offered.

THEA 480. Advanced Creative Dramatics. (3). (Laboratory arranged. Lab card required). Prerequisite, THEA 280 or THEA 281. A teaching experience in creative dramatics emphasizing the drama leader's role as planner, player and evaluator.

Vocational Teacher Education Foundations

VTEF 210. Career Opportunities and Explorations. (3). This course is designed to explore various areas and/or careers available to the student. Students will analyze their own interests, aptitude, values and motivation and apply what they assess as their personal strengths and interests to a career planning process.

VTEF 290. Directed Field Experiences. (1-10). Prerequisite, instructor's permission. Combines work experience and related seminars. Designed to provide program related work experience which may be applied to the work hour requirements for a vocational credential. S-U final mark. May be repeated.

VTEF 308. Workshops in Vocational Teacher Education Foundations. (1-9). Provides opportunity to study common instructional or administrative problems. Each workshop carries a subtitle. Subtitles cannot be repeated. Undergraduates see advisor on degree requirements.

VTEF 310. Vocational Education Foundations. (3). Beginning course concerning history, legislation, state policies, programs and contemporary concerns of vocational education.

VTEF 400. Vocational Student Organizations. (1). *Must be taken concurrently with VTEF 401, 402, 403, or 404 seminars.* Initiation, organization, maintenance of successful vocational student organization. State Plan requires available

local vocational state organization. Purpose, function of DECA, FBLA/OEA, FHA/HERO, HOSA, and others.

VTEF 401. Distributive Education Clubs of America — Seminar. (2).

VTEF 402. Future Business Leaders of America — Seminar. (2).

VTEF 403. Future Homemakers of America — Seminar. (2).

VTEF 404. HOSA and Post-Secondary Student Professional Organizations in Health Occupations — Seminar. (2). Specifics of organizations, activities, classroom and field/or simulated experiences.

VTEF 410. Cooperative Education and Coordination Techniques (3). Prerequisite, VTEF 310 or VTEG 610. Analysis of cooperative vocational education programs, duties of teacher-coordinator, problems, on-the-job experiences.

VTEF 418. Adult Vocational Education. (3). Organization, administration of post-secondary and adult occupation programs. Existing adult education programs examined.

VTEF 419. Advisory Committees in Vocational Education Seminar. (2). Prerequisite, VTEF 310 or VTEG 610. Organization and utilization of advisory committees within reimbursed vocational education programs.

VTEF 422. Individual Studies in Vocational Teacher Education Foundations. (1-6). Designed to study a self-selected topic within vocational education. Offered by arrangement with the instructor.

VTEF 430. Vocational Education for Learners with Special Needs. (3). Prerequisite, VTEF 310 or VTEG 610. Overviews requisites and characteristics of "special needs" students. Emphasis on meeting needs of disadvantaged and handicapped students in the classroom and through on-the-job training.

VTEF 488. Seminars in Vocational Teacher Education. (1-6). Focus on specific subtitled topics designed for small groups. No subtitle may be repeated for credit.

VTEF 491. Practicum in Vocational Special Needs. (1-15). This course is designed to provide a college-supervised individual or group experience in a field-based vocational setting to work with students with special needs. Prerequisite is VTEF 430 or EDSE 407.

Health Occupations Teacher Education

VTTH 308. Workshops in Vocational Teacher Health Occupations. (Maximum 9). Provides opportunity to study common instructional or administrative problems. Each workshop carries subtitle. Subtitles cannot be repeated. Undergraduates see advisor on degree requirements.

VTTH 400. Organization and Administration of Health Occupations. (3). Prerequisite, VTEF 310. Introduction to the field of vocational allied health occupations for instructors. This course places emphasis upon external factors affecting health programs at secondary and post-secondary levels. This course is divided into three modules: 1.) Organization of Health

Occupations, 2.) Delivery of Health Occupations Education Programs, 3.) Implications for Program Operations.

VTTH 401. Health Occupations Instructional Design-Occupational Analysis. (1). Identify tasks in health occupation specialties and outlines cognitive and affective components of those identified tasks.

VTTH 402. Health Occupations Instructional Design-Performance Objectives. (1). Identify and develop performance objectives in each domain for health occupations programs.

VTTH 403. Health Occupations Instructional Design-Classroom Evaluation. (1). Prerequisite VTTH 402. Design classroom test items for matching objectives as to domain and level for programs.

VTTH 404. Health Occupations Instructional Design-Instructional Methods. (1). Identify characteristics of classroom methods of instruction and develop materials to be used with these methods.

VTTH 405. Health Occupations Instructional Design-Media Utilization. (1). Critiquing and using media in health occupations programs.

VTTH 406. Student Evaluation in the Clinical Setting. (3). Prerequisite, VTTH 402 or equivalent. Designed for instructors involved in site selection and student evaluations. Modules: 1.) Site Selection, 2.) Clinical Objectives, 3.) Coordination and Scheduling Techniques, 4.) Evaluation Procedures.

VTTH 422. Individual Studies in Vocational Teacher Health Occupations. (1-4). Minimum 25 clock hours per quarter on problem not included under regular program. Well-written paper must be filed with instructor and department chairperson before credit is given. Offered by arrangement.

VTTH 452. Preparation for Teaching Vocational Health Occupations—CHO-ACTIVE. (1). The Colorado Health Occupations—Assessment of Competencies to Teach in Vocational Education provides competencies and tools for evaluation for professional development planning.

VTTH 453. Preparation for Teaching Vocational Health Occupations — Seminar. (2). Application or Methodology, Classroom Management—must be completed immediately preceding student teaching.

VTTH 483. Teaching Improvement Seminar in Vocational Health Occupations. (3). Prerequisite, EDSE 444. Following teaching experience: Improvement of Instruction, Placement/Continuing Education Planning.

VTTH 488. Seminars in Health Occupations Teacher Education. (Maximum 6). Focus on specific subtitled topics designed for small groups. No subtitle may be repeated for credit.

VTTH 491. Practicum in Health Occupations Teacher Education. (1-15). This practicum is designed to provide a supervised individual or group experience in the field to work with Colorado Health Occupations programs.

Women's Studies

i-WS 120. Women and Men in Perspective.

(3). No prerequisite. Designed for General Education, this course focuses on the processes of influence and persuasion that may enhance the effectiveness of interpersonal relationships of women and men in the struggle to produce a civilized environment. Taught by Women's Studies faculty from different disciplines to emphasize interdisciplinary relationships.

i-WS 148. Introductory Seminar in Women's Studies: Women in Crisis.

(3). Prerequisite, consent of instructor. An introductory course designed primarily for students minoring in Women's Studies. Through individual projects and group processes, the student will explore herself/himself in relation to woman's world. Special emphasis will be placed on attitude formation, gender role-learning, self-images, needs, values, fears, and aspirations.

WS 308. Women's Studies Workshop.

(1-4). Open to graduate students, juniors and seniors, this workshop will cover, from time to time, specific issues in Women's Studies. A specific issue, approved by the Women's Studies Committee, will be intensively examined. Topic will be announced in advance of the quarter in which the workshop is offered.

WS 448. Women's Studies: Senior Seminar.

(3). Prerequisites, WS 148 and fifteen hours in approved electives in Women's Studies. Designed primarily for students minoring or taking a core-course program in Women's Studies, the senior seminar focuses upon materials students learned in disciplinary areas, using these ideas and techniques to develop interdisciplinary methodologies and concepts for understanding sexism and feminist approaches to combat it.

Zoology

Courses in Zoology are administered by the Department of Biological Sciences.

h-ZOO 105. Human Biology. (4). (3 lecture, 3 laboratory). an introduction to human biology with emphasis on general body organization, tissue histology, genetics, embryology, medical parasitology, and a survey of basic organ structure and function. The course is designed to give nursing students a foundation for more advanced courses in human anatomy and physiology. Credit not allowed Biological Science majors.

h-ZOO 156. Elements of Human Physiology — Anatomy. (5). (4 lecture, 3 laboratory). A class in beginning human physiology and anatomy, 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 Biological Sciences majors. Biological Sciences credit not allowed for both ZOO 156 and ZOO 250.

h-ZOO 221. Human Anatomy. (4). (3 lecture, 3 laboratory). Prerequisites, ZOO 105, or BIO 103. A study of the organ systems of the mammalian body. Structure and integration of

organs and organ systems of the human will be emphasized. Laboratory studies will include examination of injected laboratory mammals and cadaver organs.

ZOO 250. Human Physiology. (5). (4 lecture, 3 laboratory). Prerequisites, BIO 103 or ZOO 105, ZOO 221, or ZOO 428, CHEM 281 recommended. 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.

ZOO 302. Principles of Animal Behavior. (4). (3 lecture, 3 laboratory). Prerequisite, BIO 103. An introduction to the study of animal behavior. With emphasis on ethology and the ecological significance of behavior. A field trip transportation fee is required.

h-ZOO 304. Ornithology. (4). (3 lecture, 2 laboratory). 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. Students must furnish binoculars. A field trip transportation fee is required.

ZOO 316. Entomology. (5). (3 lecture, 4 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 320. Invertebrate Zoology. (5). (3 lecture, 4 laboratory). A general study of the invertebrate phyla, with a phylogenetic approach. Form, function and evolutionary relationships are stressed. Examples of each group are studied in the laboratory, using live specimens whenever possible. The insects and parasites are not emphasized.

ZOO 340. Animal Ecology. (5). (3 lecture, 6 laboratory). Prerequisites, BIO 101, 102, 103. The study of structure and function of ecosystems. Emphasis will be placed on totality or patterns of relations between organisms including humans with their environment. Field trips required. A field trip transportation fee is required.

ZOO 350. Medical Pharmacology. (4). (3 lecture, 3 laboratory). Prerequisites, BIO 103 or ZOO 105, ZOO 221 or 428, ZOO 250, CHEM 130 or equivalent. A detailed study of the principles underlying absorption, distribution, metabolism, excretion, and interaction of drugs in the human. Credit not allowed for both ZOO 350 and ZOO 550.

ZOO 410. Medical Parasitology. (4). (3 lecture, 2 laboratory). The principles and practices of parasitology, emphasizing parasites of human medical importance. Clinical procedures are not stressed. The morphology, biology, pathology, and epidemiology of selected species are discussed, and their effects on contemporary world health, economics and demography are considered. The historical significance of slavery on parasite distribution is emphasized. Credit to Zoology major may not be given for both ZOO 410 and ZOO 412.

ZOO 412. General Parasitology. (5). (3

lecture, 4 laboratory). Prerequisites, BIO 101, 103. A study of the symbiotic relationships of parasitism as exemplified by typical parasites of humans, domesticated and wild animals. Life cycles, pathology, systematics, and host-parasite relationships are stressed. Credit to Zoology major may not be given for both ZOO 410 and ZOO 412. **ZOO 427. Vertebrate Embryology.** (5). (3 lecture, 4 laboratory). Prerequisite, BIO 103. A study of the fundamental principles of embryology and developmental anatomy. Development from the zygote through the fetal stage will be considered. Serial sections of chick and pig are used to illustrate the developmental processes discussed in lecture.

ZOO 428. Comparative Vertebrate Anatomy. (5). (3 lecture, 6 laboratory). Prerequisites, BIO 103. A detailed study of the anatomical systems of the vertebrates. The student is expected to make careful dissections of selected vertebrate specimens used for laboratory study.

ZOO 441. Mammalogy. (5). (3 lecture, 6 laboratory). Prerequisites, BIO 101, 103. An advanced taxonomy and ecological survey of mammals with emphasis on Colorado fauna. 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. A field trip transportation fee is required.

ZOO 442. Survey of Amphibians and Reptiles. (4). (3 lecture, 3 laboratory). A survey of the biology and taxonomy of the amphibians and reptiles with emphasis on local taxons. Laboratory will include field trips, collection of specimens and the identification of specimens using appropriate taxonomic keys. A field trip transportation fee is required.

ZOO 443. Ichthyology. (4). (3 lecture, 3 laboratory). A study of the classification, ecology, behavior, and life histories of native and introduced fishes. A field trip transportation fee is required.

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