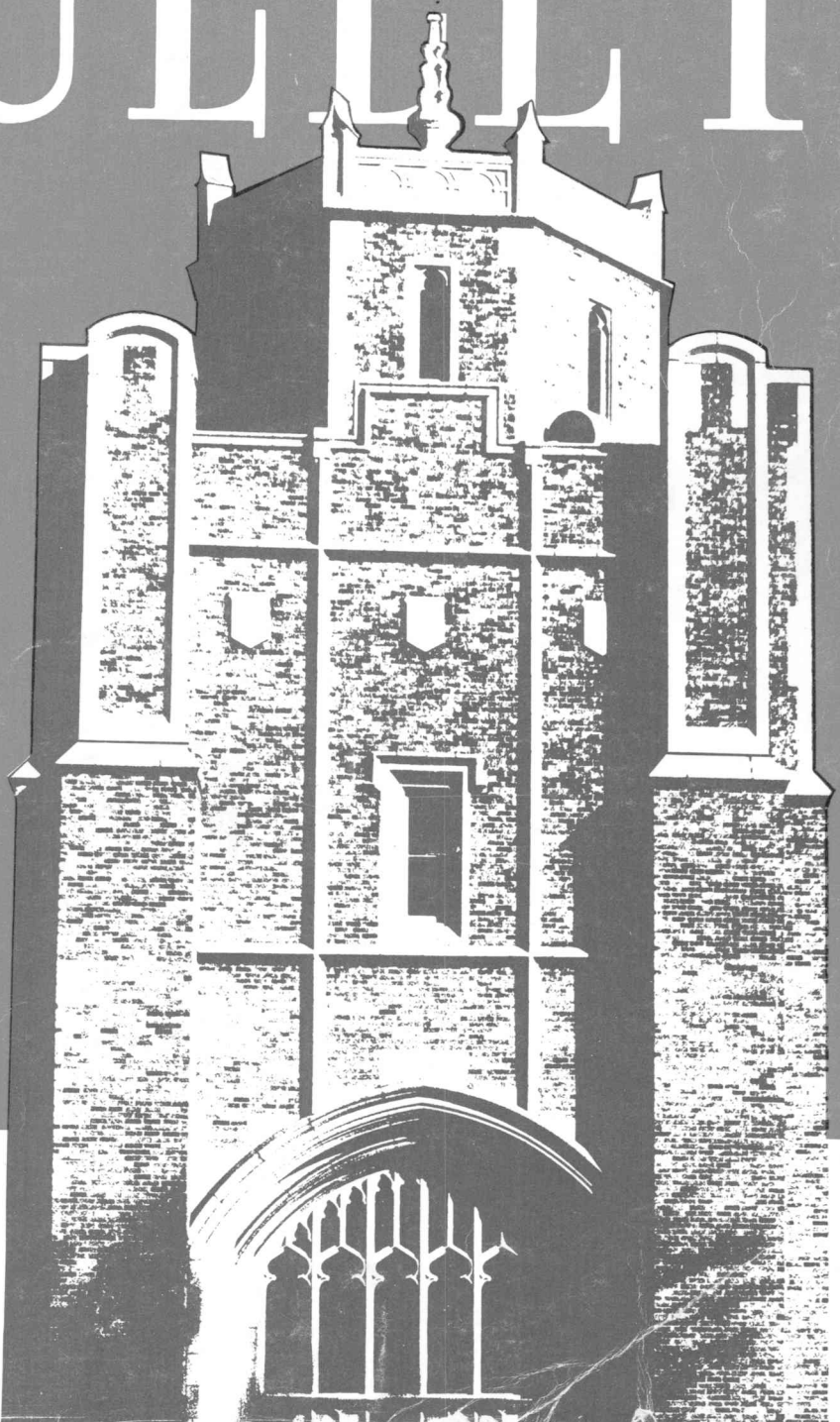


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UNIVERSITY OF
NORTHERN COLORADO

BULLETIN



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UNDER-
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AND
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**University
of
Northern
Colorado
Greeley**

**1983-1984
Undergraduate and Graduate
Bulletin**

Effective Dates: September 1, 1983 to August 31, 1984



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 Office of the University is located in Carter Hall 4000.

Note: All announcements in this Bulletin are subject to change without notice, and do not constitute an agreement between the University of Northern Colorado and the student.

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Post Office Address:

University of Northern Colorado
Greeley, Colorado 80639
Telephone: (Area code 303) 351-1890

Admissions

Admissions Office, Carter Hall 3006
(351-2881)

Affirmative Action

Affirmative Action Office, Carter Hall 4000
(351-2829)

Bulletins and Directories of Classes

Visitor's Center, Admissions Office
Bookstore, University Center

Continuing Education and Independent Study

Frasier Hall 19
(351-2944)

Evening Division

Frasier Hall 11
(351-2944)

Counseling Services

Counseling and Career Center, Gray Hall 103
(351-2479)

Fee Payment

Accounting Office, Carter Hall 1002
(351-2837)

Financial Resources and Student Employment

Carter Hall 1005
(351-2502)

Graduate Program Information

Graduate Office, Carter Hall 2007
(351-2831)

Housing

Housing Office, Gordon Hall
(351-2721)

Department of Public Safety

1909 10th Avenue
(351-2245)

Parking Services

1900 20th Street
(351-2324)

International Students Services

Carter Hall
(351-2396)



University Calendar

Fall, 1983

Monday and Tuesday, Sept. 19-20
Fall Registration
Wednesday, Sept. 21
Classes begin
Wednesday, Nov. 23
No classes, Thanksgiving break
Monday, Nov. 28
Classes resume
Monday-Friday, Dec. 5-9
Finals Week
Saturday, Dec. 10
Commencement, quarter ends

Winter, 1984

Tuesday, Jan. 3
Winter registration
Wednesday, Jan. 4
Classes begin
Monday-Friday, March 12-16
Finals week
Saturday, March 17
Commencement, quarter ends
Monday-Friday, March 19-23
Spring Break, no classes

Spring, 1984

Monday, March 26
Registration
Tuesday, March 27
Classes begin
Monday, May 28
No classes, University closed
Monday-Friday, June 4-8
Finals week
Saturday, June 9
Commencement, quarter ends

1

The Institution and Its Services

The University of Northern Colorado is a multi-purpose institution offering a wide range of graduate and undergraduate degree programs in six schools and colleges. These are:

The College of Arts and Sciences

The School of Business

The College of Education

The Graduate School

The College of Health and Human Services

The School of Health, Physical Education and Recreation

The College of Performing and Visual Arts

The University and its programs are fully accredited by the North Central Association. Specialized programs are additionally accredited by other organizations and associations.

The University offers approximately 3,500 academic courses annually, and enrolls nearly 10,000 students. The University of Northern Colorado is a unique center of learning. Its teaching and administrative personnel have created a highly prized balance between the personal contact found typically in a small institution and the broad range of cultural, social and intellectual opportunities found in a major university. Few major universities are able to achieve this balance.

The University is located in the city of Greeley, Colorado, approximately one hour north of the city of Denver and approximately one hour east of Rocky Mountain National Park.

Campus Crossroads

At every university, two facilities offer programs and services which serve as a magnet for students. These are the main library and the student center. Since they serve as the crossroads of student academic, cultural and social activity, these

facilities and their characteristics provide a valid insight into the values and lifestyle of the university and its student body. At the University of Northern Colorado, these facilities are named the James A. Michener Library and the University Center.

The "UC"

The University Center serves students and faculty in their cultural, social, recreational and organized co-curricular activities. Called the "UC" by students, the center is a spacious modern building located on a rise of land formerly known as "Inspiration Point."

The Information Desk is staffed by students who pride themselves on their ability to answer questions about any aspect of campus and community life.

The Recreation Area is a gathering place for students attracted to the bowling lanes, pool and billiard tables, video game arcade and the popcorn and beer which are served afternoons and evenings.

Crossroads Cafeteria, Bru II vending machine area, SOUP'ER SPUDS soup and salad bar, and Hungry Harold's Hotdog and Pizza stand offer full meals, quick snacks, and ample opportunity to meet faculty and other students over a cup of coffee.

University Bookstore and Copy Center provides a complete line of textbooks, and academic supplies, gift items and collegiate clothing bearing the UNC emblem or tags.

The beautiful Panorama Lounge, with a splendid glass wall framing the Rocky Mountains, the main Ballroom (which can seat 1,100 people at a major lecture, or 500 people at a formal

dinner), the registration area where students sign up for courses, the office of the University Ombudsman, the Dean of Students office and a small art gallery are also in the University Center.

In addition, the University Center houses offices for a number of student organizations and student support services. These include:

*Student Representative Council Offices — for elected student government officials.

*Student Advocates — secures volunteers to work with handicapped students.



*National Student Exchange — allows UNC students to exchange campuses with student from other colleges and universities.

*Open University — provides opportunity to participate in specialized campuses with students from other colleges and non-academic classes which are not offered in the regular curriculum.

*Human Sexuality Center — provides awareness and counseling resources related to sexuality and human relationships.

*Office of Legal Services — provides specifically defined legal services to students and student organizations.

*Off Campus Renters Information Service — serves as a clearing house and a resource center for students seeking information about off-campus housing.

*Black Student Union — operated by and for the University's black students.

*United Mexican American Students — operated by and for the University's Mexican American Students.

*Bookmart — serves as a resale and exchange for used textbooks.

*Sign Shop — provides materials for student organizations to use in publicizing their events.

*The Mirror — the campus newspaper, staffed entirely by students.

*Colorado North Review — the campus literary magazine.

*Cache LaPoudre Yearbook — the UNC yearbook, supported and staffed entirely by students.

*CoPIRG — a public interest research and consumer advocate group operated by students.

*University Program Council — the major student programming organization on campus.

*Dean of Students Office — provides a professional staff to serve as a support, information and referral clearinghouse for students with problems; organizes the orientation for new students, advises students who have not yet declared their majors; and coordinates University academic advising.

The UC hosts an exceptional range of events and programs. Most of these are organized entirely by students. These include guest speakers such as Angela Davis, Bobby Seale, Supreme Court Justice Byron White, feminist artist Judy Chicago, conservative economist Arthur Lafer, former Senator and Presidential candidate Eugene McCarthy; major films such as "Raiders of the Lost Ark,"

"Taps," "Chariots of Fire," "Rocky II," and "Bambi;" events such as the fall Bizarre, the 5K-10K Footrace, the Greek-sponsored Songfest, the Miss Black Essence Contest and others.

It has been estimated that the combined attendance of events held at the UC approaches 200,000 people per year.

James A. Michener Library

The University of Northern Colorado Library maintains a collection of approximately 1,200,000 units of hardbound volumes, periodicals, monographs, government documents, filmstrips, slides, maps, phonograph records, and tapes. The primary collection is housed in the James A. Michener Library, named for one of America's most popular living authors. Michener is also a former UNC student and faculty member.

The stacks are open to all students and carefully trained staff provide tours and special instruction in library use upon request. The Computer Based Reference Assistance utilizes several hundred computerized data bases to augment the research needs of faculty and students.

The traditional card catalog is being replaced by an online Public Access Catalog. Upon completion, this new system will provide access to the entire holdings of the UNC libraries and will enable the user to peruse the collections of Colorado's seven research institutions.

Special services are available for handicapped students, including the Kurzweil reading machine for the blind and visually impaired.

UNC students may borrow library materials from an state-supported college and university in Colorado, as well as the University of Denver, a private institution. The Interlibrary Loan Service obtains library materials for UNC students within the state and nation as well as from foreign libraries.

The Music Library, with comprehensive holdings selected for music students, is located in Frasier Hall.

The Laboratory School Library, located in Bishop-Lehr Hall, provides approximately 24,000 volumes plus additional learning media focused on literature for children and young adults.

Assistance in the location, acquisition, production, duplication and utilization of educational media materials and equipment is available from the Educational Materials Services in Michener L171, 351-2885.

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

Housing

Main Office: Gordon Hall
Telephone: 351-2728

Ten residence halls at the University of Northern Colorado house more than 3,000 students on campus in an interesting variation of styles and accommodations.

Married students and their immediate families may be housed in 98 furnished apartments owned by the University. There are also 12 specially designed rooms in Harrison Hall and three apartment units provided for the physically handicapped.

The main Housing Office is in Gordon Hall on Central Campus, (351-2721).

Residence halls provide comfortable, secure and attractive living conditions and healthy and appealing food.

Most of the rooms are fully furnished including draperies, and are designed for two. Towels, pillows, bed linen, mattress pads, hangers and irons will be needed, and students may bring small items to personalize their rooms.

Recreation rooms, lounges, study areas, cleaning equipment, and personal laundry facilities are standard in all residence halls.

Central Campus Residence Halls include Belford, Sabin, Snyder, Tobey-Kendel, Wiebking, and Wilson. These halls are in the middle of the campus and their Dutch colonial buildings reflect informality and comfort. Wiebking, Snyder and Sabin are coed throughout or by floor; Wilson's first floor is coed with the rest reserved for women; Tobey-Kendel is coed, and Sabin is reserved for upperclass students.

West Campus Residence Halls include Lawrenson, Turner, Harrison, McCowen. High-rise Turner and Lawrenson Halls offer fully furnished apartments for two or four students. Harrison and McCowen have suites for four, with private baths in Harrison and central floor facilities in McCowen. These newer residence halls are close to West Campus classrooms and Michener Library.

Married Student Housing for student families 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. A \$50 deposit is required when the lease for a selected unit is forwarded to the married student for signature.

Off-Campus Housing is facilitated by The Off-Campus Renters Information Service, located in University Center Room 212, (351-2172). It provides bulletin board assistance about Greeley area housing. It also provides assistance and referral in landlord/tenant disputes. Students will benefit by using these services before they sign any lease or contract.

Dining Halls stress nutrition, quality and quantity in the cafeteria-style meals at three campus locations. Although special diets cannot be provided, diversified menus cater to a majority of tastes and additional portions are usually available. Three meals are served daily, Monday through Saturday, with breakfast and dinner only on Sundays and University holidays.

Tobey-Kendel Hall on central campus and Harrison and Harrison Halls on west campus are also dining halls.

Support Services

Every human being has specific and changing needs for emotional, physical and social support or assistance. Recognizing this, and recognizing that human needs must be met if personal academic goals are to be fulfilled, UNC provides what may be the most comprehensive range of Support Services available at any university in the western states. These include:

Dean of Students Office serves in a University-wide problem solving and clearing house capacity for UNC students. In

addition, the Dean of Students Office coordinates the University's undergraduate student advising system and directly supervises and advises those undergraduate students who have not yet declared their academic majors. (Unclassified graduate students should contact the Graduate School for assistance.) The Dean of Students Office is the central referral agency for UNC students, and any student in need of any form of assistance is advised to visit the Dean of Students Office (UC 206, phone 351-2796).

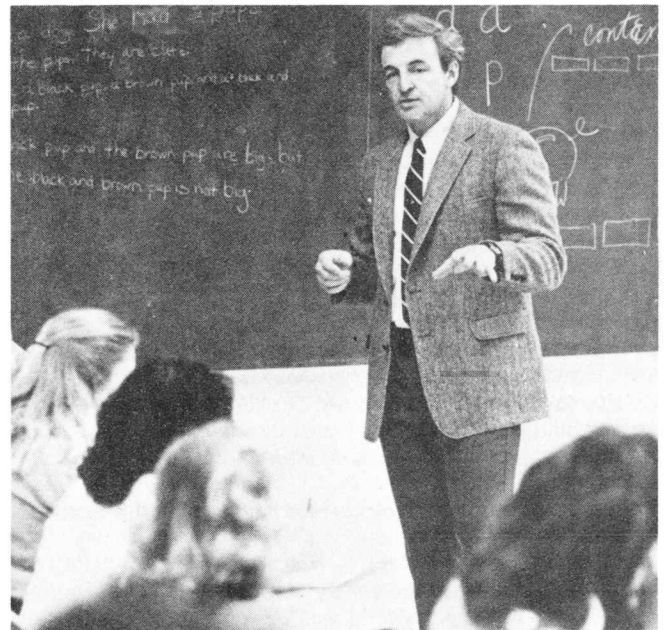
Evening Division Office is in the Dean of Students office, UC 206, and is headquarters for Evening Division student services. Staff members are available from 5-9 p.m., Monday-Thursday, to assist Evening Division students with class registration and general academic advising, career advising, schedule questions, problem-solving, information on tutoring and study skills. Evenings, phone 351-3836; days, phone 351-2796 or 351-2944.

Counseling and Career Center offers assistance to students as they deal with personal problems, academic planning, career planning, and assessment of personal and professional goals. These services combine both counseling from highly trained professionals and a full array of testing and assessment. The Center maintains the highest degree of confidentiality. (Gray Hall, phone 351-2496).

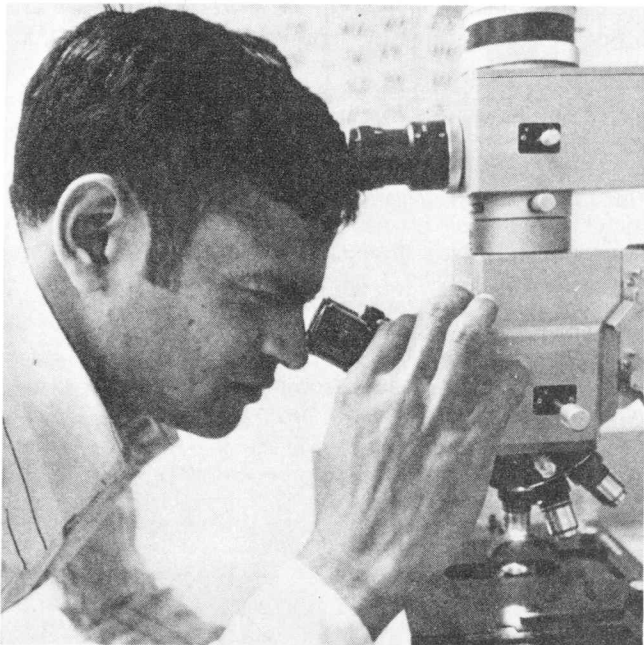
Office of Student Employment provides a full listing of on campus and off campus jobs, screens applicants, makes job referrals, and in particular, assists students with THE CASE-UNC program, which allows students employed in on campus jobs to defer tuition payments until wages are received. (Carter Hall 1005, phone 351-2628).

Placement Center assists students in preparing for the job search process by counseling, resume development and career option analysis. In addition, the Placement Office operates a referral service, hosts interviews and manages an alumni placement network on behalf of UNC graduates. (Carter Hall 3008, phone 351-2127).

Ombudsman Office is independent and impartial to assist students and employees in resolving problems with the University's policies, procedures or personnel. (UC, phone 351-2889).



Non-Traditional Students Office provides academic and support services to undergraduate students over age 25. (UC, phone 351-2812).



International Students Office assists foreign nationals with problems encountered by any student studying in a foreign country. (Carter Hall, phone 351-2396).

Resources for the Disabled Office offers counseling, academic assistance, interpreters, campus transportation and various forms of physical support. (Bishop-Lehr 1502, phone 351-2289.)

Center for Human Enrichment provides personal advising, career guidance, tutorial service and a complete range of academic support activities. (Candelaria Hall 225, phone 351-2710).

Speech/Language Pathology and Audiology Clinic is dedicated to the assessment and rehabilitation of specific speech and hearing problems. (McKee Hall 58, phone 351-2734).

Department of Public Safety supervises the University police force and parking services. This unit protects the order and security of the university community and manages parking facilities. Every car regularly parked on campus must have a UNC parking decal to avoid being ticketed. (1909 Tenth Ave., phone 351-2245).

Food Service offerings range from the full meal plan to specially catered events to the provision of cookies, pizzas and treats delivered by special order to residence hall rooms or served at on-campus fast food locations. The University is noted for serving meals which are superior to the institutional food found at most American colleges and universities. (Gordon Hall, phone 351-2725).

Student Health Center provides a variety of medical services with emphasis on preventive medicine, emergency treatment and specific referrals. In addition to the nursing staff (walk-in basis), appointments are available with physicians and mental health professionals. (Decker Hall, phone 351-2412).

Marcus Garvey Cultural Center provides a locus for educational, cultural and racial activities for the University's black students; however, participation by all students is welcomed and encouraged. (1130 20th Street, 351-2351).

Campus Activities Office provides well-qualified and trained staff to assist students in identifying out-of-the-classroom involvement in organizations contributing to the social, recreational and cultural aspects of campus life. Approximately 100 student clubs/organizations are recognized each year by the Student Representative Council to meet specific interests and needs of the student body. These organizations exist in areas such as intramurals, fraternities, sororities, religion, academic honoraries, minorities and special interests. (Phone 351-2871).

As the foregoing indicates, the University of Northern Colorado offers a substantial range of programs and services, each staffed by highly qualified personnel to meet the emotional, physical, social and academic needs of its students. Comprehensive information about any of the programs described in this section may be obtained from the Office of the Vice President of Student Affairs, Carter Hall, University of Northern Colorado, Greeley, Colorado 80639. (Phone 303/351-2303).

2

Policies and Procedures Applying to All Students

In this section, policies, procedures, regulations and other aspects of University life which apply to graduate and undergraduate students, both full and part time, are summarized. Note that in sections following this, the policies and procedures which apply *solely* to undergraduates and the policies which apply *solely* to graduate students are also summarized. Students of all classifications are responsible for identifying and following the procedures that apply to them as summarized in each of these sections:

Accreditation and Affiliation

Since 1916, the University has been fully accredited by the North Central Association of Colleges and Secondary Schools.

Various academic programs have special accreditation by the following:

National Council for Accreditation of Teacher Education, American Psychological Association, American Chemical Society, Colorado State Board of Accountancy, Colorado State Board of Nursing, National Association of Schools of Music and National League of Nursing.

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 Midwestern and Western Associations of Graduate Schools, the National Association for Business Teacher Education, the American Assembly of Collegiate Schools of Business and other educational organizations.

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 against improper academic evaluation and protection of the 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 and on the campus.

For further information, students should obtain a copy of the *Student Handbook* from the Office of the Vice President for Student Affairs, Carter Hall 4007, phone 351-2303; the Dean of Students Office, University Center 206, phone 351-2796, or the University Ombudsman, UC, phone 351-2889. Refer to the section of "The Rights and Responsibilities of Students."

New Student Orientation

The University operates a student orientation program for entering freshmen and transfer students. The program provides essential information about academic advising and registration for classes. After admissions processing is completed, newly admitted students are informed of this by separate mailing.

Academic Quarter System

The University of Northern Colorado follows the academic quarter system by which the academic year is divided into four instructional quarters of approximately ten weeks each. The regular academic year (fall, winter, spring) traditionally begins in late September and concludes in early June, with vacation breaks between the ten-week academic quarters. Students may enroll in the University at the beginning of any quarter.

Course credit is given in quarter credit hours. These easily convert to semester credit hours for students transferring into or out of the University. (Three quarter credit hours equate to two semester credit hours). Both semester credits and quarter credits are recognized and evaluated throughout American higher education.

Registration and Directory of Classes

The University publishes a Directory of Classes listing courses offered in the fall, winter and spring quarters. Courses offered during the summer quarter are listed in the Summer Bulletin. The Directory of Classes and the Summer Bulletin may be obtained from the Registration Center, University Center 247, the Dean of Students Office, University Center 206, phone 351-2796, or the Admissions Office, Carter Hall 3005, 351-2881.

The Directory of Classes is the basic guide to assist students registering for classes. The process takes place at the Registration Center in University Center Room 247. This is a continuing operation in which students are assigned times during the last part of an academic quarter when they may register for courses offered in the subsequent quarter. Provisions are made for new students to register during this regular process. In addition, since most new students enroll during the fall quarter, the undergraduate orientation program during July provides academic advising and special assistance for new student registration. The Graduate School also conducts an orientation for new graduate students each quarter.

It is the policy of the University that each faculty member must advise students, and that every student, whether the student has selected a major or holds non-declared major status, is entitled to academic advising. This service of the University is designed to expedite and ratify the course selection process and to assist the student in creating a personal academic program appropriate to his or her needs which also meets University academic standards.

Normal Course Load

A normal undergraduate course load is fifteen hours of academic credit in each quarter. However, undergraduate students are allowed to enroll for a maximum of eighteen credit hours prior to the beginning of the quarter. Thereafter, students with a 2.75 or higher cumulative grade point average may enroll for additional courses, with approval from the Dean of Students Office located in the University Center 206, phone 351-2796.

An academic program in excess of eighteen credit hours per quarter is considered an overload and requires the payment of a non-refundable tuition surcharge based on the number of credit hours taken.

For graduate students, the normal load for credit applicable to a degree is 15 hours per quarter. *Up to 18 hours may be taken if the student is maintaining a 3.0 or better grade point average for the previous quarter.* Those students who have a grade point average below the required 3.0 are limited to the 15 hour load. Permission to take more than the 18 quarter hour maximum will *not* be approved. Summer course load information is contained in the 1983 Summer Bulletin. The maximum number of hours includes work completed in either the on-campus or off-campus programs or in a combination of the two types of programs.

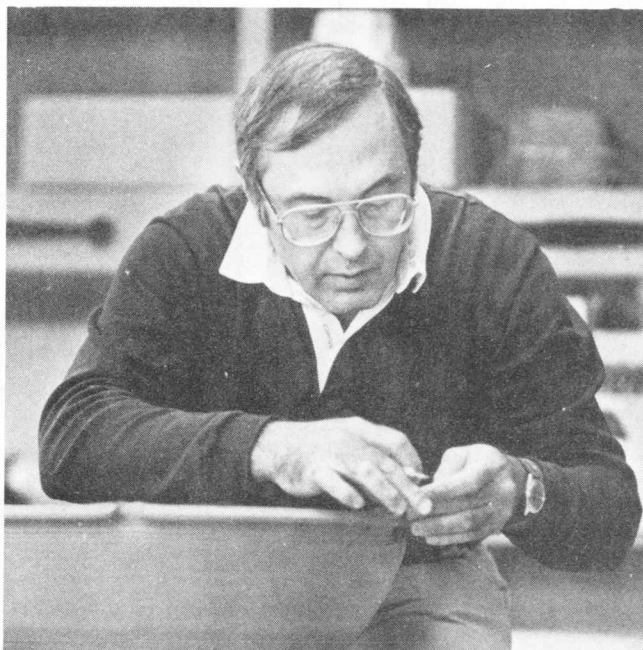
Course Credit

All credit toward graduation is computed in quarter credit hours. "One quarter hour" typically means a course is taught for one hour one day each week throughout the academic quarter of approximately ten weeks. Likewise, a two credit

hour course usually meets twice a week and generates two quarter hours of credit. Most courses in the University offer from one to five quarter credit hours per academic quarter.

Courses may be repeated for credit only when the Bulletin so indicates up to the maximum number of credits shown in the Bulletin.

Students may register in a course for "no credit" but must pay the appropriate tuition and fees; no audit or visitor cards may be issued.



Directed Studies

Directed Studies are available in most disciplines. These are identified within the Bulletin by course numbers 422 and 622. The Directed Study course provides a vehicle in which a qualified student may receive University credit for undertaking an individualized investigation under the direct supervision of a UNC faculty member. Since Directed Studies with the number 622 are at the graduate level, the faculty member providing the supervision must be approved to teach graduate level courses.

The investigation must be on a specific topic which is not duplicated by an existing course within the University's curriculum. The following policies apply for registration for Directed Studies courses:

The study must be limited to four hours per academic quarter, with no more than two Directed Studies taken in any quarter.

The student should apply through the department in which he or she is a major.

Permission to engage in a Directed Study for credit must be approved by the student's program advisor, the faculty member supervising the study and the department chairperson of the major department.

Separate policies exist for distribution of critiqued and graded copies of a completed Directed Study, based on whether the study was completed at the graduate or undergraduate level. A student interested in the appropriate policy should consult with either the Graduate School, Carter Hall 2007 (351-2831), or the dean of the college in which the Directed Study is to be undertaken.

The Unscheduled Class Form with which to register for a Directed Study may be obtained from the major department or from the Registrar's office.

Course Work May Count For The Next Higher Degree

Students may, in the last quarter of study for one degree, register for graduate courses that exceed the requirements for that degree, provided that application for admission to the next higher degree program has been accepted prior to the final quarter. If the student has been admitted to the program for the next higher degree, he or she must complete "A Petition to Count Work On the Next Higher Degree" which may be obtained from the Graduate Office, Carter Hall 2007, phone 351-2831. Students will be accountable for the final examination 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. Consult the Directory of Classes for the exact date each quarter after which no new enrollments will be accepted.

Schedule Changes

During the first six days of an academic quarter, the University allows students to add or drop courses. This procedure is handled in the Registration Center in the University Center. After the deadline posted in the Directory of Classes, students may not enroll in additional courses. The number of credit for which a student is registered at the time of the deadline will determine tuition and fee charges.

Withdrawal From Class

When a student registers for a specific course, he or she is considered to be a member of the assigned class section as certified by the forms filled out at registration.

The student may drop a class during the "Drop/Add" period, which is normally the first ten days of an academic quarter. The predetermined dates of the Drop/Add period of each quarter are listed in the official University calendar published in the Bulletin and in the Directory of Classes for each quarter.

The procedure for withdrawal requires the student to obtain the faculty member's signature on the Schedule Change Form. This form may be obtained in the Registration Center or in the Dean of Students Office in the University Center or from the Registrar's Office in Carter Hall.

The student must understand that registration for a class incurs a financial liability which may be forgiven or reimbursed only if the student withdraws by the Drop/Add deadline and through the proper procedure.

Should the faculty member refuse or be unavailable to sign the schedule change form, the student will receive assistance from the Dean of Students Office in the University Center.

When properly processed by either the faculty member or, on infrequent occasions, by the Dean of Students Office, the schedule change form is turned in at the Registration Center, Room 247 at the University Center.

The last date to withdraw from a course is the midpoint of the period in which the course is taught. Withdrawal deadlines for each quarter are also noted in the Directory of Classes.

A faculty member is empowered to drop a student from a course if the student has not attended during the first two class hours. Therefore, it is imperative that the student notify the instructor if he or she can not attend the first two class hours. However, if the student intends to drop a class, he or she must understand that not all instructors will exercise this option; a student can not reasonably expect that the failure to attend the class will automatically cause him or her to be dropped. Con-

sequently the student who intends to withdraw from a class absolutely must follow the withdrawal procedures listed in this Bulletin.

Complete Withdrawal From the University

A student may withdraw completely from the University at any time during the academic quarter. Students who wish to withdraw completely must initiate and complete the withdrawal process at the Dean of Students Office in the University Center, Room 206.

Students who withdraw completely will be charged a withdrawal fee. This fee is a pro rata of tuition through the first 40 percent of the class days of the quarter. After the first 40 percent of the class days are completed, the student will be assessed full tuition and fees without refund. Please consult the Accounting Office for additional information, Carter Hall 1002, phone 351-2201, and review the section on Tuition, Fees and Other Charges in this Bulletin.

Students who receive Financial Aid and then withdraw from the University of Northern Colorado during an academic quarter for which they received aid may be required to repay the financial aid account in an amount proportionate to the period of time for which they have withdrawn. A student requiring information about a specific repayment amount should contact the Department of Student Financial Resources, Carter Hall, Room 1005, phone 351-2502.

Grade Submissions and Corrections

Faculty must submit grades to the Registrar's Office by 4:00 p.m. of the third working day following the end of a course. Grade changes or corrections are not accepted after the first two weeks of the academic quarter following the receipt of the original grade by the Registrar's Office. Faculty and students must comply with the two week cut-off before which grade corrections must be submitted.

Grade System

The University assigns alphabetical grades. Superior is indicated by

"A". Above average is indicated by "B". Average is indicated by "C". Below average but passing is indicated by "D"; and failure is indicated by "F". However, a course in which a "D" is earned will not be counted toward graduate credit.

Certain courses are graded on an "S" satisfactory, and "U" unsatisfactory, basis. Grades of "S" and "U" are used for theses, dissertations and educational field experience courses. They may be used for certain workshop practica and performance or activity courses, when so indicated in the Directory of Classes and in the course descriptions in the Bulletin. S/U grades are not interpreted as equivalent to any other letter grade.

A grade of "W" indicates an approved withdrawal from the course and is assigned only when the student has completed the official withdrawal processes outlined in this Bulletin.

The grade of "UW" indicates an unauthorized withdrawal and is assigned when the student has never attended the class in which he or she enrolled.

The grade of "NR" indicates no report. This grade is used for honors courses, theses, dissertations and other courses for which approval has been granted *prior to the quarter* for which the grade is to be awarded. (The difference between a grade of "NR" and a grade of "incomplete" is that the "NR" is prearranged in anticipation that completion of course work would require longer than the normal period of time in which the grade is typically earned, while an incomplete implies an unexpected inability to complete course requirements within the allotted time).

A grade of "I" is assigned when course work is incomplete at the end of the allotted time and is used only in an emergency because a student could not fulfill his or her academic responsibilities during the last weeks of a quarter or because he or she missed the final examination due to sickness, family crisis, etc. To change a grade of "I" on a student's official record and substitute an appropriate earned grade, the student must complete all course work 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 these time limitations, the "I" remains on the student's permanent record. When computing a student's grade point average, the "I" equates numerically to an "F".

Computing Grade Averages

The University operates on a 4.0 grade point system, in which a grade of which "A" has a value of 4 points; a grade of "B" has a value of 3 points; a grade of "C" has a value of 2 points; and a grade of "D" has a value of 1 point.

No points are given for a grade of "F".

A grade of "S" (credit granted) or "U" (no credit granted), and "W", "UW", "NR", and "NC", are not used in computing the grade point average.

The grade of "I" is not used for computing the grade point average unless the time for completion of the course work assigned for the grade of "I" has expired. In this case the grade of "I" has a grade point equivalent of "F".

To compute a quarterly grade point average, divide the total number of hours attempted for a quarter into the total number of points earned for that quarter, as indicated by the letter grade equivalent listed in the first paragraph of this section. For example, 15 hours of course work attempted, divided into 40 grade points earned, equals a grade point average of 2.67.

The same principle applies when computing the cumulative grade point average. To determine this, divide the total number of hours attempted during enrollment at the University into the total number of grade points earned over the same period of time. For example, 45 total number of hours earned over three academic quarters, divided into 100 grade points earned over the same three quarters equals a cumulative grade point average of 2.22.

Note: All grades with a numerical value are used in the computation of the grade point average whether or not the credits count toward graduation.

Academic Appeals Board

Students may appeal any academic decision which they consider arbitrary or capricious. Academic Appeals Board and University Disciplinary Committee procedures are published in the Student Handbook and can be further explained by personnel in the Dean of Students Office, University Center, phone 351-2796.

Before initiating an appeal and between various appeals stages, the student is strongly encouraged to discuss his or her case with a staff member in the Dean of Students Office and/or with his or her academic advisor.

International Students

An international student is a student who is not an American national. There are approximately 250 such students currently enrolled at the University of Northern Colorado. International students must meet English proficiency requirements as well as academic and financial requirements before being fully admitted to the University. These requirements are met by providing all the normal documents required for admission. (See description of admission requirements in the Graduate

and Undergraduate sections of this Bulletin). In addition, information concerning ability to meet financial requirements must also be provided.

The English Proficiency Standard may be met by:

Submitting *either* a Test of English as a Foreign Language (TOEFL) score of 520 or above with a score of no less of 52 on any of the three sections. (Students applying to the School of Business must score at least 540 on the TOEFL), *or*

Submitting test scores of at least 85 from the Michigan Test of the English Language.

Information concerning these tests may be obtained from the Educational Testing Service for TOEFL (Box 899, Princeton, N.J. 08541) or from the University of Michigan Press (Ann Arbor, Mich. 42104) for the Michigan Test of the English Language.

Individual schools or departments of the University may have higher proficiency requirements than those stated above.

International students should confer with their school or college or with the International Student Advisor, Carter Hall 2002, 351-2396, if they are in doubt about special requirements.



The application for admission and all related credentials except for English Proficiency scores, must be received by UNC no later than 90 days prior to the quarter for which the student wishes to enroll. The scores for the English Proficiency exam must be received no later than 40 days prior to the beginning of the student's initial quarter of enrollment at UNC.

Specific inquiries concerning foreign student admission and the services available to the foreign student at the University, should be addressed to the Office of Foreign Student Advisor, Carter Hall Room 2002. That office provides a multitude of services to foreign students, and is the office which administers the University's relationship to the Immigration and Naturalization Service of the United States Department of Justice.

Veterans

Throughout its history, the University of Northern Colorado has welcomed enrollment by veterans of the United States military services. Admitted or enrolled students with military service records should contact the UNC Veteran Affairs Office, Carter Hall 1004 (351-2629). To establish eligibility for

state and federal veterans' benefits, two photo copies of separation papers (DD-214) are usually required. Servicemen's dependents receiving Veterans Administration benefits should also contact the Veteran Affairs Office.

Note: Regulations of the Veterans Administration require students who withdraw from a course to report their last day of attendance immediately to the Veteran Affairs Office in Carter Hall. The Veterans Administration will not consider a student as making satisfactory academic progress if the student fails or withdraws from all courses. Clarification of this important regulation and others can be obtained at the UNC Veteran Affairs Office in the Department of Student Financial Resources, Carter Hall, 1004, 351-2629.

Student Financial Resources

The Financial Aid Package. In much the same fashion as other colleges and universities, UNC combines different types of financial aid for each student in an effort to meet his or her documented financial need. This process is called "packaging."

An individual student's need for financial aid is determined on the basis of the Family Financial Statement (FFS) and other documents. Such documents help the University determine the amount of money which the student and his or her family can be expected to pay, based on the family financial situation. The University compares that figure to the budget for a typical UNC student in the same category.

Within the limits of its resources, the University then attempts to award the student enough financial aid to make up the difference between the student's ability to pay and the cost of enrollment.

The Financial Aid Package may include a combination of grants, loans, a work/study job and/or scholarships. In the following subsections, the various possible parts of the Financial Aid Package and the procedures for applying for aid are discussed.

Normal Academic Progress. Students receiving financial aid must maintain satisfactory academic progress as defined by UNC standards, and must successfully complete at least 12 credit hours per quarter. Students not meeting this normal academic progress standard may lose their eligibility to receive financial assistance. Students not planning to take or complete 12 hours per quarter must receive written approval from the Student Financial Resources Office prior to receipt of aid funds. Exceptions to this policy can be made on the Pell Grant Program, Guaranteed Student Loan (if done prior to completion of the application), and some graduate aid programs.

Application Procedures. The University offers a wide variety of financial assistance opportunities for students who qualify on the basis of either merit or financial circumstance.

Students applying for financial aid are required each year to submit an American College Testing (ACT) Family Financial Statement (FFS). The FFS must be mailed by applicants to the American College Testing Program in Iowa City, Iowa; there it will be processed and subsequently forwarded to the University. The *priority* date for the receipt of the processed Family Financial Statement from ACT at the University is March 31. Therefore, students who anticipate enrolling in the University either as new or continuing students for the fall quarter of a specific year, should send their FFS to ACT in time for that form to be processed and sent to the University to meet the March 31 deadline. The University recommends that the FFS should be sent to ACT prior to the end of February to assure priority treatment of the aid application.

Applications received after March 31, or for which the processed FFS is received after March 31, will be considered late.

Those applications will be awarded financial aid depending on the availability of funds, as well as on documented financial need.

The UNC office of Student Financial Resources and the offices of high school and community college counselors will provide information, assistance and FFS forms upon request; the appropriate form for the next academic year usually become available in January.

Summer Financial Aid. Students or prospective students who plan to attend the summer quarter and who require financial assistance to do so, should contact the Office of Financial Resources in the first weeks of the preceding January. For example, students wishing to enroll for summer quarter 1984 should make inquiry at UNC by January 15, 1984. Since summer quarter is considered part of the preceding academic year, students applying for summer quarter financial aid should have completed the American College Testing Program's Family Financial Statement (FFS) for the preceding academic year. In addition, the University of Northern Colorado requires that an institutional application for summer financial aid be submitted. This form is available from the Office of Student Financial Resources in early January of each year.

Types of Financial Aid Available. The University of Northern Colorado offers a broad and varied financial aid program. Federal funds, state funds and institutional funds are combined to provide each student with the most attractive financial aid package possible, relative to the student's documented need.

Loans. The University participates in the National Direct Student Loan Program, the Colorado Guaranteed Student Loan Program, the Nursing Student Loan Program and the UNC Short-Term Loan Program. In addition the University has its own program, CASE-UNC, which allows student employment to qualify for the deferral of fees, tuition, room and board, etc. Information about CASE-UNC and the available loan programs may be obtained from the UNC Office of Financial Resources, Carter Hall Room 1005 (351-2502).

Grants. A higher education grant is a financial aid award that need not be paid back. All admitted or continuing students who submit the FFS will be automatically considered for all need-based grant programs awarded by and through the University. In addition, students completing the FFS should indicate on this form their desire to be considered for the Pell



Grant Program. Information about the Pell Grant Program can be obtained from community college and secondary school counselors, as well as from the UNC Office of Student Financial Resources, Carter Hall 1005, 351-2502.

Scholarships. A number of major scholarships are offered by the University to students of high achievement or promise. Many other scholarships are awarded on the basis of financial need rather than proven merit. These are available from the University and from organizations and agencies external to the University. Information on the scholarship program is available from the Office of Student Financial Resources, Carter Hall Room 1005, 351-2502.

Employment. A great many UNC students are employed during their period of enrollment, as well as during vacations. The greatest range of opportunity at the University is found in the work/study program funded by the federal government and the state of Colorado. Students who submit the ACT FFS form are automatically considered for inclusion in the work study programs available at UNC. The University also administers a separate work/study program for undergraduate Colorado residents who do not qualify for financial assistance based on their family's financial circumstances. This program is limited; not all applications for participation can be approved. In addition, there are a variety of employment opportunities available throughout the University's offices, laboratories, departments and shops.

Finally, the Office of Student Employment also assists students in securing off campus employment within the city of Greeley and nearby communities. Students interested in employment of any type are advised to visit the Student Employment section in the Office of Student Financial Resources well before the academic quarter in which they will seek employment. Application forms, information and guidance are all available from the Student Employment section of the Office of Student Financial Resources, Carter Hall 1005, 351-2628.

Insurance

UNC's Board of Trustees requires that all full time students have health insurance. This mandatory UNC policy can be waived providing the student presents evidence of a comparable health insurance plan. There are published deadlines for completing the waiver process. (351-2412).

Medical Examination

A Medical History report and Medical Examination report are sent to each accepted applicant for admission. All students are *encouraged* to have both forms completed and returned to the Office of Student Health Services, Decker Hall, University of Northern Colorado 80639.

Students planning to participate in intercollegiate athletics are *required* to submit both forms. Students who use the Student Health Service must provide the Health Center with a completed copy of the Student Medical History. For additional information, contact Student Health Services, Decker Hall (351-2412).

Attendance

Regular attendance in all classes is assumed and encouraged. Each instructor will determine the relationship between class attendance, the objectives of the class, and the determination of the student's grade. The instructor has the responsibility to inform students of class attendance policies and the relationship between attendance and the grading policy in the course. The student has the reciprocal responsibility of knowing the policy for each course in which he or she enrolls.

Only the instructor has the power to approve a student request for absence from class. It is the responsibility of the student to request such approval when absence is unavoidable.

Attendance during the first two class hours is mandatory; the instructor has the option to drop a student from class if he or she does not attend class the first two hours, in order to allow other students to enroll.

Evening Division

Establishment of UNC's Evening Division reflects the University's commitment to develop and expand the academic program to meet the needs of adult students and to provide greater diversity of course offerings and schedules for students enrolled in the traditional daytime programs.

One-sixth of the courses within the UNC curriculum are offered between the hours of 5 and 10 p.m., Monday through Thursday, and on weekends. This provides students a chance to take courses and/or start or finish a degree program.

Presently, the School of Business offers two degree programs at night: master of Business Administration and bachelor of science in Business Administration — General Business (last two years of the B.S. can be earned). For information and advising, call the School of Business, 351-2152 or 351-2764.

A bachelor of arts degree in Health Occupations in Teacher Education may also be earned. Call 351-2461. Additional evening degree programs will be developed to meet identified needs.

A full range of University services is available to evening students including registration, faculty advising, orientation, housing, child care and credit by examination.

Complete information is available from the Evening Division office, University Center 206, evenings from 5-9 p.m. (351-3836); or days, Frasier 11, (351-3836). Staff members are available in the Evening Division office from 5-9 Monday through Thursday to consult with Evening Division students.

Continuing Education

The University offers a full range of continuing education programs and courses conducted at off-campus sites.

Class schedules, brochures and bulletins which describe the Continuing Education offerings are available from Continuing Education Services, Frasier Hall, Greeley, CO 80639, (Phone 303/351-2944).

Release of Student Information

The University of Northern Colorado complies with the provisions of the Family Educational Rights and Privacy Act of 1974. Therefore, certain information is considered "directory information." Such information may be released for publication unless the student informs the Registrar's Office that he or she does not wish that information released.

"Directory Information" includes: name, address, phone number, date and place of birth, major field of study, participation in University activities or sports, dates of attendance at the University, full or part time enrollment status, degrees and awards received, educational institutions attended and weight and height of athletes.

Students must inform the Registrar's Office within ten days of the beginning of the quarter of first enrollment if they wish the personal directory information about them withheld during the current academic year. Similar notification is required for each subsequent academic year.

A complete summary of the University policy on the release of student information is available in the Student Handbook, and in Office of Registrar and Records, Carter Hall 3002, phone 351-2231.

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Undergraduate Information

Policies, procedures, regulations and other aspects of University life which apply solely to undergraduate students, both full and part time, are summarized in this section. Note that foregoing sections applied to both undergraduate and graduate students, and a subsequent section is devoted entirely to graduate student information. Students of all classifications are responsible for identifying and following the procedures that apply to them in each section.

Admissions

Admissions Philosophy. Admission to the University is based on the evaluation of several criteria. Secondary school grades, previous college work, the trend and quality of high school or college performance, and results from the ACT or SAT examinations are used to assess the likelihood of an applicant's academic success at the University.

Freshmen

Freshman Admission Policies. A high school graduate, or a person holding a high school equivalency certificate (G.E.D.) may be admitted to UNC if the transcript accompanying the application for admission indicates the ability to succeed as a UNC student. Minimal requirements for freshmen admission are:

- Graduation from an accredited high school, with a minimum of 15 secondary school units. (The academic records of graduates from high schools which are not regionally accredited will be examined in greater depth for admissions purposes).
- Secondary school class rank in the upper one-half of the

graduating class, or scores above the national average on the American College Test (ACT), or the Scholastic Aptitude Test (SAT), or other evidence of potential for academic success at the university level. Class rank may be determined on an applicant's academic standing at any point after the end of the 11th grade.

— Applicants for freshman admission should have earned secondary school credits in at least the following distribution:

- English — four units, with emphasis upon courses in composition.
- Mathematics — three units. Effective 1984, all freshmen must have earned credit for at least two years of higher mathematics.
- History/Social Science — two units.
- Foreign or classical languages — two units.
- Natural science — two units, including either chemistry or physics.

Freshman Application Procedures. Applications and support credentials may be submitted at any time during the senior year of high school. However, they should be received at the Admissions Office no later than three weeks prior to the academic quarter for which the student intends to enroll. Prospective students are encouraged to submit applications as early as possible.

The application for admission, the appropriate secondary school transcript and a \$15 non-refundable processing and evaluation fee, should be sent to the Office of Admissions, University of Northern Colorado, Carter Hall, Greeley, Colo. 80639.

An applicant should take the American College Test (ACT), or the Scholastic Aptitude Test (SAT), and have examination

Undergraduate Programs

Key:

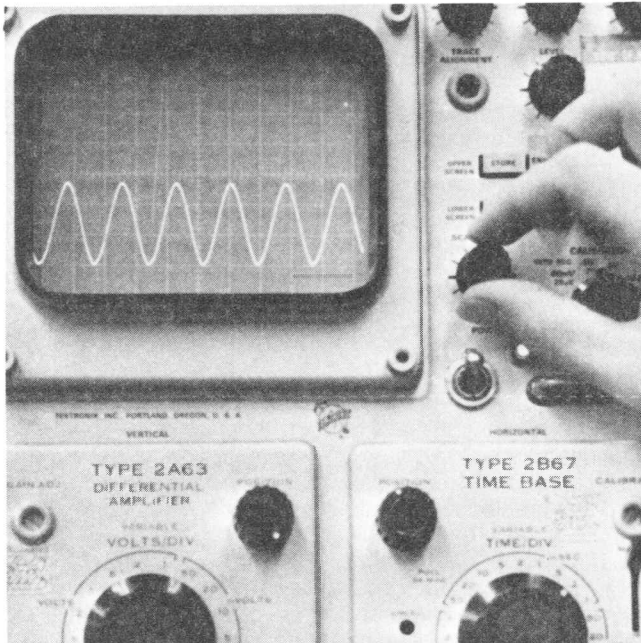
1 = Major Program Available
 2 = Minor, Pre-professional or Certification Program Available
 (T) = Teaching Certification Available

	1	2
Accounting	x	
Acoustically Handicapped/Special Education	x	
Acting/Theatre Arts	x	
Aerospace Studies		x
Anthropology		x
Art Education-T	x	
Arts, Fine-T	x	x
Arts, Graphic	x	
Arts, Visual-T	x	x
Athletic Training	x	
Audiology/Communication Disorders	x	
Bilingual/Bicultural Education-T		x
Biological Sciences-T	x	x
Biological Sciences/Botany-T	x	
Biological Sciences/Zoology-T	x	
Black Studies	x	x
Botany/Biological Sciences-T	x	
Business Administration	x	x
Business Administration/Accounting	x	
Business Administration/Finance	x	
Business Administration/Insurance	x	
Business Administration/Management	x	
Business Administration/Management Information Science	x	
Business Administration/Marketing	x	
Business Teacher Education-T	x	
Business Teacher Education/Office Education-T	x	
Chemistry-T	x	x
Children's Drama/Theatre Arts		x
Coaching		x
Communication Disorders/Audiology	x	
Communication Disorders/Speech-Language Pathology	x	
Communication, Speech-T	x	x
Communications, Mass and Journalism	x	x
Communications, Mass-T	x	x
Community Health/Health Education	x	x
Community Journalism	x	
Computer Science/Mathematics		x
Criminal Justice/Sociology	x	
Dance Education		x
Dental Hygiene, Pre-professional program		x
Dentistry, Pre-professional program		x
Dietetics	x	
Distributive Education/Marketing Education	x	
Drama/Theatre Arts-T	x	x
Driver and Traffic Safety-T		x
Early Childhood/Elementary Education-T	x	
Early Childhood/Special Education-T	x	
Earth Science-T	x	x
Earth Science/Geology	x	
Earth Science/Meteorology	x	
Economics	x	x
Education, Art-T	x	
Education, Bilingual/Bicultural-T		x
Education, Business Teacher/Vocational Teacher Education-T	x	



	1	2
Education, Early Childhood/Elementary Education-T	x	
Education, Elementary-T	x	
Education, Middle School-T	x	
Education, Preschool	x	
Education, Secondary-T		x
Education, Special/Acoustically Handicapped	x	
Education, Special/Mental Retardation-T	x	
Education, Theatre Arts-T	x	x
Educational Media		x
Educational Psychology		x
Elementary Education-T	x	
Elementary Education/Early Childhood-T	x	
Elementary and Middle School Education-T	x	
Engineering, Pre-professional program		x
English-T	x	x
Environmental Studies		x
Finance/Business Administration	x	
Fine Arts-T	x	x
Fitness and Exercise	x	
Foods and Nutrition:Food Service Administration	x	
French-T	x	x
Geography	x	x
Geology/Earth Science	x	
German-T	x	
Gerontology	x	x
Graphic Arts	x	
Health Education, School Health Emphasis-T	x	x
Health Education/Community Health	x	x
Health Occupations Teacher Education-T	x	
Hispanic Studies	x	
Hispanic Studies/Latin American Studies	x	
Hispanic Studies/Mexican-American Studies	x	x
History-T	x	x
Home Economics, Vocational-T	x	

	1	2		1	2
Human Rehabilitative Services	x	x	Nursing	x	
Humanities		x	Office Education/Business Teacher Education-T	x	
Individualized Education	x		Optometry, Pre-professional Program		x
Instrumental Music/Performance	x		Performance/Instrumental Music	x	
Insurance/Business Administration	x		Performance/Vocal Music	x	
Interdisciplinary Studies	x		Pharmacy, Pre-professional program		x
Journalism and Mass Communications	x	x	Philosophy	x	x
Journalism/Community	x		Photocommunications/Journalism	x	
Journalism/News Editorial	x		Physical Education-T	x	x
Journalism/Photocommunications	x		Physical Therapy, Pre-professional program		x
Journalism/Telecommunications	x		Physicians Assistant, Pre-professional program		x
Latin American Studies/Hispanic Studies	x		Physics/Physical Science-T	x	x
Law, Pre-professional program		x	Piano Performance/Music	x	
Management Information Science/Business Administration	x		Political Science	x	x
Management/Business Administration	x		Pre-dental hygiene		x
Marketing Education/Distributive Education-T	x		Pre-dentistry		x
Marketing/Business Administration	x		Pre-engineering		x
Mass Communications and Journalism-T		x	Pre-law		x
Mathematics-T	x	x	Pre-medicine		x
Mathematics/Computer Science	x	x	Pre-optometry		x
Media, Educational		x	Pre-pharmacy		x
Medical Technology	x		Pre-physical therapy		x
Medicine, Pre-professional program		x	Pre-physicians assistant		x
Mental Retardation/Special Education-T	x		Pre-veterinary medicine		x
Meteorology/Earth Sciences	x		Preschool Education	x	
Mexican-American Studies/Hispanic Studies	x	x	Psychology	x	x
Middle School Education-T	x		Psychology, Educational		x
Middle School and Elementary Education-T	x		Reading		x
Music	x	x	Recreation	x	
Music Education-T	x		Rehabilitative Services, Human	x	x
Music/Instrumental Performance	x		Russian		x
Music/Piano Performance	x		Russian-Soviet Studies		x
Music/Theory and Composition	x		Sciences, Biological-T	x	x
Music/Vocal Performance	x		Secondary Education-T		x
Musical Theatre	x		Social Science-T	x	
News Editorial/Journalism	x		Sociology	x	x
			Sociology, Criminal Justice	x	
			Spanish-T	x	x
			Special Education/Acoustically Handicapped	x	
			Special Education/Early Childhood-T	x	
			Special Education/Mental Retardation-T	x	
			Speech Communications-T	x	x
			Speech-Language Pathology	x	
			Stage Direction/Theatre Arts	x	
			Teaching English as a Second Language		x
			Technical Theatre/Theatre Arts	x	
			Telecommunications/Journalism	x	
			Theatre Arts Education-T	x	x
			Theatre Arts/Acting	x	
			Theatre Arts/Children's Drama		x
			Theatre Arts/Drama-T	x	x
			Theatre Arts/Stage Direction	x	
			Theatre Arts/Technical Theatre	x	
			Theory and Composition/Music	x	
			Veterinary Medicine, Pre-professional program		x
			Visual Arts-T	x	x
			Vocal Performance/Music	x	
			Vocational Home Economics-T	x	
			Women's Studies		x
			Zoology/Biological Sciences-T	x	



results forwarded to UNC. An October or November test date is recommended.

Students planning to major in music are required to submit an additional application for admission to the School of Music. The second application and appropriate instructions will be provided by the Admissions Office upon inquiry or request, or upon receipt of an application for admission to the University which specifically indicates the intention to major in music.

Auditions are also required of all applicants to the School of Music. Information concerning auditions for the School of Music may be requested from the School of Music, Frasier Hall, University of Northern Colorado, Greeley, Colo. 80639, (303)351-2678.

Upon receipt and evaluation of the completed application for admission and the relevant academic support material, an admissions decision will be made. Applicants who provide the Admissions Office with all required credentials at the time of application will receive immediate processing and be notified of their admission status at the earliest possible time.

Freshman Residence Requirements. All enrolled undergraduate students are subject to the University's requirement that freshmen must live in a University residence hall for the first academic year. Exception to this policy are granted to the following:

1. Students commuting from parents' or guardians' homes in the Greeley area.
2. Married students.
3. Students 21 years of age or older.

If one of the above exceptions is met, or if special needs conflict with the University requirement, the student should write to the Director of Housing prior to making any commitments for a housing contract. (Director of Housing, Gordon Hall, University of Northern Colorado, Greeley, Colo. 80639). This letter should include name, Social Security number and detailed information supporting the request for an exemption. The Director of Housing will respond promptly. Additional information may be obtained from the Housing Office, (303) 351-2727.

Transfer Students

Transfer Policy. A student intending to transfer from another institution into a University of Northern Colorado undergraduate program must provide evidence that a grade point average of at least "C" has been earned in previous college work, and that he or she is in good standing at the college or university most recently attended.

Transfer Application Procedures. An application for admission and a non-refundable \$15 processing and evaluation fee should be submitted to the Admissions Office. Applicants must also submit an *official* transcript from each college or university previously attended. The transcripts of previous college records should be sent directly from the other institution(s) to the Admissions Office. Final admission status cannot be determined until official transcripts have been received from each institution 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 denied or cancelled.

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 as well as the *official* transcript from each college or university attended.

In order to assure evaluation for admission, all transfer applications and an official transcript from each college or university must be submitted no later than four weeks prior to the quarter in which the student wishes to enroll.

Transfer students planning to major in music will be required to submit an additional application for admission to that School. The second application and instructions will be provided by the Admissions Office upon receipt of an inquiry or receipt of an application for admission to the University which also specifies the intent to major in music. Auditions are also required of all applicants to the School of Music. Information concerning auditions for the School of Music is made available by writing School of Music, Frasier Hall, University of Northern Colorado, Greeley, Colo. 80639, or telephone (303)351-2678.



Transfer Credit. A maximum of 135 hours of academic credit may be accepted from regionally-accredited four-year institutions. Students must have a minimum residence of 45 quarter hours of credit on the UNC campus; this does not include attendance at UNC off-campus courses. If a community college program corresponds to the requirements of the first two years in a similar program of study at UNC, graduation in two additional years is possible.

A student who has earned a liberal arts-based associate of arts degree, or who has completed an equivalent program in General Education as determined by the UNC Admissions Office, will receive credit for such work and be excused from further General Education requirements.

The possession of an associate of arts (liberal arts) degree notwithstanding, credit earned by examination from such programs as CLEP will be re-evaluated by the UNC Admissions Office.

The University of Northern Colorado does not accept credit from other colleges and universities for grades below "C," unless the course in which the grade was given was an integral part of a liberal arts-based associate of arts degree or associate of science degree.

Credit for vocational and certain other specialized courses does not transfer to UNC.

Any college work earned 15 years before the baccalaureate degree is granted may be applicable toward the UNC degree at the discretion of the applicant's intended major and minor departments.

Previous grade point averages are used for admissions purposes only and are not carried forward to the student's academic record at UNC. New transfer students will begin a new grade point average which will not reflect grade point averages earned at other institutions.

Transfer Guide. UNC allows no transfer of credit from institutions not regionally accredited by an association of colleges and secondary schools.

Complete information concerning transfer to UNC from Colorado community and junior colleges is available in the *UNC Transfer Guide*. Copies of this publication are on file at each Colorado community or junior college and may also be obtained from the Admissions Office in Carter Hall, (303) 351-2881.

New Student Orientation, Registration and Other Services

Orientation. The University offers an orientation program for entering freshmen and transfer students. This program provides essential information about academic advising and registration for classes. After admissions processing is completed, newly-admitted students are informed of the orientation program by separate mailing. It must be noted that every university and every academic program has a degree of complexity which can be baffling to a new student. The orientation program is the mechanism which makes the University and its programs, policies and procedures easily understood by freshmen and transfer students. Consequently, every new student is strongly encouraged to participate fully in the orientation program.

Undergraduate Academic Advising (Graduate students see discussion in Graduate School section of this Bulletin). Successful completion of the course work in each class is a prerequisite to academic success. This is measured by the student's grade point average. A less obvious prerequisite to academic success, but one that is equally essential, is the careful planning of a student's academic program. This includes clarification of educational and personal goals to be served by a well planned academic program. Such planning recognizes that goals and priorities will change as a student progresses through his or her academic experience.

Academic planning is best achieved through a cooperative effort between the student and a carefully selected faculty advisor. Students who have declared an academic major will be assigned an advisor by the department chair of the appropriate discipline.



Undergraduate students who have not declared a major will be assigned an advisor by the Dean of Students office, located in University Center 206. Graduate students should contact the Graduate School, Carter Hall 2007.

Each advisor is provided with a complete summary of a student's academic records which is updated during each academic quarter. Information provided by the Registrar's Office, plus information obtained in advising sessions with the student, will equip the advisor to provide judicious and informed assistance to the student on a variety of academic issues, procedures and opportunities.

Every student at the University of Northern Colorado is encouraged to make full use of the advising system; this includes but is not limited to a visit to the academic advisor prior to registration each quarter.

Additional information about the undergraduate University advising system may be obtained from the Director of Academic Advising Services in the Dean of Student Services Office, University Center 206.

Class Status. A student is a freshman until completion of 45 quarter hours of credit, and is a sophomore after successful completion of 45 hours 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 of credit, until graduated with a baccalaureate degree.

Credit by Examination. The University offers three options for credit by examination:

— A student may qualify for university credit or may exempt a specific course by demonstrating superior performance on the subject matter examinations administered through the advanced placement program of the Educational Testing Service. These are normally taken when the student is still in high school.

— The college-level examination (CLEP) offers another opportunity to earn credit through demonstration of superior performance in subject matter examinations. CLEP credit is offered for certain introductory courses. Arrangements are made at the University Counseling and Career Center, Gray Hall, Greeley, Colo. 80639, (303)351-2496.

In addition, students who judge their current academic proficiency in a specific course to be sufficiently high to earn credit may take rigorous subject matter examinations. Several departments offer University Challenge Examinations, which may be taken under the following conditions:

The specific course must have been approved for challenge examination by the academic department which administers the course.

The student must enroll in the course and pay the appropriate tuition and fees.

The student must obtain approval to challenge the course through examination from the course instructor.

The student must arrange for and pass a challenge examination designed and administered by the instructor or the department during the first two weeks of the quarter in which the specific course is offered.

If a student passes the examination, he or she will not be required to attend the remaining class sessions.

At the end of the academic quarter in which the examination was passed, the class credit and grade earned on the examination will be entered on the student's transcript.

Should the student fail the examination, or should the student seek to earn a grade higher than that attained on the examination, the student may either remain in the class and meet the course requirements or withdraw from the class prior to the established withdrawal deadline for that quarter, and re-enroll in the class to attempt credit by examination in a subsequent quarter.

It should be noted that not all academic departments offer the credit-by-examination option. Students are referred to the main office of any department to determine the policy of that particular department.

Proficiency Examinations. Certain required courses in some majors and minors offer proficiency examinations to determine whether or not the student may be excused from the requirement. In some cases, proficiency examinations may provide evidence for teacher certification.

Bachelor's Degree Requirements

The faculty of the University of Northern Colorado has established four specific requirements which a student must meet to earn a baccalaureate degree from the University. These are:

Quarter Hours Minimum. A student must earn a minimum of 180 quarter credit hours.

Grade Point Average. A student must have a University of Northern Colorado cumulative grade point average of at least 2.00. Certain programs or majors may have additional requirements. For example, graduation from a teacher education program requires a University of Northern Colorado cumulative grade point average of at least 2.30. Particular programs may have additional grade point average requirements.

General Education. Of the minimum 180 quarter credit hours required for graduation, at least 60 must be in courses designated as General Education courses in the University Bulletin in force at the time the student first enrolls in the University. (Note however that after an undergraduate has been enrolled for more than six years, the policies of the most recent University Bulletin take control).

Major and Minor Requirements. A major is a concentration of courses in a student's declared area of primary academic study. Certain courses will be required by the department, and other courses may be electives selected from a range of alternatives prescribed by the department. All students must choose a major as a part of their degree program.

In contrast with a major, an academic minor involves less extensive concentration in a discipline, but still imposes specific requirements. Minors are required by some departments.

The student must meet all requirements and pass all courses required by the school, college or department in which he or she selects a major or a minor. These requirements vary and are specifically stated in the section of this Bulletin which summarizes each academic department and the major and minor programs offered.

Each student is strongly encouraged to work closely with the assigned faculty advisor in selecting General Education courses, and in determining which courses should be selected from major and minor offerings and which elective courses should be selected from other disciplines.

English Essay Examination. Every student must pass an English essay 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 any time, 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

It is the conviction of the faculty and students at the University of Northern Colorado that graduates should possess a broad base of experience and knowledge partially acquired through exposure to a wide range of subject areas. It is also the conviction of the University community that students must demonstrate competence in English composition and in basic mathematical computation.

General Education at the University of Northern Colorado is designed to encourage access to a wide range of academic content, to provide opportunities for understanding the ways in which knowledge is acquired, and to foster a recognition of the relationships between bodies of knowledge. This University community also believes that students should know the interrelationships between the peoples of the world and between humans and the environment. They should understand how aesthetic, moral, ethical and value judgments affect lifelong experiences.

The acquisition of General Education information and skills are expected to achieve these aims and provide students with the ideas, concepts and bodies of knowledge which will form a basis for evaluating and participating in a changing world.

Requirements. General Education at the University of Northern Colorado is a program of 60 quarter hours selected from nine subject matter categories. These categories are:

- a-Computational Skills
- b-English Composition
- c-Intermediate English Composition
- d-Arts and Applied Language Studies
- e-Professional and Applied Studies
- f-Social and Behavioral Sciences
- g-Humanities and Integrative Studies
- h-Sciences
- i-Human Interaction

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. The General Education program at the University of Northern Colorado is intended to be distributed throughout the undergraduate years.

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 Bulletin. Thus, a-MATH 101, "Fundamental Mathematical Skills," indicates that this course may be taken to satisfy a Computational Skills category; d-ART 230, Drawing for Non-Art Majors," may be taken to satisfy partially the category d requirement(s), Arts and Applied Languages Studies.

General Education Categories

Category a-Computational Skills complete the requirements as follows:

One 3 credit 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 192, for elementary education majors and special education majors only. MATH 191 must be completed first.
- a-STAT 203, recommended background; one year of high school algebra.
- Successful completion of any other higher level MATH course with a category h designation.

Category b-Basic Composition One 4 credit hour course in Basic Composition or demonstrated competency. Only one course may be taken to satisfy this requirement: b-ENG 101.

Category c-Intermediate Composition One 3 credit hour Course in Intermediate Composition. In addition to the English department, other academic departments offer intermediate composition courses.

Category d-Arts and Applied Language Studies Two courses from different departments are required.

Category e-Professional and Applied Studies Two courses from different departments are required.

Category f-Social and Behavioral Sciences Two courses from different departments are required.

Category g-Humanities and Integrative Studies Two courses from different departments are required.

Category h-Sciences Two courses from different departments are required.

Category i-Human Interaction One course carrying "i" category designation is required.



Electives in General Education

Elective hours remaining to reach the total 60-hour requirement for General Education may be satisfied with courses carrying a General Education category designation.

Exceptions to General Education Requirements

— Transfers who have completed equivalent programs in General Education as determined by the Admissions Office may be exempted from all or part of the General Education requirements.

— A student with an associate of arts degree from an accredited junior college who has met the General Education requirements.

— If a student presents an ACT score of 23.0 or higher in Mathematics, he/she is exempt from the category a-Computational Skills. If a student presents an ACT score of 26.0 or higher in English, he/she is exempt from Category b-English Composition.

In these cases, credit is *not* granted and the student must take comparable amounts of General Education elective credit in any category.

— A student may challenge a General Education course and receive an exemption by registering for the course and passing the challenge examination. Interested students should contact the appropriate department to determine the availability of a challenge examination.

— CLEP examinations are available for General Education credit. The student should contact the Counseling and Career Center in Gray Hall for information relative to the CLEP program.

Notes on General Education

— 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, provided such courses carry a category designation.

— Courses required for a minor or second major may count for both the minor and the second major as well as General Education, provided such courses carry a General Education designation.

— When two or more departments share a common prefix (for example, MUS), courses selected from two different departments will satisfy the requirement. Students should consult their advisors to determine the departmental origin of specific courses.

— Courses not preceded by a category designation in the Bulletin may not be taken to satisfy General Education requirements. Methods courses, field experience courses, Directed Studies (i.e., DS 422) and graduate level courses (i.e., 500 level and up) will not count for General Education. Any double numbered courses (e.g., PE 450/PE 550) will not count for General Education credit. No course can satisfy more than one General Education category simultaneously.

— For 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.

— *A course taken prior to the time it appears in a Bulletin with a General Education designation will not count for General Education.*

Academic Standing

A student's academic standing is determined by the grade point average. An undergraduate student, whether currently or formerly enrolled, is one of the following:

"In good standing" and thereby able to return and continue studies at the University of Northern Colorado.

"On probation" and thereby in an intermediate status between good standing and suspension or dismissal. Students on probation have failed to meet University standards of achievement as set forth in this Bulletin. However, it is important to note that academic probation serves as a warning to the student, and is not intended to be a penalty. No notation of academic probation is made on an official transcript.

"Suspended from the University," and thereby involuntarily separated from the institution, is a consequence of unacceptable academic achievement. Suspended status implies that a student may seek readmission to the University in the future. The suspension notice may state a time when such readmission is appropriate.

Academic Probation and Suspension. All students are expected to maintain a quarterly and cumulative grade point average of 2.00, which is also the required minimum for graduation.

A student will be placed on academic probation if that student fails to attain the designated academic quarter grade point average, and/or the designated cumulative grade point average.

A freshman student achieving less than a 1.75 grade point average in any quarter will be placed on academic probation for the succeeding quarter.

A freshman student attaining less than a 1.50 grade point average in any quarter, or less than a 1.75 cumulative grade point average at the end of the freshman year, is subject to suspension.

A sophomore achieving less than a 2.0 grade point average in any one quarter will be placed on academic probation for the succeeding quarter.

A sophomore achieving less than a 1.75 grade point average in any one quarter, less than a 1.75 cumulative grade point average during the sophomore year, or less than a 2.0 cumulative grade point average at the completion of the sophomore year, is subject to suspension.

A junior or senior achieving less than a 2.0 grade point average in any one quarter will be placed on academic probation for the succeeding quarter. A junior or senior student attaining less than 1.75 in any quarter is subject to suspension.

It must be understood that the minimum cumulative grade point average for graduation is 2.0. It must be further understood that there are other minimum grade point averages for entrance into and/or continuation in certain specific programs offered at the University of Northern Colorado. These additional requirements are explained in the specific program descriptions in this Bulletin.

Academic Suspension and Subsequent Readmission
Suspension may result from academic failure to remove probationary status or failure to attain or maintain the minimum quarterly or cumulative grade average as listed in preceding paragraphs.

A student placed on academic suspension may not re-enroll at the University of Northern Colorado without the approval of the Committee on Scholastic Standards. Such approval may not be requested until the passage of one academic quarter, not including summer quarter, after the suspension was imposed.

The application for readmission must be made in writing to the Chairperson, Committee on Scholastic Standards, in care of the office of the Vice President for Student Affairs, Carter Hall 2000. This petition must include a detailed account of the manner in which the student has profitably used his or her time since leaving the University, and must provide good reasons to support the student's claim that the previous academic record will be improved if the student is readmitted to the University. The student may submit his or her case in whatever form seems most persuasive; this is not a process which requires a specific format. A student who has attended other institutions since dismissal from the University of Northern Colorado must furnish an official transcript reporting academic achievement during the interim.

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. Graduation with honors (cum laude, magna cum laude, summa cum laude) is determined on the basis of a student's cumulative grade point average. Typically, a student's academic record is reviewed for graduation with honors after the quarter *prior* to the quarter in which the student will graduate. To qualify for honors at this time, the student must have completed 75 quarter hours of credit at the University of Northern Colorado, and have achieved the necessary cumulative grade point average. A student's record may also be reviewed at the end of the quarter in which he or she graduates. To qualify for honors at this time, the student must have completed 90 quarter hours of credit at UNC, and have achieved the necessary cumulative grade point average.

In either situation, the honors designation will be so indicated on the student's transcript. However, the honors designation will be announced at graduation ceremonies only in those cases where the student has qualified for honors in the quarter *prior* to the quarter of graduation.

The criteria for awarding honors will be determined by the graduating classes of a given school or college from the *previous academic year*. The criterion cumulative GPA for *summa cum laude* will be determined by the lowest cumulative GPA of the students in the top two per cent of the previous year's college/school graduating class. The criterion for *magna cum laude* will be determined by the lowest cumulative GPA of students in the top four per cent of the previous year's college/school graduating class. The criterion for *cum laude* will be determined by the lowest cumulative GPA of the students in the top six per cent of the previous year's college/school graduating class.

Honors Program

At the present time, approximately 15 departments at the University of Northern Colorado operate an honors program to enrich the education of highly-qualified students who have completed 45 or more quarter hours of course work.

The Honors Program offers an undergraduate student an opportunity to undertake independent scholarly study and research in his/her major field. The Honors Program culminates in the preparation of an honors thesis or project.

To apply for admission to the Honors Program, students must have completed 45 quarter hours of academic work, and have attained a cumulative grade point average of at least 3.25. Ordinarily, students apply during the sophomore year. Transfer students may apply after the first, second or third quarter of work at UNC. Applicants must be recommended by two faculty members in their major area. All applications are reviewed by the director of the Honors Program and the department or school concerned.

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

The program of study will include enrollment in Honors 251 (Sophomore Honors Seminar), Honors 351 (Junior Honors Project) and Honors 451 (Senior Honors Research Project or Thesis). During the senior year, the student will gain assistance with a project or thesis from a professor within the field of study. An acceptable written report must be handed in at least three weeks before the honors student is to be graduated.

An honors student is expected to register for a full-time program and to maintain better than a 3.25 cumulative grade point average in the overall academic record, and in the major and minor fields.

Graduation Requirements

Degree Requirements. A student must meet all requirements for the bachelor's degree, as listed in this Bulletin. In addition, Professional Teacher Education requirements must be satisfied, if applicable.

Minimum Residence. A student must have earned a minimum of 45 hours in residence 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.

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

Transcripts. Transcripts from all colleges and universities containing transfer credit necessary for completion of degree requirements must be received by the Registrar prior to the quarter of graduation.

Transfer/Correspondence Credit. Forty-five quarter hours of credit in 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.

Bulletin Requirements. Requirements for graduation are checked in accordance with the requirements in one particular University Bulletin. A student may use the Bulletin under which he or she entered the University (within the six-year limit noted above), or any subsequent Bulletin in effect up until the year of graduation.

A student may not choose a major from one edition of the Bulletin and a minor from another. Professional Teacher Education requirements may vary from this policy somewhat; students should check with the PTE office regarding the appropriate Bulletin to be used.

Bulletin Life. The Bulletin used during a student's first enrollment in a degree program may be used for a period of six years. After six years, a student must reapply for graduation, have his or her records re-evaluated and must then meet all requirements in the current Bulletin.

Application for Graduation. The student must apply for graduation and the application must be evaluated and processed by the Registrar's Office and the major and minor schools and 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 p.m. Friday of the second week of the quarter in which the student expects to graduate.

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

Participation in Graduation Exercises. 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.

Second Baccalaureate Degree. To qualify for a second baccalaureate degree, a student must complete at least three additional quarters of academic work with a minimum of 45 credit hours taken after the first degree has been completed.

The student must maintain an average of "C" (2.00 GPA) 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. Students with questions concerning a second baccalaureate degree should confer with the Registrar, the Director of Admissions and/or the chairman of the department in which the degree will be taken.

Final Examinations

All examinations are two hours in length.

Examinations are to be conducted in the same classroom used throughout the quarter unless alternative arrangements are made with the Scheduling Division of the Academic Affairs Office. Faculty should alert students to changes in final examination times or locations prior to the testing date.

Final examination in a course may be eliminated by an instructor who considers the examination to be unnecessary, contingent upon the approval of the department chair.

If no final examination is given, instruction shall be continued through the last week of the quarter. In such cases, classes will meet at the times shown on the final examination schedule.

The presence of each student registered for credit in a course shall be mandatory at the final examination, unless the student has made prior arrangements to be excused by the instructor.

In extreme instances, a final examination may be rescheduled by the instructor provided it is coordinated with the Academic Affairs Office and is approved by the department chair.



If a student has three or more final examinations scheduled for one day, the student may negotiate a time change with the instructors involved. If the parties involved cannot find a mutually agreeable time, the Academic Affairs Office will indicate courses in which a change must be made.

Laboratory sessions will not meet during the final examination period. Laboratory examinations should be given prior to final examination week.

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Graduate School Information

The principal objective of the Graduate School is to offer education beyond the baccalaureate degree to those who aspire to become leaders in the various fields of teaching and research. It undertakes through carefully directed intellectual activity, to assist graduate students in developing and pursuing individual education programs requiring outstanding accomplishment.

Graduate Degrees

The University of Northern Colorado offers the following graduate degree programs. Each of these programs is described in the Programs of Study chapter under the college or school that administers it. Interdisciplinary programs are described at the end of the Programs of Study chapter.

- Master of Arts (M.A.)
- Master of Business Administration (M.B.A.)
- Master of Music (M.M.)
- Master of Music Education (M.M.E.)
- Master of Science (M.S.)
- Specialist in Education (Ed.S.)
- Doctor of Arts (D.A.)
- Doctor of Education (Ed.D.)
- Doctor of Music Education (D.M.E.)
- Doctor of Philosophy (Ph.D.)

Graduate Degree By Schools and Colleges

College of Arts and Sciences

Applied Statistics and Research Methods, M.S., Ph.D.

Biological Sciences, M.A., (D.A. admissions suspended)

Emphasis Areas:

Botany

Zoology

Chemistry, M.A., D.A.

Emphasis Areas:

Teaching

Non-Teaching

Earth Science, M.A.

English, M.A., Ed.D.

Foreign Languages, M.A.

Geography, M.A., D.A.

History, M.A., D.A.

Mathematics, M.A., D.A.

Emphasis Areas:

Teaching

Non-Teaching

Psychology, M.A.

Science Education (See Interdisciplinary Programs)

Social Science, M.A.

Sociology, M.A.

Speech Communication, M.A.

School of Business

Business Administration, M.B.A.

College of Education

Agency Counseling, M.A.

College Student Personnel Administration, Ph.D.

Counseling Psychology, Ed.D.

Counselor Education, Ed.D.

Educational Administration, M.A., Ed.D.
 Emphasis Areas:
 EdAd: Elementary
 EdAd: Junior High School
 EdAd: Secondary
 General School Administration, Ed.S., Ed.D.
 Administration of Higher Education, Ed.D.
 Educational Media, M.A.
 Educational Psychology, M.A., Ed.D.
 Elementary Education, M.A., Ed.D.
 EEd: Early Childhood Education, M.A., Ed.D.
 Emphasis Area:
 EEd: Early Childhood Education/Special Education, M.A.
 Elementary School Counseling, M.A.
 Middle School Education, M.A.
 Reading, M.A., Ed.S., Ed.D.
 Emphasis Areas:
 Reading: Elementary, M.A.
 Reading: Secondary, M.A.
 Secondary & Post Secondary Counseling, M.A.
 School Psychology, Ed.S., Ed.D.
 Special Education, Ed.D.
 Emphasis Areas:
 Research
 Special Education Administration
 University Teaching
 Special Ed.: Acoustically Handicapped, M.A.
 Special Ed.: Learning Disabilities, M.A.
 Special Ed.: Mental Retardation, M.A.
 Special Ed.: Multihandicapped, M.A.
 Special Ed.: Physically Handicapped, M.A.
 Special Ed.: Socially/Emotionally Disturbed, M.A.
 Special Ed.: Talented and Gifted, M.A.
 Special Ed.: Visually Handicapped, M.A.
 Emphasis Areas:
 SPED: Orientation and Mobility
 SPED: Severely/Profoundly Handicapped Blind
 SPED: Orientation and Mobility and Severely/Profoundly Handicapped Blind

College of Health and Human Services

Communication Disorders, M.A.
 Emphasis Areas:
 Audiology
 Speech Language Pathology
 Gerontology, M.A.
 Rehabilitation Counseling, M.A.
 Human Rehabilitation, Ph.D.

School of Health, Physical Education and Recreation

Health Education, M.A.
 Physical Education, M.A., Ed.D.
 Recreation, M.A.
 Emphasis Area:
 Recreation and Park Administration

College of Performing and Visual Arts

Music: Conducting and Literature, M.M.
 Music: Performance, M.M.
 Music: Theory and Composition, M.M.
 Music: Music Education, M.M.E., D.M.E.
 Music, D.A.
 Emphasis Areas:
 Conducting
 History and Literature
 Pedagogy

Performance
 Theory and Composition
 Visual Arts, M.A.

Graduate Interdisciplinary Degree Programs

(Described at the end of the Programs of Study chapter.)
 Individually Designed Programs, M.A., Ed.S., D.A.
 Individually Designed Programs, M.S., Ed.D.
 Computer Technology in Education, M.A., Ed.D.
 Science Education, M.A.

Post Doctoral Programs, Degree Offerings By Schools/Colleges

College of Arts and Sciences

Applied Statistics and Research Methods, M.S., Ph.D.
 Biological Sciences, M.A., (D.A. Admissions suspended)
 Emphasis Areas:
 Botany
 Zoology
 Chemistry, M.A., D.A.
 Emphasis Areas:
 Teaching
 Non-Teaching
 Earth Science, M.A.
 English, M.A., Ed.D.
 Foreign Languages, M.A.
 Geography, D.A.
 History, M.A., D.A.
 Mathematics, M.A., D.A.
 Emphasis Areas:
 Teaching
 Non-Teaching
 Psychology, M.A.
 Science Education (see Interdisciplinary Programs)
 Social Science, M.A.
 Sociology, M.A.
 Speech Communication, M.A.



School of Business

Business Administration, M.B.A.

College of Education

Agency Counseling, M.A.

College Student Personnel Administration, Ph.D.

Counseling Psychology, Ed.D.

Counselor Education, Ed.D.

Educational Administration, M.A., Ed.D.

Emphasis Areas:

EdAd: Elementary

EdAd: Jr. High School

EdAd: Secondary

General School Administration, Ed.S., Ed.D.

Administration of Higher Education, Ed.D.

Educational Media, M.A.

Educational Psychology, M.A., Ed.D.

Elementary Education, M.A., Ed.D.

EIEd: Early Childhood Education, M.A., Ed.D.

Emphasis Area:

EIEd: Early Childhood Educ./Spec. Ed., M.A.

Elementary School Counseling, M.A.

Reading, M.A., Ed.D.

Emphasis Areas:

Reading: Elementary, M.A.

Reading: Secondary, M.A.

Secondary & Post Secondary Counseling, M.A.

School Psychology, Ed.S., Ed.D.

Special Education, Ed.D.

Emphasis Areas:

Research, Ed.D.

Special Education Administration, Ed.D.

University Teaching, Ed.D.

Special Ed: Acoustically Handicapped, M.A.

Special Ed: Learning Disabilities, M.A.

Special Ed: Mental Retardation, M.A.

Special Ed: Multihandicapped, M.A.

Special Ed: Physically Handicapped, M.A.

Special Ed: Socially/Emotionally Disturbed, M.A.

Special Ed: Talented and Gifted, M.A.

Special Ed: Visually Handicapped, M.A.

Emphasis Areas:

SPED: Orientation & Mobility, M.A.

SPED: Severely/Profoundly Handicapped Blind, M.A.

SPED: Orientation and Mobility and Severely/Profoundly Handicapped Blind, M.A.

College of Health and Human Services

Communication Disorders, M.A.

Emphasis Areas:

Audiology, M.A.

Speech Language Pathology, M.A.

Gerontology, M.A.

Human Rehabilitation Services, M.A., Ph.D.

School of Health, Physical Education and Recreation

Health Education, M.A.

Physical Education, M.A., Ed.D.

Recreation, M.A.

Emphasis Area:

Recreation & Park Administration

College of Performing and Visual Arts

Music: Conducting & Literature, M.M.

Music: Performance, M.M.

Music: Theory and Composition, M.M.

Music: Music Education, M.M.E., D.M.E.

Music, D.A.:

Emphasis Areas:

Conducting, D.A.

History and Literature, D.A.

Pedagogy, D.A.

Performance, D.A.

Theory and Composition, D.A.

Visual Arts, M.A.

Graduate Interdisciplinary Degree Programs

Individually Designed Programs, M.A., Ed.S., D.A.

Individually Designed Programs, M.S., Ed.D.

Computer Technology in Education, M.A., Ed.D.

Science Education, M.A.

Nature and Purpose of Graduate Degrees

Master's Degrees are awarded for a level of academic accomplishment substantially beyond that required for the baccalaureate degree. Programs consist of a coherent pattern of courses, seminars, and supervised learning experiences culminating in a comprehensive examination and/or thesis. Master's programs normally require a minimum of three quarters of instruction with additional time in preparation for comprehensive examinations and thesis writing.

Specialist in Education Degrees are awarded for concentrated study and investigation beyond the master's degree. Programs are designed on an individual basis to sharply focus on a particular academic goal. Specialist's programs may cut across departmental lines but are not offered in all discipline areas. Typically the degree requires a minimum of 45 quarter hours beyond the master's degree. Candidates for the degree will culminate their programs by writing a specialist's practicum report.

Doctor of Arts Degrees are content-oriented programs to prepare the candidate for a career in college or university teaching. The student is expected to specialize in a specific field of study. However, he or she is not expected to specialize in a single facet of the chosen field. General components of the program include course work in the major area, supervised practicums in college teaching, interdisciplinary seminars in college teaching, and a dissertation involving significant teaching/education problems or a traditional research topic. Candidates are offered considerable flexibility in program development. The degree is not research-oriented, but the recipient will attain research competence by preparing a dissertation designed to support college/university teaching.

Doctor of Music Education Degrees prepare comprehensively trained educator-musicians. The program provides expertise in teaching, supervision, consulting, and administration within public school systems, colleges, music education programs, and community cultural projects.

Doctor of Education Degrees are professional or practitioner degrees to prepare candidates for positions of leadership in all fields, including public and private schools, colleges and universities, business, industry, government, and the military establishment. The Ed.D. prepares graduates for service in instructional, supervisory, and administrative capacities in all professional services.

Doctor of Philosophy Degrees are research degrees granted only to students who (1) have mastered definite fields of knowledge to the extent they are familiar both with what has been done in their specific field and with the potentialities and

opportunities for further advances; (2) have demonstrated a capacity to do original and independent scholarly investigation or creative work in their specific field; and (3) have the ability to integrate their specific field or specialization with the larger domains of knowledge and understanding.

The Graduate Faculty

The Graduate Faculty consists of the President, the Deans, and selected members of the University of Northern Colorado faculty who are actively engaged in recognized scholarly activities, research, and/or professional activity. Their names are followed by (G) in the faculty listing in the last pages of this Bulletin.

The Dean of the Graduate School is responsible for the academic programs of all graduate students. He/she is the representative of the Graduate Faculty and responsible for the admission, records maintenance, and graduation review of all graduate students in programs administered by the University of Northern Colorado.

The Graduate Council is the representative body of the Graduate Faculty and a standing committee of the Faculty Senate. The Graduate Council recommends policy for governing all graduate programs of the University and enacts rules and regulations to promote or enforce such policies, subject to discretionary approval of the Graduate Faculty and the Faculty Senate.

General Information

Work Toward Next Higher Degree. Students who are in the last quarter of academic study for one degree may register for graduate courses beyond the credits required for that degree when an application for admission to the next higher degree has been filed. On admittance to the next higher degree program, the student *must* complete a "Petition to Count Work in the Next Higher Degree" (obtained from the Graduate School) during the quarter *before* enrolling in the course(s).

The maximum time limit for dual enrollment is three consecutive quarters. The student may earn no more than 18 credits of graduate work applicable to the next higher degree. Seniors registering for master's degree work under the dual registration procedure will continue to be classified as undergraduates until they have been awarded their baccalaureate degrees.

Change in Graduate Degree Program (Change of Major). In order to change his or her degree program, the student must complete a "Request for Change of Major" form obtained from the Graduate School.

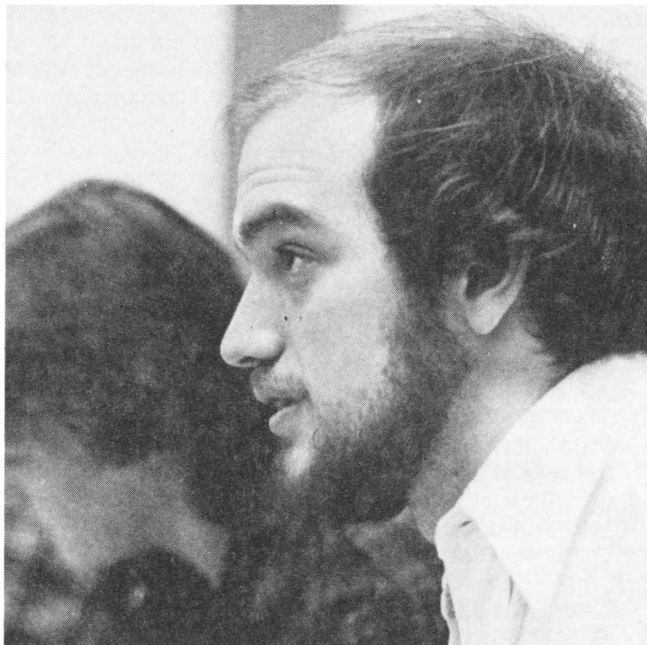
The form will then be sent to the departments involved for acceptance or rejection. If permission is granted, the Dean of the Graduate School will ask the new department's chairperson to appoint an advisor and will notify the former advisor of the change.

Student Medical History. Each graduate student is required to send a health report (obtained from the Graduate School) to the Student Health Service of the University. The report must state that the student is in good physical and mental health, has no communicable disease and has no defects or deficiencies which would prevent satisfactory progress in the degree program.

Graduate Courses are advanced courses requiring critical analysis and study. Such courses normally require frequent use of the library for reference papers reporting original research. Basically, five types of graduate instruction are recognized: (1) lecture courses requiring organization by the instructor of material on an advanced level; (2) supervised laboratory courses, (3) seminars for the critical study of a

specific area through reports and discussions by students and instructors; (4) research by individual students under the direction of members of the Graduate Faculty; and (5) professional internships.

Enrichment Course Work for Graduate Students. The Graduate Dean reserves the right to send a graduate student, at the request of the student or of the department, to another accredited institution offering graduate degrees, to earn a maximum of 15 quarter hours in specific courses.



In addition, the University has a reciprocal course agreement with the University of Colorado, Colorado State University, and Colorado School of Mines. A full-time graduate student on one campus may take one approved course per term, without additional tuition, at one of the other institutions to count as residence credit. Those interested should contact the Dean of the Graduate School in the term prior to the one in which the student proposes to take the course.

Course Numbering. Courses at the University are sequentially numbered. Courses numbered 100 to 499 are for undergraduate credit. Courses numbered 500 to 799 are for graduate credit. Upon prior written permission of the instructor, major advisor, and the department chairperson, undergraduate students may take 500 level courses. Courses numbered 700-799 may be taken for specialist or doctoral credit only. Courses numbered 300-599 may be double-numbered allowing undergraduate and graduate students to enroll simultaneously.

When undergraduate and graduate students are enrolled in the same course, graduate students receive graduate credit; undergraduate students receive undergraduate credit. Expectations of performance for each level of student are clearly enunciated.

Until the 1984-86 *Bulletin* is published, the double-numbering policy is in transition and master's degree students may count nine hours of 300-400 level courses in their programs; educational specialist and doctoral students will be able to count only six hours. Exceptions to this policy will be considered on an individual basis.

Master's, specialist, and doctoral degree students may count a maximum of 12 quarter hours, individually or in combination, from courses numbered in the "X02," "X08," "X13," or "DS 622," in their programs.

Specialist students in a 45 quarter hour program have the

same limitation as master's degree students. A specialist in a 90 quarter hour program may count a maximum of 18 quarter hours in his or her program. DS 701 Specialist Practicum is an exception to this policy.

Any exceptions to this course numbering policy must be approved by both the Academic Dean and Graduate School Dean.

Residence Requirements. The major purpose of the residence requirements for graduate degrees is to insure the student has an opportunity to benefit from the advantages of a university environment. The advantages include the accessibility of a library, computer facilities and computer tutorial services, laboratory and other physical facilities, as well as participation in seminars and a variety of cultural activities. Equally important to the graduate student are the advantages of becoming acquainted with the faculty and other students on both a cultural and a professional basis.

By definition, a student "in residence" is expected to devote most of his or her time and energy to graduate studies *on the campus of UNC under the direction of the major professor and/or the advisory committee.*

A major purpose of the residence requirements for graduate degrees is to insure that the faculty have the opportunity to properly evaluate the student and his/her development in order to guide his/her studies and to determine competency. Specific minimum residence requirements are indicated in connection with the respective degrees.

Change of Enrollment and Withdrawals from a Class — (See *Directory of Classes*)

Withdrawal from the University. A student may withdraw from the University any time during the quarter by obtaining a Notice of Withdrawal and Program Change Form from the Student Resource Center.

Grades. Alphabetical grades are used: "A," "B," "C," "D," and "F." Other marks used are "I" for incomplete, "W" for withdrawal, "UW" for unapproved withdrawal, "S" for satisfactory, and "U" for unsatisfactory.

The work to remove an "I" must be completed and an official grade change form recorded in the Records Office by the last day of the next quarter the student attends the University. This must occur within one year of the grade's assignment. If the "I" is not removed, it remains on the student's record and will be computed as an "F."

Each of the letter grades has a numerical value: "A" is valued at four points per unit of credit; "B" is valued at three points; "C" is valued at two points; "D" is valued at one point, and "F" is valued at zero.

A course in which a "D" is earned will *not* be counted toward a graduate degree.

"NR" (No Report) will be recorded for students who have registered for X number of hours in a Master's Thesis or Creative Project, a Specialist Degree Practicum, or a Doctoral Dissertation but have not completed the work by the end of the quarter. The "NR" will be replaced by the appropriate grade when the work is completed.

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

Credits. Quarter hours are used. Each quarter hour is equal to .66 or two-thirds of a semester hour.

Theses and Dissertations. Each candidate presenting a doctoral dissertation, a written report of the specialist practicum, a master's thesis, or a detailed explanation of the creative project's purpose must furnish an original and three copies of the final document to be bound to the Graduate School.

Various departments of the University have adopted specific style manuals for their disciplines. A student should check with his/her department for the specific style accepta-

ble to that department. The Graduate School has produced a supplement titled "Standards for Dissertations, Theses, and Special Projects" giving instructions and examples required by the Graduate School. In cases of conflict between the adopted style manual and the Graduate School publication, the Graduate School publication will take precedence.

Do not use dissertations, theses, or projects on file in the library as examples for style and format. The requirements may have changed.

Student Rights and Responsibilities. Each student entering the University should obtain a copy of the "Student Handbook" from the offices of the Dean of Students, Student Services Center, or Campus Ombudsman.

All students on this campus will have protection of freedom of expression, protection against improper disclosure, protection of beliefs and associations, protection against improper academic evaluation, and protection of the right to due process in academic and disciplinary proceedings. On the other hand, all students will be held responsible for their performance and conduct in the classroom, on the campus, and in the community.

All students are expected to know the requirements for the degrees they intend to earn. Although the Graduate School staff and department advisors will help as much as possible, the responsibility for any errors in enrollment or in interpretation of rules rests with each student.

All graduate students may petition the Graduate Council to waive any rule published in this Bulletin. Petition forms may be obtained at the Graduate School. The petition must be completed and signed by the student, signed by the program advisor and department chairperson for transmittal to the Graduate School only, and be presented to the Graduate School at least one week before its consideration. The program advisor and the department chairperson must indicate their position on the student's request in writing.

Admission to a Degree Program. The necessary steps for applying for a degree program are:

1. Obtain the appropriate application form (master's, specialist, or doctoral) from the Graduate School. Fill it out and return it with a \$20 non-refundable fee.
2. Write to the registrars of *all* colleges or universities you have attended (including UNC) and ask them to send *two* official copies of your transcripts to the Graduate School.
3. Find out from the department in which you wish to major if it has established additional admission requirements.
4. Get all materials to the Graduate School at least 30 days before registration. International students must file all required materials, i.e., application, transcripts, educational background, financial support information, etc. at least 90 days before registration.

Master's Admissions

Applicants should possess a baccalaureate degree from an accredited college or university and have a grade average of 2.7 on the most recent 100 quarter hours. However, those applicants having a grade average between 2.50 and 2.69 may be admitted by the Graduate School if the department recommends admission with reason. Applicants who do not meet the grade point requirements but are recommended for admission by their departments, may not transfer work that was taken prior to the date of their admission letter into the degree program.

Educational Specialist Admissions

Applicants should possess a master's degree from an accredited college or university. Some students may be accepted with only a baccalaureate degree, depending upon the

specialization area. The applicant must have a grade average of 2.7 or better on the most recent 100 quarter hours and an adequate academic background in the proposed area of specialization. In addition, the applicant should possess at least two years of appropriate work experience in the specialization as determined by the major department. Psychology areas require two years of teaching or equivalent psychological experience (one year must be obtained *before* being admitted); Educational Administration requires sufficient evidence of successful administration. Any student who has been admitted to a doctoral program and completed any course in that program will *not* be allowed to earn a Specialist in Education degree.



Doctoral Admissions

All applicants should possess a baccalaureate degree from an accredited college or university and submit three letters of recommendation stating the applicant has the ability to do doctoral work in the proposed discipline. There are three ways a student can be admitted to a doctoral program.

Regular Admission

Applicants must have a grade average of 3.2 on the most recent 90 quarter hours and a GRE combined score (not more than five years old) of at least 900 *or* a grade average of 3.0 on the most recent 90 quarter hours and a GRE combined score (not more than five years old) of at least 1000.

Alternative Admission

Each department with doctoral programs may recommend admission based upon supplemental/alternate criteria recommended by the major department and approved by the Graduate Council. Some departments have elected not to use supplemental/alternate criteria for admission.

Provisional Admission

Applicants who do not meet all of the requirements for regular admission may be admitted on a provisional basis upon recommendation of the department or school and approval of the Graduate Dean. Provisional status is limited to three academic quarters. No more than 27 graduate credit hours earned while provisionally admitted may be applied to a degree program. Students provisionally admitted may attain regular graduate status if they later meet the requirements for regular admission, or if they meet supplemental admission requirements established by their major department or school

and academic dean. All such requirements must have prior approval of the Graduate Dean after consultation with the Graduate Council. The Graduate School will monitor all provisional admission and approve all changes from provisional enrollment. An applicant who has not received an official admission letter from the Graduate School has *not* been admitted to a graduate degree program.

Admission to a Graduate Interdisciplinary Degree Program

The steps for applying for an Interdisciplinary Degree program are:

1. Obtain the appropriate (master's, educational specialist, doctoral) degree application from the Graduate School. Fill it out and return it to the Graduate School with the \$20 non-refundable fee.

2. Write to the registrars of *all* colleges or universities attended (including UNC) and ask them to send *two* official copies of your transcript to the Graduate School.

3. Have one official copy of your combined aptitude scores from the Graduate Record Examination (not more than five years old if you are applying for a doctoral program) sent to the Graduate School.

4. Submit to the Graduate School three letters of recommendation stating that you have the ability to pursue a graduate interdisciplinary degree.

5. Send a written statement of career objectives and a rationale for the interdisciplinary program you have chosen, along with the names of the disciplines you desire to combine in the degree program to the Graduate School.

Note: Only after the written statement (see 5 above) has been approved and all necessary permissions from the involved departments have been received will the applicant be provisionally admitted to the interdisciplinary program.

Admission to a Certification Program

The necessary steps for applying for a certification program are:

1. Obtain the specific application form from the Graduate School. Fill it out by identifying in which teaching area you want certification, and return it to the Graduate School with a \$20 non-refundable fee.

2. Write to the registrars of *all* colleges or universities you have attended (including UNC) and ask them to send *one* official copy of your transcript to the Graduate School.

Note: An applicant for the certification program should have a grade average of at least 2.7 on the most recent 100 quarter hours; however, those applicants having a grade average between 2.5 and 2.69 may be admitted by the Graduate School if the department recommends admission and gives a reason for the recommendation.

3. Applicants who are admitted to a certification program are *not* automatically enrolled in a degree program. Separate application must be made for admission to the degree program.

Admission to a Non-Degree (Unclassified) Status

Students who have not been officially admitted to a degree program may seek admission and may register as unclassified students. The necessary steps for applying are:

1. Obtain a "Statistical Information" form from the Graduate School and complete it. If you have attended UNC within the last ten years it may not be necessary to complete this form because your background information may be in the computer.

2. Obtain a registration slip from the Graduate School.

Note: *None* of the course work taken by an unclassified

graduate student may be used toward meeting residence requirements in a degree program. Only 15 quarter hours of course work taken while in an unclassified status may be used toward a graduate degree program. Obtain a "Request to Transfer Work to a Degree Program" form from the Graduate School if you wish to transfer unclassified work to a degree program.

Admission of International Students

All international students must take these steps to be considered for admission:

1. Obtain the appropriate application form from the Graduate School. Fill it out and return it with a \$20 non-refundable fee.

2. Get any special instructions the Graduate School may have regarding international students.

3. Have sent to the Graduate School *all* records of previous schooling, for example, mark sheets, transcripts, diplomas, certificates, etc. These records must show courses you have taken, grades and degrees earned, and must be written in English.

4. Provide certification of financial ability to pursue a graduate program at this University. A form for this purpose may be obtained from the Graduate School.

5. Provide evidence of English proficiency by sending to the Graduate School *one* of the following:

- a. Evidence that you have obtained a TOEFL score of 520 or above with no score less than 52 on any of the three sections. The School of Business requires a TOEFL of 540 with no score less than 54; or

- b. Evidence that you have obtained a Michigan Test of English Language score of no less than 85; or

- c. Evidence that you have studied full-time for at least two years or have completed a degree at a regionally accredited United States institution. Such work must have been completed within six months of your application to this University.

6. All of these materials must be submitted to the Graduate School at least 90 days before the beginning of the term in which you wish to study.

7. If your application is approved, you will receive a letter of admission. After all conditions of your admission have been met, you will be issued an I-20 form from UNC. If you receive a conditional admission pending completion of English language schooling and receipt of TOEFL scores, the I-20 will be issued by the English language school you will attend. Please *do not* plan to enter the United States without *both* of these documents. The admission letter will be needed for your visa when you arrive.

Note: The University of Northern Colorado is proud of its history of presenting international students with an opportunity to fulfill their educational goals. These goals cannot be fulfilled, however, without an adequate command of the English language. Therefore, international students may be screened for English proficiency by the appropriate University departments. A small fee will be assessed for this service. Whether or not a student will need additional English proficiency training will be determined by the evidence presented in step 6 and by the screening process. Any additional course work required to increase a student's English skills will not count as graduate credit toward a graduate degree. Such credit received will be entered on the student's transcripts. Also, individual departments may require additional criteria for admission, such as the Test of Spoken English (TSE). It is important that each applicant check with his/her department before arriving on campus.

Admission to the Non-Baccalaureate Master's Degree Program

An individual without a baccalaureate degree or with such a degree from a non-accredited institution may be admitted to a master's degree program by submitting an application which shows the applicant has at least the equivalent of a college education and the ability to do graduate work. The necessary steps for applying are:

1. Obtain the appropriate application form at the Graduate School, complete it and return it with a \$20 non-refundable fee.

2. Write to the registrars of *all* colleges or universities you have attended (including UNC) and ask them to send *two* official copies of your transcripts to the Graduate School.

3. Send a resume of previous work experience and accomplishments to the Graduate School.

4. Send a proposed plan of study, an outline of your career or personal goals, and a description of the relationship between your plan of study and your goals to the Graduate School.

5. Take the Miller's Analogy or the GRE Aptitude Test and have the test scores sent to the Graduate School.

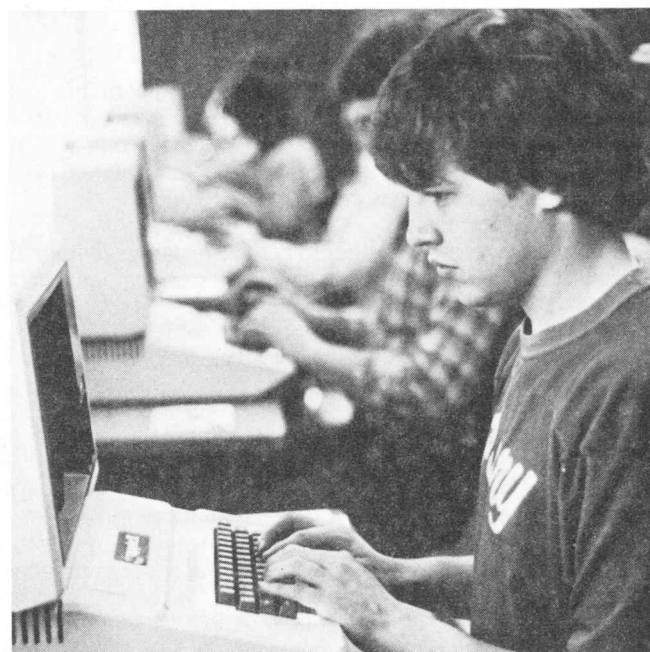
6. Have three letters of recommendation stating that you are capable of pursuing a graduate degree at this University sent to the Graduate School.

Note: An applicant must give evidence of knowledge of English, humanities, mathematics, natural science and social science by having at least 90 quarter hours of course work with a grade average of at least 2.7. Up to 45 quarter hours of this course work may be replaced by 50th percentile CLEP scores in each of the five areas.

Admission of Physically and Socially Disadvantaged Students

Applicants who have been disadvantaged by physical or social handicaps may be admitted to the University under special criteria. They may petition the special Graduate School Screening Committee.

Please write to this committee through the Graduate School and the appropriate forms will be sent to you.



Enrollment and Registration

Eligibility for Enrollment. Students eligible to enroll may be classified in the following three categories:

1. Those who have been officially admitted into a degree program.
2. Those who have been officially admitted into a certification program.
3. Those who have been officially cleared to register as unclassified students.

Students who may be ineligible for enrollment are the following:

1. Any person employed at this University who holds tenure and rank will not be admitted to a graduate degree program.
2. Any person who has earned a doctorate at this University may not be permitted to earn another. Only one doctorate may be earned at at UNC.
3. Any person who has earned two degrees from this University may be ineligible to enroll for a third unless the major department approves.
4. Any graduate student currently enrolled who has failed to maintain the minimum grade average in graduate courses may be ineligible.

a. A graduate student must maintain a cumulative 3.0. If the student drops below this minimum, a warning letter is sent; if the student drops below during a second quarter, the program is terminated. The calculation of the cumulative grade point average may include, in addition to graduate courses, only the most recently completed 15 credits in courses numbered in the 300's and 400's. Courses numbered in the 100 and 200 levels will not be included in the cumulative grade average.

b. A graduate student must have a 3.0 grade point average *before* final credit is given for a thesis, creative project, specialist practicum, or a dissertation.

Academic Advisors. The Dean of the Graduate School will ask the department chairperson or school dean to appoint an advisor for each student who has been admitted to a degree program. All degree programs must be planned with and approved by the student's advisor. In addition, the program advisor has the authority, in most instances, to recommend changing the departmental program to suit the individual needs of the student. Any alterations of University requirements or of published departmental requirements must be approved by the Graduate School.

Either the student or the advisor may ask for a change in advisors, but all such requests must be presented to the major department for approval. If the request is approved, the department must appoint a replacement who must also be approved by the Dean of the Graduate School.

Course Work. The steps each student should take after he or she has been officially admitted into the Graduate School are:

1. Obtain all materials necessary for proper enrollment from the Graduate School.
2. Confer with your program advisor regarding the courses you must take to fulfill the degree requirements.
3. Register at the appropriate time and date, as stated in the *Directory of Classes* for the quarter in which you intend to begin study.
4. The normal load for graduate credit applicable to a degree is 15 hours per quarter. Up to 18 hours may be taken if the student has maintained a 3.0 or better grade point average for the previous quarter. Those students who have a grade point average below the required 3.0 are limited to the 15 hour load.
5. Under no circumstance may more than 18 credit hours of *course work* be taken in a degree or certification program during the fall, winter or spring quarters. Summer quarter

course load information is contained in the appropriate *Summer Bulletin*. The maximum number of hours includes work completed in both on-campus or off-campus programs, or a combination of the two.

6. You may register for a class for no credit simply by paying the appropriate tuition fee. The course selection form should indicate "00" in the credit hour column.

7. You may register for a night class by attending the first class meeting on a "first-come" basis. Night classes with insufficient enrollment may be cancelled.

Note: No graduate credit is given for any correspondence course, although graduate credit may be awarded for certain multi-media courses completed through the UNC Continuing Education Program. These courses must first approved by the student's major department and by the Dean of the Graduate School.

Termination of Degree Program. A student who has been admitted to a degree program (master's, educational specialist, doctoral) may have the program terminated for one or more of the following reasons:

1. The student who has at least 15 quarter hours in the program may be notified in writing by the department supervising the program that he/she is discouraged from continuing in the program.
2. The student has failed the retake of the written comprehensive examination or its approved equivalent.
3. In programs requiring an oral comprehensive examination the student fails the retake (if authorized) of the examination.
4. The student fails to maintain a 3.00 grade point average for any two quarters after being admitted to the program.
5. The student submits an unsatisfactory thesis or dissertation.

6. The time limit established for the degree program (five years for master's, six years for educational specialist, eight years for doctoral) has expired before the degree requirements are completed.

A student desiring to appeal the termination of his/her degree program should follow the procedures outlined in the *Student Handbook*.

A student whose degree program has been terminated may apply for admission to a new program. If the department of the new program accepts the student, the department may count some of the student's previous course work if the work meets the department's requirements for the degree.

Readmission of Applicants Who Have Had Programs Terminated. A student who has had a graduate degree program terminated because of a low grade average or failure to pass the comprehensive examinations may be admitted to another graduate degree program under the following provisions:

1. The student must reapply and be admitted to a particular department program.
2. The student may transfer a maximum of 9 credit hours into the new program, subject to acceptance by the new department and the Graduate School.
3. The student must complete all standard requirements of the program into which he/she has been admitted.

Graduation Procedures

Steps Applying to All Degrees

Thirty days *prior* to the start of the quarter in which a student plans to graduate a formal application for graduation must be filed at the Graduate School (obtain form at the Graduate School). It is recommended that the application be filed in person. However, if other means (mail, friends, program advi-

sor, etc.) are used to transmit the application to the Graduate School, the student must take responsibility for determining that the application *has been* filed with the Graduate School (phone graduation check section 303/351-2831). A late fee, payable at the Accounting Office, will be charged for late applications. No application will be accepted after 4 p.m. of the Friday of the second week of the quarter in which the student expects to graduate.

If the student does not complete all requirements for the degree and does not graduate at the end of the proposed quarter, the application will be placed in the deferred file. The student must give *written* notice to the Graduate School when he/she wishes to appear again on the tentative list of graduates; this must be done before the end of the second week of the quarter in which the student plans to graduate.

All students participating in the graduation ceremony are required to wear appropriate academic costume.

All graduating students are encouraged to attend graduation. Those who choose not to participate must notify the Graduate School at least two weeks *before* graduation.

The Master's Degree

Master's Programs. A student's degree program is administered by the major department or school and the Graduate School. Some variations exist in the requirements of the many programs offered, so it is essential that the student know the requirements of his or her discipline. These requirements must be satisfied as well as the University requirements. Some programs will require higher minimum credit requirement than the minimum of 45 required by the University.

Minimum Credit Requirements. During their first quarter in residence, all students should register for "Introduction to Graduate Study." The Graduate School *will not* waive the requirement that the student complete "Introduction to Graduate Study" or one of the research-oriented substitute courses approved by the Graduate Council. The following research-oriented course substitutions for "Introduction to Graduate Study" have been approved by the Graduate Council: Biological Science, BIO 694; Business, BUS 692; Chemistry, at least three hours in CHEM 599; Earth Sciences, ESCI 500; Educational Psychology, EPRE 670; Elementary Education, ELED 610; English, ENG 600; Visual Arts, ART 600; Geography,

GEOG 600; History Research component required in each History course numbered 500-600; Health and Human Services, HRS610; Health, Physical Education and Recreation, PE 602; Mathematics, MATH 510; Music, MUS 600; Sociology, SOC 660. DS or Departmental Prefix 622 shall not be used as a substitute for the research course. Altogether the student must have a minimum of 64 graduate and undergraduate credit hours in the major area, of which at least 24 must be graduate credit in the major.

Upon completion of the requirements for the degree, all students must have a minimum of 64 total quarter hours of graduate *and* undergraduate credit in the major field. If the student's baccalaureate was awarded in the major field, then a minimum of 45 quarter hours is required. Of these credit hours at least 24 *must be taken at the University of Northern Colorado*. No credit toward the degree will be given for correspondence courses.

Planning a Program It is vital that each master's degree student confer regularly with his or her advisor in planning a program of study.

In addition to any departmental or school requirements, each master's degree student must earn a minimum of 45 quarter hours of graduate credit, and at least 22 hours of this minimum *must be taken in residence in Greeley*. National and international study courses numbered 500 and above may satisfy 11 of these.

No master's degree student may count more than 12 quarter hours, individually or in combination, of approved D.S. or Departmental Prefix 622 courses; nor may he/she count more than 12 hours, individually or in combination, of course work numbered in the "X02," "X08," or "X13" categories. No graduate credit will be granted for any course taught by a faculty member who is also pursuing an advanced degree at this institution.

Students and advisors should check on current policy regarding the use of undergraduate courses or the use of double-numbered courses in graduate programs before registering for such courses.

For the specific requirements of each major department or school, refer to the section of the Bulletin outlining programs offered by the various schools and colleges of the University.

Transfer of Credit. A student may transfer a maximum of 9 quarter hours (6 semester hours) of graduate credit, providing

Summary of Steps Leading to a Degree

Procedure	Through	Time
Apply for admission	Graduate School	30 days before registration (at least 90 days before for international students)
Contact program advisor	Major Department	Before registration
Register for courses	Registration Center	Date and time specified in <i>Directory of Classes</i>
Written and/or Oral Examinations	Major Department Graduate School	Deadline specified in <i>Directory of Classes</i>
Master's thesis, Doctoral dissertation, or Specialist practicum	Major Department Graduate School	Deadline specified in <i>Directory of Classes</i>
Dissertation defense	Major Department Graduate School	Deadline specified in <i>Directory of Classes</i>
Apply for graduation	Graduate School	30 days <i>before</i> quarter of graduation

that "A's" or "B's" were recorded for them and that the hours come from an accredited institution that offers master's degrees. No transfer credit will be accepted that was completed more than five years *before* the student *completes* his or her degree. Furthermore, any transfer credit must be compatible with the student's major and cannot be used to meet any residence requirement.

To ask for a transfer of credit the student must obtain a "Request to Transfer Credit to a Degree Program" form from the Graduate School. The completed form must be approved by the Assistant Dean of the Graduate School *before* seeking approval of the program advisor. It is recommended that the completed form and official transcript listing the courses be returned to the Graduate School in person. However, if other means (mail, friends, major advisor, etc.) are used to transmit the form to the Graduate School, the student must take responsibility for determining that the application *has been* filed with the Graduate School. No transfer form will be accepted after 4 p.m. of the second Friday of the quarter in which the student plans to graduate.

Transferred credit cannot be used to make up "D" or "F" grades received in required courses.

Residence. Resident credit is credit earned under the conditions specified here and may be applied toward the attainment of graduate degrees at the University of Northern Colorado. The following conditions must be satisfied regardless of the location in which the course is given.

1. Instruction: The instructor must be a member of the Graduate Faculty of UNC or of the "Graduate Lecturer Faculty" for a particular course under Graduate Council policy.

2. Course(s): The content of each course must be approved by regularly established college and university curricular pro-

cesses before the course is scheduled or offered. Unless the student is registered for at least six additional hours of classes taken on campus, the student cannot count D.S. or Departmental Prefix courses 601, 622, 691, or 699 to satisfy the residence requirement. All residence requirements must be completed after the student has been admitted to the master's program.

Comprehensive Examinations. Each master's degree student must pass a written comprehensive examination or otherwise show competency in the major field by a departmentally approved equivalent. Each student should find out departmental requirements at the beginning of the program.

This examination or its approved equivalent may not be taken until the student has completed at least 30 quarter hours with a grade average of at least 3.00 and has obtained approval from both the program advisor and the Graduate School.

To take this examination or its approved equivalent the student must obtain from the Graduate School a "Permit to Take Written Comprehensive Examination or Otherwise Demonstrate Competency." The permit will be valid *only* for the quarter for which it is issued. This permit must be received in the Graduate School *before* the examination or its equivalent is given to the student. All permits for a quarter must be received by the Graduate School no later than 4 p.m. on the second Friday of the quarter in which the examination is to be taken.

The major department is responsible for scheduling the date, time, and place of the examination. Each student should refer to his/her department for this information.

If the student passes the examination or its equivalent, the report form confirming this *must* be signed and returned to the Graduate School by the advisor or department chairperson at least 17 days before the end of the quarter. The report confirm-

Summary of the Major Steps Required to Complete the Master's Degree

Procedure	Approved By	Time
Apply for admission	Graduate Dean Department Chairperson	At least six weeks prior to registration (3 or 4 months prior to registration for international students; use international student application)
Study general policies governing degree program and appropriate master's degree section of this Bulletin		Before registration
Meet with program advisor assigned by department chair for assistance in planning course of study	Program Advisor	Before first quarter registration
Apply for comprehensive examination	Program Advisor Graduate School	After student has at least 30 hours in program, a 3.00 G.P.A., and prior to start of quarter student plans upon taking examination
If thesis is required	Graduate Dean	Submit to Graduate School 17 days before the end of the quarter one original and three xerox copies
Apply for graduation	Graduate Dean	See deadline in <i>Directory of Classes</i>
Apply for cap and gown		Beginning of quarter in which student expect to graduate (UNC Bookstore)

ing competency in the approved equivalent must be signed by all members of the committee evaluating the competency.

If the student fails the examination or its equivalent, the report form confirming this must be signed in the same manner and returned to the Graduate School. The student may retake the examination or its equivalent, but he or she must wait until the following quarter and obtain a second permit to do so. If the student fails the retake of the examination or its equivalent, his or her degree program will be terminated.

Time Limit. The maximum time allowed for completion of the master's degree is five calendar years from the beginning of the student's first quarter. If the student does not complete all requirements by the end of the time limit, the student's program will be terminated.

Double Major. Any master's degree student may declare a double major with the approval of *both* concerned departments. The student must complete all requirements and pass the written comprehensive examinations (or their approved equivalents) of both departments.

Master's Thesis. Some departments require all master's degree candidates to write a thesis. Theses are optional in all other programs. Students should check with their major department concerning requirements. University requirements are outlined in the "Thesis and Dissertation Manual." A minimum of 8 and a maximum of 15 quarter hours of credit are granted for the master's thesis.

One original copy and three Xerox copies of the thesis must be submitted to the Graduate School at least 17 days before the end of the quarter in which the student wishes to graduate.

The student must also provide an abstract (150 words) with each copy of the thesis. An extra copy of the abstract will be retained in the Graduate School.

After being signed and bound, the original and one copy of the thesis become the property of the University, one copy is sent to the student, and one copy is given to the student's research advisor. A charge is made for microfilming, binding, and mailing.



The Educational Specialist Degree

Educational Specialist Program. The Specialist in Education degree is offered in the areas of Educational Administration, School Psychology, Reading, and Interdisciplinary Pro-

grams. A student's degree program is administered by the major department or school and the Graduate School. Some variations exist in the requirements of the programs offered, so it is essential that the student know the requirements of his or her discipline. These requirements as well as the University requirements must be satisfied. Some programs will have a higher minimum credit requirement than the minimums required by the University.

The Educational Administration, School Psychology and Reading courses of study are partially or fully prescribed to satisfy certification requirements. The requirements for the Interdisciplinary Program are not prescribed and the applicant must consult the Graduate School.

Minimum Credit Requirements. Those students entering a specialist program who possess the master's degree must earn a minimum of 45 quarter hours of graduate credit. Those entering who possess only a baccalaureate degree must earn a minimum of 90 quarter hours of graduate credit. At least 24 quarter hours of these minimums must be in courses numbered 500 and above.

Planning a Program. With the assistance of the department chairperson, the student shall select a program advisor and establish a supervising committee. It is vital that each specialist student confer regularly with his or her supervising committee regarding the planning of a Educational Specialist Program.

During the student's first quarter, the student should enroll in "Introduction to Doctoral Research" or an approved substitute. The Graduate School will not waive this required course or the approved substitute.

No later than the student's second quarter, he/she must develop a long-range plan of study with the committee. One copy of this plan will be placed in the student's folder at the Graduate School, one copy will be given to the advisor, and one copy to the other member(s) of the committee.

The specialist student must also enroll in a specialist degree practicum (see "Practicum" in this Bulletin).

Students and advisors should check on the current policy regarding the use of undergraduate courses or the use of doublenumbered courses in graduate programs before registering for such courses.

Graduate credit will not be given for any correspondence courses. In addition, no specialist student in a 45 quarter hour program may count more than 12 quarter hours (18 quarter hours if the student is in a 90 quarter hour program), individually or in combination, of courses numbered in the "X02," "X08," "X13," or D.S. or Departmental Prefix 622 categories. No credit will be granted if any course taken is taught by a faculty member who is also pursuing an advanced degree at this institution.

Specialist students should make every effort to study with members of the Graduate Faculty or at least with faculty members who possess an earned doctorate. Specific exceptions to this policy may be made by the supervising committee with the approval of the Dean of the Graduate School.

Continuation in the Program. At the end of the specialist student's first quarter in residence, the specialist department will notify the student and the Graduate Council in writing that the student is (1) encouraged to continue in the specialist program, or (2) discouraged from continuing in the specialist program. Multiple criteria will be used to determine the department's recommendation, such as a faculty interview, recommendations of the major advisor and other departmental faculty, academic ethics, and grade averages. Any one factor may outweigh all others.

Comprehensive Examinations. Each specialist student must pass a written comprehensive examination in the area of

specialization and on the Specialist Degree Practicum, as well as pass any other examinations the supervising committee may require.

The comprehensive written examination or its approved equivalent may not be taken until the student has completed at least 30 quarter hours (not including the practicum) with a grade average of at least 3.00, and has obtained approval from both the major advisor and the Graduate School. Students with only the baccalaureate degree must have completed 75 quarter hours.

To take this examination or its equivalent the student must obtain a "Permit to Take Written Comprehensive Examination or Otherwise Demonstrate Competency" from the Graduate School. The permit will be valid only for the quarter for which it is issued. This permit must be returned to the Graduate School *before* the examination or its equivalent, no later than 4 p.m. on the second Friday of the quarter in which the examination is to be taken.

The department supervising the degree program is responsible for scheduling the date, time, and location of the examination. Each student should refer to his/her department for this information.

If the student passes the examination or equivalent, the report form confirming this *must* be signed and returned to the Graduate School by the program advisor or department chairperson at least 17 days before the end of the quarter.

If the student fails the examination or its equivalent, the report form confirming this must be signed in the same manner and returned to the Graduate School. The student may retake the examination or its equivalent, but he/she must wait until the following quarter and obtain a second permit.

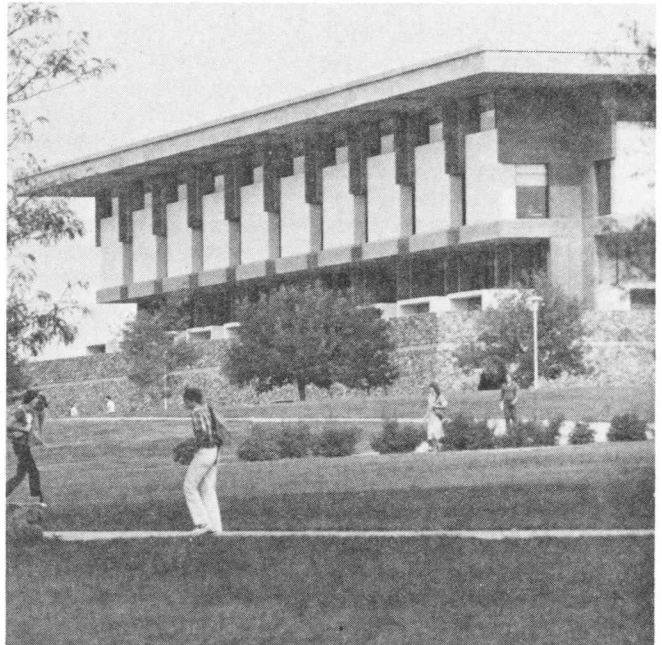
If the student fails the retake of the examination or its equivalent, his or her degree program will be terminated. If the student enrolls in a different program after his or her program has been terminated, the student will be allowed only *one* opportunity to pass the new program's examination or approved equivalent.

Practicum. A Specialist Degree Practicum (D.S. or Departmental Prefix 701) is required of each specialist student. The Graduate Council has authorized a specific substitution for the Specialist Practicum in School Psychology. Students in School Psychology will register for PSY 789, Internship for School Psychology, 16 quarter hours.



To accomplish this practicum the student must present to the supervising committee a proposal. If the committee agrees to it, three copies of the proposal are signed by the members and recorded in the Graduate School. The proposal must also be accompanied by a signed non-plagiarism affirmation form. One copy of the proposal will be kept in the Graduate School, one copy will be given to the program advisor, and the final copy(ies) will be given to the committee member(s). The proposal must be submitted to the Graduate School no later than the last day of the quarter *before* the quarter in which the student expects to graduate.

The supervising committee will oversee both the practicum and the written report. The report must also be filed in the Graduate School.



Transfer of Credit. A specialist student may transfer a maximum of nine quarter hours of graduate credit, providing that "A's" or "B's" were recorded for them and that they come from an accredited institution that offers specialist and doctoral degrees. No transfer credit will be accepted that was completed more than six years *before* the student completes his or her degree. Furthermore, any transfer credit must be compatible with the student's area of specialization and cannot be used to meet any residence requirements.

To ask for a transfer of credit the student must obtain a "Request to Transfer Credit to a Degree Program" form from the Graduate School. The completed form must be approved by the Assistant Dean of the Graduate School *before* seeking approval of the major advisor. It is recommended that the completed form and an official transcript listing the courses be returned to the Graduate School in person. However, if other means (mail, friends, major advisor, etc.) are used to transmit the form to the Graduate School, the student must take responsibility for determining that the application *has been* filed with the Graduate School. *No transfer form will be accepted after 4 p.m. of the second Friday of the quarter in which the student plans to graduate.*

Graduate credit is not transferable if it was earned in off-campus courses or in "extension" courses unless it is acceptable to the major department *and* the Graduate School.

Transferred credit cannot be used to make up "D" or "F" grades received in required courses.

Residence. Resident credit is credit earned under the conditions specified herein and may be applied toward the attainment of graduate degrees at the University of Northern Colorado. The following conditions must be satisfied regardless of the location in which the course is given.

1. Instruction: The instructor must be a member of the Graduate Faculty of UNC or of the "Graduate Lecturer Faculty" for a particular course under Graduate Council policy.

2. Course(s): The content of each course must be approved by regularly established college and University curricular processes before the course is scheduled or offered.

All residence requirements must be completed after the student has been admitted to the Specialist program.

Time Limit. The maximum time allowed for completion of the specialist degree is six calendar years from the beginning of the student's first quarter. If the student does not complete all requirements before this time limit, the student's program will be terminated.

The Doctoral Degree

Doctoral Programs. Doctoral degrees are offered by many departments or schools at this University. A student's degree program is administered by the major department or school and the Graduate School. Variations exist in the requirements of many programs offered, so it is essential that the student know the requirements of his/her discipline. These requirements must be satisfied as well as University requirements.

Some programs will have a higher minimum credit requirement than the minimums required by the University.

Minimum Credit Hours. Those students entering a doctoral program who possess the master's degree must earn a minimum of 96 quarter hours of graduate credit. This includes 72 quarter hours of course work, six quarter hours of proposal research and 18 quarter hours of dissertation credit. Those students who possess only a baccalaureate degree must earn a minimum of 141 quarter hours of graduate credit. This includes 117 quarter hours of course work, six quarter hours of proposal research and 18 hours of dissertation credit.

Planning a Program. It is vital that each doctoral degree student confer regularly with his or her program advisor to plan a program of study.

During the student's first quarter, the he/she should enroll in "Introduction to Doctoral Research" or an approved substitute. The Graduate School will not waive this required course or approved substitute.

The following research-oriented course substitutions which have been approved by the Graduate Council may be made in lieu of Introduction to Doctoral Research: Biology, BIO 694; Chemistry, CHEM 599; Elementary Education, EPRE 603; EIE: Early Childhood and Reading, EPRE 603, EPRE 701, EPRE 702, and EDEL 710 & 711; English, ENG 600; Geography, GEOG 600; History, Research component required in each History course number 500 & 600; Mathematics, MATH 510; Mathematics Education, MED 672; Music and Music Education, MUS 700; Physical Education, PE 703; Applied

Summary of the Major Steps Required to Complete the Educational Specialist Degree

Procedure	Approved By	Time
Apply for admission	Graduate Dean Department Chairperson	At least six weeks prior to registration (3 or 4 months prior to registration for international students. Use international student application)
Study general policies governing degree program and appropriate specialist degree section of this Bulletin		Before registration
Meet with program advisor assigned by department chairperson for assistance in planning course of study and selection of supervising committee.	Program Advisor Supervising Committee	Before first quarter registration
Plan Ed.S. Practicum Research Report	Program Advisor Graduate Dean	Well in advance of expected graduation date
Apply for comprehensive examination	Program Advisor Supervising Committee Graduate School	After student has at least 30 hours in program, a 3.00 G.P.A., and prior to start of quarter student plans upon taking examination
Submit original and three xerox copies of Practicum to Graduate School	Program Advisor Supervising Committee Graduate School	No later than 17 days before the end of the quarter in which the student plans to graduate
Apply for graduation	Graduate Dean	See deadline in <i>Directory of Classes</i>
Apply for cap and gown		Beginning of quarter in which student plans to graduate (UNC Bookstore)

Statistics, STAT 715. DS or Departmental Prefix 622 shall not be used as a substitute for the research course.

No later than the second quarter, the student must develop a long-range Plan of Study. The Plan of Study must be approved by a faculty committee of at least three members appointed and approved by the major department. In addition, students who have a supporting area must obtain the approval of the supporting area department. One Plan of Study will be placed in the student's folder at the Graduate School, one copy will remain with the program advisor, and one copy will be sent to any supporting area or minor.

Graduate credit will *not* be given for any correspondence courses. In addition, no doctoral student may count more than 12 quarter hours, individually or in combination, of approved D.S. or Departmental Prefix 622 courses; nor may he/she count more than 12 quarter hours, individually or in combination, of course work numbered in the "X02," "X08," or "X13" categories. No credit will be granted for any course taught by a faculty member who is also pursuing an advanced degree at this institution.

Students and advisors should check on current policy regarding the use of undergraduate courses or the use of double-numbered courses in graduate programs before registering for such courses.

For specific requirements of each major department or school, refer to the section "Doctoral Degree Programs of Study" in this Bulletin.



Appointment of Committees. Each doctoral student will have two committees: (1) an Oral Comprehensive Examination Committee, and (2) a Research Committee. Each committee will include at least three members of the Graduate Faculty who have been recommended by the program advisor, approved by the major department chairperson, and appointed by the Dean of the Graduate School. In addition, the Dean of the Graduate School, or his/her designee, will appoint a faculty representative from another department. This representative must be present at all of the student's doctoral oral examinations and dissertation defenses. No faculty member will be appointed to a doctoral committee without his/her consent to the appointment.

The student, the advisor or a committee member may ask for a change in committee membership by presenting the

request to the major department. Except in the case of faculty representative membership, the department will decide the question. If agreed to, the department will appoint a replacement. This replacement must also be approved by the Dean of the Graduate School.

If a committee member other than the faculty representative is absent during the quarter in which one of the examinations or defenses is to be held, the major department will recommend a replacement. The department chairperson and the Graduate Dean must also approve this replacement.

Research Tools. All Ph.D. students and all D.A. students in History must show competency in two acceptable research tools for their degrees. These tools include Foreign Languages, Applied Statistics, Mathematical Statistics, Computer Information Processing, and an acceptable collateral field.

All Ed.D. students in English must show competency in one foreign language. Doctor of Arts students in Geography must show competency in one acceptable research tool.

In all these cases, the doctoral student may use a collateral field of study as a substitute for one of the research tools if the major department has approved.

Transfer of Credit. A doctoral student may transfer a maximum of 12 quarter hours of graduate credit, providing that "A's" or "B's" were recorded for them and that they come from an accredited institution that offers doctoral programs. No transfer credit will be accepted that was completed more than eight years *before* the student completes his/her degree. Furthermore, any transfer credit must be compatible with the student's major and cannot be used to meet any residence requirement.

In some cases, additional transfer credit may be accepted by the student's Oral Comprehensive Examination Committee after the student has passed both the written and oral examinations. The student may ask for a transfer of up to 35 quarter hours, including the original 12. A request for transfer of more than the original 12 quarter hours must have the approval of the entire committee.

To ask for a transfer of credit, the student must obtain a "Request to Transfer Credit to a Degree Program" form from the Graduate School. The completed form must be approved by the Assistant Dean of the Graduate School *before* seeking approval of the program advisor. It is recommended that the completed form and official transcript listing the courses be returned to the Graduate School in person. However, if other means (mail, friends, program advisor, etc.) are used to transmit the form to the Graduate School, the student must take responsibility for determining that the application *has been* filed with the Graduate School. No transfer form will be accepted after 4 p.m. of the second Friday of the quarter in which the student plans to graduate.

Graduate credit is not transferrable if it was earned in off-campus or "extension" courses, unless it is acceptable to the major department *and* to the Graduate School.

Transferred credit cannot be used to make up "D" or "F" grades received in required courses.

Residence. Resident credit is credit that is earned under the conditions specified here and may be applied toward the attainment of graduate degrees at the University of Northern Colorado. The following conditions must be satisfied regardless of the location in which the course is given.

1. The applicant must complete a minimum of any two quarters as a full-time student (10 quarter hours) registered for resident credit offered on-campus at UNC and applicable to the doctoral degree. Some departments may have more stringent residence requirements.

2. Instruction: The instructor must be a member of the Graduate Faculty of UNC or of the "Graduate Lecturer

Faculty" for a particular course under Graduate Council policy.

3. Course(s): The content of each course must be approved by regularly established college and university curricular processes before the course is scheduled or offered.

All residence requirements must be completed after the student has been admitted to the doctoral degree program.

NOTE: Unless the doctoral student is registered for at least six additional hours of classes taken on campus in Greeley, he/she shall *not* count DS or Departmental Prefix courses 601, 622, 701, and 797 to satisfy the residence requirements.

Departmental prefix or DS 799 may not be used under any circumstances to meet the residence requirement.

Continuation in the Program. At the end of the doctoral student's first quarter in residence the major department will notify the student in writing that the student is (1) encouraged to continue in the program, (2) discouraged from continuing in the program, or (3) placed on review for one quarter.

Multiple criteria will be used to determine the department's recommendation, such as Graduate Record Examination scores, faculty interviews, recommendations of the major advisor and other departmental faculty, academic ethics and grade averages. Any one factor may outweigh all others.

At the end of the student's second quarter in residence, the major department will submit a recommendation to the Graduate School that the student be allowed to continue in the program or that the student's program be terminated.

Written Comprehensive Examination. Each doctoral student must pass a written comprehensive examination for the degree. This examination cannot be taken until the student has completed at least 48 quarter hours of work beyond the master's degree (81 if the student possesses only the baccalaureate degree) of which at least 36 must have been completed in Greeley with a grade average of at least 3.0. The student must also have received two letters of encouragement from the major department and a Graduate School encouragement letter to continue in the doctoral program.

To take this examination, the student must obtain a "Permit to Take Written Comprehensive Examination or Otherwise Demonstrate Competency" from the Graduate School. The permit will be valid only for the quarter for which it was issued. This permit must be returned to the Graduate School *before* the examination is given to the student. All permits for a quarter should be forwarded to the Graduate School no later than 4 p.m. on the second Friday of the quarter in which the examination is to be taken.

The examination will be designed, administered, and evaluated by the Graduate Faculty of the major department and by any other qualified individuals the major advisor wishes to include. Any supporting area or minor examinations will be given when the supporting area or minor department chooses.

If the student passes the examination, the report form confirming this *must* be signed and returned to the Graduate School by the program advisor or department chairperson at least 17 days before the end of the quarter.

If the student fails the examination, the report form confirming this must be signed and returned to the Graduate School. The student may retake the examination, but he or she must wait until the following quarter and obtain a second permit to do so. If the student fails the retake of the examination, then his or her degree program will be terminated.

When the student has passed the written comprehensive examination, copies of the examination must be made available to all members of the Oral Comprehensive Examination Committee *before* the oral examination and, finally, be filed in the Graduate School.

Oral Comprehensive Examination. Once the student has passed the written comprehensive examination, he/she must pass the oral comprehensive examination.

The members of the Oral Comprehensive Committee *must be appointed no later than the end of the quarter before the quarter in which the examination is to be taken.*

After the formation of this committee, the program advisor who will serve as chairperson of the committee, should direct the student to arrange the date, time, and place of the oral examination. After all arrangements have been made the program advisor will notify the Graduate School by forwarding the completed form "Request to Schedule Doctoral Examinations" to the Graduate School. The Graduate School will publicize the examination date, time, and place in the *University Bulletin* (or a *Graduate School Bulletin*). All members of the faculty will be invited to attend and may ask questions of the student after the committee members finish. Other graduate students may also attend with permission from the chairperson of the committee.

The student's performance at the examination will be evaluated according to one of the following four categories: (1) Pass; (2) Will pass if meets stated conditions; (3) Unsatisfactory, retake permitted; or (4) Retake not permitted — Fail, program terminated. At least three-fourths of the committee members must agree in the evaluation.

If the student passes the examination, the program advisor must obtain the signatures of at least three-fourths of the members on the "Report of the Oral Comprehensive Examination" and return it to the Graduate School.

If the student is evaluated "Will pass if meets stated conditions" the report must be signed and returned to the Graduate School and the student must subsequently meet the conditions outlined before he or she will be admitted to candidacy. Three-fourths of the committee must later affirm that the conditions have been met.

If the student's performance was unsatisfactory, the report must be signed and returned to the Graduate School and the student may retake the examination but must wait until the following quarter to do so. Failure to pass the oral retest will terminate the student's degree program.

If the student failed the examination with no retake permitted, the report must be signed and returned to the Graduate School and the student will have eliminated any possibility of further work or examinations.

Dissertation Proposal and the Dissertation. The dissertation is required for all doctoral programs. The dissertation shall pertain to a topic in the candidate's major subject field and must demonstrate the ability and imagination for both independent thinking and presenting results in coherent form. While working on the proposal, the student is required to enroll in D.S. or Departmental Prefix 797 (Doctoral Proposal Research). Although the student may register for 1-6 hours of proposal research in any quarter, he/she must earn six hours of credit for dissertation proposal research *prior* to submission of the dissertation proposal.

No doctoral student may register for dissertation hours until he/she has been admitted to candidacy for a doctoral degree.

The dissertation proposal and the dissertation shall be under the supervision of the research advisor and the research committee. The dissertation proposal must bear the signatures of *all* committee members. The official document explaining the required process which ensues when only one committee member will not sign the proposal is available in the Graduate School. The student must provide a sufficient number of copies of the proposal to provide one copy for the Graduate School and a copy for each of his/her committee members. One copy of the proposal must be filed in the Graduate School no later than the last day of the quarter preceding the quarter in which the student graduates. The proposal will not be recorded as accepted in the Graduate School until the signed non-plagiarism affirmation form is on file in the Graduate School.

Specific suggestions and requirements for the proposal and the dissertation can be found in the document "Thesis and Dissertation Manual" on sale at the UNC Bookstore.

Admission to Candidacy. Once the student has passed the oral comprehensive examination and has the dissertation proposal accepted by the Graduate School, the student's name will be submitted to the Graduate Council for admission to candidacy.

To be admitted to candidacy for a doctoral degree each student must have satisfied the following requirements.

1. The student must have earned at least 55 hours of credit beyond the master's degree (100 hours if the student has only the baccalaureate degree), with a grade average of 3.0 or better.

2. The student must have passed the written and oral comprehensive examinations satisfactorily.

3. The student must have presented an approved dissertation proposal that contains the signatures of *all* committee members.

4. The student must have met the research tools requirement in those programs requiring such competency. If the student is substituting a collateral field for a research tool, the student may be admitted before completing the field's requirements.

No student will be graduated at the end of the quarter in which he or she is admitted to candidacy.

Continuous Registration. Beginning with the quarter in which a student requests the appointment of a research committee, the doctoral student is expected to be continuously enrolled until all degree requirements are completed or until the degree program is terminated.

The continuous enrollment includes the summer session. The continuous enrollment requirement may be met with enrollment in one or more hours of course work or by paying a doctoral service fee.

If a doctoral student elects to pay the doctoral service fee for one or more quarters, he/she must notify the Graduate School during the quarter before of his/her intent not to enroll for a given quarter, and must pay the doctoral service fee during the regular fee payment period.

Any doctoral student who fails to be continuously enrolled or to pay the doctoral service fee will be subject to having his or her doctoral program suspended. Such suspension will involve revocation of candidacy; dissolution of the doctoral research committee, if applicable; and denial of usage of University resources, services, and facilities.

Program reinstatement requires permission of the department chairperson, appointment of an appropriate research committee, and approval by the Dean of the Graduate School. Availability of sufficient current resources will be the criterion for approving program reinstatement.

Reinstatement to candidacy shall, in addition to program reinstatement, require approval of an acceptable dissertation proposal by the new research committee.

Upon reinstatement, the student shall be continuously enrolled or pay the doctoral service fee until all degree requirements are satisfied or until his/her program is terminated.

Dissertation Defense. When the research advisor believes the dissertation is ready for the student to defend, the following steps will be taken.

1. Each doctoral student must submit a copy of his or her dissertation in acceptable form to the Graduate School and to each member of the research committee at least *two weeks* before the defense so that it may be evaluated.

2. The doctoral student must arrange for the date, time, and place of the defense with the research committee.

3. The research advisor, who will serve as chairperson of the committee, must notify the Graduate School at least two

weeks prior to the scheduled defense. The defense must occur at least three weeks before graduation.

4. The Graduate School will announce the defense in the *Faculty Bulletin* (or a *Graduate School Bulletin*).

All members of the faculty will be invited to attend and may ask questions of the student after the committee members finish. Other graduate students may also attend with permission from the committee chairperson.

If the student passes the defense, the dissertation may be filed in the Graduate School if it has the signatures of all except one of the committee members. If a dissertation is filed without *all* committee signatures however, the Dean of the Graduate School (or his/her designee) will ask the non-signing member if he/she wishes to enter any formal objection. The official document explaining formal objection procedures is available in the Graduate School.

If the student fails the defense, the dissertation remains unsigned until the following quarter when the student is allowed to retake the defense. If the student fails the retake, then his or her degree program will be terminated.

Filing the Dissertation. After completing a dissertation and passing the dissertation defense, each doctoral student must file *four* copies of the corrected and approved dissertation and a 350-word abstract in the Graduate School at least seven-teen days before graduation. University Microfilms will not publish the abstract if the number of words exceeds 350.

The student must pay for the publication of the dissertation. The dissertation is microfilmed, and the abstract is published in *Dissertation Abstracts*. For the purposes of publication, the student must provide the Graduate School with two extra copies of the abstract.

The student must also pay for binding and mailing the dissertation. At least four copies of the dissertation, including the abstract, must be bound. After binding, the original and one copy will be filed in the University Library, one copy will be delivered to the student's research advisor, and one copy will be sent to the student.

Time Limit. The maximum time allowed for completion of the doctoral degree is eight calendar years from the beginning of the student's first quarter.

If a student who has *completed* a Specialist in Education degree is admitted to a doctoral program, the student will have a maximum of *five* years to earn the doctoral degree.

If the student does not complete all requirements before the time limit, the student's program will be terminated.

Post Doctoral Programs.

Programs of research and advanced study for persons holding an earned Doctor of Arts, Doctor of Education, Doctor of Music Education, or Doctor of Philosophy degrees are available in selected areas. Admission is on an individual basis. The specific research project or program of studies pursued is planned by the post-doctoral student in conference with a faculty committee appointed to advise him/her and to assess his/her progress at the end of the program. Work on the post-doctoral level may be taken in areas such as administration, college student personnel administration, educational psychology, counseling psychology, elementary education, special education, statistics, and other disciplines. Information on admission procedures is available in the Graduate School.

Summary of the Major Steps to Complete the Doctoral Degree

Procedure	Approved By	Time
Apply for admission	Graduate Dean Department Chairperson	At least six weeks prior to registration check any special requirements of major department (3-4 months for international students: use international student application)
Study the general policies governing degree programs and appropriate doctoral degree section of this Bulletin		Before registration
Meet with Program Advisor assigned by department chair to plan course of study	Program Advisor Graduate Dean	Before first quarter registration
Transfer credit from other universities	Assistant Dean Program Advisor	Prior to last quarter in program
File Plan of Study	Departmental Committee (at least 3 members)	During second quarter
Request <i>Oral Examination</i> Committee	Major Department Graduate School	Prior to Written Comprehensive Examination
Secure Permit to Take Written Comprehensive Examination	Program Advisor	Minimum of 48 quarter hours in program, 2 letters from department recommending continuation in program, GPA 3.0, and Oral Examination Committee appointed
Arrange Oral Comprehensive Examination	Program Advisor	Written Comprehensive Examination passed; 2 weeks prior to Oral Examination
Request <i>Research</i> Committee	Major Department Graduate School	<i>After</i> Written and Oral Comprehensive Examinations passed
Submit Proposal for Dissertation	Research Committee Graduate Dean	At least one quarter before graduation
Admission to candidacy	Dean of Graduate School Graduate Council	After successful completion of Written/Oral Examinations, Dissertation Proposal accepted and at least one quarter before graduation
Apply for graduation	Program Advisor Dean of Graduate School	No later than 30 days prior to the start of quarter in which student plans to graduate
Defense of Dissertation	Research Committee Dean of Graduate School	Two weeks prior to scheduling of defense
Submit original and three Xerox copies of final Dissertation	Research Committee Dean of Graduate School	No later than 17 days before end of quarter
Arrange for cap, gown and hood		Beginning of quarter in which student plans to graduate (UNC Bookstore)

5 University Tuition, Fees and Other Charges

All rates quoted in this Bulletin are approved by the Board of Trustees and established in accordance with the appropriation policy of the Colorado General Assembly. Consequently, these rates are subject to change by action of the Board of Trustees or in response to actions by agencies of the State.

Updated information about tuition and fees is available from the Dean of Students office at the University Center, (351-2796) or from the Accounts Receivable office in Carter Hall, (351-2201).

It must be understood that the individual student is responsible for the payment of charges he or she incurs. The University is not responsible for making payment arrangements with parents, guardians, the embassies of foreign governments, or other third parties.

The following estimated rates apply to all students as of Fall Quarter, 1983.

1983-84 In-State Student Tuition

(Colorado resident status)
Per Academic Quarter

Credits Taken	Under-graduate	Graduate
5 credit hours or less, tuition & fees per credit hour	\$ 16	\$ 17
6-9 credit hours, credit hour tuition per credit hour (for course loads above 5 hours, fees are charged separately from tuition)	31	33
10-18 credit hours (full-time enrollment), total tuition	309	326 (a)
Surcharge per credit hour for credits above 18 hours (full-time student)	21	22

1983-84 Out-of-State Student Tuition

(Not Qualified for Resident Student Status)
Per Academic Quarter

Credits Taken	Under-graduate	Graduate
9 credit hours or less, tuition	\$ 132	\$ 138
10-18 credit hours (full-time enrollment), total tuition	1,317	1,383 (a)
Surcharge per credit hour for credits above 18 hours (full-time student)	88	92

Students auditing a course (i.e. taking it for no credit) are required to pay the same tuition and fees required when the course is taken for credit.

General Fees Per Academic Quarter (See Note b)

Note: Student fees for in-state and out-of-state students are same (b)

Student fees per credit hour for students enrolled in 9 hours or less

\$8 per credit hour above 5

Student fees for students enrolled in 10 or more credit hours:

Student service fees	\$77 total
Health insurance fee (c)	\$49.80 total
Total fees for students enrolled in 10 or more credit hours	\$126.80 total
Optional CoPIRG fee (d)	\$2

(a) As indicated in the policies of the Graduate School, a doctoral student is required to register for 18 dissertation credit hours. Each doctoral student should check with the Dean of the Graduate School before registration each quarter to assure that he or she registers for doctoral dissertation hours in the most advantageous manner. Since the full-time tuition charge allows a student to register for 10-18 credit hours in an academic quarter, it is possible to spread dissertation hours over academic quarters in which a student enrolls in classes which generate fewer than 18 hours. Students who have not enrolled for the required number of dissertation hours will be charged for them at the time of graduation.

(b) General University fees, student fees and health service fees are committed to support essential student activities and programs, the Student Health Center, and the Student Representative Council. Every student must pay these fees each quarter, whether or not he or she makes use of the privileges and activities underwritten by the fee. However, student service fees for full-time students enrolled in the Summer Quarter may be set at a rate lower than that charged during the regular academic year.

(c) It is University policy that students who register for 10 academic hours during the regular academic year (Fall, Winter and Spring Quarters) must have health insurance. Students currently enrolled in an acceptable health and accident insurance program may request a waiver of the UNC student health insurance plan. Student insurance policy enrollment and waiver forms may be obtained from the Student Health Center, Decker Hall. The University does not require students registered for Summer Quarter only to purchase the University's student health insurance or demonstrate possession of an acceptable insurance plan in lieu of that offered by the University. However, any student who enrolls in the University's health insurance while also registered for 10 or more academic hours during Spring Quarter is automatically covered by that insurance if he or she also registers during Summer Quarter; in that case, no additional premium is required.

(d) The CoPIRG fee may be waived in writing by the student at the time of registration.

Resident and Non-Resident Classification for Tuition Assessment

Students who are residents of Colorado are permitted to enroll in the University at a significantly lower tuition. This is because the University is primarily supported by the taxpayers of Colorado rather than by student tuition and fees. The determination of a student's residency status is provided for under State Law Title 23, Article 7, Colorado Revised Statutes 1973 as amended.

Administrative procedures determine a student's residency status before or at the time of registration. After the student has registered, if he or she feels that the residency classification is incorrect an appeal may be made during the first five days of classes. This appeal should be directed to and appropriate information obtained from the Registrar's Office (Carter Hall, 351-2231).

A residency status appeal requires the student to complete a detailed form which is available in the Registrar's Office. This form and other relevant information will be reviewed by the University Committee On Residence Status in light of State law and authorized procedures. The determination by the committee is final.

Tuition for courses offered through Continuing Education are assessed separately from on-campus tuition and fees on a schedule mandated by the Colorado Commission on Higher Education. Information on new changes are available from the Continuing Education office, Frasier Hall 11, phone 351-2944.

Room and Board

The University operates a number of residence halls with occupancy units designed for 2 and 4 students, plus dining halls with 2 separate meal plans. The rates for these are outlined below:

Note that any residence hall room designed for 2 persons can be rented as a single unit for an additional charge of \$131 per academic quarter, if space is available.

Room and Board Alternatives Quarterly rates per student

Harrison Hall

Occupancy in 2-student room plus full meal plan (20 meals per week)	\$840
Optional meal plan (15 meals per week)	786

Sabin, Snyder, Tobey-Kendel, Wiebking and Wilson Halls

Occupancy in 2-student room plus full meal plan (20 meals per week)	825
Optional meal plan (15 meals per week)	771

Apartment-style Residence Halls, no meals provided

Turner Hall

4-person apartment	403
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Lawrenson Hall

2-person efficiency apartment	415
4-person apartment	436

Note: Students living in Lawrenson Hall or Turner Hall may purchase either of the University's meal plans on a quarterly contract basis for an additional charge of \$469 per quarter for the 20-meal per week plan or \$415 per quarter for the optional 15-meal per week plan. Students living off-campus may purchase the 20-meal per week plan for \$521 per quarter or the 15-meal per week plan for \$461 per quarter.

Family Facilities. Student family apartments with two bedrooms are located on East Campus and are leased on a 12-month contract including furnishings and utilities for \$242 per month.

Additional family facilities including furnishings and utilities are available in Lawrenson Hall during the Summer Quarter only. These are limited to family units consisting of four people including the student. The cost is \$598 per family unit for the eight-week summer quarter.

Incidental Fees

In addition to general tuition and fees, and room and board rates for students who choose to purchase those services, a number of incidental fees have been established by the Board of Trustees. These are identified in this section.

—Application fee, a non-refundable charge, pays for transcript evaluation for students enrolling in the graduate and undergraduate programs, \$15

—Music Instruction fee provides individual music lessons for non-music majors, \$7.50 per quarter credit hour of instruction.

—Placement Center fee is used to develop and maintain supporting files for students and graduates seeking new employment opportunities. The placement year begins September 1 and ends August 31.

—Initial enrollment, \$20.

—Re-enrollment, \$25

—Alumni enrollment, \$25.

—Fee to mail copies of placement credentials without re-enrollment, \$2 per copy

—Official academic transcript, \$2 per copy

—Optional Summer Quarter health insurance is available during the first week of the quarter for those students not enrolled full-time for the previous Spring Quarter, and not

covered by their own health insurance policies, \$55.30

—Special program fees for certain laboratory courses and for activities such as bowling, skiing, golf, and field trips, at cost approved by the Board of Trustees.

—Special tests provided by the UNC Counseling and Career Center, at cost in accordance with normal practice.

—Fee to publish the abstract of a doctoral dissertation, assessed at the time the dissertation is accepted, \$40.

—Fee to bind and mail (within the United States), four copies of a thesis, practicum, or dissertation study, \$28.

—Fee for the foreign language examination required for the doctoral program, \$10.

—Graduate student continuous registration fee to enable a student to remain in the program during periods of non-enrollment, \$20.

—Replacement of a student's University identification card, \$10.

—Fee for handling of a check presented in payment of a student account which, for any reason, turns out to be non-negotiable, \$8. (Note that non-negotiable payment is the same as non-payment and may result in cancellation of a student's enrollment).

—Certified statement of issuance of a life teaching certificate, \$2

Late Fees

In addition to the above fees, University policy requires additional fees, based on a sliding scale, for late payments of student indebtedness and for special authorization to defer payment of tuition, fees and other charges. These payment options and special fees are explained in the following section.

Payment of Student Accounts

This section explains the policy and procedure for payment of tuition and fees, for reassessment and refund upon withdrawal from the University, for deferred payment arrangements, and for late fee payments.

It is the student (not a parent, guardian, spouse, agency of a foreign government, or other third party) who is responsible for the payment of tuition, fees, and other charges. The student must be prepared to pay the full amount at the beginning of the term or make other arrangements in accordance with University policy and approved by the appropriate authorities. The student is required to pick up his/her Statement of Account and Change of Address Form by the first class day in the west ballroom of the University Center. This bill is not mailed to the student.

Each student's financial obligation to the University must be paid before the end of the fifth day of classes each quarter; only then is registration considered final. Payment is the fourth step of the registration procedure as outlined in the registration instructions in the Directory of Classes.

Payment is to be made at the Cashier's office in Carter Hall through one of the following methods or through a combination of these methods:

—Payment in full.

—Payment through financial aid as approved by the financial aid authorities in the Office of Student Financial Resources.

—Payment, through the deferral plan, of at least 50 per cent of the total current bill plus a deferral fee on the unpaid balance as explained in this section of the Bulletin.

—Payment by a sponsor other than a financial aid program. This arrangement applies primarily to international students, but does not in any way relieve the student of complete responsibility to see that payment is made or accept the

Reassessment and Refund of Tuition, Fees and Other Charges

consequences. Obtain a complete summary of the policy on sponsored-student accounts from the office of International Students, Carter 2002, 351-2396.

—Payment through the CASE-UNC plan. This name is an acronym for "Credit Available for Student Employees at UNC." It allows students employed by the University to make arrangements through the Office of Student Employment, a unit of the Office of Student Financial Resources in Carter Hall, to apply income from student employment *as it is earned* to tuition, fees and other charges.

—Payment through Visa or MasterCard.

In addition to the bill for tuition, fees, and other charges developed through the quarterly registration process, two additional statements of account will be mailed to the student's local address if any additional charges are incurred or if payment has not been made. *Note that these bills are not mailed to the parent or guardian.* Each student is required to notify the Registrar's office promptly of any change in his or her local address or in his or her permanent mailing address.

THE UNIVERSITY OF NORTHERN COLORADO WILL NOT REGISTER A STUDENT, RELEASE A DIPLOMA, PROVIDE A TRANSCRIPT, OR SUPPLY PLACEMENT AND OTHER UNIVERSITY SERVICES TO ANY STUDENT OR FORMER STUDENT WHO HAS AN OUTSTANDING FINANCIAL OBLIGATION TO THE UNIVERSITY OTHER THAN A LOAN WHICH IS NOT YET DUE OR ON WHICH PAYMENTS ARE UP TO DATE.

Fee for Late Payment. In each of the four academic quarters in a calendar year, a date is established after which payment of outstanding tuition, fees, and other charges is considered late. This date is stated in the official University calendar which is included in this Bulletin, in the Directory of Classes, and on the student's individual bill.

A student who has not paid his or her tuition, fees, and other charges within the allotted time is assessed a late fee in accordance with the following schedule; this fee is added to the outstanding balance.

Late Payment Fee Based on Past Due Balance

Amount Owed	Fee	Amount 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

Fee for Deferral of Payment. Under certain circumstances, a student who qualifies may make arrangements with the Accounts Receivable Office (Carter Hall, Main Floor, phone 351-2201), to defer payment of a portion of the total expense for tuition, fees, and other charges. These arrangements must be made before the date on which late payment penalties are imposed. The student must pay 50 per cent of the current charges with the balance due at midquarter. The account must be paid in full before the end of the academic quarter, or the student will not be allowed to attend class in the subsequent quarter.

The extension of this privilege requires the assessment of a one-time flat fee in accordance with the following schedule.

Deferral Fee Based on Amount Deferred

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

The following summarizes the policies and procedures by which reassessments and refunds are processed. If a more complete explanation is required or if individual refund circumstances warrant review, contact the Director of Accounting Services, Carter Hall, Main Floor, phone 351-2237.

Adjustment in tuition, fees, and other charges are permitted after registration only under specified conditions. A change in a course of study which results in a change of registered hours during the period which ends on the last day for adding classes will result in a reassessment of tuition and fees. However, tuition and fees will not be adjusted *after* the last day for adding classes. To be eligible for a refund upon withdrawal from the University, a student must present a properly processed and approved Withdrawal Clearance form to the Office of Accounts Receivable in Carter Hall, phone 351-2201. This form may be obtained from the Dean of Students office (Room 206 in the University Center, phone 351-2796). Refunds are allowed against tuition and general student fees when a student withdraws from the University based upon the date the withdrawal process is completed.

A student enrolled for *nine credit hours or less* will be assessed a \$15 withdrawal fee if withdrawal occurs during the first five class days of the quarter; \$30 if withdrawal occurs during the second five class days of the quarter; \$45 if withdrawal occurs during the third five class days of the quarter; and \$60 if withdrawal occurs during the fourth five class days of the quarter. If the total tuition and fees are less than the withdrawal fee, the lesser amount will be charged.

If a student withdraws after the 20th class day of the quarter, then he or she is required to pay the full tuition and general student fees as summarized in the beginning of this section.

On programs of *ten or more credit hours*, the student will be assessed a \$25 withdrawal fee if withdrawal occurs during the first five class days of the quarter; \$50 if withdrawal occurs during the *second* five class days of the quarter; \$75 if withdrawal occurs during the *third* five class days of the quarter; and \$100 if withdrawal occurs during the *fourth* five class days of the quarter. If the total tuition and fees are less than the withdrawal fee, the lesser amount will be charged.

If a student withdraws after the 20th class day of the quarter, then he or she is required to pay the full tuition and general student fees as summarized in the beginning of this section.

Refunds are allowed against assessed room and board charges, apartment rentals, and the housing deposit. Refund rates, policies, and procedures are explained in the residence hall lease and the meal plan contract. The Housing Office (Gordon Hall, 351-2727) and Food Services (Gordon Hall, 351-2725) will provide assistance and information upon request.

The following fees are not refunded for any cause at any time:

- Bookstore charges
- CoPIRG fee
- Duplicate meal ticket
- Health insurance
- Housing damages
- ID card replacement
- Lab equipment not returned
- Library fines
- Lost athletic equipment
- Lost library books
- Parking fines
- Short check service charges
- Unpaid emergency loan

6 Programs of Study

College of Arts and Sciences

Location: Michener L54

Telephone: 351-2707

Robert B. Stein, Dean

The College of Arts and Sciences provides the foundation for a liberal arts education through studies intended to impart general knowledge and to develop the intellectual capacities of reason and judgment. The broad areas included are the humanities, natural sciences and social sciences.

General Education courses, predominantly offered by Arts and Sciences disciplines, give UNC graduates a background in the liberal arts to better prepare them for living in our complex society.

The College of Arts and Sciences at UNC is committed to serious scholarly work, superior instruction and research. The knowledge, understanding and perceptions that lead to critical and independent thought are fostered by the faculty and administration of the college, and these qualities serve to enrich the lives and careers of its graduates.

Arts and Sciences majors are broadly educated, stimulated, and well prepared to enter a wide variety of occupations. Many areas prepare students specifically for positions in industry and government. The pre-professional studies in medicine, dentistry, engineering and education are all based on a liberal arts foundation, and many businesses today prefer their employees to have a liberal arts background to support on-the-job training.

Americans are changing jobs more and more frequently, and a broad liberal arts background makes these changes possible and successful.

The College is comprised of 28 departments, and offers 13 emphasis areas. Of the 176 faculty members, 36 are women;

150 have a doctorate, 25 have a masters degree, and one has a bachelors. The faculty of the College includes 90 professors, 62 associate professors, 22 assistant professors, and 2 instructors.

The College maintains a number of specialized facilities used by many departments. They include: the Cartological Lab; KLAB, a radio production lab; the Foreign Language Lab; the Foreign Language Conversation Center; a new television studio for student productions to be broadcast on cable; the English Writing Lab; the Animal House; the Greenhouse; the Instrumental Analysis Center; the West Campus Computer Facility; a photography lab; a computer graphics terminal; the Math Lab; and the Psychology Lab.

The following degrees and programs are offered by the College of Arts and Sciences:

- Anthropology
- Biological Sciences
- Black Studies
- Botany
- Chemistry
- Earth Sciences
 - General Earth Science emphasis
 - Geology emphasis
 - Meteorology emphasis
- Economics
- English
- French
- Geography
- German
- Hispanic Studies
- History

Explanation of Course Numbers and Prefixes

Course Numbers The University divides its courses into three groups identified by course numbers. These numbers generally indicate the difficulty of a course and its location on a continuum of systematic study which will lead to general mastery of the content and methodology of a discipline.

—Lower division courses include those numbered in the 100 range for freshmen students, and those numbered in the 200 range for sophomores.

—Upper division courses include those numbered in the 300 range for juniors, and those numbered in the 400 range for seniors.

—Graduate courses include those numbered in the 500, 600 and 700 ranges. Qualified juniors and seniors may be admitted to 500 courses by special permission of the instructor, but no undergraduates may be admitted to 600 or 700 level courses.

Occasionally, experimental courses will be offered in order to meet program or student needs. These courses are not listed in the Bulletin, but will appear in the Directory of Classes. The course numbers for experimental courses end in 98. For example, an experimental course in Geology might be GEOL 398. Experimental courses ending in "98" cannot be used to meet General Education requirements.

Course Prefixes In addition to a number which identifies where a course fits within a discipline, each course is assigned a prefix which identifies the appropriate discipline, field or department. For example, the numerical designations for the courses in Communication Disorders are preceded by CMDS; the numerical designations for courses in Mathematics are preceded by MATH; and the numerical designations for courses in Visual Arts are preceded by ART.

Course Credit As indicated elsewhere in this Bulletin, the University operates on a quarter system. All credit toward graduation is computed in "quarter hours." "One quarter hour" means a course is taught for one hour one day each week through the academic quarter of approximately ten weeks. Likewise, a two quarter hour course meets twice a week and generates two quarter hours of credit. Most courses in the University offer from 1-5 quarter credit hours per academic quarter.

Courses may be repeated for credit only when the Bulletin so indicates, but only up to the maximum number of credits shown in the Bulletin.

Students may register in a course for "no credit," but must pay the appropriate tuition and fees; no audit or visitor cards may be issued.

Alphabetical List of Course Prefixes

ACCT —Accounting
ANT —Anthropology
ART —Visual Arts
AS —Aerospace Studies
AST —Astronomy
BIO —Biology
BLS —Black Studies
BOT —Botany
BUS —Business
CHEM —Chemistry
CMDS —Communication Disorders
COMM —Speech Communication
CSCI —Computer Science
CSPA —College Student Personnel Administration
DS —Directed Studies

ECON —Economics
EDAD —Educational Administration
EDEC —Early Childhood Education
EDEL —Elementary Education
EDEM —Educational Media
EDF —Foundations of Education
EDFE —Educational Field Experiences
EDLS —Educational Field Experiences (Laboratory School)
EDMS —Middle School Education
EDRD —Reading
EDSE —Special Education
EED —English Education
ENG —English
ENST —Environmental Studies
EPRE —Educational Psychology, Research and Evaluation
ESCI —Earth Science
ET —Educational Technology
FIN —Finance
FL —Foreign Languages
FND —Food, Nutrition & Dietetics
FR —French
GEOG —Geography
GEOL —Geology
GER —German
GERO —Gerontology
HISP —Hispanic Studies
HIST —History
HRS —Human Rehabilitative Services
HS —Health & Safety Education
HUM —Humanities
ID —Interdisciplinary Studies
IE —Individualized Education
ITAL —Italian
JMC —Journalism and Mass Communications
MATH —Mathematics
MED —Mathematics Education
MET —Meteorology
MGT —Management
MIS —Management Information Systems
MKT —Marketing
MTEC —Medical Technology
MUS —Music
NURS —Nursing
OCN —Oceanography
PE —Physical Education
PHIL —Philosophy
PHYS —Physics
PPSY —Professional Psychology
PSCI —Political Science
PSY —Psychology
QA —Quantitative Analysis
REC —Recreation
RUS —Russian
SCED —Science Education
SCI —Science
SOC —Sociology
SPAN —Spanish
SSED —Social Studies Education
STAT —Applied Statistics
TESL —Teaching English as a Second Language
THEA —Theatre Arts
VTE —Vocational Teacher Education
VTHE —Vocational Teacher Home Economics
WS —Women's Studies
ZOO —Zoology

Individualized Education
 Interdisciplinary Studies
 Journalism & Mass Communications
 News-Editorial emphasis
 Community Journalism emphasis
 Management Relations emphasis
 Telecommunications emphasis
 Junior High/Secondary School Science
 Mathematics
 Computer Science emphasis
 Elementary Education emphasis
 Medical Technology
 Mexican American Studies
 Philosophy
 Political Science
 Physics
 Social Science
 Sociology
 Criminal Justice emphasis
 Spanish
 Speech Communication:
 Professional Teacher Education emphasis
 Interpersonal Communication emphasis
 Law and Public Policy emphasis
 Zoology

Pre-Professional Programs

The following information is provided for those students whose goals will require studies in professional schools, 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 here. For further information and for assignment of an academic advisor, students should contact the following persons: **Professional Programs in Psychology.** A recommended course list is available upon request from the Department of Psychology, Michener L142. For additional information, and advisement, see Dr. Grant Morris, Michener L142 (351-2958).

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-professional 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 in this Bulletin for specific course requirements.

Pre-Law

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

UNC has an active Pre-Law Society as a chartered student organization and offers an excellent pre-law program for undergraduate students interested in pursuing a legal career.

It should be noted, however, that no college or university in the United States, including UNC, offers a "major" in pre-law. That is not a subject area or a discipline as such.

Further, law schools do not identify any specific major as most desirable, but they do require a bachelor's degree as a prerequisite for law school admission. Most pre-law programs are currently built around majors from the College of Arts and Sciences and the School of Business.

Pre-Engineering

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

Course of study for pre-engineers is as follows:

- One year of general chemistry (CHEM 104 or 114, 105 or 115, 106 or 116).
- Mathematics through calculus (MATH 131, 132, 133).
- One year calculus-level general physics (PHYS 265, 266, 267).

- 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 chosen by the student.

Information regarding appropriate electives is obtained from the student's advisor in the Department of Physics.

Pre-Health Professions

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

Each professional school sets its own specific requirements, but certain generalizations are possible:

- 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.

- Minimum course requirements for most health professions are as follows: One year of each of the following areas — Biology 101, 102, 103; English, composition and speech; general chemistry, CHEM 104 or 105, 106, 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, including some cellular biology and genetics in the second year, and mathematics with 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.

Specific national aptitude or admissions tests are required in many programs. Specific application processes need to be followed. A pre-professional faculty advisory committee provides curriculum guidance, information about examination processes and committee recommendations for students.

Anthropology

Administered by the Department of Anthropology, Black and Women's Studies

Location: Candelaria Hall 121

Telephone: 351-2001

Barbara H. Mickey, Chair

Faculty

George E. Fay, PhD, Prof.

Michael J. Higgins, PhD, Prof.

Barbara H. Mickey, PhD, Prof.

Anthropology is the study of the nature of humans and of human relations, both within one's own society and in other societies. It helps one to think internationally and interculturally. It teaches one to evaluate current developments and trends in a world perspective.

The discipline of Anthropology is subdivided into Cultural/Social Anthropology, Archaeology, Biological Anthropology, and Anthropological Linguistics. Only Cultural/Social Anthropology and Archaeology are stressed at UNC.

A minor in Anthropology is offered with two emphases: Liberal Arts and Anthropology for Health and Human Services Professionals.

Laboratories in Biological Anthropology and Archaeology, and Ethnology and Media are utilized in the instructional program. Ethnology and archaeology courses include all areas of the world, but focus on the Hispanic areas and Third World countries. Social processes such as culture change, acquiring culture, ethnic difference, urban anthropology, and current problems are stressed.

Anthropology Minor

Required Course Core

- I. Introductory 1
ANT 100 or ANT 470

Emphasis in Liberal Arts

- II. Cultural 1
Select from ANT 220, 223, 320, 321, 328, 331, 381, 382, 427
- III. Archaeology 1
Select from ANT 140, 240, 340, 344, 345, 347, 348, 349, 440
- IV. Biological Anthropology 1
ANT 470
- V. Method & Theory 1
ANT 480
- VI. Electives
To complete 27 hours required for the minor

Emphasis in Anthropology for Health and Human Services Professionals

- II. Ethnology 2-4
Select from ANT 320, 321, 323, 328
- III. Basic Concepts 2-4
Select from ANT 223, 380, 381, 382, 472
- IV. Electives
ANT 220, 380. Archaeology courses are also available as electives. Complete 27 hours for the minor.

Applied Statistics and Research Methods

(See Department of Mathematics)

Astronomy

(See Department of Earth Science)

Biological Sciences

Location: Ross Hall 234

Telephone: 351-2531

John K. Gapter, Chair

Faculty

Richard R. Bond, PhD, Prof.

Warren R. Buss, PhD, Prof.

James P. Fitzgerald, PhD, Assoc. Prof.

John K. Gapter, PhD, Prof.

William E. Harmon, PhD, Prof.

Margaret Heimbrook, PhD, Assoc. Prof.

Ivo E. Lindauer, PhD, Prof.

Charles Olmsted III, PhD, Assoc. Prof.

Kenneth V. Olson, PhD, Prof.

E. Edward Peebles, PhD, Prof.

Ronald K. Plakke, PhD, Prof.

Royal A. Rich, PhD, Prof.

Edmund A. Richards, PhD, Prof.

Gerald D. Schmidt, PhD, Prof.

Bert O. Thomas, PhD, Prof.

Bert D. Thorpe, PhD, Prof.

The Biological Sciences are the many specialties of natural science dealing with life forms from microorganisms to mammals, and fungi to plants. Organisms are studied by how they interact with themselves and with their environments; how they obtain energy and maintain themselves; and how they impact on mankind's well-being. These life sciences form the foundations for health professions, for science teaching, and for natural resource, agricultural and biological research careers.

The Department of Biological Sciences offers bachelor of arts degrees in Biological Sciences, Botany and Zoology. The master of arts and doctor of arts degrees are awarded only in Biological Sciences; however, the research emphases for these degrees may be in any area of the life sciences. It is the department's policy to have students work closely with an advisor in the area of the students' interests and aspirations.

While the Botany and Zoology degree programs are structured with traditional requirements for professional botanists and zoologists, the Biological Sciences program is characterized by flexibility in course selection.

Each major, whether pursuing a B.A., M.A. or D.A. degree will have an opportunity to select, with an advisor and within the limits of the program, the courses which will meet the student's personal and professional goals.

The programs include courses in development, structure and function, heredity and diversity among living organisms. Electives may be selected to meet the entrance requirements of professional or graduate schools, or they may be selected with the aim of developing practical skills for immediate use. Judicious selection of courses in the Biological Sciences major can lead to concentrations on field biology, ecology, health sciences, microbiology or applied botany.

Students are encouraged to participate in independent research projects or internships with agencies outside the University to gain expertise not available in the classroom. Internships for skilled observers have been arranged in wild-life and botanical fields. The department is proud of its strong reputation for preparing highly qualified science teachers.

Animal maintenance facilities, museum, herbarium and greenhouses are available for laboratory support and small project research. Field studies are encouraged, since there is ready access to both prairie and mountain habitats. Expertise and research interests of the faculty include taxonomy of plants, animals and microorganisms, human genetics, parasitology, plant and animal ecology, mammalogy, ornithology, pharmacology, plant and mammalian physiology and anatomy.

Bachelor of Arts Programs

Students pursuing the B.A. degree with a major in Biological Sciences, Biological Sciences (teaching), Botany or Zoology must plan their programs to fulfill the following requirements. Every major is expected to meet with a departmental advisor to outline the program of study. In order to register, students must have an advisor's signature and departmental stamp.

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.

—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.

—General Education requirements of 60 quarter hours as specified in this Bulletin.

—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.

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

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

All Program Requirements

All Majors/Core

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

Hours credit 15

See specific major for remaining required courses and electives.

Biological Sciences Major (Liberal Arts and Teaching)

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. Majors electing BIO 231 must also take BIO 232.

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.

BOT 340	Plant Ecology	5
ZOO 340	Animal Ecology	5
BIO 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 Organisms	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
	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
	or	
CHEM 332	Organic Chemistry I	5

Hours credit 15

Professional Teacher Education

	Professional Teacher Education core	41
EDLS 363	Clinical Experience	2
SCED 441	Methods of Teaching Secondary School Science	3
BIO 371	Techniques of Biological Preparation	2
	Hours credit	48

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. Students must demonstrate competence in the Biological Sciences before receiving departmental recommendation for supervised teaching. A minor is not required.

Botany Major

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

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

—It is recommended that a foreign language be included.

Program Requirements, including Major Core

BIO 231	Genetics	3
BIO 232	Genetics Laboratory	2
BIO 361	Microbiology	5
BOT 310	Plant Taxonomy	5
BOT 323	Morphogenesis of the Nonvascular Organisms	5
BOT 340	Plant Ecology	5
BOT 350	General Plant Physiology	5
BOT 421	Plant Anatomy	5
	Hours credit	35

Electives

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

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
	<i>or</i>	
CHEM 332	Organic Chemistry I	5
	Hours credit	15

A minor is not required.

Zoology Major

Students pursuing the B.A. degree with a major in Zoology must plan their programs to fulfill the following requirements, in addition to the core.

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

—It is recommended that a foreign language be included.

Program Requirements, including Major Core

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	35

Electives

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

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
	<i>or</i>	
CHEM 332	Organic Chemistry I	5
	Hours credit	15

A minor is not required.

Biological Science Minor

Required Courses

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

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.

Graduate Program

Degrees are offered in Biological Sciences, with emphasis areas in Botany and Zoology. Any student entering the graduate program in the Department of Biological Sciences may be required to take a diagnostic test covering biological concepts, administered by the department. Deficiencies may be corrected by completing appropriate courses. Results of this exam will be used in planning the student's program.

Master of Arts Program

This program is intended for those students who wish to broaden their preparation in Biological Sciences. Those who

wish to earn certification to teach secondary science with the Master of Arts degree, must complete the undergraduate Professional Teacher Education core and make up any deficiencies in the Biological Sciences, in addition to the minimal requirements for the degree. See Minimum Requirements for the Master of Arts Degree in this Bulletin.

Minimum Requirements

BIO 691	Seminar in Biological Sciences	1
BIO 692	Special Topics in Biology	2
BIO 694	Foundations of Biological Research (Should be taken at beginning of graduate program)	3
BIO 697	Graduate Research	2

Electives

As approved by advisor	37
Minimum Program	45

Early in the program, the student should meet with his/her advisor to outline the course of study. BIO 697 is waived if the student elects to complete a thesis. Fifteen hours of thesis credit may be applied to the elective credit hours. Electives should be chosen to assure an understanding of the basic principles of botany and zoology. Any course bearing the prefix, BIO, BOT or ZOO may be used to satisfy the Graduate School requirement that a minimum of 24 quarter hours be taken in the major discipline. A written and oral comprehensive examination is required.



Doctor of Arts Program

The objective of the Doctor of Arts program is to prepare versatile and well-informed teachers of biological sciences. Emphasis is placed on the training of effective teachers, and not on the production of skilled research scientists. The student who successfully completes this program will be well qualified to teach biological sciences at the junior (community) or senior college level.

Admission Requirements

In addition to Graduate School admission policies, the Department of Biological Sciences requires that the scores of the Advanced Area Test (Biology) of the Graduate Record

examination accompany the application. The results of this exam will be used as an admission criterion and as an aid in designing the student's doctoral program.

It is recommended that the student have teaching experience prior to admission to the Doctor of Arts program. One year of full time, or full-time equivalent teaching experience is required before the degree will be granted. This experience may be gained from previous work experience, internship arranged through the University, or teaching experience in the department.

Program Requirements

Although each student's individual program is designed to provide a foundation in Biological Sciences, and will vary according to his or her previous academic work, all students are required to complete the following:

Minimum Requirements

ID 702	The Teacher in the College Community	3
BIO 691	Seminar in Biological Sciences	1
BIO 692	Special Topics in Biology	2
BIO 694	Foundations of Biological Research (Substitute for ID 700. Take when program is initiated)	
BIO 681	Effective Teaching Forum	3
BIO 755	Doctoral Supervised Teaching	6
BIO 797	Doctoral Proposal Research	1-6
BIO 799	Doctoral Dissertation	18

Electives

To be selected in consultation with doctoral advisory committee	54
Minimum Program	90

The student's individual program in Biological Sciences and related pedagogical areas will be determined by his/her graduate advisory committee after reviewing his/her transcripts. Students entering the Doctor of Arts program with a B.S. or B.A., but without a master's degree, will earn a minimum of 140 credit hours. The student will be required to take course work in areas where he/she is deficient.

Each student must pass a written and oral comprehensive examination covering the subject matter in his/her graduate program. These exams should be scheduled as soon as possible after 55 hours of course work are completed. The exams will be conducted by the graduate committee.

Each student is required to prepare a dissertation reporting the results of his/her research. The dissertation must be defended in an oral examination conducted by the student's graduate committee.

Black Studies

Administered by the Department of Anthropology, Black and Women's Studies

Location: Candelaria 12

Telephone: 351-2001

Robert Dillingham, Jr., MA, Coordinator, Assistant Professor

The Black Studies curriculum at the University of Northern Colorado seeks to sustain a full and continuing scientific analysis of the cultural heritage and history of Afro-Americans.

As an academic discipline, the Black Studies curriculum is grounded in a global and humanistic orientation to substantive data relating to the life experiences of Afro-Americans. This

Black Studies Minor

Required Courses

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 & the Black Experience	3
BLS 420	Black Urban Politics	3
BLS 430	Law & the Black Community	3
BLS 460	Black Religion	3
BLS 462	Theatre of Black America	3
BLS 463	Black Man in American Drama II: 1945 to 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

includes courses on the history of Afro-Americans; cultural, educational and identity problems of Afro-Americans; economic, political and social formations of Afro-American communities; Afro-American literature and drama; effects of racism and poverty on Afro-American communities; and Black community-oriented research projects.

Black Studies offers a major and minor. Students who major or minor in Black Studies must fulfill all General Education requirements specified for the year of their entry into the University. Students who major in Black Studies must complete 48 quarter hours of course work in Black Studies. This includes 36 hours of required courses, plus 12 hours of course work chosen from Black Studies electives. These electives are to be chosen with the approval of the coordinator.

Minors in Black Studies must complete 27 quarter hours of course work in Black Studies, which includes 24 required quarter hours, plus three hours in electives.

The major in Black Studies has the following objectives: To prepare students for professional and academic careers in the humanities and social sciences; to promote general or liberal arts education; and to provide skills necessary for working in multi-cultural relations.

As a job-related field, the major/minor provides students with insights and expertise applicable to the inner city and urban plight in the U.S., as well as to the wider arena of international affairs.

Black Studies Major

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

—General Education requirements of 60 quarter hours as specified in this Bulletin.

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 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		23-26
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 & the Black Experience	3
BLS 420	Black Urban Politics	3
BLS 430	Law & the Black Community	3
BLS 460	Black Religion	3
BLS 462	Theatre of Black America	3
BLS 463	Black Man in American Drama II: 1945 to Present	3
BLS 464	Seminar in Black Theatre	4
BLS 465	Black Media	3
BLS 480	Black Curriculum Development	3
		Hours credit 48

Botany

(See Biology)

Chemistry

Location: Ross Hall 138
Telephone: 351-2559
Gordon E. Tomasi, Chair

Faculty

John A. Beel, PhD, Prof.
Clark L. Fields, PhD, Prof.
M. Lynn James, PhD, Prof.
William G. Koch, PhD, Prof.
Roger A. Kovar, PhD, Prof.
Marcus K. Meilahn, PhD, Prof.
David L. Pringle, PhD, Prof.
James O. Schreck, PhD, Prof.
Gordon E. Tomasi, PhD, Prof.
Dale E. Woerner, PhD, Prof.

The Chemistry Department offers undergraduate programs leading to degrees at the bachelor's level in both Chemistry and Chemistry teaching. Chemistry minors in these areas are available to students with majors in other areas.

Advanced degrees at the master's and doctoral levels are also available. The Department offers master's degrees in Chemistry and Chemistry teaching, and a Doctor of Arts (D.A.) degree. The D.A. program is designed as a viable alternative to the strongly research-centered Ph.D. programs, and emphasizes preparation for teaching chemistry at the college level.

The goal of the Chemistry Department is to provide a high-quality education in Chemistry for several different groups of students:

—Those individuals who wish to become chemists or to

pursue professional programs that may build on a strong background in Chemistry, such as health-related careers, law, etc.

—Those individuals whose career choices require a background in Chemistry, such as nursing, dietetics and nutrition, biology, etc.

—Those individuals who elect to study Chemistry as a part of their General Education program.

—Those students with a background in Chemistry who wish to undertake advanced or graduate studies.

The Chemistry faculty is committed to the attainment of this goal and has set excellence in instruction as its highest priority. Relatively small classes and dedicated teachers help accomplish this goal. Students and faculty have the opportunity to know each other very well. This facilitates obtaining help on an individual basis when it is needed for course work and for program planning.

We are proud of the fact that our undergraduate degree has been approved by the American Chemical Society since 1968, and that our recently revised program was accepted. Graduates who elect to follow the approved program receive certification for this accomplishment.

Although the Chemistry Department is not formally divided, the areas of analytical, biological, inorganic, organic and physical chemistry are well represented in the backgrounds of our faculty. This enables us to offer a well-balanced program.

Laboratory facilities are available and the experimental aspects of chemistry are included as an integral part of all chemistry programs. A reasonable amount of instrumentation is currently in use. Students are taught how to operate these instruments and how to interpret and apply the results. They are encouraged to use as much of this instrumentation as possible in their programs.

Access to micro-computers and to terminals of the large campus computers makes use of computers within chemistry courses possible.

Research opportunities are available to chemistry students in all programs. Students can work with faculty who are involved in research selected from most of the basic areas of chemistry, including chemical education.

At the undergraduate level, students are encouraged to work on independent research problems in their junior and senior years and to present the results of their work in departmental seminars and at the regional meeting of the affiliates of the American Chemical Society.

At the graduate level, most degree programs require research. The results of a student's efforts are reported in a dissertation or thesis, and may be presented at meetings and submitted for publication.

Students who have earned their degrees in chemistry are currently in graduate and professional schools, working in chemical industries or as chemists in the public and private sectors of the economy, and teaching in secondary schools, colleges and universities. Many physicians, dentists, veterinarians, optometrists, pharmacists, etc. completed their pre-professional studies in this department.

Opportunities for new graduates continue to be available in these areas and demand has held up well in spite of the fluctuating economy. The Bureau of Labor Statistics Employment Outlook for 1990 predicts a 25 percent increase in employment for chemists over the 1978 figure. The increase predicted for engineering and health-related fields is even larger. The need for well-prepared science teachers in the secondary schools is great.

The Department of Chemistry is dedicated to helping prepare students to enter these careers and to become productive professionals.

Chemistry Major

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

—General Education requirements of 60 quarter hours as specified in this Bulletin. Courses included in these programs that may be used to meet part of the General Education requirements are indicated by the General Education prefix designation (a-i).

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

Hours credit 38

Chemistry Major — Liberal Arts

Students pursuing the liberal arts degree in Chemistry must also include the following courses in their programs:

Major Core

CHEM 322	Analytical Chemistry II	4
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 22

Electives

Select at least one from each of the following categories for 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 & 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

Supporting Required Courses

c-CHEM 291	Scientific Writing in Chemistry	3
d-COMM 110	Communication: Public Forum	3
b-ENG 101	Elementary Composition	4
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 & Heat	5
		Hours credit 43

Other Recommended Courses

d-GER 101	Elementary German I	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 chemists should take Physical Chemistry in the junior year and pursue six quarter hours of independent research an/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 years.

Chemistry Major — Teaching

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

—Sixty quarter hours of General Education courses as specified in this Bulletin, including:

d-COMM 110 Public Speaking I
Multiculturalism (one of the following: i-ANT 420, i-EDEL 101, g-EDF 388; i-ID 330 or i-SOC 345)

Personal interaction (one of the following: i-EDF 345 or i-EPRE 350)

—The Chemistry Major Core courses listed in the section designated Chemistry Majors.

—One minor of 27 or more quarter hours.

—Required Education courses.

Teacher Education Core (Admission to PTE is a prerequisite to enrollment —see PTE section of this Bulletin) 39-40

EDLS 363	Clinical Experience	2
SCED 441	Methods of Teaching Secondary School Science	3

Hours credit 44-45

—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.

Major Core Required Courses

CHEM 495	Seminar in Teaching Chemistry	2
PHYS 260	Introductory Physics — Mechanics	5
PHYS 261	Introductory Physics — Heat, Sound & Light	5
PHYS 262	Introductory Physics — Electricity & Magnetism	5

(PHYS 265, 266 and 267 may be substituted for PHYS 260, 261, and 262.)

Electives

Chemistry electives to be selected with approval of student's advisor

10
Hours credit 27

Chemistry Minor

Students pursuing a Chemistry minor (liberal arts or teaching) must include the following courses in their programs:

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 that 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

Chemistry Minor — Teaching

Students pursuing a major in a teaching program should complete the requirements listed in the last section, Chemistry Minor for Liberal Arts Majors, and the following course:

CHEM 495	Seminar in Teaching Chemistry	2
		Total hours 32

Master of Arts Degree

Prerequisites

Chemistry — A student must have completed acceptable courses in each of the four major fields of Chemistry: organic, inorganic, analytical and physical.

College Mathematics — through differential and integral calculus.

College Physics — one year.

—If these requirements are not fulfilled, a student may be

admitted on a provisional basis. The deficiencies must be compensated as soon as possible, or graduate credit will not be allowed.

—Take written examinations in the four areas of Chemistry to determine strengths and weaknesses.

Requirements

—Take written examinations in the four areas of Chemistry.

—Thirty quarter hours of course work. At least two-thirds of these hours must have a CHEM prefix.

—An acceptable thesis on research work. Registration for 15 quarter hours of CHEM 699 is required. Theses must be defended in an oral examination before the student's graduate committee.

—Pass a written and oral comprehensive examination.

—Minor, if elected, should be in a related field, preferably Physics or Mathematics.

Courses Required in Chemistry (If not previously taken)

CHEM 322	Analytical Chemistry II	4
CHEM 324	Instrumental Analysis	4

Recommended Electives

CHEM 501	Special Topics in Inorganic Chemistry	3
CHEM 502	Advanced Inorganic Chemistry	3
CHEM 503	Organometallic Chemistry	3
CHEM 511	Special Topics in Analytical Chemistry	3
CHEM 531	Stereochemistry of Organic Compounds	3
CHEM 532	Theoretical Organic Chemistry	3
CHEM 533	Reactions and Reaction Mechanisms in Organic Chemistry	3
CHEM 534	Special Topics in Organic Chemistry	2
CHEM 535	Synthetic Organic Chemistry	3
CHEM 553	Chemical Thermodynamics I	2
CHEM 554	Chemical Thermodynamics II	2
CHEM 555	Chemical Kinetics	3
CHEM 556	Chemical Spectroscopy	3
CHEM 599	Seminar in Chemistry	3
CHEM 654	Statistical Thermodynamics	3
CHEM 657	Special Topics in Physical Chemistry	2
CHEM 658	Quantum Chemistry I	2
CHEM 659	Quantum Chemistry II	2
CHEM 699	Thesis	15

Complete program to 45 hours with Chemistry courses numbered 482 or above, with selected minor courses approved by advisor

1-12

Hours credit 45

Teaching Prerequisites

—The courses in Chemistry required for the B.A. degree in Chemistry (Teaching) at the University of Northern Colorado, or suitable substitutes.

—Fifteen hours in Physics.

—Mathematics through differential and integral calculus.

—If these requirements are not met, a student may be admitted on a provisional basis. The deficiencies must be compensated as soon as possible or graduate credit will not be allowed.

—Take written examinations in the four areas of Chemistry to determine strengths and weaknesses.

Requirements

—A minimum of 45 hours of course work distributed between Chemistry and professional courses.

—Pass a written and oral comprehensive examination.

Required Courses (If not previously taken)

SCED 682	Problems in Teaching Chemistry	4
CHEM 322	Analytical Chemistry II	4
CHEM 323	Analytical Chemistry III	4
CHEM 442	Inorganic Chemistry II	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
CHEM 599	Seminar in Chemistry	3-4

Electives

With approval of major advisor

13-14

Hours credit 45

Electives may be selected from the following Chemistry or Science Education courses, or from any Physics courses numbered above 400.

Recommended Electives

CHEM 482	General Biochemistry I	4
CHEM 483	General Biochemistry II	4
CHEM 484	General Biochemistry III	4
CHEM 495	Seminar in Teaching Chemistry	2
CHEM 501	Special Topics in Inorganic Chemistry	3
CHEM 502	Advanced Inorganic Chemistry	3
CHEM 503	Organometallic Chemistry	3
CHEM 511	Special Topics in Analytical Chemistry	2
CHEM 531	Stereochemistry of Organic Compounds	3
CHEM 532	Theoretical Organic Chemistry	3
CHEM 533	Reactions and Reaction Mechanisms in Organic Chemistry	3
CHEM 534	Special Topics in Organic Chemistry	2
CHEM 535	Synthetic Organic Chemistry	3
CHEM 553	Chemical Thermodynamics I	2
CHEM 554	Chemical Thermodynamics II	2
CHEM 555	Chemical Kinetics	3
CHEM 556	Chemical Spectroscopy	3
CHEM 654	Statistical Thermodynamics	3
CHEM 657	Special Topics in Physical Chemistry	2
CHEM 658	Quantum Chemistry I	2
CHEM 659	Quantum Chemistry II	2
SCED 674	Instructional Problems in Teaching Science	3
SCI 676	History of Science	3

The Chemistry Department recognizes that the educational needs of each candidate for this degree will be unique. Careful program planning with the Chemistry advisor will enable the student to design a program suited to his or her needs. This may include courses outside the fields of Chemistry and Science Education, such as bilingual bicultural education, psychology, special education and research and statistical methodology when they are appropriate.

Note: Completion of a Master of Arts degree in Chemistry does not meet all the College of Education PTE requirements for certification in Chemistry. Students should consult with their departmental advisors and/or the PTE office if they are interested in elementary or secondary certification.

Doctor of Arts Degree

The objective of the Doctor of Arts program is to prepare versatile and well-informed teachers of Chemistry. Emphasis is placed on the training of effective teachers. The student who successfully completes this program will be well-qualified to teach Chemistry at the junior (community) or undergraduate college level.

Admission Requirements

—Meet the general Graduate School admission requirements.

—Complete sufficient prerequisites to enroll in recommended major and professional courses listed here.

—Complete at least one year of physics and mathematics through differential and integral calculus.

—Pass written qualifying examinations in four areas of Chemistry to determine strengths and weaknesses.

—If these requirements are not fulfilled, a student may be admitted on a provisional basis. The deficiencies must be compensated as soon as possible in order for graduate credit to be allowed for courses taken.

Degree Requirements

A candidate for the degree must complete 135 quarter hours of graduate credit if he or she enters the program with the baccalaureate degree; 90 quarter hours with the master's degree.

Any of the required courses or their equivalents listed here which have already been taken, are not to be repeated. Additional work, both in subject matter and professional courses, can be taken in place of these courses. If previously taken courses are outdated, a student may be requested to validate and bring them up to date. If required courses have unsatisfied prerequisites, these prerequisites must be satisfied.

The student's individualized program in Chemistry will be determined by his or her graduate advisory committee, after reviewing his or her transcripts and qualifying examination scores. The student may be required to take course work in areas where he or she is deficient. Such course work may not apply toward the D.A. degree.

General Requirements

All of the following requirements are to be completed by the candidate. The teaching internship, CHEM 755, will be carried out at the University of Northern Colorado or another college under the supervision of the UNC Chemistry faculty. The number of hours will depend upon the background of the candidate.

CHEM 599	Seminar in Chemistry	4-6
ID 702	The Teacher in the College Community	3
CHEM 755	Supervised Practicum in College Teaching	3-9
CHEM 797	Doctoral Proposal Research	1-6
CHEM 799	Doctoral Dissertation	18

Recommended Major Courses

The candidate must select, with the approval of his/her committee, those courses which afford a knowledge in the four areas of Chemistry from the following list:

CHEM 322	Analytical Chemistry II	4
CHEM 323	Analytical Chemistry III	2
CHEM 442	Inorganic Chemistry II	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
CHEM 457	Selected Topics in Physical Chemistry	2
CHEM 482	General Biochemistry I	4
CHEM 483	General Biochemistry II	4
CHEM 484	General Biochemistry III	4
CHEM 495	Seminar in Teaching Chemistry	2
CHEM 501	Special Topics in Inorganic Chemistry	3-6
CHEM 502	Advanced Inorganic Chemistry	3
CHEM 503	Organometallic Chemistry	3
CHEM 511	Special Topics in Analytical Chemistry	2-6
CHEM 531	Stereochemistry of Organic Compounds	3
CHEM 532	Theoretical Organic Chemistry	3
CHEM 533	Reactions & Reaction Mechanisms in Organic Chemistry	3
CHEM 534	Special Topics in Organic Chemistry	2-6
CHEM 535	Synthetic Organic Chemistry	3
CHEM 553	Chemical Thermodynamics I	2
CHEM 554	Chemical Thermodynamics II	2
CHEM 555	Chemical Kinetics	3
CHEM 556	Chemical Spectroscopy	3
CHEM 654	Statistical Thermodynamics	3
CHEM 657	Special Topics in Physical Chemistry	2-6
CHEM 658	Quantum Chemistry I	2
CHEM 659	Quantum Chemistry II	2

Additional courses can be taken with the approval of the student's committee in areas such as Physics and Mathematics.

Recommended Professional Courses

The candidate is expected to be informed in the field of professional science education and some of the significant research in this area.

EPRE 504	Descriptive Statistics	4
EPRE 505	Statistical Inference	5
SCED 674	Instructional Problems in Teaching Science	3
SCED 682	Problems in Teaching Chemistry	4

Comprehensive Examinations. Each student must pass a written and an oral comprehensive examination. These examinations should be scheduled as soon as possible after completion of course work. The exams will be conducted by the graduate committee.

Dissertation and Oral Examinations. Each student is required to prepare a dissertation reporting the results of his or her research. The dissertation must be defended in an oral examination conducted by the student's graduate committee.

Computer Science

(See Department of Mathematics)

Earth Sciences

(Astronomy, Geology, Meteorology, Oceanography)
 Location: Ross Hall, Third Floor
 Telephone: 351-2647
 L. Glen Cobb, Chair

Faculty

L. Glen Cobb, PhD, Prof.
 Richard D. Dietz, PhD, Prof.
 Jay K. Hackett, EdD, Prof.
 Kenneth D. Hopkins, PhD, Assoc. Prof.
 William H. Hoyt, PhD, Asst. Prof.
 William D. Nesse, PhD, Assoc. Prof.
 K. Lee Shropshire, PhD, Prof.

The earth sciences (astronomy, geology, meteorology and oceanography) explore questions concerning the solid earth, the oceans, the atmosphere, the solar system, and the universe beyond. The department is multidisciplinary and students may select a program which focuses on a particular discipline or one which provides a broad background encompassing several disciplines.

Undergraduate Major

The Department of Earth Sciences offers programs in geology and meteorology for students who wish to pursue careers in these fields. It offers a general earth sciences program for students who desire a broad background in the earth sciences, or are interested in astronomy or oceanography. And it offers an earth science teaching program for students planning careers in secondary education. 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.

The four undergraduate major programs and the requirements for each follow:

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:

—General Education requirements as specified in this Bulletin.

—80 quarter hours of science and mathematics courses, of which at least half must have AST, ESCI, GEOL, MET and/or OCN prefixes.

—Electives to complete the requirements for graduation.

Geology Program

—General Education requirements as specified in this Bulletin.

—The following science and mathematics courses:

Required Courses

GEOL 201	Physical Geology	5
GEOL 202	Historical Geology	5
GEOL 320	Mineralogy	5
GEOL 340	Paleontology	5
GEOL 350	Sedimentology	4
GEOL 370	Structural Geology	5
GEOL 420	Optical Crystallography and Petrography	5
GEOL 455	Stratigraphy	4
GEOL 460	Geomorphology	4
GEOL 480	Geologic Field Methods	5
BIO 101	Principles of Biology	5
CHEM 104	Principles of Chemistry I	5
CHEM 105	Principles of Chemistry II	5
MATH 130	Analytic Geometry	4
MATH 131	Calculus I	5
MATH 132	Calculus II	5
PHYS 260	Introductory Physics — Mechanics	5
PHYS 261	Introductory Physics — Heat, Sound and Light	5
PHYS 262	Introductory Physics — Electricity and Magnetism	5
	Geology Elective	3
	Hours credit	94

Recommended

—An advisor-approved summer geology field camp is strongly recommended and can substitute for GEOL 480.

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

Meteorology Program

—General Education requirements as specified in this Bulletin.

—The following required science and mathematics courses:

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
GEOL 201	Physical Geology	5
OCN 301	Principles of Oceanography I	4
OCN 302	Principles of Oceanography II	4
CHEM 104	Principles of Chemistry I	5
CHEM 105	Principles of Chemistry II	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
PHYS 265	General Physics — Mechanics	5
PHYS 266	General Physics — Electricity	5
PHYS 267	General Physics — Sound, Light and Heat	5
	Hours credit	92

Electives

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

Earth Science Teaching Program

Students who plan to teach earth science in secondary schools must include the following in their programs of study in order to qualify for teacher certification in Colorado.

—General Education requirements as specified in this Bulletin.

—75 quarter hours of science and 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 320	Climatology	3
OCN 301	Principles of Oceanography I	4
OCN 302	Principles of Oceanography II	4
PHYS 260	Introductory Physics — Mechanics	5
PHYS 261	Introductory Physics — Heat, Light and Sound	5
PHYS 262	Introductory Physics — Electricity and Magnetism	4
SCED 441	Methods of Teaching Secondary Science	3

—40 quarter-hour core of Professional Teacher Education courses as described in this Bulletin, including EDLS 363, which must be taken concurrently with SCED 441.

Professional Teacher Education courses as described in this Bulletin 40
(including EDLS 363, which must be taken concurrently with SCED 441)

Electives

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

Undergraduate 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.

Master of Arts Program

This program is intended for students who wish to broaden or deepen their backgrounds in one or more of the earth science disciplines (astronomy, geology, meteorology, and oceanography). It is designed for, but not limited to, students who are or intend to become secondary or community college teachers of earth science.

The department recognizes that its graduate students have a wide range of educational interests and goals, and this program is designed to be flexible in order to accommodate

the needs of each individual. In consultation with the faculty, each student will design a curriculum appropriate for his or her particular objectives.

A thesis is optional, but both written and oral comprehensive examinations are required.

Requirements for the degree

Graduate School requirements. Students must complete all Graduate School requirements for the master's degree as described elsewhere in this Bulletin.

Departmental requirements. Course of study as determined by the student in consultation with the faculty 42
(and to include ESCI 500 or approved substitute) 3
Minimum total 45

Economics

Location: Michener L152
Telephone: 351-2739
James F. Anderson, Chair

Faculty

James F. Anderson, PhD, Assoc. Prof.
Ann J. Garrison, MA, Asst. Prof.
Aroop K. Mahanty, PhD, Prof.
Orvel L. Trainer, PhD, Prof.

The Economics Department offers a major and a minor in economics leading to the bachelor of arts degree. The economics discipline provides a logical, orderly way of describing, analyzing and finding solutions to the numerous diverse economic problems and issues that people and societies face.

Topics in economics have a broad range, including how individuals and businesses make intelligent economic decisions to how governments deal with vital current problems like unemployment, inflation, international trade and economic growth.

As a discipline, economics is attractive to students and commands prestige because it is challenging, has a wide focus and is not static; the discipline contains theory, mathematics, models and scientific method.

The Economics Department takes part, with other College of Arts and Sciences departments and programs, in offering quality liberal arts education, but the department also has very close ties with the School of Business.

Economics major and minor students usually take not only other social science courses such as political science, sociology and mathematics, but also supportive and elective courses in business.

The department participates in the Honors Program and arranges limited internships.

Pursuing the economics discipline provides a student with a considerable number of options while in school, and in future vocational choices in business careers, government service and academics.

Economics Major

Economics majors will learn the traditional respected tools and concepts in economics, theories and quantitative analysis applicable to economics and related disciplines, and techniques and methodologies employed by economic practitioners. Economists work with government and industry reports, quantitative data, theories, models, graphics, and increasingly with computers.

The department concentrates on teaching economics core courses commonly taught by other major universities, and

requires students to complete supportive courses in mathematics and business.

The goal of the department is to have graduates from the program highly qualified to pursue graduate school work in economics, business, law, etc., or to be prepared to enter various professions in industry or government service. For students planning to teach economics at the college level, graduate school degrees are necessary.

Major Requirements

—General Education requirements of 60 hours as specified in this Bulletin.

—Students interested in being certified for teaching economics must take a major in Social Science rather than in economics.

I Economics

ECON 110	Principles of Economics: Microeconomics	4
ECON 120	Principles of Economics: Macroeconomics	4
ECON 202	Money & Banking	4
ECON 241	Public Finance	4
ECON 300	The Price System	4
ECON 350	Income & Employment Analysis	4
ECON 451	Introduction to Quantitative Economics	3
ECON 452	Introduction to Econometrics	4
ECON 470	History of Economic Thought	3
		Hours credit 34

II Mathematics Supportive Courses

MATH 175	Mathematics for Business Decisions	4
MATH 130	Analytic Geometry	4
MATH 131	Calculus I	5
MATH 321	Elementary Linear Algebra	4
		Hours credit 17

III Business Supportive Courses

BUS 291	Business Statistics	4
BUS 397	Management Science — Probabilistic Models	3
BUS 482	Computer Simulation Techniques	4
		Hours credit 11

IV Electives in Economics

Numbered 200 or higher	12
Total hours credit in Economics & supportive courses	74

Economics Minor

Economics minor students will take the introductory economics and limited intermediate level courses sufficient to gain a reasonable familiarity with and appreciation for the discipline. The economics minor is particularly well-suited to students pursuing programs in the School of Business, but the minor is a valuable complement to liberal arts and education major programs as well.

Minor Requirements

I. Take two of the following: GEOG 100, ANT 100, PSCI 100 or SOC 100.

Consult advisor 10

II. Economics

ECON 110	Principles of Economics: Microeconomics	4
ECON 120	Principles of Economics: Macroeconomics	4
ECON 245	Urban Economics	3
ECON 202	Money & Banking	4
ECON 300	The Price System	4
ECON 470	History of Economic Thought	3
		Hours credit 22

III. Electives in Economics numbered 200 or higher 10

Total hours credit in Economics 32

English

Location: Michener L50

Telephone: 351-2971

John E. Loftis, Chair

Faculty

William Agan, MA, Assoc. Prof.
 Patricia Applegate, MA, Assoc. Prof.
 Frank Bowles, PhD, Assoc. Prof.
 John Brand, PhD, Prof.
 Wanda Brewer, EdD, Prof.
 James Doyle, MFA, Prof.
 Cynthia Frease, EdD, Prof.
 John Harrison, PhD, Prof.
 Chester Huff, PhD, Prof.
 Dorothy Jones, PhD, Prof.
 Edward Kearns, MA, Assoc. Prof.
 Rita Kiefer, MA, Assoc. Prof.
 Joyce Lackie, PhD, Assoc. Prof.
 John Loftis, PhD, Assoc. Prof.
 Jeane Luere, MA, Assoc. Prof.
 Kathleen Manley, PhD, Assoc. Prof.
 Charles Meyer, MA, Assoc. Prof.
 Doris Myers, PhD, Prof.
 Norman Peercy, PhD, Prof.
 Walter Princic, PhD, Assoc. Prof.
 Paul Rea, PhD, Assoc. Prof.
 Tomas Santos, PhD, Prof.
 Ben Varner, PhD, Assoc. Prof.
 Nell Wilson, PhD, Assoc. Prof.
 Sharon Wilson, PhD, Assoc. Prof.

The discipline of English studies literature and language and several related subjects such as creative writing, film, folklore and myth. Creative artists refuse to be limited in their



subjects or approaches. Literature, as one writer has said, is "an eloquent artistic document, infinitely varied, of mankind's journey; the autobiography of the race's soul." The questions we ask in studying literature are as "infinitely varied" as those asked by poets, playwrights and novelists: What does it mean to be human? How is the individual related to society? By what values should one lead his or her life? The list is infinite.

The study of literature and language requires both rigorous discipline and sensitivity: strict adherence to the highest standards of logic, evidence and argumentation as well as creative response to language and form. One learns to think, research and write critically, while simultaneously developing sensitivity to language and to the complexities of people and situations.

The English Department at UNC offers both undergraduate and graduate degree programs. The bachelor's degree in English is either a liberal arts B.A. or a teaching B.A. which leads to certification from the Colorado Department of Education for teaching at the secondary level, grades 7-12. Our graduate degrees are the M.A. and the Ed.D., degrees appropriate for teaching at the two or four-year college.

Bachelor of Arts

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

—General Education requirements of 60 hours as specified in this Bulletin.

—One minor of at least 27 quarter hours.

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

—Qualified students may be exempted by examination from ENG 111 and 115.

Major Core

ENG 111	Introduction to Poetry	4
ENG 114	Introduction to Language	4
ENG 115	Introduction to Fiction & Drama	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 & 18th Century	4
ENG 214	The Romantic Movement	4
ENG 215	Victorian Prose & 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: 1914-1919	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 & 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 414	Greek and Comparative Mythology	4
ENG 415	Literature of the Old Testament	4
ENG 416	Literature of the New Testament	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 following)

ENG 230	Lectures on Literary Themes (Maximum 8)	2
ENG 231	Great Writers in England & America	4
ENG 238	Introduction to Folklore	4
ENG 240	Creative Writing: Introduction to Poetry	4
ENG 241	Creative Writing: Introduction to Fiction	4
ENG 242	Creative Writing: Introduction to Theater, Film & Television	4
ENG 321	Generative-Transformational Grammar	4
ENG 325	Studies in Science Fiction	4
ENG 326	Advanced Studies in Science Fiction	4
ENG 327	Women & Sex 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 418	Grammatical Analysis	4
ENG 419	Advanced Topics in Syntax	4
ENG 420	Stylistics	4
ENG 425	Literature By and About Women	4
ENG 440	Creative Writing: Poetry & 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 the foregoing program, except that hours in electives are reduced from 28 to 7 hours.

Professional Teacher Education Core		39-40
EDLS 363	Clinical Experience	2
EED 341	Methods & Materials for Teaching Language & 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 47-48

Departmental Requirements for Teaching Majors (Hours may be counted toward major).

ENG 202	Writing About Language	4
ENG 240	Creative Writing: Introduction to Poetry <i>or</i>	4
ENG 241	Creative Writing: Introduction to Fiction	4
ENG 318	Traditional Grammar for the Teacher	4
EED 205	Oral English for the Teacher	4
EED 402	Literature & Materials in the Secondary School	5
		Hours credit 21

Recommended Courses (One or more)

EDEM 460	Television in Education	3
PSY 230	Human Growth & Development	5
COMM 302	Small Group Communication	4
COMM 420	General Semantics	4

Recommended minors — Foreign Languages, Humanities, Speech 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 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	4
ENG 114	Introduction to Language	4
ENG 115	Introduction to Fiction & Drama	4
	Electives in English	19
		Hours credit 31

Hours may be chosen from Groups I, II, III and IV, and from the electives for English majors. Teaching minors may elect ENG 250 or ENG 318 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 & Materials in the Secondary Schools	5

One of the Following

ENG 250	The English Language	4
ENG 318	Traditional Grammar for the Teacher	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" in this Bulletin.

Master of Arts Degree

—As a minimum requirement in a 45-hour program, the student will take ENG 600 and at least five English courses numbered in the 600s.

ENG 600 stresses the use of bibliographical tools for research and writing about literature and language, from the short essay to the dissertation. There will be enough individually designed exercises to assure familiarity with the UNC library, library facilities in general, and the major professional journals and bibliographical resources. The emphasis on bibliography and research includes the student's practical use of those skills in several short critical essays. The course culminates in one major project that each student will arrange in consultation with the professor.

—The comprehensive examination, to be taken during the quarter in which the student plans to graduate, will cover a knowledge of English and American literature and literary research. Any student choosing to do so may submit a thesis or creative project in lieu of taking the comprehensive examination. Theses and creative projects are subject to the approval of the student's major advisor and the English Department graduate faculty or its designated representatives.

—To increase the flexibility of this program for teachers and to provide further work to help them improve their instructional skills, a block of pedagogical course work (9 to 15 hours) may be taken. The student and his or her advisor will work out an individualized block of courses.

Note: Completion of a Master of Arts degree in English does not meet all the College of Education PTE requirements for certification in English. Please consult with your departmental advisor and/or the College of Education PTE office if you are interested in elementary or secondary certification.

Doctor of Education Degrees

The English Department's doctorate offers the student a choice of two emphasis areas. One of these is the Ed.D. for college teachers of English, intended for the person who plans to teach at the college or university level. The other is the Ed.D. in English Education, designed to prepare leaders in secondary school English teaching and college teachers of English methods. The requirements for each emphasis area follow.

Emphasis Area for College Teachers of English

Admission

—A master's degree in English or its equivalent. In addition to the general Graduate School requirements for entrance, the Department of English reserves the right to administer a qualifying examination to any student before admission to the Doctor of Education program for college teachers of English.

—The student will demonstrate competency in one research tool as defined in the Graduate School section of this Bulletin.

—*Course Work* The course work consists of 72 hours chosen from graduate courses in American, English and world literature and pedagogy. Specifically, the course work will be as follows:

The 72 hours of course work beyond the master's will usually be taken in the English Department and will include four areas:

A core of studies in English and American literature and language; Courses in world literature; Colloquiums in various topics that will stem from student and faculty interests and cut across traditional chronological and generic boundaries; A core of pedagogical studies to enhance the teaching ability the student develops in lecturing, reporting and leading class discussions in courses in the other three areas.

The core of studies in English and American literature and language will be at least 15 hours: at least one course in English literature, one in American literature, one in a genre, and one in language. This core provides the student with a wide variety of genre, survey and thematic courses at different levels of specializations that will be the basis for his or her future teaching and scholarly activities. These hours will be chosen from:

ENG 623	Studies in Old English (Maximum)	16
ENG 624	Studies in Middle English (Maximum)	16
ENG 625	Studies in the Renaissance (Maximum)	16
ENG 626	Studies in Restoration & 18th Century (Maximum)	16
ENG 627	Studies in the Romantic Period (Maximum)	16
ENG 628	Studies in the Victorian Period (Maximum)	16
ENG 629	Studies in 20th Century British Literature (Maximum)	16
ENG 630	Studies in American Literature — Beginning to the Civil War (Maximum)	16
ENG 631	Studies in American Literature — Civil War to W.W. I (Maximum)	16
ENG 632	Studies in American Literature —W.W.I to Present (Maximum)	16
ENG 633	Studies in the English Language (Maximum)	16
ENG 634	Studies in Linguistics (Maximum)	16
ENG 638	Studies in Literary Criticism (Maximum)	16
ENG 639	Colloquium in Literature (Maximum)	16
ENG 321	Generative-Transformational Grammar	4
ENG 402	The Short Story	4
ENG 403	Techniques of the Novel	5
ENG 404	Modern Literature About Childhood & Adolescence	4
ENG 405	Contemporary American Drama	4
ENG 407	Advanced Studies in Poetry	4
ENG 408	Elizabethan Drama Exclusive of Shakespeare	4
ENG 409	Literary Criticism	4
ENG 410	History of Ideas in Literature	4
ENG 418	Grammatical Analysis	4
ENG 419	Advanced Topics in Syntax	4
ENG 420	Stylistics	4

The courses in world literature will be at least 6 hours unless the student chooses to use 15 hours as a collateral field in place of one foreign language as one of the research tools; in that case the requirement will be 15 hours. These courses will broaden the student's view of literary studies and enable him or her to work more easily with courses in the humanities and mixed literatures that are often a part of the load of the beginning teacher of undergraduates. These hours will be chosen from:

ENG 635	Studies in World Fiction (Maximum)	16
ENG 636	Studies in World Poetry (Maximum)	16
ENG 637	Studies in World Drama (Maximum)	16
ENG 406	Modern Drama Since Ibsen	4
ENG 414	Greek and Comparative Mythology	4
ENG 415	Literature of the Old Testament	4
ENG 416	Literature of the New Testament	4
HUM 411	Advanced Course in Humanities	4

Maximum 12

If the student elects the collateral field in world literature as a research tool in place of a foreign language, the 15 hours of world literature (ENG 635, 636, 637 and a 3 or 4 hour elective in the list of world literature courses) will be in addition to the 72 hours.

Further flexibility can come from a collateral field other than world literature, namely, foreign languages, history, philosophy or speech, with the advice and consent of the student's major professor and the Director of Graduate Studies.

Studies in pedagogy will be required of all students. The student will take three hours of supervised teaching no later than his or her second quarter in residence.

From reports written by the student's supervising professor and others from whom the student has had classes, a committee of those professors will determine how much more guidance the student needs in teaching.

The hours in pedagogy will be chosen from:

EED 754	Supervised Teaching in English	3-9
EED 681	Seminar in the Teaching of Literature	3
EED 502	The Teaching of Composition	3

—A dissertation yielding 18 hours is required of each candidate.

Dissertation Activities

The student has the choice of any one of the following three options to satisfy the dissertation requirement.

I. The student may choose any three of the four following areas in which to write papers in lieu of the traditional dissertation:

—A study of a scholarly, textual, biographical or pedagogical problem. The emphasis is to be on scholarship, but the student must demonstrate that the problem has some critical or interpretive relevance.

—A second study of a single writer, a single work, or a problem in critical theory. The emphasis will be on a critical interpretation, and the student will be expected to demonstrate a sound grasp of the historical contexts investing the subject.

—A third study in yet another field of English, American or world literature in translation on a subject agreed to by the candidate and his or her committee in conference. This paper will be delivered orally to committee members concerned (the entire graduate English faculty is invited) and the collective body of English graduate students in residence. The paper will later be submitted in writing incorporating the various suggestions made by committee members and fellow students.

—A creative project such as a novella or collection of poems. If a student chooses this option, he or she will have one major faculty advisor who will serve as coordinator of his or her dissertation activities. A variety of graduate faculty members will serve as additional members on each of three boards, with the major advisor remaining constant and maintaining principal responsibility. There must, however, be a minimum of five graduate English faculty members involved on the three boards.

II. A major writing project such as the writing of a novel or a collection of poetry. A written proposal for the project must be submitted to the entire graduate English faculty and receive majority approval. Final approval rests with the committee constituted in the usual way under Graduate School rules. (A minimum of three from the major department plus one out-of-department member).

III. The traditional dissertation in literary criticism.

—At the termination of the candidate's course work, the student will take written examinations over several periods in literary history and oral examinations over American and British language and literature.

—The candidate will take ENG 797, Doctoral Proposal Research. The dissertation will be 12-18 hours credit.

—When the dissertation is complete, the student will be examined orally over his research study.

Emphasis Area in English Education

—The requirements for admission are the master's degree in English or its equivalent, including at least 64 hours of English and 40 hours of professional education (including English education) at the undergraduate and/or graduate level.

—If the student has not had a graduate course in bibliography and methods of research, he or she will be required to take ID 700, Introduction to Doctoral Research. He or she will also be required to demonstrate a reading knowledge of one foreign language or have taken at least 20 undergraduate hours of a single foreign language. The student will also take EPRE 504, Descriptive Statistics.

—The program consists of a minimum of 72 hours of course work (including ID 700 and EPRE 504) which will be divided almost equally between academic courses in literature and linguistics and courses in education and English education. The specific program will be planned in consultation with the major professor.

—At the conclusion of his or her course work, the candidate will take written comprehensive examinations covering his or her work in English education, English, and education.

—The candidate will take six hours of ENG 797, Doctoral Proposal Research. Then the candidate will submit a dissertation in some phase of English education for 12-18 hours credit.

—After the dissertation has been submitted, the candidate will be examined orally over the contents of his research study.

Environmental Studies

Location: Michener L21

Telephone: 351-2004

Charles E. Olmsted, Coordinator, Associate Professor

The Environmental Studies Program represents an interdisciplinary approach to finding effective and durable solutions to the problems created by the conflict between infinite human desires and finite natural resources.

The problem areas examined in the program include population growth; pollution of land, air and water; urban and rural land use; food production possibilities; existing and alternative energy technologies; wilderness preservation; and species extinction.

These problems are investigated from the differing perspectives of the natural sciences — biology, chemistry, earth sciences, health, physics; the social sciences — anthropology, economics, geography, political science, sociology; and the humanities — art, history, literature.

The Environmental Studies Program is a cooperative effort of the faculty of the various schools and colleges at UNC rather than a formal department. Program development and direction is administered by a coordinator working with the University-wide Environmental Studies Committee. This provides a mixture of insights and problem-solving approaches not usually available within specific disciplines. More than 20 faculty from a wide variety of departments regularly offer courses within the program.

Because of the breadth of the subject matter, Environmental Studies is very useful as a supporting minor for students majoring in any of the disciplines that contribute to the solution of environmental problems. The minor facilitates cooperative,

interdisciplinary problem-solving in either subsequent employment or graduate study.

Employment opportunities for students interested in Environmental Studies are very diverse and are shaped to a large extent by the major the student chooses. Environmental jobs can be laboratory, people, paper or outdoor oriented.

Typical employers include resource development companies, environmental consulting firms, government agencies, educational facilities (public and private, traditional and innovative), and environmental groups. There are also some self-employment opportunities in the field.

The following credit hours of intensive Environmental Studies represent an interdisciplinary approach to many complex environmental problems. They may be applied to the student's academic program in a variety of ways.

—Courses may be used as electives for the General Education requirements, in specific code categories which differ from course to course.

See the course description in this Bulletin for the code category applicable to each course listed here.

—Courses may be used as components of an Environmental Studies emphasis in an Interdisciplinary Studies Program. (See table of contents in this Bulletin for program description).

—Thirty-one credit hours from the courses listed here must be fulfilled for any student electing to complete a minor in Environmental Studies. The specific courses selected from this list to fulfill the minor requirement must be individually arranged between the student and the minor advisor.

Required Courses

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

ENST 110; 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.

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

Foreign Languages

Administered by the Department of Foreign Languages
Location: Candelaria 32
Telephone: 351-2040
Glenda Brown, Chair

Faculty

Glenda Brown, PhD, Prof.
Kathleen Ensz, PhD, Assoc. Prof.
Ellen Glew, PhD, Asst. Prof.
Frank Keppeler, MA, Assoc. Prof.
Iwan Owechko, PhD, Prof.

The master's program in Foreign Languages offers a masters degree in the teaching of foreign languages with an emphasis in French and German. This program is especially designed for those desiring to pursue a career in teaching, as it stresses the language and culture of the country as well as providing the opportunity to apply this knowledge in a practical manner through numerous methodology courses.

The program combines this core of courses in language and methodology with a smaller core of interdisciplinary courses from programs such as education, history, media and visual arts in order to give the student a broader base of knowledge in these related fields, as well as a greater expertise in their major language.

In addition to the classroom program during the academic year, a series of workshops or institutes is offered to provide the student an intensive immersion experience during several weeks of the summer. During these workshops, materials suitable for use in the classroom may be developed by the student, often in conjunction with a guest lecturer from off-campus. Students are also encouraged to speak their language at all times during these weeks on campus.

An additional language experience in the target country is provided in our Study Abroad Program. A student may be either a participant or an assistant to the professor accompanying the group.

Master of Arts Degree — Teaching

The degree of Master of Arts is offered in Foreign Language Teaching. An applicant must possess a B.A. in Foreign Languages or the equivalent, and should already have achieved a spoken and written command of the language chosen. An examination of this ability will be administered upon entrance and any deficiencies should be made up before the student enters the program.

A minimum of 45 quarter hours is required for a Master of Arts in the Teaching of Foreign Languages.

Departmental Requirements

—The candidate must have completed one year of teaching experience before admission into the program.

—The course of study leading to the M.A. in the Teaching of Foreign Languages shall consist of 45 quarter hours of which at least 36 quarter hours must be on the graduate level (numbered 500 or above). The remaining 9 hours can be at the 300-400 level.

—The language of specialization must be one of the languages offered at UNC.

—Related courses outside the immediate field of Foreign Languages — linguistics, anthropological linguistics, teaching minorities, etc. — will count among the major courses.

—The acceptability of credit for courses taken at other

institutions will be determined by the department. A maximum of nine quarter hours can be accepted.

—Candidates may study abroad with the Foreign Language Department's study abroad program if desirable, especially if the candidate has never been in a country where the language is spoken.

—Students are required to complete 30 quarter hours of course work within the Department of Foreign Languages. These hours consist of courses in the following two categories:

a. 20 hours in language, literature and civilization.

b. 10 hours in foreign language workshops and/or practicum.

—Students are required to complete 15 quarter hours of courses in other disciplines chosen from the following groups. A minimum of two courses in each group is required. Other courses may be substituted for those listed here, with consent of the major advisor.

Group I

EDMS 663	Middle School/Junior High Curriculum	3
EDF 565	Social & Cultural Differences in Education	3
EDEM 410	Introduction to Educational Media	5
EDEM 516	Utilization of Educational Resources	3
EDEM 520	Design & Construction of Audio-Visual Materials	3
COMM 520	Psychology of Human Communication	3
EDEC 648	Psycholinguistics in Early Childhood	3
EPRE 540	Principles of Learning	5
PPSY 670	Psychological Testing & Measurement	4

Other courses may be taken with permission of the major advisor.

Group II

ART 366	Renaissance Art	4
MUS 347	European Folk Music	3
GEOG 343	Western Europe	3
HIST 566	Seminar in the French Revolution & Napoleon	3
HIST 570	Seminar in Modern German History	3
HIST 596	Seminar in Modern European Intellectual History	3
ANT 537	Seminar in Cultural Anthropology	3
ANT 600	Introduction to the Concept of Culture	3

(Other courses may be taken with permission of major advisor)

Total hours in interdisciplinary culture 15

—All students are required by the Graduate School to take Introduction to Graduate Study or an approved substitute.

—Successful completion of written and oral comprehensive examinations.

Note: Completion of a Master of Arts degree in Foreign Languages does not meet all the College of Education PTE requirements for certification in Foreign Languages. Please consult with departmental advisor and/or PTE office if interested in elementary or secondary certification.

French

Administered by the Department of Foreign Languages
Location: Candelaria 32
Telephone: 351-2040
Glenda Brown, Chair

The undergraduate program in French offers the student the opportunity to acquire the four language skills — speaking, listening, reading and writing. The Department of Foreign Languages offers two major programs in French: the Bachelor of

Arts in French, Teaching; and the Bachelor of Arts in French, Liberal Arts. There are also teaching and liberal arts minors in French.

Because it is necessary to attain a high level of skill for all careers in the field of foreign languages, our classes are performance-oriented. Conversational abilities are stressed at all levels, and a number of advanced level skill-building courses are offered to promote the greatest possible fluency. In addition, courses are conducted almost exclusively in the target language. The department also provides an up-to-date language laboratory for individual work.

In addition to our conventional classroom program, we offer a number of extra-curricular programs and activities for our students. Our Foreign Language House is an unexcelled opportunity to use a language on an intensive level, because occupants are required to use their language whenever they are in the house.

We also offer a study abroad program for those students who desire or require additional experience abroad. We hope it is possible for many of our majors and minors to study in their target countries as a normal part of their professional development.

The department offers a number of conversation hours on various parts of the campus to give students practice in their foreign language. There is also a French Club whose activities are open to all students studying the language.

The program in French offers varied career opportunities. Many of our graduates are presently teachers in the Rocky Mountain area. Those with liberal arts degrees have combined their language study with other fields such as business, sociology, political science, history, fine arts and others, and are now involved in careers such as international business, world affairs, social work and the arts.

Advising and advisory signatures are required before registration.

Undergraduate

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

—General Education requirements of 60 hours, as specified in this Bulletin. French majors are encouraged to take ANT 100, SOC 100, or HIST 130, 131 and 132. Students should consult their assigned advisors.

—All work to be counted toward the B.A. degree in French must be beyond the first year level.

—A minor of at least 27 quarter hours approved by the department.

—In addition, students must demonstrate competency in certain areas of language activity. See department for competency list.

—Advising and advisory signature required before registration.

—Electives sufficient to complete requirements for the B.A. degree.

Major Core Required Courses

FR 201	Intermediate French I	4
FR 202	Intermediate French II	4
FR 203	Intermediate French III	4
FR 340	French Civilization I	3
FR 341	French Civilization II	3
FR 342	French Civilization III	3

Electives

Four French literature courses chosen from departmental offerings 12

French Teaching Major

In addition to the foregoing required core courses, the following are required for students who plan to teach in public schools.

FR 313	Intermediate French Conversation	3
FR 314	Intermediate French Composition	3
FR 315	Intermediate Review Grammar	3
FR 400	Problems in Oral French	3

Electives

In French, chosen with consent of advisor 6
Hours credit 48

Note: Three hours of FL 131, Foreign Language House; and FL 410, Linguistics, are the *only* FL prefix courses applicable to the major.

Professional Teacher Education

FL 341	Professional Teacher Core	39-40
	Methods of Teaching in the Secondary School	3
		Hours credit 42-43

Before application may be made for student teaching, a French major must have successfully passed the departmental oral proficiency examination.

Liberal Arts Major

In addition to the required major core courses, the following courses are required for students with a liberal arts major.

Electives

To be chosen with advisor's consent 15
Hours credit 48

Note: Three hours of FL 131, Foreign Language House; and FL 410, Linguistics, are the *only* FL prefix courses applicable to the major.

French Minor

Required Core Courses

FR 201	Intermediate French I	4
FR 202	Intermediate French II	4
FR 203	Intermediate French III	4

French Teaching Minor

In addition to the required core courses, the following are required for a French teaching minor:

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 consent of 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

Liberal Arts Minor

In addition to the required core courses listed before, the following are required for students with a liberal arts minor:

FR 340	French Civilization I	3
FR 341	French Civilization II	3
FR 342	Contemporary France	3

Electives

In French, to be chosen with consent of advisor 9
Hours credit 30

Geography

Administered by the Department of Geography
Location: Candelaria 214
Telephone: 351-2715
Charles O. Collins, Chair

Faculty

David B. Cole, PhD, Assoc. Prof.
Charles O. Collins, PhD, Assoc. Prof.
John L. Dietz, PhD, Prof.
Kevin C. Kearns, PhD, Prof.
Katherine L. Kutsche, PhD, Asst. Prof.
Paul L. Lehrer, PhD, Prof.
Richard K. Ormrod, PhD, Assoc. Prof.
Steven A. Scott, DA, Assoc. Prof.

Geography is the study of the social, environmental and locational processes that create diversity from place to place on the earth's surface. The geographic perspective helps explain the reasons for and the significance of local, regional and world patterns and analyzes the role of locational factors in human affairs.

An undergraduate major and minor, plus two graduate degrees, the Master of Arts in Social Science: Geography, and the Doctor of Arts in Geography, are offered by the Department of Geography at the University of Northern Colorado. All programs are adequately flexible to address differing student interests and provide a sound base for employment.

Those electing a major in Geography are generally preparing for careers in teaching, cartography, location analysis, urban and regional planning, or transportation planning. Examples of specific job activities include map design and construction, market analysis, commercial site analysis, industrial location analysis, transportation planning, land-use and real estate analysis and planning, environmental and social impact assessment, and city planning. All programs provide the opportunity for directed independent study and actual experience as interns.

The Department of Geography is housed in a modern, air-conditioned building located next to the University library.

The department possesses its own cartography laboratory and a large, well-organized map collection is available in the University library. The University also has modern computer facilities which are readily accessible to all students.

The Department of Geography offers a major in Geography with either a liberal arts emphasis or an applied emphasis. The department also offers a minor in Geography. Students interested in being certified for teaching Geography must take a major in Social Sciences.

Geography Major

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

—General Education requirements of 60 hours as specified in this Bulletin.

—The following required core courses for the major:

GEOG 120	Physical Geography I	3
GEOG 121	Physical Geography II	3
GEOG 123	Cultural Geography	4
GEOG 200	Location & Human Behavior	4
GEOG 364	Maps & Their Uses	2
		Hours credit 16

—Complete the following requirements for their selected emphasis:

Liberal Arts Emphasis

A. Take two of the following courses as part of General Education: ANT 100, ECON 100, PSCI 100 or SOC 100.

B. Complete at least one minor of 27 quarter hours.

C. Complete the following required course:

GEOG 148	Geography of the United States & Canada	5
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D. Complete elective courses in Advanced Regional Geography courses from the following: minimum 14

GEOG 318	Australia & the Pacific	3
GEOG 326	Africa	5
GEOG 336	Geography of Mexico & 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: minimum 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	3
GEOG 357	Transportation Geography	3
GEOG 360	Political Geography	3
GEOG 370	Urban Geography	4
GEOG 372	Urban-Social Geography	4
GEOG 402	Cartography	4
GEOG 470	Urban & Regional Planning	3
GEOG 475	Quantitative Techniques in Geography	3
GEOG 490	Problems in Geography	3
		Hours credit 50

E. General electives to complete the requirements for graduation.

Applied Emphasis

Students interested in careers in applied Geography may choose one of the following:

Urban and regional planning
Environmental planning and resource management
Economic applications

The following courses must be included in their programs, with electives selected in consultation with advisor:

A. Required Courses

GEOG 312	Economic Geography	5
GEOG 402	Cartography	4
GEOG 475	Quantitative Techniques in Geography	3

B. Elective Courses as Specified Here:

(1) Skills and tools	minimum	8
CSCI 281	Computer Programming in FORTRAN IV	4
CSCI 282	Computer Programming in PASCAL	4
STAT 203	Introduction to Statistical Methods	3
STAT 303	Basic Statistical Inference	3

(2) Option area electives:

(a) Those students choosing **Urban & Regional Planning**

Advanced Geography Electives	minimum	15
GEOG 355	Population Geography	3
GEOG 357	Transportation Geography	3
GEOG 360	Political Geography	3
GEOG 372	Urban Social Geography	4
GEOG 470	Urban & Regional Planning	3
GEOG 422	Internship or Individual Studies 1-8	

Associated electives: minimum 15

BLS 420	Black Urban Politics	3
FIN 333	Real Estate Law	2
FIN 372	Principles of Real Estate	3
ECON 241	Public Finance	5
ECON 245	Urban Economics	3
ECON 332	Planning Economics	3
ECON 360	Economics of Growth & Development	3
ENST 240	Politics & the Environment	3
ENST 260	Ecological Interpretations	3
ENST 304	Environment & the Law	3
HS 299	Community Health	3
REC 451	Administration of Community Parks & Recreation	5
HISP 300	Social Stratification in Mexican-American Communities	3
PSCI 208	Introduction to Public Administration	3
PSCI 350	Comparative Public Policy	3
PSCI 402	Urban Politics	4
SOC 272	The Community	3
SOC 478	Urban Sociology	3

Hours credit 66

(b) Those students choosing **Environmental Planning and Resource Management**

Advanced Geography Electives:	minimum	15
GEOG 315	Resource Management	3
GEOG 355	Population Geography	3
GEOG 356	Agricultural Geography	2
GEOG 357	Transportation Geography	3
GEOG 360	Political Geography	3
GEOG 470	Urban & Regional Planning	3
GEOG 422	Internship or Individual Studies 1-8	

Associated electives: minimum 15

BIO 240	General Ecology	4
BIO 241	Modification of the Human Environment	4
BIO 402	Conservation of Natural Resources	4
BOT 306	Economic Botany	3
CHEM 393	Environmental Chemistry	4

ECON 332	Planning Economics	3
ECON 360	Economics of Growth & Development	3
ECON 403	Economics of the Environment	3
ENST 211	Chemistry & the Environment	3
ENST 230	Economics of Natural Resources	3
ENST 240	Politics & the Environment	3
ENST 250	Man's Atmospheric Environment	3
ENST 260	Ecological Interpretations	3
ENST 280	Natural Resources & Technology	3
ENST 300	General Systems Approach	4
ENST 304	Environment & the Law	3
ENST 340	Internship in Environmental Studies	5-9
GEOL 425	Economic Geology	3
MET 200	General Meteorology	4
MET 320	Climatology	3
PSCI 208	Introduction to Public Administration	3
PSCI 350	Comparative Public Policy	3

Hours credit 66

(c) Students choosing **Economic Applications**

Advanced Geography Electives:	minimum	15
GEOG 315	Resource Management	3
GEOG 355	Population Geography	3
GEOG 356	Agricultural Geography	2
GEOG 357	Transportation Geography	3
GEOG 372	Urban Social Geography	4
GEOG 470	Urban & Regional Planning	3
GEOG 422	Internship or Individual Studies	1-8

Associated electives: minimum 15

BUS 231	Business Law I	4
MKT 360	Marketing	4
FIN 333	Real Estate Law	2
MKT 365	Marketing Strategy	4
MKT 366	Consumer Behavior	4
FIN 372	Principles of Real Estate	3
MKT 469	Distribution Management	4
ECON 245	Urban Economics	3
ECON 332	Planning Economics	3
ECON 360	Economics of Growth & Development	3
ECON 403	Economics of the Environment	3
GEOL 425	Economic Geology	3
SOC 312	Mass Communication & Propaganda Analysis	3
SOC 330	Complex Organizations	3
SOC 421	Industrial Sociology	3
SOC 432	Occupations & Professions	3
SOC 478	Urban Sociology	3

Hours credit 66

(d) General electives to complete requirements for graduation.

Geography Minor

Students minoring in Geography will take two of the following courses as part of 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 & Canada	5
GEOG 364	Maps & Their Uses	2

Hours credit 12

Electives in Advanced Regional Geography from courses listed in the major

Electives in Advanced Systematic Geography from courses listed in the major

Electives in either Advanced Regional or Systematics Geography

Hours credit 27

Master of Arts in Geography

The Master of Arts in Geography is a flexible program that can be designed as a terminal degree or as a foundation for further graduate study.

During their first quarter of residence, all graduate students in Geography programs will be given a diagnostic evaluation. The results will be used for program planning.

Program Requirements

- GEOG 505, Evolution of Geographic Thought
- GEOG 575 Seminar in Quantitative Geography
- GEOG 592 Field Course in Geography
- GEOG 600 Introduction to Graduate Study

Doctor of Arts

The objective of the Doctor of Arts program is to prepare versatile and well-informed teachers of Geography. Emphasis is placed on the training of effective teachers and not on the production of skilled research geographers.

A student successfully completing the program will be well qualified to teach Geography at the junior (community) or senior college level.

Prerequisites

- Meet general Graduate School admission requirements.
- Hold a master's degree in one of the Social Sciences.
- Have a minimum of 20 hours in Geography.

Program Requirements

- Minimum of 48 hours in Geography, including the dissertation.
- Minimum of 15 hours of credit in a discipline germane to Geography. Questions from this supporting area will comprise one part of the comprehensive exam.
- Complete 27 hours of advisor-approved electives.
- ID 702 The Teacher in the College Community.
- GEOG 505 Evolution of Geographic Thought.
- GEOG 600 Introduction to Graduate Study in Geography.
- GEOG 575 Seminar in Quantitative Geography
- GEOG 755 Supervised Teaching Internship in Geography. Depending upon the needs of the student, credit will be from 3-9 hours.
- GEOG 681 Seminar in Teaching College Geography.
- GEOG 797 Doctoral Proposal Research.

Geology

(See Earth Sciences)

German

Administered by the Department of Foreign Languages
Location: Candelaria 32
Telephone: 351-2040
Glenda Brown, Chair

The undergraduate program in German offers the student the opportunity to acquire the four language skills — speaking, listening, reading and writing, and to study the culture and literature of the country. The Department of Foreign Lan-

guages offers two major programs in German: the B.A. in German Teaching, and the B.A. in German — Liberal Arts. It also offers a teaching and liberal arts minor in German.

Because it is necessary to attain a high level of skills for all careers in the field of foreign languages, our classes are performance-oriented. Conversation skills are stressed at all levels, and a number of advanced level skill-building courses are offered in order to promote the greatest possible fluency. In addition, courses are conducted almost exclusively in the target language. The department also provides an up-to-date language laboratory for individual work.

In addition to our conventional classroom program, we offer a number of extra-curricular programs and activities for our students. Our Foreign Language House provides an opportunity to use a language on an intensive level, for occupants are required to use their language while they are in residence.

We also offer a study abroad program for those students who desire or require additional experience abroad. We hope it is possible for many of our majors and minors to study in their target country as a normal part of their professional development programs. The department offers a number of conversation hours on various parts of the campus to give the students opportunities to practice their foreign language. There is also a German Club whose activities are open to all students studying the language.

The program in German offers numerous career opportunities. Many of our graduates are presently teachers in the Rocky Mountain area. Those with liberal arts degrees have combined their language study with other fields such as business, sociology, political science, history, fine arts and other, and are now involved in careers such as international business, world affairs, social work and the arts.

Advising and advisory signatures are required before registration.



Undergraduate

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

—General Education requirements of 60 hours as specified in this Bulletin. German majors are encouraged to take ANT 100, SOC 100 or HIST 130, 131, 132. Students should consult assigned advisors.

—All work to be counted toward the B.A. degree in German must be beyond the first-year level.

—A minor of at least 27 quarter hours approved by the department.

—In addition, students must demonstrate competency in certain areas of language activity. See department for competency list.

—Before registration, obtain required advising and advisory signature.

—Electives sufficient to complete requirements for the B.A. degree.

Major Core Required Courses (Or their equivalents)

GER 201	Intermediate German I	4
GER 202	Intermediate German II	4
GER 203	Intermediate German III	4
GER 335	Intermediate German Conversation	4

Electives

5 German literature courses chosen from Departmental offerings 15

German Teaching Major

In addition to the preceding required major core courses, the following are required for students who plan to teach in the public schools:

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 in German chosen with advisor's consent 3

Note: Three hours of FL 131, Foreign Language House, and FL 410, Linguistics, are the *only* FL prefix courses applicable to the major.

Hours credit 48

Professional Teacher Education

Professional Teacher Education Core 39-40		
EDLS 363	Clinical Experience	2
FL 341	Methods of Teaching in the Secondary School	3

Hours credit 42-43

Before being permitted to apply for student teaching, a German major must have successfully passed the departmental oral proficiency examination.

Liberal Arts Major

In addition to the foregoing required major core courses, the following courses are required for students with a liberal arts major.

Electives in German chosen with consent of advisor 17
Hours credit 48

German Minor

Students must demonstrate competency in certain areas of language activity. See department for competency list.

Required Core Courses

GER 201	Intermediate German I	4
GER 202	Intermediate German II	4
GER 203	Intermediate German III	4
GER 335	Intermediate German Conversation	4

German Teaching Minor

In addition to the required core courses, the following are required for a German teaching minor:

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

Liberal Arts Minor

In addition to the required core courses, the following are required for a German liberal arts minor:

Electives

Three German literature courses chosen from the Departmental offerings 9

Electives in German to be chosen with consent of the advisor 5

Hours credit 30

Hispanic Studies

Location: Candelaria 33

Telephone: 351-2811

Maria Lopez Hoffman, Chair

Faculty

Roberto H. Cordova, PhD, Asst. Prof.

Maria Lopez Hoffman, PhD, Assoc. Prof.

Carlos Leal, EdS, Assoc. Prof.

Joseph A. Pluto, PhD, Asst. Prof.

Alfonso Rodriguez, PhD, Assoc. Prof.

Teresa B. Rodriguez, MA, Asst. Prof.

Lynn A. Sandstedt, PhD, Prof.

Loren L. Zeller, PhD, Assoc. Prof.

The Department of Hispanic Studies offers courses in Spanish language and literature, Peninsular and Latin American civilization and culture, Mexican American studies, bilingual/-bicultural education, and teaching English as a second language. All areas of Hispanic language, literature and culture are taught in the same department in order to offer students degree programs which integrate related areas of study and to maximize faculty expertise.

The Department of Hispanic Studies offers a major and minor in Spanish, in Liberal Arts/Teaching and in Spanish for the professions, a major in Hispanic Studies with emphases in Mexican American Studies or Latin American Studies, and a minor in Mexican American Studies.

On the graduate level, the Department of Hispanic Studies offers a Master of Arts in the teaching of foreign languages with an emphasis in Spanish.

A Bilingual/Bicultural Education core of courses is provided to Elementary Education majors who are interested in obtaining certification for this area. The Department also provides some of the courses for the minor in Teaching of English as a Second Language.

Departmental facilities include a fully equipped language laboratory, student resource library, and student conversation and study lounges. Faculty are readily available for advising and consultation. A study abroad center has been established in Morelia, Mexico, and majors and minors are encouraged to participate in the spring quarter intensive program there through which they may earn 12 or more credit hours. Freshman and sophomore students may take part in this program, and may take some courses for General Education credit.

Current research interests of the Department faculty include: Mexican American art, Hispanic music and culture, Latin American short story, foreign language methodology, 20th century Spanish theater, Colorado Chicano history, Southwest linguistics, and bilingual educational materials.

Students who graduate with degrees in Spanish have career opportunities readily available. Many students of Spanish choose to double major in Spanish and business, sociology, psychology, journalism, nursing, social work, or elementary education. Other students combine such majors with a major in Hispanic Studies or a minor in Mexican American Studies.

Undergraduate Hispanic Studies Major

Students pursuing the B.A. degree with a major in Hispanic Studies must fulfill the following requirements:

—General Education requirements of 60 quarter hours as specified in this Bulletin.

—A minor of at least 27 quarter hours, to be approved by the Department.

—Electives sufficient to complete the requirements for the B.A. degree.

—Advising is required for all Hispanic Studies majors. Signature of the advisor must be obtained before registration.

Required Core Courses

SPAN 201	Intermediate Spanish I	4
SPAN 202	Intermediate Spanish II	4
SPAN 203	Intermediate Spanish III	4
HISP 220	History of Mexico	4
	<i>or</i>	
HIST 218	History of Mexico	4
HISP 225	History of the Chicano in the Southwest	3
HISP 380	Hispanic Cultures in the United States	4
HIST 314	History of Latin America — Colonial Period	4
HIST 315	History of Latin America — National Period	4
HIST 372	History of Spain & Portugal	4

Emphasis Area

After completing major core requirements, student may select *one* of two major emphases:

Mexican American Studies

HISP 101	Introduction to Mexican American Studies	4
HISP 300	Social Stratification	3
HISP 302	Bicultural Systems	3

HISP 360	Contemporary Chicano Literature	3
HISP 365	Mexican American Art	3
HISP 400	Mexican American Thought	3
Electives		5

Hours credit 58

Electives for Mexican American Studies are to be selected from the following:

ANT 345	Archaeology of Mexico	4
ART 383	Pre-Columbian Art	4
GEO 336	Geography of Mexico & the Caribbean	3
HISP 255	Music of the Hispanic World	3
HISP 260	Hispanic Folklore	3
HISP 360	Hispanic Drama	3
HISP 370	Chicano Psychology	3
HISP 375	Women in Hispanic Society	3
HISP 440	Mexican Literature	3

Latin American Studies

ANT 320	Ethnology of Hispanic Peoples	4
GEO 336	Mexico & the Caribbean	3
GEO 338	South America	3
PSCI 411	Government & Politics of Latin America	4
SPAN 331	Latin American Civilization & Culture	4
Electives		6

Hours credit 58

Electives for the Latin American Studies are to be selected from the following:

ANT 329	People & Cultures of the Caribbean	4
ANT 345	Archaeology of Mexico	4
ECON 315	World Food Economics	3
ECON 360	Economics of Growth & Development	3
ECON 361	Economics of Multinational Corporations	3
ECON 460	Economics of Colonialism & Imperialism	3
HISP 255	Music of the Hispanic World	3
HISP 260	Hispanic Folklore	3
HISP 355	Contemporary Latin American Writers	3
HISP 360	Hispanic Drama	3
HISP 435	Latin American Short Story	3
HISP 440	Mexican Literature	3
HISP 445	Puerto Rican Literature	3

Mexican American Studies Minor

Students pursuing a minor in Mexican American Studies must fulfill the following requirements:

—Obtain required advising.

Required Core Courses

HISP 101	Introduction to Mexican American Studies	4
HISP 220	History of Mexico	4
	<i>or</i>	
HIST 218	History of Mexico	4
HISP 225	History of the Chicano in the Southwest	3
HISP 300	Social Stratification in the Mexican American Community	3
HISP 350	Contemporary Chicano Literature	3
HISP 365	Mexican American Art	3
SOC 345	Sociology of Minorities	4

Electives 12

Hours credit 36

Electives for the Mexican American Studies minor are to be selected from the following:

ANT 345	Archaeology of Mexico	4
ART 383	Pre-Columbian Art	4
GEOG 336	Geography of Mexico & the Caribbean	3
HISP 255	Music of the Hispanic World	3
HISP 260	Hispanic Folklore	3
HISP 302	Bicultural Systems	3
HISP 370	Chicano Psychology	3
HISP 375	Women in Hispanic Society	3
HISP 385	Mexican American Thought	3
HISP 430	Mexican Literature	3

Spanish Major

Students pursuing the B.A. with a major in Spanish must fulfill the following requirements:

—General Education requirements of 60 quarter hours as specified in this Bulletin.

—Spanish majors are required to take HIST 372, and either HIST 314 or HIST 315 as General Education requirements or as general electives.

—A minor of at least 27 quarter hours, to be approved by the Department.

—Electives sufficient to complete the requirements for the B.A. degree.

—Advising is required for all Spanish majors. Signature of the advisor must be obtained before registration.

—Upon completion of course work, students must demonstrate acceptable proficiency in the language.

—Students must complete the SPAN 321, 322, 323, Spanish Civilization and Literature series before enrolling in the SPAN 331, 332, 333, Latin American Civilization and Literature series.

Required Core Courses

SPAN 201	Intermediate Spanish I	4
SPAN 202	Intermediate Spanish II	4
SPAN 203	Intermediate Spanish III	4
SPAN 301	Advanced Spanish Grammar	4
SPAN 302	Advanced Spanish Composition	3
SPAN 303	Spanish Conversation	4
SPAN 321	Spanish Civilization & Culture	4
SPAN 331	Latin American Civilization & Culture	4

Emphasis Areas

After completion of the major core requirements, students may select *one* of two major emphases:

Liberal Arts/Teaching Emphasis

SPAN 205	Introduction to Literature	3
SPAN 304	Spanish Pronunciation	3
SPAN 305	Dialects of the Hispanic World	3
SPAN 322	Spanish Literature I	3
SPAN 323	Spanish Literature II	3
SPAN 332	Latin American Literature I	3
SPAN 333	Latin American Literature II	3

Electives

See list of elective courses for both emphasis areas 6
Hours credit 58

Professional Emphasis

SPAN 305	Dialects of the Hispanic World	3
SPAN 322	Spanish Literature I	3
	<i>or</i>	
SPAN 323	Spanish Literature II	3
SPAN 332	Latin American Literature I	3
SPAN 401	Problems in Oral Spanish	3
SPAN 402	Spanish for the Professions	4
SPAN 403	Introduction to Translation	3

Electives

See list of elective courses for both emphasis areas 8
Hours credit 58

Electives for both emphasis areas are to be selected from the following courses:

FL 341	Foreign Language House	1
HISP 101	Introduction to Mexican American Studies4	
HIST 218	History of Mexico	4
HISP 220	History of Mexico	4
HISP 250	Mexican Civilization & Culture	3
HISP 255	Music of the Hispanic World	3
HISP 260	Hispanic Folklore	3
HISP 350	Contemporary Chicano Literature	3
HISP 355	Contemporary Latin American Writers	3
HISP 360	Hispanic Drama	3
HISP 361	Hispanic Theater Production	3
HISP 365	Mexican American Art	3
HISP 375	Women in Hispanic Society	3
HISP 380	Hispanic Cultures in the United States	3
HISP 430	Cervantes: Don Quixote	3
HISP 435	Latin American Short Story	3
HISP 440	Mexican Literature	3
HISP 445	Puerto Rican Literature	3
SPAN 204	Conversation & Culture Laboratory	1
SPAN 401	Problems in Oral Spanish	3
SPAN 402	Spanish for the Professions	4
SPAN 403	Introduction to Translation	3

Professional Teacher Education

Students wishing to be certified to teach Spanish must take the following:

EDLS 363	Clinical Experience	2
FL 341	Methods of Teaching in the Secondary Classroom3	
	Professional Teacher Education core 39-40	
	Hours credit 44-45	

In order to gain permission to apply for student teaching, a Spanish major must successfully pass the Department's oral proficiency exam.

Spanish Minor

Students pursuing a minor in Spanish must fulfill the following requirements:

—Obtain required advising.

—All work to be counted for the minor must be beyond the first year level.

—As a General Education course, or as a general elective, Spanish minors are required to take *one* of the following: HISP 220, HIST 218, HIST 314, HIST 315, or HIST 372.

Elementary Education: Bilingual Bicultural Certification

Dr. Joseph Pluto, Coordinator

Courses for Bilingual Bicultural Education will be provided by the Department of Hispanic Studies to Elementary Education majors who wish to be certified to teach in Bilingual Bicultural Education programs. Courses are provided in Spanish language skills, culture of the Southwest and of Hispanics in the United States, methodology, language skill assessment theory and practice.

Required Core Courses

SPAN 201	Intermediate Spanish I	4
SPAN 202	Intermediate Spanish II	4
SPAN 203	Intermediate Spanish III	4
SPAN 301	Advanced Spanish Grammar	4
SPAN 302	Advanced Spanish Composition	3
SPAN 303	Spanish Conversation	4

Emphasis Areas

After completion of the minor core requirements, student may select *one* of two minor emphases.

Liberal Arts/Teaching Emphasis

SPAN 304	Spanish Pronunciation	3
SPAN 321	Spanish Civilization & Culture	4
<i>or</i>		
SPAN 331	Latin American Civilization & Culture	4
One of the following:		
SPAN 322	Spanish Literature I	3
SPAN 323	Spanish Literature II	3
SPAN 332	Latin American Literature I	3
SPAN 333	Latin American Literature II	3
One elective	— see electives for Spanish major	3
		Hours credit 36

Professional Emphasis

SPAN 402	Spanish for the Professions	4
SPAN 403	Introduction to Translation	3
SPAN 321	Spanish Civilization & Culture	4
<i>or</i>		
SPAN 331	Latin American Civilization & Culture	4
One elective	— see list under Spanish major	2
		Hours credit 36

Requirements

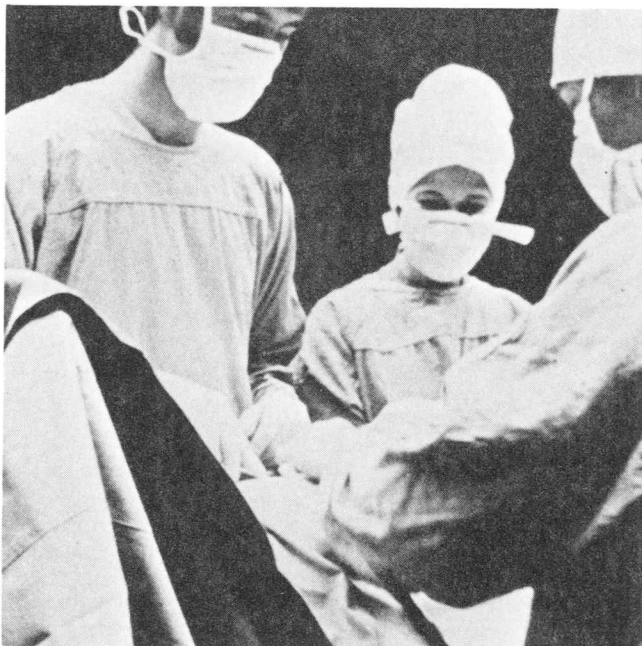
—Completion of all requirements for the Elementary Education major except the minor requirement.

—Students must pass a language placement exam with ratings of second level proficiency, or must have completed intermediate Spanish courses before enrolling in SPAN 404, 406 and 407.

—Competency in the Spanish language must be demonstrated after completion of SPAN 404, 405, 406, before certification is granted.

Required Courses

HISP 101	Introduction to Mexican American Studies	4
<i>or</i>		
HISP 380	Hispanics in the United States	3
HISP 302	Bicultural Systems	3
HISP 400	First & Second Language Skills in Bilingual Bicultural Setting	3
HISP 395	History & Philosophy of Bilingual Education	3
HISP 405	Assessment Theory & Techniques in the Bilingual Bicultural Classroom	4
SPAN 404	Spanish for Bilingual Education I	4
SPAN 405	Spanish for Bilingual Education II	4
SPAN 406	Spanish for Bilingual Education III	4
		Hours credit 29



History

Location: Michener L97
Telephone: 351-2905
Stephen T. Powers, Chair

Faculty

George Boeck, PhD, Prof.
Benjamin Byerly, PhD, Prof.
Marshall Clough, PhD, Assoc. Prof.
Alfred Cornebise, PhD, Prof.
Ronald Edgerton, PhD, Assoc. Prof.
Alexander Knott, PhD, Assoc. Prof.
Robert Larson, PhD, Prof.
David Lonsdale, PhD, Assoc. Prof.
Stephen Powers, PhD, Prof.
Barry Rothaus, PhD, Prof.
Gail Rowe, PhD, Prof.
Janet Worrall, PhD, Assoc. Prof.

The discipline of history concerns itself with the record of the human past, thereby forming an indispensable background for all other areas of knowledge, whether in the humanities, social sciences or sciences.

It is the role of the History Department at UNC to offer a series of courses which address the significant events in the human past for the purpose of liberally educating students from all areas of the University.

The Department has a second, but no less important role in training teachers at both the graduate and undergraduate levels.

To accomplish these roles, the department offers four programs—a liberal arts B.A.; a B.A. with an emphasis in teacher training; and both Master of Arts and Doctor of Arts degrees in history.

Graduates from our programs enter the teaching and legal professions. Many other go into government service and into the business world.

Undergraduate Major

Students pursuing a B.A. degree in History must complete the following program requirements:

—General Education requirements of 60 hours as specified in this Bulletin.

—One minor of 27 hours, preferably within the College of Arts and Sciences.

—The Department of History recommends that History majors take a foreign language.

—Electives sufficient to complete the 180 hours required for graduation.

Core Requirements for all Majors

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	5
HIST 131	Western Civilization II	5
HIST 132	Western Civilization III	5
HIST 399	Introduction to Historical Research	4
HIST 499	Interdisciplinary Readings in History	4
		Hours credit 34

Liberal Arts

Third World Course Requirements for Liberal Arts Majors

One of the following elective courses:

HIST 100	African Civilization I	4
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
		Hours credit 4

Advanced Course Requirements for Liberal Arts Majors

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.

Courses total 28 hours
Total hours in Liberal Arts major 66

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:

—General Education requirements as specified in this Bulletin.

—Social Science 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
		Hours credit 25

Electives

Students 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 20 hours
Social Sciences elective above the 100-level
Courses total 10 hours
Total hours in Teaching major 89

Professional Teacher Education

Students planning to teach in this major are required to complete PTE requirements of 46 hours as specified in this Bulletin.

The PTE program accompanying this major involves the following modifications:

—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).

Required Courses

EDF 366	Foundations of Education	3
EDF 367	Philosophy of Education	3
EPRE 347	Developmental Psychology for Teachers	2
EPRE 348	Learning Processes in Education	3
HIST 130	Western Civilization I	5
HIST 131	Western Civilization II	5
HIST 132	Western Civilization III	5
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 50 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 3, and EDLS 363 Clinical Experience 2

—Students must have completed 41 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 two 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 37-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	5
HIST 131	Western Civilization II	5
HIST 132	Western Civilization III	5
Advanced electives in History 10		

Hours credit 37

Honors—The Department of History participates in the Honors Program. See the Honors Program section of this Bulletin.

Master of Arts Degree

Admission and General Requirements

Consult the Graduate School general policies in this Bulletin. Graduate credit may be earned only on courses numbered 500 or above, although up to 15 hours may be earned with departmental approval in courses numbered 300 and 400.

Departmental Requirements

—A candidate for the M.A. in history should consult with the chair of the department as early as possible to plan his or her course of study and to be assigned an advisor.

—The candidate's undergraduate and graduate hours of credit in history must total at least 64 hours.

—A minimum of 30 quarter hours must be earned at the 500 and 600 course levels in history. No hours may be earned in HIST 622, Individual Studies, without obtaining prior approval from the Department chair.

—History seminars at the 500 level may be taken in lieu of Introduction to Graduate Study.

—To be more broadly prepared, candidates are urged to take two seminars outside their areas of concentration.

—A candidate for the M.A. in History should, after consultation with his or her advisor, adopt one of the following programs:

a. Take and successfully pass written comprehensive examinations in each of three fields of history. Each examination will be of four hours' duration, and normally should be taken no earlier than during the fourth quarter of graduate work. The candidate must select one field each from categories I and II; the third field may be chosen from categories I, II or III. List of fields follows.

b. Write a thesis in addition to taking and passing a written comprehensive examination in each of two fields of history. Each examination will be of four hours' duration, and normally should be taken no earlier than the fourth quarter of graduate work. The candidate will be examined orally by a department committee on his or her thesis, and will be held responsible for a general knowledge of his or her thesis area. The candidate may not choose as a comprehensive field the area in which he or she has written the thesis.

The following fields are offered by the History Department:

Category I (U.S. History)

Early American, 1607-1815
U.S. Middle Period, 1815-1877
Recent America, 1877 to the Present
U.S. Diplomatic History
History of the American West

Category II (European History)

Ancient History
Medieval History
Renaissance and Reformation
Early Modern Europe, 1600-1789
Revolutionary Europe, 1789-1870
Modern Europe, 1870 to Present
Russia and the Soviet Union
Great Britain and the British Commonwealth

Category III

Asia and the Far East
Latin America
Africa

Should the candidate fail to pass two of the comprehensive examinations, he or she may be permitted, upon written request of his or her major advisor, to retake the entire examination. If the candidate fails just one field, he or she may be permitted, upon written request of his or her major advisor, to retake only that part of the examination failed. Failure to pass the second examination will eliminate the student from the degree program. At least one full quarter must elapse before a candidate may retake any comprehensive examination.

—It is the candidate's responsibility to consult with the professors who will constitute his or her examining committee.

—The candidate must apply for and receive from the Graduate Office a permit to take the final comprehensive examination.

This permit is to be presented to the advisor before the student may take the examination.

—A candidate who intends to pursue a doctoral program should consult with his or her advisor regarding the advisability of writing a master's thesis and preparing oneself in foreign language. Candidates who elect to write a thesis are eligible for consideration for the Oliver M. Dickerson Scholarship of \$1,000, granted to a master's candidate majoring in History.

Doctor of Arts Degree

The object of the Doctor of Arts program is to prepare versatile and well-informed teachers of history. Emphasis is placed on the training of effective teachers and not necessarily on the production of skilled research historians. A student successfully completing this program will be well qualified to teach history at the junior (community) or senior college level.

—Applicants for admission to the doctoral degree program in history should normally hold at least a B average in their previous academic work, and distinction in their work in history. In addition to the general Graduate School admission requirements, the Department of History reserves the right under special circumstances to administer an oral qualifying examination to any student before admission to the Doctor of Arts program in history.

—The Department of History recommends that students take the Graduate Record Advanced Test in History during the first year of study. Information about this examination may be obtained from the Educational Testing Service, Princeton, New Jersey. The student's score will be utilized by the department in his/her advisement.

—Before class registration, the student is required to meet with the chair of the department, who will then appoint a temporary committee to direct the student's work.

—During the student's first quarter of residence, he/she will take an oral examination in history which will serve as a screening examination and as a basis for planning course work for the remainder of his/her program. At the end of the second quarter of residence, the student's committee will meet to recommend to the Graduate Council whether the student shall be continued in the program. When the student becomes a candidate for the degree, the department chair will appoint a research advisor and dissertation committee to direct the student's research.

—The course of study consists of 72 graduate hours in history. Eighteen of these 72 hours may be for dissertation work and 15 may be in courses numbered 300 and 400. The student shall choose one of the following as his/her primary area, and will be responsible for the entire area.

United States Europe, including Russia, to 1500 Europe, including Russia, and the Soviet Union since 1500 Asia Latin America Africa Third World (Asia, Latin America, Africa)

The student will also have two secondary fields in history, narrower in scope than the primary area, drawn from outside his/her area of concentration. Such secondary fields, e.g. Europe since 1789, Recent English History, Recent American Intellectual and Social History, are to be worked out in consultation with the chair and the specific committee assigned to oversee the candidate.

—In addition to the major requirements, the student will, with the approval of the committee, take an interdisciplinary or specific non-history minor of at least 18 hours which he/she must pass satisfactorily.

—The student is to demonstrate competence in either one foreign language by passing the Princeton Foreign Language Test, or competence in statistics by passing satisfactorily three quarters of work in that field. Substitutes for these requirements may be arranged only through the student's committee.

—Each student is required to complete HIST 799, Thesis; ID 702, The Teacher in the College Community; HIST 744, Supervised Teaching; and HIST 797, Doctoral Proposal Research.

—At the termination of the student's course work, and with the approval of his/her advisor, the student will take written and oral comprehensive examinations over his/her primary and secondary areas. Written comprehensive examinations in the two secondary fields will be taken during the quarter previous to the written comprehensive examination in the primary area. If any of the three written comprehensive examinations are failed, the student will be permitted to retake the failed portion(s). Written comprehensive examination in the primary area will be six hours in length and those in the secondary fields will be four hours.

—When the dissertation has been completed, the candidate will be examined orally over his/her research study.

Humanities

Administered by the Department of English
Location: Michener L50
Telephone: 352-2971

The Humanities minor is intended to allow a student to construct an interdisciplinary course of study in order to examine the relationships among the disciplines, to synthesize content and methodology from disparate fields, and thus to see human thought and endeavor in a more unified, less fragmented way.

Undergraduate Minor

A pre-planned, 36-hour program of coordinated courses in the arts and humanities requiring careful organization by the student with his or her advisor and the Coordinator of Humanities.

Requirements

—Thirty-three hours of study in at least two, but no more than three of the areas of Anthropology, Speech Communication, English, Art, History, Humanities, Music, Philosophy, Sociology and Theatre.

—Careful integration of related courses. These may be coordinated around a topic, theme, period of time or place; comparative studies in literature, art, philosophy, and so forth.

—A three-hour independent study on a topic selected by the student at the culmination of 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 integrate and synthesize knowledge.

—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, 140, 220, 223, 240, 320, 321, 323, 328, 331, 340, 342, 344, 345, 347, 348, 380, 381, 382, 470, 480. ANT 100 or 470 recommended as prerequisites.

Speech Communication — 170, 212, 220, 230, 250, 251, 312, 323, 351, 370, 400, 420, 452, 455, 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.

Art — 181, 182, 183, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390.

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, 449, 485.

(Applied Music: Maximum of 6 hours in study of any instrument or voice may be acceptable towards minor.) (Musical Organizations: Maximum of 3 hours may be acceptable towards the minor.)

Philosophy — 100, 205, 215, 225, 235, 300, 330, 335, 350, 355, 370, 400, 410, 420.

Sociology — 145, 310, 312, 321, 323, 333, 334, 341, 345, 410, 420, 421, 432, 435, 350, 351.

Individualized Education Program

Administered by the College of Arts and Sciences
Location: Ross 338
Telephone: 351-2950
Dr. Richard D. Dietz, Coordinator

This highly individualized experimental program, initiated in 1975, is open to freshmen, sophomores, and first quarter juniors. A small number of faculty members have been designated as tutors. Each participating student will select a tutor before entry into the program. Thereafter, the student's entire

Journalism and Mass Communications

Location: Candelaria Hall 121
Telephone: 351-2726
David L. Anderson, Chair

Faculty

David L. Anderson, MA, Assoc. Prof.
Ronald S. Camp, MA, Assoc. Prof.
Louis G. Ceci, PhD, Asst. Prof.
Richard H. Haws, MA, Asst. Prof.
Robert A. Hess, MA, Asst. Prof.
Wayne W. Melanson, EdS, Assoc. Prof.
Dennis Morimoto, PhD, Assoc. Prof.
Walter H. Stewart, PhD, Prof.

Two sorts of contributions to a student's life are offered by Journalism and Mass Communications as a discipline: career preparation and integration of professional study with a university education.

Students choose from among four course sequences, or tracks, each designed to provide experiences and skills in a subfield. At UNC these tracks are Telecommunications, Photocommunications, News-Editorial and Community Journalism.

Each track is staffed by faculty who have both academic and professional experience in the subfield. Facilities include the largest instructional TV studio in the Rocky Mountain West; a cable TV channel; an FM radio station operating at 50,000 watts of power and affiliated with National Public Radio; and a complete photographic laboratory.

Close links exist between the department and Colorado communications media, and students have numerous internship opportunities. Holders of B.A. degrees in Journalism and Mass Communications work in broadcasting, cable TV, advertising, public relations, weekly and daily newspapers, photography, graphic illustration, magazines and teaching.

Less than one-third of a student's undergraduate course work is in Journalism and Mass Communications at UNC. The department is committed to providing students with broad, liberal perspectives, both within its curricula and beyond.

Bachelor of Arts Degree in Journalism and Mass Communications

Program Requirements

- Complete the General Education requirements.
- Complete the Journalism and Mass Communications core; all requirements in one of the sequences; and a minor or cognate as specified in the following.
- Complete a minor of 27 or more hours from one of the following areas, or in another area approved by the Journalism and Mass Communications advisor: business administration, speech communication, history, English, economics, political science, psychology or sociology. If the student is following the Community Journalism sequence, the Business Cognate may be chosen.
- Select additional electives to complete the 180 hours

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 or her credits will be earned in tutorial study. This study consists 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.

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 following tutors: Richard Dietz, Earth Sciences; Daniel F. O'Connor, Sociology; or Robert Ehle, Music.

Interdisciplinary Studies (Undergraduate)

Administered by the College of Arts and Sciences
Location: Michener L54
Telephone: 351-2707
David Haas, Coordinator

Under this program, any undergraduate in the University is able to pursue an interdisciplinary course of study he or she has devised in substitution for the traditional major.

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 perspectives.

—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.

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, ID 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 the 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 first quarter of their junior year.

Interested students should consult with Professor David Haas (Visual Arts), Chair, Committee on Interdisciplinary Studies; or Dean Robert B. Stein, College of Arts and Sciences.

required for graduation. Nine of these elective hours must be in a liberal arts area outside the major or minor/cognate. They must be approved by the JMC advisor.

—Each major, before his/her last quarter on campus, must pass a typing proficiency test (30 wpm) and a grammar-copy editing proficiency test given in JMC 250, News Editing.

Journalism and Mass Communications Core Required courses

JMC 100	Introduction to Journalism & Mass Communications	3
JMC 110	Newswriting	4
JMC 492	Mass Communications Law	3
JMC 390	Impact of Mass Communications on Society	3
JMC 376	Basic Photography	3
JMC 171	Introduction to Graphics Communication	3
		Hours credit 19

News-Editorial Sequence Required courses

JMC 115	Advanced Newswriting	4
JMC 210	Feature Writing for News Media	3
JMC 250	News Editing	3
JMC 255	Publications Layout	3
JMC 310	Analytical Reporting	4
JMC 370	Photojournalism	3
JMC 397	Master Journalists & Their Times	3
JMC 496	Profiles of 20th Century Journalists	3

Elective

JMC 401	Internship	4
Additional courses in Journalism and Mass Communications or related courses approved by advisor		6
		Hours credit 36

Community Journalism Sequence Required Courses

JMC 115	Advanced Newswriting	4
JMC 210	Feature Writing for News Media	3
JMC 250	News Editing	3
JMC 284	Techniques of Advertising	3
JMC 310	Analytical Reporting	4
JMC 360	Community Newspaper	3
JMC 370	Photojournalism	3
JMC 375	Publications Production	3
JMC 397	Master Journalists & Their Times	3
JMC 460	Newspaper Management	3
SOC 272	The Community	3

Elective

JMC 401	Internship	4
		Hours credit 39

Telecommunications Sequence Required Courses

JMC 240	Professional Broadcast Announcing	3
JMC 241	Radio Production	3
JMC 340	Radio-Television Newswriting	3
JMC 342	Television Production	3
JMC 345	Radio-Television Advertising & Promotion	3
JMC 365	Management of Radio, Television & Cable	3
JMC 442	Advanced Television Production	3

Electives

A minimum of 6 and a maximum of 9 additional hours of courses from the Department of Journalism and Mass Communications
6-9
Hours credit 27-30

Photocommunications Sequence Required Courses

JMC 370	Photojournalism	3
JMC 374	Typographic Design	3
JMC 375	Publications Production	3
JMC 475	Color Photography — Transparencies	3
JMC 476	Advanced Black & White Photography	3
JMC 477	Photographic Illustration	3
JMC 479	Color Photography — The Print	3

Electives

A minimum of 6 and a maximum of 9 additional hours of courses from the Department of Journalism and Mass Communications
6-9
Hours credit 27-30

Business Cognate (Recommended for students taking Community Journalism Sequence)

BUS 220	Principles of Accounting I	4
BUS 350	Principles of Management	4
BUS 360	Marketing	4
BUS 362	Advertising	4
BUS 364	Personal Selling	4
JMC 380	Public Relations	3
ECON 110	Principles of Economics — Microeconomics	5
		Hours credit 28

Journalism and Mass Communications Minor

Required Courses

JMC 100	Introduction to Journalism & Mass Communications	3
JMC 110	Newswriting	4
JMC 115	Advanced Newswriting	4
JMC 250	News Editing	3
JMC 397	Master Journalists & Their Times	3
JMC 399	Press Criticism & Current Affairs	3
JMC 492	Mass Communications Law	3

Electives

Four additional hours of courses from the Department of Journalism and Mass Communications
4
Hours credit 27

Journalism and Mass Communications Minor — Teaching

Students in Professional Teacher Education, majoring in one field and electing Journalism and Mass Communications as a minor, must complete the following:

Required Courses

JMC 100	Introduction to Journalism and Mass Communications	3
JMC 110	Newswriting	4
JMC 115	Advanced Newswriting	4
JMC 284	Techniques of Advertising	3
JMC 330	Teaching Secondary School Journalism	3
JMC 375	Publications Production	3
JMC 430	Scholastic Publications	3

Electives

Four additional hours of courses from the Department of Journalism and Mass Communications 4
Hours credit 27

Honors — The Department of Journalism and Mass Communications participates in the Honors Program. See Honors Program section of this Bulletin.

Mathematics

Administered by the Department of Mathematics and Applied Statistics

Location: Ross Hall, Third Floor

Telephone: 351-2820

William Bosch, Chair

Faculty

Frank W. Anders, MS, Asst. Prof.

William W. Bosch, PhD, Prof.

Michael Bowley, MA, Asst. Prof.

Timothy D. Cavanagh, PhD, Prof.

Donald D. Elliott, PhD, Prof.

Robert L. Heiny, PhD, Prof.

Samuel R. Houston, PhD, Prof.

Leone M. Kiekhaefer, MA, Inst.

Charles R. McNerney, PhD, Prof.

William D. Popejoy, EdD, Prof.

Joan Richardson, PhD, Prof.

Fred K. Rumford, MS, Assoc. Prof.

John Schmid, PhD, Prof.

Donald L. Schmidt, PhD, Prof.

Rex R. Schweers, MA, Prof.

Robert A. Tolar, PhD, Prof.

Patricia R. Velicky, MS, Inst.

Mathematics and related areas have been important human endeavors since ancient times. Mathematics is a discipline with its own questions, methods and content. It has also been used as a tool to explain the natural world for centuries. Mathematics, statistics and computer science have become essential to almost every other discipline such as business, economics, psychology and the social sciences.

The Mathematics, Statistics and Computer Science programs in our department reflect the dual nature of these areas. Undergraduate courses, minors and majors can be used as an important component of a variety of programs. In addition, the Mathematics majors prepare students for careers in high technology or computer industries, for careers in certain aspects of the business world, for teaching in elementary or secondary schools, and for graduate work in Mathematics or Statistics.

Graduate programs include a Master of Arts degree with a liberal arts or teaching emphasis. The Department offers Master of Science and Doctor of Philosophy degree programs in applied statistics and research methods.

Mathematics — Bachelor of Arts

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

—General Education requirements of 60 hours as specified in this Bulletin.

—No minor is required in this program.

Core Requirements for all Majors:

MATH 130	Analytic Geometry	4
MATH 131	Calculus I	5
MATH 132	Calculus II	5
MATH 133	Calculus III	4
MATH 321	Elementary Linear Algebra	4
STAT 350	Elementary Probability Theory	4
STAT 351	Elementary Statistics Theory	4

Hours credit 30

Additional Requirements for the Liberal Arts Major

CSCI 281	Computer Programming in FORTRAN IV	4
	<i>or</i>	
CSCI 282	Computer Programming in PASCAL	4
MATH 322	Introduction to Abstract Algebra	4
MATH 335	Differential Equations I	4
MATH 409	Foundations of Mathematics	3
MATH 432	Basic Analysis I	4
MATH 433	Basic Analysis II	4
MATH 434	Basic Analysis III	4

Hours credit 27

Approved elective 3

Total credit 60

Additional Requirements for the Secondary Teacher Education Major

CSCI 181	Beginning Computer Programming in BASIC	3
CSCI 281	Computer Programming in FORTRAN IV	4
MATH 322	Introduction to Abstract Algebra	4
MATH 327	Elementary Functions from an Advanced Viewpoint	4
MATH 335	Differential Equations I	4
MATH 341	Introduction to Modern Geometry I	4
MATH 342	Introduction to Modern Geometry II	4
MATH 464	Introduction to the History of Mathematics	3
MED 341	Methods of Teaching Mathematics	3

Hours credit 33

Total credit 63

Professional Teacher Education Core 41

EDLS 363 Clinical Experience 2

Total credit 43

Additional Requirements for the Mathematics Major with Computer Science Emphasis

MATH 375	Elementary Numerical Analysis	3
CSCI 281	Computer Programming in FORTRAN IV	4
CSCI 282	Computer Programming in PASCAL	4
CSCI 285	Foundations of Computer Science I	3
CSCI 286	Foundations of Computer Science II	3
CSCI 381	Data Structures	4
CSCI 382	Programming Languages	4
CSCI 383	Computer Organization	4
Approved electives		13
Hours credit		42
Total credit		72



Mathematics Major (Teacher Education — Elementary)

Students majoring in Mathematics who plan to teach in the elementary school should meet the following requirements:

—General Education requirements of 60 hours as specified in this Bulletin.

—Meet requirements of the Elementary Education major as specified in this Bulletin.

—Complete additional requirements as stated in this Bulletin for certification as an elementary school teacher.

Required Courses

MATH 123	Intermediate Algebra	5
MATH 124	College Algebra	5
MATH 125	Plane Trigonometry	5
MATH 130	Analytic Geometry	4
MATH 131	Calculus I	5
STAT 203	Introduction to Statistical Analysis	3
CSCI 181	Beginning Computer Programming in BASIC	3
MATH 321	Elementary Linear Algebra	4
MATH 341	Introduction to Modern Geometry I	4
MATH 402	Foundations of Arithmetic	3
MATH 464	Introduction to the History of Mathematics	3

Approved electives 9
Hours credit 53

Computer Science Minor

Required Courses

(Knowledge of algebra at the MATH 124 level is assumed.)

CSCI 281	Computer Programming in FORTRAN IV	4
CSCI 282	Computer Programming in PASCAL	4
CSCI 285	Foundations of Computer Science I	3
CSCI 286	Foundations of Computer Science II	3
CSCI 381	Data Structures	4
CSCI 382	Programming Languages	4
CSCI 383	Computer Organization	4

Approved electives 4
Hours credit 30

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

Approved electives

One of MATH 124, 125, 127, if taken before MATH 130 and additional electives in Mathematics courses numbered 250 or higher. CSCI 181, MATH 395 and 402 may not be counted. 12
Hours credit 30

Liberal Arts Minor with Computer Programming Emphasis

Required Courses

MATH 124	College Algebra	5
CSCI 180	Computers & Their Impact Upon Society	3
CSCI 181	Beginning Computer Programming in BASIC	3
CSCI 281	Computer Programming in FORTRAN IV	4
CSCI 282	Computer Programming in PASCAL	4
CSCI 310	Applications of Computer Science	3

Approved electives To be selected from MATH or CSCI prefixes and approved by computer science advisor. 8
Hours credit 30

Teaching Minor

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	4
MED 341	Methods of Teaching Mathematics	3
EDLS 363	Clinical Experience	2
Approved electives Electives in Mathematics or Mathematics Education courses numbered 124 or higher		4
		Hours credit 35

Mathematic Education Minor

For Elementary Education majors.

Required Courses

MATH 193	Informal Geometry	3
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Electives

To be selected with approval of student's minor advisor. 24
Hours credit 27

Master of Arts

Students pursuing the Master of Arts degree with a major in Mathematics must plan their programs to fulfill the following requirements.

Core requirements

MATH 521	Modern Algebra I	4
MATH 525	Linear Algebra I	3
MATH 535	Introductory Analysis I	4
		Hours credit 11

Additional Requirements for the Liberal Arts Emphasis

It is assumed that the student has an undergraduate major in Mathematics, and a knowledge of FORTRAN programming language.

MATH 536	Introductory Analysis II	4
STAT 551	Introduction to Mathematical Statistics I	4
STAT 552	Introduction to Mathematical Statistics II	4
STAT 553	Introduction to Mathematical Statistics III	4
MATH 585	Numerical Analysis I	3
MATH 586	Numerical Analysis II	3
MATH 510	Seminar in Mathematics	3

Approved electives 9

Hours credit 34

Total credit 45

Course offerings are designed for the student to begin the program fall quarter with completion expected the end of the following summer quarter.

Comprehensive Examinations — Written, closed-book examinations will be given over three areas: mathematical statistics, introductory analysis, and modern and linear algebra. These examinations will be given the first week of the Summer Quarter. A two-hour oral examination will be given upon successful completion of the written comprehensives.

Additional Requirements for the Mathematics Teaching Emphasis

MED 672	Curriculum in Secondary School Mathematics	4
MED 673	Problems in the Teaching of Junior High School Mathematics	4
<i>or</i>		
MED 674	Problems in the Teaching of Senior High School Mathematics	4

Approved electives: (These will be selected so that the combined under-graduate and graduate programs of the student contain adequate course work in geometry, probability, statistics and computer science. 26

Hours credit 45

The entire program must be approved by the departmental Master of Arts Review Committee.

Comprehensive Examinations — The departmental comprehensive equivalent will consist of a written examination over the Mathematics Education courses MED 672 and either MED 673 or MED 674, and a two-hour oral examination over all work taken in the degree program.

Note: Completion of a Master of Arts degree in the Mathematics Teaching Emphasis does not meet all the College of Education PTE requirements for certification for the teaching of mathematics. Please consult with your departmental advisor and/or the College of Education PTE office if you are interested in elementary or secondary certification.

Doctor of Arts Degree in Mathematics

Departmental Prerequisites

It is assumed that the applicant has the following subject matter background:

—Master's degree competency in modern algebra and analysis, e.g., Modern Algebra I and II (MATH 521, 522) and introductory Analysis I, II and III (MATH 535, 536, 537).

—At least one course in topology, e.g., Introduction to Topology (MATH 540).

—At least one course in complex variables, e.g., Introduction to Complex Variables (MATH 560).

The candidate satisfactorily completing MATH 540 may count it as an elective toward the program if MATH 646 (or its equivalent) is not satisfactorily completed. Also, the candidate satisfactorily completing MATH 560 may count it as an elective toward the program provided MATH 632 (or its equivalent) is not satisfactorily completed.

Course Requirements

Courses in Group A — 9		
Sequence in Group B — 9		
One two-quarter sequence in Group C — 6		
One sequence in Group D — 6-12		
MATH 510	Seminar in Mathematics	3
MED 681	Seminar in Teaching Community College and College Mathematics	3
ID 702	The Teacher in the College Community	3
MATH 754	Intern Teaching in Mathematics	2-6

Electives

(Subject to approval of advisor). At least 9 additional hours in Mathematics (other than MATH 754.) 9

At least 3 additional hours in Mathematics Education 3

Additional electives (subject to approval of advisor.)

Of these electives, a maximum of 12 hours may be taken in courses numbered 500 or above in departments other than Mathematics. The remaining hours may be taken from MATH or MED courses numbered 500 or above, with the exceptions noted in the prerequisites 13-19

MATH 797 Doctoral Proposal Research 6

MATH 799 Doctoral Dissertation 12

Hours credit 90

Program Outline

Group A

MATH 525 & 526 Linear Algebra I & II 6

MATH 620 Theory of Fields 3

Group B

MATH 635, 636, 637 Real Analysis I, II & III 9

Group C

MATH 626 & 628 Theory of Rings & Theory of Groups 6

MATH 632 & 633 Complex Variable I & II 6

MATH 646 & 647 General Topology I & II 6

Group D

STAT 551, 552, 553 Introduction to Mathematical Statistics I, II, III 12

MATH 565 & 566 Differential Equations I and II 6

MATH 585 & 586 Numerical Analysis I & II 6

Dissertation — The student in this program is required to write a scholarly dissertation, generally expository in nature.

Comprehensive Examinations — Written, closed-book examinations, each approximately four hours in length, will be given in each of the four basic areas under the program outline (Groups A, B, C and D). These examinations are given winter and summer quarters.

A comprehensive committee must be selected and given notice a minimum of four weeks prior to administration of the examinations.

Applied Statistics and Research Methods

This program offers a Master of Science degree and a Doctor of Philosophy degree in applied statistics and research methods.

The Master of Science degree program is designed to prepare students in applied statistics and research methods with emphasis on application to specific career fields. Completion of this degree should enable a student to seek employment in a career field requiring research expertise, to teach in a community or junior college, or to enter a Ph.D. program in a related area.

The Doctor of Philosophy degree program is designed to produce the critical thinker with expertise to do scholarly research or to teach in advanced academic programs in an area of specialization within a larger domain of related areas. The student must have demonstrated mastery of applied statistics and research methods with capability of applying this knowledge to a discipline such as health, biological science, earth science, business, psychology or other approved areas. This program offers two tracks and a student may take an emphasis in applied statistics or research methods.

Master of Science

Admission and General Requirements

See Graduate Degree Requirements in this Bulletin.

Supplemental Department Requirements

—Minimum of 1000 on combined GRE quantitative and verbal scores.

—A working knowledge of calculus.

—Thesis is optional.

Course Requirements

CSCI 542 Computer Programming 3

CSCI 543 Computer Information Processing 3

STAT 504 Inferential Statistics 3

STAT 603 Analysis of Variance 3

STAT 606 Multiple Regression 3

STAT 641 Seminar: Special Topics 9

Introduction to Graduate Study & Research Methods (or approved substitute) 3

Approved electives 18
Minimum credit hours 45

Doctor of Philosophy

Admission and General Requirements

See Graduate Degree Requirements in this Bulletin.

Supplemental Department Requirements

—Minimum of two years' residency.

—Minimum of 1100 on combined GRE quantitative and verbal scores before formal admission to this program.

—Declaration of emphasis (Applied Statistics or Research Methods) on plan of study.

—Submission of doctoral research proposal before completion of 50 credit hours (STAT 797).

—Four-hour written comprehensive examinations in each of four areas.

—A working knowledge of calculus.

Required Core Courses (For both emphases)

CSCI 542 Computer Programming 3

CSCI 543 Computer & Information Processing 3

CSCI 544 Statistical Software 3

STAT 603 Analysis of Variance 3

STAT 604 Advanced Experimental Design 3

STAT 605 Multivariate Analysis 3

STAT 606 Multiple Regression 3

STAT 607 Nonparametric Statistics 3

STAT 608 Factor Analysis 3

STAT 609 Sampling Methods 3

STAT 715 Planning & Methodology of Research 3

STAT 742 Seminar 3

STAT 797 Dissertation Proposal 6

STAT 799 Doctoral Dissertation 12

Additional Requirements (Emphasis: Applied Statistics)

MATH 525	Linear Algebra	3
MATH 585	Numerical Analysis I	3
MATH 586	Numerical Analysis II	3
STAT 551	Introduction to Mathematical Statistics I	4
STAT 552	Introduction to Mathematical Statistics II	4
STAT 553	Introduction to Mathematical Statistics III	4
Approved Electives 27		
Minimum credit hours 102		

Additional Requirements (Emphasis: Research Methods)

Research Methodology courses	9
Approved electives	39
Minimum credit hours	102

Medical Technology

Administered by the Department of Chemistry
 Location: Ross Hall 138
 Telephone: 351-2559
 David L. Pringle, Coordinator

Medical technology has been defined as "that branch of medicine concerned with the performance of laboratory procedures which aid in the diagnosis and treatment of disease and the maintenance of health." The medical technologist is responsible for obtaining accurate, precise laboratory data from body fluids and tissues, explaining the data's significance and correlating the data with other laboratory results. Controlling accuracy of tests and maintaining equipment are also part of the job. To succeed in this field, one should have good manual dexterity, emotional stability and an interest and academic ability in the sciences.

Career opportunities are found: in hospitals, physicians' offices, privately-owned laboratories and research organizations; as technical representatives for laboratory supply companies; and as educators of future medical technologists. The Peace Corps offers opportunities for technologists in areas of great need. Graduate studies in specialized areas such as hematology, microbiology and clinical chemistry are available and prepare registered technologists for supervisory roles in larger laboratories and to do research in clinical-related areas.

Bachelor of Arts Degree

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 University of Northern Colorado campus 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 (North Colorado Medical Center, Greeley; Mercy Hospital, Denver) or at any approved hospital to which a student has 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 stu-

dents 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. Students must apply at this time for graduation and request an evaluation of their transcripts 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 North Colorado Medical Center 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 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 in the Chemistry Minor Program in this Bulletin.

Medical Technology Major: Liberal Arts

Students admitted to the Medical Technology Program must include the following courses in their programs:

- General Education requirements of 45 hours as specified in this Bulletin. (Two required science courses will be accepted as meeting the category requirements in science.)
- The Medical Technology Preprofessional Emphasis listed here.

Major/Core (Senior year) Required Courses

MTEC 410	Clinical Chemistry	5
MTEC 411	Chemistry Laboratory I	3
MTEC 412	Chemistry Laboratory II	3
MTEC 413	Chemistry Laboratory III	2
MTEC 430	Immunology-Immunohematology	4
MTEC 431	Immunohematology Laboratory I	3
MTEC 432	Immunohematology Laboratory II	1
MTEC 440	Medical Microbiology	4
MTEC 441	Medical Microbiology Laboratory I	3
MTEC 442	Medical Microbiology Laboratory II	4
MTEC 460	Urinalysis & Clinical Microscopy	1
MTEC 490	Hematology-Coagulation	4
MTEC 491	Hematology-Coagulation-Urinalysis Laboratory I	3
MTEC 492	Hematology-Coagulation-Urinalysis Laboratory II	3
MTEC 493	Hematology-Serology-Electrophoresis Laboratory III	2
Hours credit		45

Medical Technology Pre-professional Emphasis

Required Biology Courses

BIO 101	Principles of Biology	5
BIO 103	Principles of Zoology	5
BIO 261	Medical & Public Health Microbiology	4
BIO 361	Microbiology	3
BIO 362	Clinical Immunology	2
BIO 365	Medical Technology Microbiology Laboratory	2
ZOO 221	Human Anatomy	4
ZOO 250	Human Physiology	5
ZOO 410	Medical Parasitology	4

Hours credit 34

Required Chemistry 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 281	Fundamentals of Human Biochemistry	5
CHEM 321	Analytical Chemistry I	5
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
(Any course higher than MATH 124 may be substituted with consent of advisor)		
5		Hours credit

Required Physics Course

PHYS 150	Principles of Physics	5
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 the advisor.

Meteorology

(See Earth Sciences)

Oceanography

(See Earth Sciences)

Philosophy

Location: Michener L130

Telephone: 351-2739

Thomas K. Trelogan, Chair

Faculty

Richard A. Blanke, MA, MPhil, Asst. Prof.

Paul F. Hodapp, PhD, JD, Assoc. Prof.

Marianne I. Shaw, MA, Asst. Prof.

Thomas K. Trelogan, BA, Asst. Prof.

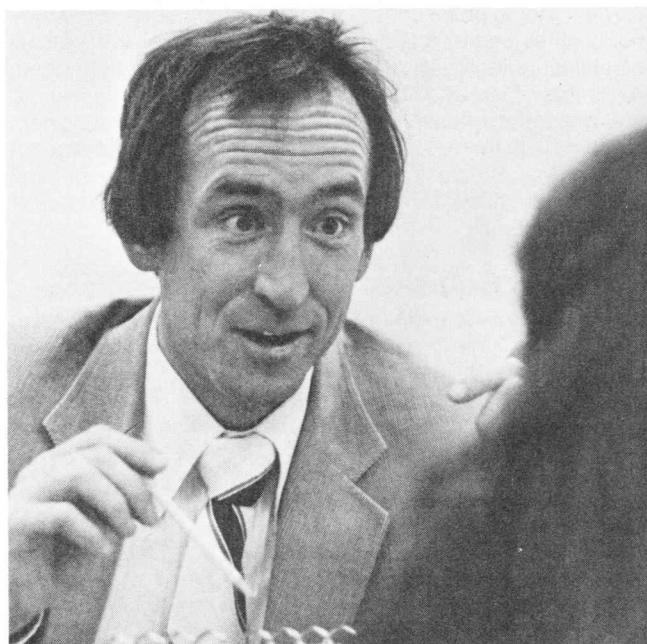
Philosophy is the ongoing attempt to remain true to the spirit of the Socratic dictum: "The unexamined life is not worth living." As such, it entails serious reflection on *all* of our fundamental convictions and beliefs, with an eye in particular to the clarification of the concepts that these involve and the discovery of reasons for regarding these convictions and beliefs as either true or false.

At the University of Northern Colorado, the Department of Philosophy places special emphasis on helping its students to become themselves capable of such serious reflection, and it does so not only in the courses it offers primarily for its majors and minors, but in those it offers primarily as service courses for students of other disciplines as well.

The department offers both a major and a minor in philosophy. Although no graduate programs in philosophy itself are offered, the department does provide opportunities for independent study of relevant philosophical topics for graduate students in other disciplines.

Major in Philosophy

The major is valuable both for students interested in philosophy in its own right, and for preprofessional students — especially those who intend to go on to study law. Many students who fit either of these categories find philosophy a particularly valuable second major because of the ways in which the study of philosophy can increase one's ability to investigate fundamental issues in any specific area of study or non-academic endeavor.



Program Requirements

—General Education requirements of 60 hours as specified in this Bulletin.

—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.

Required Courses

Introductory. A minimum of 8 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	4
PHIL 140	Basic Symbolic Skills	4
PHIL 200	Textual Analysis	4
Core Requirements		
PHIL 240	Formal Logic	4
PHIL 350	Ethics	4
PHIL 385	Epistemology	4
PHIL 390	Metaphysics	4

Options in History of Philosophy. A minimum of 12 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. 28 Hours credit 64

Minor (not required with double major 27)

Recommended: Two years of a foreign language.

Minor in Philosophy

The minor in philosophy is a valuable complement to study in any other field whatsoever. Fundamental questions requiring philosophical reflections arise in *all* fields of study, indeed, in all parts of *life*, and some training in the skills necessary to deal with these questions effectively can be an immense help in coping with them. The minor is designed to give the student a great deal of flexibility in tailoring his or her philosophical studies to the specific interests he or she may have outside of philosophy itself.

Required Courses

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	4
PHIL 200	Textual Analysis	4

Logic — A minimum of four hours to be selected from:

PHIL 140	Basic Symbolic Skills	4
PHIL 240	Formal Logic	4

Core Studies — A minimum of four hours to be selected from:

PHIL 350	Ethics	4
PHIL 385	Epistemology	4
PHIL 390	Metaphysics	4

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

Physics and Physical Science

Location: Ross Hall 43

Telephone: 351-2961

Paul A. Lightsey, Chair

Faculty

Wallace Aas, MA, Prof.

William L. Fadner, PhD, Prof.

Richard K. Fry, PhD, Prof.

Robert G. Hamerly, PhD, Prof.

Paul A. Lightsey, PhD, Assoc. Prof.

The Physics Department at UNC offers an excellent undergraduate education in applied and engineering-oriented Physics, Physics teaching, and in general education in Physical Science. Degree programs leading to a B.A. in Physics, B.A. in Physics teaching, B.A. in Physics with Applied Physics Option, and a B.A. in Physical Sciences. Options with support areas in Geology or Computer Science are also available. In addition, a pre-professional program in engineering is offered.

A B.A. in Physics prepares a student for careers in industry, research labs, or for graduate study in physics, engineering, health or environmental studies. The Applied Physics Option emphasizes engineering applications of Physics. This program is stronger in applications, computer experience, and laboratory experience than typical degree programs in Physics. Upon completion, the student should find excellent job opportunities in many fields including engineering, energy fields, and various industries. Or, the student would make an excellent candidate for an advanced degree in engineering, physics, material science, health physics (if some biology has been taken), or others.

The B.A. in Physics Teaching prepares a student for teaching physics and mathematics at the secondary level. The B.A. in Physical Science is designed primarily for the students who will be employed in smaller high schools or junior high schools, where they may be required to teach both physics and chemistry, and possibly other courses in physical science.

Students selecting these majors should have excellent employment opportunities in light of the current nation-wide shortage of teachers of physics and physical science.

The pre-engineering program is designed for students who will usually take two years of course work at UNC before transferring to a university which offers a degree in engineering. Alternatively, after their second year, students may elect to complete the Applied Physics Option B.A. program at UNC. They should then seek employment in engineering-related jobs, or enter graduate engineering programs at other universities.

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.

—Meet all General Education requirements as specified in the Bulletin.

—A total of 60 hours minimum in chemistry, physics and related fields as approved.

—A program of specific content requirements will be determined between the student and his or her advisor.

—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 core 39-40

SCED 441 Methods of Teaching Secondary School Science

3

Hours credit 42-43

Students in all of these programs are assigned an advisor in the Department of Physics. It is essential that there be close communication between the advisor and student from the start of the college career. The advisor will ensure that the student's courses are applicable to their specific program.

Small, personalized classes are a hallmark of all the programs offered by the Physics Department. The student is assured of consideration and expert guidance, with excellent opportunities to thoroughly develop his skills at a pace compatible with his own needs. From the earliest Physics classes through to the most advanced courses, the student has direct contact with faculty members. Junior and senior laboratories, in which students work on sophisticated experiments extending over several weeks, are common. Students are encouraged to become involved in their own senior projects under faculty guidance. These investigations often extend over several quarters or are included in cooperative internships in government laboratories or industry.

The Physics Department has a well-equipped electronics lab, and access to a machine shop. An electronic technician and a machinist are available to help with classroom needs, as well as in special projects and research. The West Campus Computer Center is adjacent to the Physics Office. Computer terminals and microcomputers are available.

A well-equipped nuclear laboratory features a neutron howitzer, radioactive materials, a precise Ge(Li) gamma ray detector and multichannel analyzer equipment. A General Electric X-Ray diffraction unit is available for studying the structure of minerals. Spectrophotometers, a Bausch and Lomb spectrometer, a mass spectrometer and a Varian nuclear magnetic resonance instrument are available in cooperation with the Chemistry Department. The optics laboratory includes facilities for holography, gas and organic dye lasers and a photographic darkroom.

Although the number of Physics majors at the University of Northern Colorado is small, the success of our program is attested by our excellent placement record. Graduates from the past four years have obtained jobs with companies in the fields of nuclear engineering, electronics, space science, computer science, and oil well monitoring, as well as positions in high schools and junior high schools. Other graduates have recently been admitted to graduate programs in physics, engineering, materials science and health physics, and computer science, most of them with teaching or research assistantships. The starting salaries for our graduates entering industrial jobs have closely followed those for engineering graduates, and it is not unusual for them to have choices of types or locations of jobs.

In addition to degree programs, the Department of Physics offers a varied selection of general education courses concerned with energy problems (Energy and the Environment, Reactors and Radiation, Solar and Alternative Sources). Also offered are special topic courses related to light and sound, the mechanics of sports and dance, the status and origins of the universe (using recent films or videotapes such as *Cosmos*, the impact of science on society, the *Ascent of Man*, and survey courses in physical science.

It seems evident that the need for people with solid, practical degrees in physical sciences is again rising. The need for a truly liberal education, including science, has always been great in our technological society. The Physics Department at UNC can help fill both these needs.

Physics Core

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

—General Education requirements as specified in this Bulletin.

Required Courses

PHYS 255	Applications of FORTRAN Programming	4
	<i>or</i>	
CSCI 281	Computer Programming in FORTRAN IV	4
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 & Magnetism I	4
PHYS 368	Atomic Physics	5
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
MATH 130	Analytic Geometry	4
MATH 131	Calculus I	5
MATH 132	Calculus II	5
MATH 133	Calculus III	4

Physics Major

In addition to the core requirements, the following requirements must be fulfilled:

PHYS 367	Optics I	4
PHYS 369	Condensed Matter	4
PHYS 465	Mechanics II	3
PHYS 466	Electricity & Magnetism II	4
PHYS 468	Nuclear Physics I	5

Electives

To be selected with approval of student's advisor 8

Additional electives in mathematics to complete a mathematics minor of 30 or more credits 12

Hours credit 100

Applied Physics Option

In addition to the core requirements, the following requirements must be fulfilled:

PHYS 361	AC & Electronics	5
PHYS 367	Optics I	4
PHYS 369	Condensed Matter	4
PHYS 455	Application of Computers in Science & Engineering	3
PHYS 462	Electronics II	4
PHYS 464	Thermodynamics	4
	<i>or</i>	
CHEM 451	Physical Chemistry	4
PHYS 465	Mechanics II	3
PHYS 466	Electricity & Magnetism II	3
PHYS 467	Applied Solar Energy	3
PHYS 468	Nuclear Physics I	5
PHYS 490	Senior Research	6
MATH 335	Differential Equations I	4
	Additional electives in mathematics to complete a mathematics minor of 30 or more credits	8
	Drafting (Independent study)	3
	Machining Skills (Independent study)	2
	Hours credit	117

Computer Science Option

In addition to the core requirements, the following requirements must be fulfilled:

PHYS 361	AC & Electronics	5
PHYS 367	Optics I	4
PHYS 369	Condensed Matter	4
PHYS 455	Applications of Computers in Science & Engineering	3
PHYS 462	Electronics II	4
PHYS 465	Mechanics II	3
PHYS 466	Electricity & Magnetism II	4
PHYS 468	Nuclear Physics I	5
PHYS 490	Senior Research	4
MATH 375	Elementary Numerical Analysis	3
	Additional electives in mathematics to complete a mathematics minor of 30 or more credits	9
	CSCI electives	9
	Hours credit	117

Geophysics Option

In addition to the core requirements, the following requirements must be fulfilled:

PHYS 361	AC & Electronics	5
PHYS 367	Optics I	4
PHYS 369	Condensed Matter	4
PHYS 462	Electronics II	4
PHYS 465	Mechanics II	3
PHYS 466	Electricity & Magnetism II	4
PHYS 468	Nuclear Physics I	5
MATH 335	Differential Equations I	4
GEOL 201	Physical Geology	5
GEOL 202	Historical Geology	5
GEOL 320	Mineralogy	5
GEOL 370	Structural Geology	5
GEOL 455	Stratigraphy	4
GEOL 480	Geologic Field Methods	5
	Additional electives in mathematics to complete a mathematics minor of 30 or more credits	8
	Hours credit	130

Physics Major (Teaching)

In addition to the core requirements, the following requirements must be fulfilled:

—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.

PHYS 361	AC & Electronics	5
PHYS 369	Condensed Matter	4
	<i>or</i>	
PHYS 468	Nuclear Physics I	5
CHEM 106	Principles of Chemistry III	5
	<i>or</i>	
CHEM 116	General Chemistry III	5

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 94	
The student must also complete the Professional Teacher Education Program.	PTE core 39-40	
SCED 441	Methods of Teaching Secondary School Science	3
	Hours credit	42-43

Physics Minor

Physics minors interested in being qualified for teaching in the secondary school must complete the minor listed here:

Required Courses

PHYS 265	General Physics —Mechanics	5
PHYS 266	General Physics —Sound, Light and Heat	5
PHYS 267	General Physics —Electricity	5
MATH 130	Analytic Geometry	4
MATH 131	Calculus I	5
MATH 132	Calculus II	5
MATH 133	Calculus III	4

Electives

PHYS 365	Mechanics I	4
	<i>or</i>	
PHYS 366	Electricity & Magnetism I	4
PHYS 268	Modern Physics	4
	<i>or</i>	
PHYS 368	Atomic Physics	5
	Physics electives to be selected with approval of student's minor advisor	6-7
	Hours credit	48

Political Science

Location: Michener Hall L130
Telephone: 351-2058
Steve J. Mazurana, Chair

Faculty

John T. Bookman, PhD, Prof.
Ray B. Knapp, PhD, Assoc. Prof.
Steve J. Mazurana, MA, Assoc. Prof.
Richard A. Perchlik, EdD, Prof.
Gerald G. Watson, PhD, Assoc. Prof.

Today, no less than in the past, to be a useful citizen you should know something about the political system in which you will spend your life. As an educated person you should know something about the nature of politics and government.

Political Science is the study of political and governmental procedures by which decisions are taken and laws, regulations, programs and public policies are made. Some would say politics is the science of who gets what, when and why. Political Science is characterized by widespread and determined efforts to collect and analyze data about politics and government utilizing the techniques developed by all the social sciences. Political scientists are interested in the origins of government and political life, justice, liberty, equality, war and peace, the evolution and decline of political systems, the content of public policies, and how governments solve their society's conflicts.

Some careers make good use of extensive study in Political Science. Students who major in Political Science have traditionally gone in large numbers into business, law, teaching, journalism, and national, state and local government. Careers in such professions are people-oriented, highly satisfying, and draw upon a variety of skills and knowledge. These occupations are comparatively well-paid and certain individuals in these occupations are among the most admired, best-paid and highly prestigious job-holders in America. Short-term and long-term job outlooks in such professions appear to be favorable.

You can major or minor in Political Science at UNC and receive a B.A. degree. The department, a unit of the College of Arts and Sciences, offers courses in:

United States Government and Politics; International Relations; Political Theory; and Comparative Government and Politics.

Undergraduate courses and areas of expertise in the department acquaint students with: political theory, public administration, international relations and American foreign policy, research methods, constitutional law, environmental politics and law, comparative politics (West, East Europe, Soviet Union, Asia, Middle East, Africa and Latin America), state and local politics, Presidency and Congress, party and citizen politics, public opinion, war and peace, and administration of justice.

Internship Program. You can apply for internships with credit ranging from 3 to 15 hours—from one course to a full quarter's class load. Interns have been placed in local, state and national agencies; recent interns have been assigned to the Office of the President of the United States, the U.S. Congress, the Colorado State Legislature, the Public Defender's and District Attorney's offices, the City Manager's office, political parties and lobbying organizations.

Active Political Science Club. The Political Science Association organizes academic and social programs for all interested students. These include faculty/student social gatherings each quarter. The PSCI laboratory and library are available to students.

Awards. Several awards and scholarships are given annually by the department or Political Science Association to outstanding students.

State Affairs Conference. The Political Science Department sponsors an annual State Affairs Conference. A topic of current interest is selected, and appropriate speakers from throughout Colorado are asked to participate. You can earn academic credit at this conference.

Political Science Major

Students pursuing the B.A. with a major in Political Science must complete:

—General Education requirements of 60 quarter hours as specified in this Bulletin.

—A 27-hour minor or a coherent bloc of advisor-approved courses totaling 27 hours.

—Up to 15 hours may be taken in the Political Science Internship Program, but only a maximum of 9 hours can apply toward 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 preregistration for the quarter of the proposed internship.

—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.

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

—Electives to complete 180 hours of academic credit.

General Education

Select two of the following:

ANT 100	General Anthropology	5
	<i>or</i>	
ECON 100	Introductory Economics	5
	<i>or</i>	
GEOG 100	World Geography	5
	<i>or</i>	
SOC 100	Principles of Sociology	5
		Hours credit 10

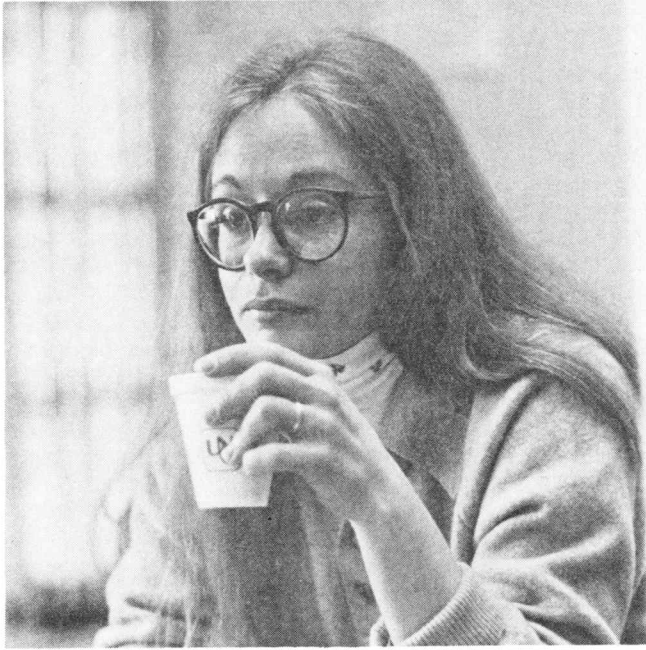
Major Required Courses

PSCI 100	National Government of the United States	5
PSCI 105	Introduction to Political Science	3
PSCI 150	Introduction to Research in Political Science	3

Electives in Political Science to include the requirement of at least two courses from each of the following groups: A, B, C, D, and to equal 49 hours of credit.

Group A — United States Government

PSCI 104	Contemporary Political Issues	3
PSCI 200	Legislative Processes	3
PSCI 201	State & Local Government	5
PSCI 202	Legislative Processes II 3-15	
PSCI 206	Politics & the Consumer	3
PSCI 207	Women & Politics	3
PSCI 208	Introduction to Public Administration	3
PSCI 300	Public Opinion & Pressure Groups	4
PSCI 302	The President & the Bureaucracy	3
PSCI 303	The Administration of Justice	3
PSCI 304	Citizen Politics	3
PSCI 305	The Politics of Bureaucracy	4
PSCI 306	Constitutional Law I: Civil Liberties	3
PSCI 307	Constitutional Law II: Governmental Powers	3
PSCI 324	Politics, Technology & Political Science	3
PSCI 340	Field Research & Study in Political Science 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



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 321	Prospects of War & Peace	3
PSCI 325	Politics & Conflict in the Middle East	4
PSCI 351	Politics of Food, Hunger & 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	3

Group C — Political Theory

PSCI 330	Classical and Medieval Political Philosophy	4
PSCI 331	Early Modern Political Philosophy	4
PSCI 332	Modern Political Philosophy	4
PSCI 335	American Political Philosophy	4
PSCI 435	Problems in Political Philosophy	3

Group D — Comparative Government

PSCI 210	European Political Systems	4
PSCI 310	East European Government & Politics	4
PSCI 345	Readings in Political Science	2
PSCI 350	Comparative Public Policy	3
PSCI 410	Government & Politics of Asia	4
PSCI 411	Government & Politics of Latin America	4
PSCI 412	Politics of the Developing Areas	4
PSCI 413	Political Systems of Sub-Saharan Africa	4
PSCI 414	Government & Politics of the Soviet Union	4

Hours credit 49

Political Science Minor

In fulfilling the General Education requirements specified in this Bulletin, students must take two of the following courses: ANT 100, ECON 100, GEOG 100, SOC 100.

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

Location: McKee Hall 248

Telephone: 351-2731

Grant L. Morris, Chair

Faculty

William A. Barnard, PhD, Assoc. Prof.

David Bolocofsky, PhD, Assoc. Prof.

Kyle Carter, PhD, Assoc. Prof.

Madelyn Case, PhD, Assoc. Prof.

John Cooney, PhD, Asst. Prof.

Michael Flannagan, EdD, Prof.

Gene Koplitz, PhD, Prof.

Grant L. Morris, PhD, Prof.

Theodore Nelson, PhD, Prof.

Byron Norton, EdD, Prof.

Jack Obrzut, PhD, Assoc. Prof.

Norman Oppelt, PhD, Prof.

Wendell Osorno, PhD, Prof.

Charles Poston, PhD, Prof.

Judith Praul, EdD, Prof.

Anne Schenkman, EdD, Prof.

George Tate, ThD, Prof.

I. David Welch, EdD, Prof.

Ron Zellner, PhD, Assoc. Prof.

The goal of psychology is to understand human behavior. A psychologist seeks to predict behavior, and to apply that knowledge for the benefit of people with a variety of needs. A psychologist may strive to assist people in realizing their full potentials, or to help those experiencing problems in living.

Bachelor of Arts in Psychology

Most careers in Psychology require graduate-level training based upon a foundation of undergraduate preparation. Our undergraduate curriculum contains courses and faculty expertise in the principle areas of psychological study, including: learning, developmental, humanistic, social, physiological, research and methodology, personality, abnormal and industrial psychology. The Department contains space and equipment for research in these areas, in addition to micro-processing and computer terminal facilities. As well as coursework and laboratories, the Psychology major will have a career-related work experience during the senior year.

While the program is primarily geared toward preparing our majors for further training on the graduate level, there are career opportunities for bachelor's level graduates. Typical work settings include community mental health centers, vocational rehabilitation offices and correctional programs. Another occupation for those with at least a bachelor's level training is teaching Psychology in secondary schools. A student considering this possibility will have to select a PTE certified major to accompany the Psychology major or minor.

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)

—All General Education requirements as specified in this Bulletin.

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
STAT 203	Introductory Statistical Methods	3
PSY 375	Experimental Psychology	5
PSY 491	Field Experiences (minimum)	5
		Total required 22

Electives

One course from each of the following groups:

Group I	-PSY 265, 357, 366, 369	3
Group II	-PSY 240, 340, 443 3-4	
Group III	-PSY 343, 480, 481, 482 3-5	
Group IV	-PSY 230, 330, 430 3-4	
Group V	-PSY 250, 341	3
Group VI	-PPSY 468, ANT 328, ANT 537, or any course with BLS or HISP prefix. Additional Psychology electives as needed to complete 60 hours.	
Total required including electives		60

Note: The Psychology major does not lead to teacher certification.

Note: PSY 491 credits beyond 5 minimum are considered as Psychology electives.

Note: A maximum of 6 hours of *approved* non-Psychology credits may be applied as Psychology electives. A list of approved electives is available in the Psychology office.

Psychology Major (Pre-Professional Emphasis)

This program is designed for students planning careers in clinical psychology, school psychology, counseling, research and related mental health fields. Normally these professions require graduate-level preparation. Although a 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.

—All General Education requirements as specified in this Bulletin.

—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 & Development	5
PSY 240	Principles of Learning	3
PSY 265	Social Psychology	3
STAT 203	Introductory Statistical Methods	3

PSY 271	Psychological Testing & Measurements	3
PSY 340	Social Learning & Behavior Modification	4
PSY 357	Theories of Personality	3
PSY 358	Abnormal Personality	3
PSY 375	Experimental Psychology	5
PSY 407	Introduction to Counseling Theories	3
PSY 475	Research Methodologies in Psychology	3
PSY 491	Field Experiences (minimum)	5

Electives

One course from each of the following groups:

Group I	PSY 250, 341	3
Group II	PSY 343, 443, 480, 481 or 482	3-5
Group III	PSY 467, PPSY 468, BLS 101, 340, 380; HISP 225, 302; ANT 328 or 537	3
Total required including electives		61-63

Note: The Psychology major does not lead to teacher certification.

Note: PSY 491 credits beyond 5 minimum are considered Psychology electives.

Advising: Advisors for all Psychology majors and minors are appointed by the Psychology Department. Please contact the department office to determine your assigned advisor.

Honors: The Department of Psychology participates in the Honors Program. See Honors Program in this Bulletin.

Psychology Minor

Required Courses

PSY 121	Introduction to Psychology I	4
PSY 122	Introduction to Psychology II	4

Electives

One course from each of the following groups:

Group I	-PSY 240, 265, 343, 443, 481	3-4
Group II	-PSY 250, 341	3
Additional Psychology electives needed to complete 27 hours.		
Total required including electives		27

Master of Arts in Psychology

This program is designed for students planning to pursue: The teaching of Psychology at the junior college or college level; Research in Psychology; or Further graduate study in a more specific area, such as clinical or experimental Psychology. Central to each student's program is an individually designed master's project. The project may involve any of the following: the development of a complete outline for an original college course; a review of the literature related to a given topic; an empirical research study; or a case study.

Required Courses

EPRE 603	Analysis of Variance & Covariance	3
EPRE 505	Inferential Statistics	3
EPRE 530	Human Growth & Development	4
EPRE 641	Theories of Learning	4
PPSY 651	Theories of Personality	3
PSY 649	Master's Project in General Psychology (total of 6 credits required)	6
One course in Minority Understanding from the following: BLS 350, 380, 495; HISP 302		3
		Hours credit 26
Elective courses		25
Total required for M.A. degree		51

It is expected that all students will have completed a course in experimental Psychology or research methodology before taking, or concurrent with, SRM 505.

Elective courses strongly recommended include: PSY 543, 624 or 480; PPSY 558, 565, 620, 650, 670. Additional electives may be selected from course listings in this Bulletin. A student's total course of study will be planned in consultation with the advisor.

Research Methods (See Mathematics)

Russian

Administered by the Department of Foreign Languages

Location: Candelaria Hall 32

Telephone: 351-2040

Glenda Brown, Chair

The undergraduate minor in Russian offers the student the opportunity to acquire the four language skills — speaking, listening, reading and writing — and to study the culture and literature of the Russian-speaking world. The Department of Foreign Languages offers both a teaching and liberal arts minor in Russian.

Because of the necessity to attain the highest level of skill possible for all careers in the field of foreign languages, our classes are performance-oriented. Conversational skills are stressed at all levels, and courses are conducted as much as possible in the target language. The department also provides an up-to-date language laboratory for individual work.

In addition to our conventional classroom program, we offer a number of extra-curricular programs and activities for our students. Our Foreign Language House provides an opportunity to use the language on an intensive level as occupants are required to use their language while they are in the House. The department also offers a number of conversation hours held on various parts of the campus to give students opportunities to practice their foreign language. There is also a Russian Club with activities open to all students studying the language.

The program in Russian offers many career opportunities. Many of the students graduating with a Russian teaching minor are presently teaching in schools in the Rocky Mountain area. Others have combined their minor with a major in business, history, political science and others, and are now pursuing careers in fields such as international business and international affairs.

Russian Minor

The 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

Russian-Soviet Studies

Administered by the Department of Geography

Location: Candelaria Hall 246

Telephone: 351-2342

John Dietz, Coordinator

The Russian-Soviet Studies minor enables students to acquire knowledge of several aspects of the Soviet Union and of Russian culture. A major in Russian-Soviet Studies is available under the Interdisciplinary Studies Program.

Russian-Soviet Studies Minor

—Russian language is not required but is strongly recommended and a maximum of 15 hours may be applied toward the minor.

—Planning of the program by the student with the coordinator.

—Hours in the minor will not apply toward the student's field or another minor.

—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 270	History of the Soviet Union	4
PSCI 414	Government & 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

Science Education

(See Graduate Interdisciplinary Programs)

Social Science

Location: Candelaria Hall 219

Telephone: 351-2346

David B. Cole, Coordinator

The study of the Social Sciences gives students a basis for thinking analytically about human behavior and the environment. The accumulation of knowledge from observations of individuals, groups and institutions in society are studied and analyzed by the techniques of inference to increase understanding and to provide solutions to social problems. The content and skills of the Social Sciences can lead to distinguished work in anthropology, demography, economics, education, geography, history, law, political science, psychology and sociology.

Two undergraduate majors and one graduate degree are offered through the Social Science Programs at the University of Northern Colorado. Students may elect the teaching major, which leads to certification for teaching social studies at the secondary level, or they may choose the non-teaching major, which provides a general, theoretical and applied background in all social science, plus in-depth study in selected Social Science areas.

The Master of Arts in Social Science degree is a multidisciplinary degree designed to develop scholarship in the areas of Social Science with possible applied concentrations in diverse fields such as urban planning, education and area studies. All programs provide opportunity for directed independent study and internship experiences.

Those electing a major in Social Science are generally preparing for careers in teaching, research, program planning or for graduate school or law school. Examples of specific job activities include teaching secondary social studies, city planning, probation counseling, environmental and social impact assessment, and local, state and federal government positions.

The departments of Economics, Geography, History, Hispanic Studies, Political Science, Psychology, Sociology and Anthropology, Black Studies and Women's Studies cooperate in offering the programs in Social Science. All departments are easily accessible to each other and are all conveniently located in or next to the University library. The University's modern computer facilities are readily accessible to all students.

Social Science Major

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

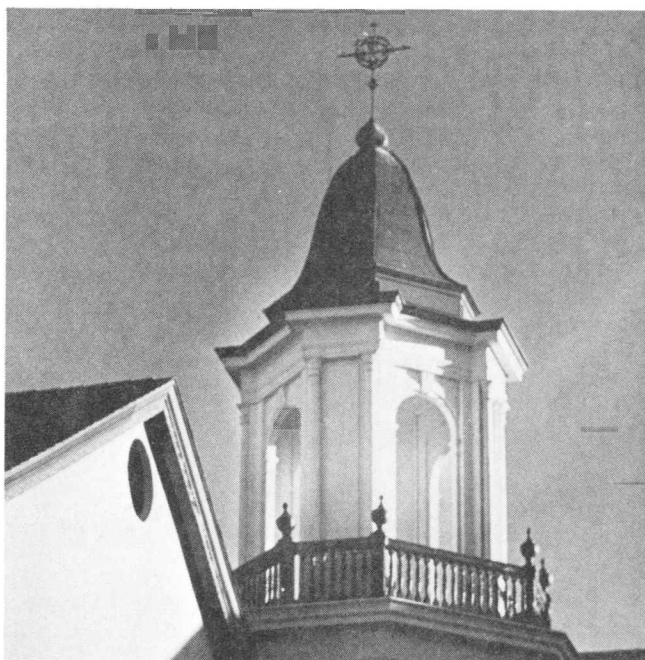
—General Education requirements of 60 hours as specified in this Bulletin.

—No minor is required for this major.

Required Courses

ECON 110	Principles of Economics: Microeconomics	4
PSCI 100	National Government of the United States	5
PSY 121	Introduction to Psychology I	4
PSY 122	Introduction to Psychology II	4

Hours credit 17



—Complete the following requirements for the major chosen:

Non-Teaching Major

Required Courses

HIST 130	Western Civilization I	5
HIST 131	Western Civilization II	5
HIST 132	Western Civilization III	5
SOC 100	Principles of Sociology	5
	<i>or</i>	
ANT 100	General Anthropology	5
	<i>or</i>	
GEOG 100	World Geography	5
CSCI 181	Beginning Computer Programming in BASIC	3
	<i>or</i>	
PHIL 240	Formal Logic	4
STAT 203	Introduction to Statistical Analysis	3
ID 308	Integrative Seminar in the Social Sciences	6

Hours credit 32-33

Note: SOC 461 may be substituted for STAT 203 if the Sociology theory and research methods sequence is chosen.

Theory and Research Methods

Choose one of the following sequences:

ANT 381 or 382;
ANT 480 ECON 300 and 451;
GEOG 200 and 475;
HIST 399 and 499;
PSCI 330 or 331 or 332;
PSCI 150;
PSY 240 or 265 or 357;
PSY 375 SOC 351 or 352;
SOC 460

Hours credit 7-8

Electives

All requirements for minor in two of the following areas: Anthropology or Sociology, Economics, Geography, History, Political Science, Psychology 54-70

Advanced Electives Courses numbered 300 or above in Anthropology, Economics, Geography History, Political Science, Psychology, and/or Sociology. (Courses must be in addition to minor requirements listed here) 12

Total hours credit 95-106

Teaching Major

Required Courses

ANT 100	General Anthropology	5
ECON 120	Principles of Economics: Macroeconomics	4
GEOG 100	World Geography	5
GEOG 200	Location & Human Behavior	4
PSCI 201	State & Local Government	5
SOC 100	Principles of Sociology	5
SOC 310	Social Psychology	3
HIST 100	The American Past, 1492-1800	4
HIST 101	The American Past, 1800-1900	4
HIST 102	The American Past, 1900-Present European or Third World History	4 12
SSED 341	Methods of Teaching Social Science in the Secondary School	3
SSED 470	Theory and Research in the Social Sciences	4

Hours credit 62

Additional Coursework

Either ANT 140 or 381 or 382	4
Two of the following:	
HS 300	Social Stratification in the Mexican- American Community 3
BLS 240	Dynamics of Racism 3
ID 208	Liberation: Myth to Ms. 5

Hours 10-12

Hours credit 86-88

—No Social Science major may apply for admission to the Professional Teacher Education (PTE) Program until he or she has passed at least 24 quarter hours of courses in the major, at least 8 hours of which must have been taken at the University of Northern Colorado.

—To be admitted to PTE, a student must have a 2.50 grade point average in those courses counting toward his or her major which were taken at UNC, and must have taken at least 24 quarter hours in at least five different major disciplines.

—Before taking EDLS 363 and SSED 341, the student must have completed EDF 366 and EPRE 347 and 348.

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

—To be recommended for teacher certification, the student must have at least a 2.75 grade point average at the completion of his or her program in those courses counting toward his or her major which were taken at the University of Northern Colorado.

Honors —Social Science majors may participate in the Honors Program. See Honors Program section of this Bulletin.

Master of Arts in Social Science

—A minimum of 24 hours must be earned in the area of concentration.

—The major in Social Sciences must take ID 600, Introduction to Graduate Study, for 3 hours, or the departmental substitute for this course, during his or her first quarter in residence.

—Each student's program is worked out individually with his or her advisor. Students in a multidisciplinary program with a teaching emphasis will take a minimum of 10 graduate hours from the College of Education.

—By permission of the department, a student may submit a thesis as a part of his or her work.

—A comprehensive examination is required. Students in a multidisciplinary program will be examined by a committee of three faculty members representing at least two of the Social Science departments.

Note: Completion of a Master of Arts degree in Social Sciences does not meet all the College of Education requirements for certification in Social Studies. Please consult with your departmental advisor and/or the College of Education PTE office if you are interested in elementary or secondary certification.

Sociology

Location: Candelaria Hall 123

Telephone: 351-2315

Richard G. Trahan, Chair

Faculty

Ford Cleere, PhD, Prof.

John Fox, PhD, Assoc. Prof.

Dale Howard, PhD, Asst. Prof.

Karen Jennison, PhD, Assoc. Prof.

Zahi Kamal, PhD, Assoc. Prof.

Pamela Loy, PhD, Asst. Prof.

James Marshall, PhD, Asst. Prof.

David Musick, PhD, Assoc. Prof.

Daniel O'Connor, PhD, Asst. Prof.

Robert O. Schulze, PhD, Prof.

Richard G. Trahan, PhD, Assoc. Prof.

John A. Vonk, PhD, Prof.

Gary Willoughby, MA, Assoc. Prof.

The Sociology Department offers a general undergraduate major and minor in Sociology, as well as a special emphasis in Criminal Justice. Students selecting a major in Sociology should contact the department and be assigned an advisor.

Sociology, as the study of human arrangements and relations, is fundamental to the social sciences. Undergraduate courses are designed to prepare students with the basic principles, theories and methods of Sociology. The coursework is arranged so that students may emphasize general Sociology or choose a specific emphasis area such as Criminal Justice. Emphasis areas in Family Studies and Social Change and Development are under consideration.

Internships are available for students who choose an emphasis area.

Undergraduate Programs

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

—General Education requirements of 60 hours as specified in this Bulletin.

—A minor of 33 quarter hours. Students selecting the Criminal Justice emphasis may not be required to take a minor.

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

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

Sociology Major

Electives

Courses selected from each of the following areas:

I SOC 100 Principles of Sociology 5

II Social Theory 12

SOC 350, 351, 352+, 454, 550, 551, 554

III Methodology and Research 8

SOC 460, 461, 563 —SOC 100, 350, 351, 352, 460, 461 are required courses for majors.

—Courses numbered 500 and above may be elected by seniors with 3.00 GPA and permission of instructor.

One course from each of the following areas: 15-20

IV Social Psychology Selected from SOC 210, 310, 311, 312, 415, 515

V Social Institutions Selected from SOC 120, 221, 321, 323, 325, 420, 421, 424, 520

VI Social Organization and Process Selected from SOC 235, 330, 333, 334, 337, 430, 432, 435, 437, 537

VII Social Problems Selected from SOC 145, 240, 242, 245, 340, 341, 345, 447

VIII Demography and Ecology Selected from SOC 270, 272, 478, 479, 574

IX Advanced Electives Electives include any Sociology courses above 100 credit including advanced electives 56
Minor hours credit 33

SOC 100 is prerequisite to all courses except SOC 120 and SOC 145. Contact the Sociology Department for descriptions of emphasis areas.

Sociology Minor

Required Courses

I Principles of Sociology 5

SOC 100 Electives: One course from each of the following areas:

II Social Psychology Selected from SOC 210, 310, 311, 312, 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 235, 330, 333, 334, 337, 430, 432, 435, 437, 454, 537

V Social Problems Selected from SOC 145, 240, 242, 245, 340, 341, 345, 447

VI Demography and Ecology Selected from SOC 270, 272, 478, 479, 574

VII Advanced Electives Electives including Sociology courses above 100.

Hours credit including advanced electives 33

Master of Arts in Sociology

Consult with the Sociology Department for advisement concerning specific details on the program prerequisites, course requirements, thesis and comprehensive examination.

Spanish (See Hispanic Studies)

Speech Communication

Location: Candelaria Hall 121

Telephone: 351-2045

Claudia L. Hale, Chair

Faculty

Richard J. Crawford, PhD, Prof.

Claudia L. Hale, PhD, Assoc. Prof.

Vicki Hamer, PhD, Asst. Prof.

Idahlynn Karre, PhD, Assoc. Prof.

Robert Ross, PhD, Assoc. Prof.

Robert Trapp, PhD, Asst. Prof.

Dennis Warnemunde, PhD, Assoc. Prof.

The focus of the Speech Communication discipline is on human communication and the centrality of the spoken word to all aspects of our lives. Classes in speech communication focus both on personal improvement in communication ability, and examination of theories/research relevant to the field of Speech Communication.

A degree in Speech Communication can lead to a career in education, business, and/or law. Students may either major or minor in Speech Communication. Activities for majors and minors include forensics (debate and individual events), Interpreter's Theatre, and a student chapter of the International Association of Business Communicators.

The purpose of a master's degree in Speech Communication is to gain a more in-depth understanding of a particular area. When a student enters the UNC master's program, he or she can expect to gain a greater understanding of the nature of speech communication theories as they apply to a variety of communication situations. A master's degree in Speech Communication can lead to a career in education, business, and/or law, or serve as entry into a doctoral level program.

Bachelor of Arts Degree

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

—General Education requirements of 60 hours, as specified in this Bulletin. In selecting General Education courses, students should consult their Speech Communication advisors.

—Students shall complete 60 hours of Communication and related field course units.

—Students must select a minor or additional major from any other related discipline approved by advisors.

—Students may count not more than 10 hours of combined internship (COMM 501), practicum (COMM 423), and/or independent study (COMM 422) toward electives in their Communication major. Students may apply a maximum of 8 hours of internship credit toward fulfillment of electives in the major.

—Students desiring entry into the Professional Teacher Education program, PTE, *must* select only the Communication PTE major or minor outlined here.

Communication: Speech Communication Emphasis

Required Courses

COMM 170	Oral Interpretation	3
COMM 250	Public Speaking II	4
COMM 251	Small Group Communication	4
COMM 312	Argumentation Theory	4
COMM 323	Interpersonal Communication Theory	4
COMM 351	Persuasion	4
COMM 420	General Semantics	4
	Hours credit	27
Electives in Communication		20
Electives in Communication or related discipline		13
	Hours credit	60

Students are encouraged to obtain a Communication specialty in such areas as:

Interpersonal Communication
Organizational Communication
Small Group Communication
Pre-Law
or 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 (33) and any remaining General Education credit.

Communication: Professional Teacher Education Emphasis

Required Courses

COMM 170	Oral Interpretation	3
COMM 210	Laboratory Forensics	3
COMM 250	Public Speaking II	4
COMM 251	Small Group Communication	4
COMM 312	Argumentation Theory	4
COMM 323	Interpersonal Communication Theory	4
COMM 341	Methods of Teaching in the Secondary School	4
COMM 370	Interpreter's Theatre	4
COMM 420	General Semantics	4
COMM 486	Directing Forensic Activities	1
THEA 240	Stage Direction (Prerequisite: Beginning Acting)	3
JMC 110	Newswriting	3
	Hours credit	41
Electives in Communication should be selected with advisor		19
	Hours credit	60

Students planning to use this major as a certification program for teaching must complete the program of Professional Teacher Education, 39-40 hours, as described in this Bulletin.

Communication Minor

I Communication Minor — Professional Teacher Education

Required Courses

COMM 170	Oral Interpretation	3
COMM 210	Laboratory Forensics	3
COMM 251	Small Group Communication	4
COMM 312	Argumentation Theory	4
COMM 323	Interpersonal Communication Theory	4
COMM 341	Methods of Teaching in the Secondary School	4
COMM 370	Interpreter's Theatre	4
COMM 420	General Semantics	4
COMM 486	Directing Forensic Activities	1
	Hours credit	31
Electives in Communication		5
	Total hours credit	36

II Communication Minor: Elementary Education/ PreSchool

Required Courses

COMM 170	Oral Interpretation	3
COMM 251	Small Group Communication	4
COMM 271	Oral Interpretation of Children's Literature	3
COMM 420	General Semantics	4
THEA 281	Creative Drama in Education	3
	Hours credit	17
Electives in Communication		13
	Hours credit	30

III Communication Minor: Non-Communication Majors

Required Courses

COMM 170	Oral Interpretation	3
COMM 312	Argumentation Theory	4
COMM 250	Public Speaking II	4
COMM 251	Small Group Communication	4
COMM 323	Interpersonal Communication Theory	4
COMM 351	Persuasion	4
COMM 420	General Semantics	4
	Hours credit	27
Electives in Communication		3
	Hours credit	30

Master of Arts Degree — Speech Communication Emphasis

The master's program in Speech Communication is a multipurpose program which offers a broad range of choices to the prospective candidate.

Each student is required to complete a core of courses and may, in consultation with his/her advisor, select additional courses that provide a focus on an area of particular interest. Possible areas of focus include organizational communication, interpersonal communication, communication and the law, and public relations.

The main objective of the program is to provide specialized learning opportunities that will prepare students for working in business and industry, or additional graduate study.

Students may choose a thesis or a non-thesis option. The decision of which option to pursue should be made in consultation with the academic advisor and should occur as early in the student's program as possible, preferably during the second quarter of graduate work.

All students should formulate their programs in consultation with a Department of Speech Communication academic advisor, and in accordance with the requirements outlined for either the thesis or non-thesis option.

Required Core: Speech Communication Theory Emphasis

COMM 560	Rhetorical Theory & Practice	4
COMM 600	Graduate Study in Communication	4
COMM 603	Seminar in Research	4
COMM 620	Communication Theory	4
COMM 664	Rhetorical Criticism	4
	Hours credit	20
Electives in Communication		16
Electives in Communication or related fields		9
	Hours credit	45

Master of Arts Degree: Teaching Emphasis

The main objective of this program is to provide specialized learning opportunities for teachers and administrators in elementary, secondary and higher education.

Each student is required to complete a core of courses and may, in consultation with an advisor, select additional courses that provide a theoretical and practical application of Communication concepts to education. Possible areas of investigation include: interpersonal communication for teachers, facilitating classroom groups, current trends in teaching communication, teaching college communication, and enhancing student self-concept in the classroom through communication theory and skills.

Students may choose either the thesis or the non-thesis option. The decision of which option to pursue should be made in consultation with the academic advisor, and should occur as early in the student's program as possible, preferably during the second quarter of graduate work. All students should formulate their programs in consultation with a Department of Communication academic advisor and in accordance with the requirements outlined for either the thesis or non-thesis option.

Required Core — Teaching Emphasis

COMM 521	Seminar in Communication: Education	3
COMM 532	Interpersonal Communication Theory	4
COMM 584	Current Trends in Teaching Communication	3
COMM 600	Graduate Study in Communication	4
COMM 620	Communication Theory	4
One of the following:		
COMM 560	Rhetorical Theory & Practice	4
COMM 664	Seminar in Rhetorical Criticism	4
COMM 556	Current Trends in Argument	3
	Hours credit	21-22
Electives in Communication		15-14
Electives in Communication or related fields		9
	Hours credit	45

Note: Completion of a Master of Arts degree in Speech Communication: Teaching Emphasis, does not meet all the College of Education PTE requirements for certification in Speech Communication. A student should consult with the department advisor and/or the PTE office if interested in elementary or secondary certification.

Master's candidates in either the Communication Theory Emphasis or the Teaching Emphasis must select one of the two options outlined here:

Non-Thesis Option —The master's candidate must complete a minimum of 45 quarter hours, of which a minimum of 36 hours must be Speech Communication courses. The student is encouraged to work with his/her advisor in selecting courses for the remaining 9 hours. These courses may be additional hours in the field of Speech Communication, or may be courses from a related field.

—No more than 15 quarter hours of a master's student program may be in courses open to undergraduate student.

—A maximum of 5 hours of intern experience may be counted toward the emphasis area.

—All candidates electing the non-thesis option are required to take and satisfactorily complete COMM 681, Graduate Research Project.

—The master's candidate must take and satisfactorily pass written comprehensive examinations. The candidate will defend his/her research project before his/her committee and academic advisor.

—The orals committee consists of a minimum of three individuals: the candidate's academic advisor, one additional faculty member from the Department of Speech Communication, and a third faculty member who may be from the Department or from outside the Department. The candidate is responsible for getting the approval of his/her academic advisor and the Coordinator of Graduate Studies regarding the members of the candidate's committee.

—All candidates should work closely with their academic advisors in planning their graduate programs.

Thesis Option —The student planning to do a thesis shall be subject to the guidelines specified for the non-thesis option with the exception of the fifth and sixth guidelines. In addition, the student should complete the requirements outlined here:

—The master's candidate must satisfactorily complete a thesis for up to 9 hours of credit. Thesis credit may be included as part of the 36 hours in Speech Communication, or may be used for additional hours. The student and his/her department academic advisor will contract for the number of hours earned for thesis.

—The master's thesis can be descriptive, experimental, conceptual, critical or any combination of these.

—The thesis candidate must take and satisfactorily complete written comprehensive examinations. The candidate will defend his/her thesis before his/her committee and advisor.

Statistics

(See Mathematics)

Teaching English as a Second Language

Administered by the Department of Hispanic Studies
 Location: Candelaria Hall 33
 Telephone: 351-2811
 Joseph Pluto, Coordinator

The English as a Second Language Program has been designed to prepare student who wish to become involved in bilingual-bicultural education programs, intensive English training programs for adults, or intensive English training programs in foreign countries.

Students interested in this minor should contact the Hispanic Studies Department.

—It is preferable that this minor accompany a Teacher Education major.

—Prerequisite to this minor is one year of college-level, beginning foreign language study or its equivalent.

—This minor requires 25 hours of course work and six hours of clinical experience, for a total of 31 hours.

—If any course requirement is waived, additional courses to complete the 25 hours of course work and six hours of clinical experience must be elected from the foreign language or the English curriculum.

Required Courses and Clinical Experience

ENG 114	Introduction to Language	4
ENG 205	Linguistic Theory Basic to TESL	4
ENG 318	Traditional Grammar for the Teacher	4
ENG 418	Grammatical Analysis	4
EDEM 420	Introduction to Media Design & Production	3
TESL 325	Methods in Teaching English as a Second Language	3
TESL 330	Language through Culture	3
Practicums (See Course Descriptions in this Bulletin for full description of each clinical level).		
TESL 301	TESL Practicum I	2
TESL 302	TESL Practicum II	2
TESL 303	TESL Practicum III	2

Women's Studies

Administered by the Department of Anthropology, Black and Women's Studies
 Location: Candelaria Hall 12
 Telephone: 351-2001
 Marcia Willcoxon, MA, Coordinator, Prof.

The basic goals of the Women's Studies Program and course offerings are to explicate, understand and overcome social myths about women and sex role stereotypes of women and men. This is done 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.

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 the Women's Studies faculty. Each major or minor in Women's Studies should register with the coordinator to develop his or her 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.

Required Courses

WS 148	Introductory Seminar in Women's Studies: Women in Crisis	3
WS 448	Women's Studies: Senior Seminar	3

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
BLS 102	Crisis in Identity II: The Black Woman	3
BUS 418	Seminar: Women in Business	2
COMM 455	Rhetoric of Feminism	3
ECON 304	Women & the Economy	3
EDF 380	Women in Education	3
ENG 260	Women's Biography	4
ENG 327	Women & Sex in Science Fiction	4
ENG 425	Literature By and About Women	4
ART 308/508	The Woman Artist	4
PE 231	Women in Sport	2
HUM 331	Images of Women in Literature	4
ID 208	Liberation: Myth to Ms	5
ID 325	Human Sexuality	3
ID 508	Freeing Curricula of Sex-Role Bias	3
MUS 344	Women in Music	2
PPSY 568	Violence Against Women	3
PHIL 310	Philosophy of Feminism	4
PSCI 207	Women and Politics	3
PPSY 468	Psychology of Women	3
SOC 221	Sociology of Sex Roles (Loy)	3
SOC 242	Women and Aging	3
WS 304	Women's Studies Curriculum	4
WS 308	Women's Studies Workshop 1-4	4

Hours credit 27

A student may also, upon the approval of the Committee, include among his or her electives other pertinent courses offered throughout the University.

Zoology

(See Biology)

School of Business

Location: Kepner Hall 113
 Telephone: 351-2764
 Robert Dolphin, Jr., Dean
 R. Bruce Garrison, Associate Dean

The School of Business offers a program with seven emphasis areas to provide a comprehensive, in-depth study in business and to prepare students for professional careers in business and government. Students are prepared for lifetime careers in a changing world through an understanding of business concepts and the development of analytical abilities based on a broad foundation of liberal arts studies.

Guiding students as they prepare for careers requires a concern for individual development and growth, both intellectually and behaviorally. The faculty recognizes this, and understands it is essential to provide students with a high quality education and employers with high quality graduates. Faculty members believe in the importance of students developing a sense of responsibility and pride of achievement.

The School is comprised of four departments: Accounting, Finance, Management and Marketing. The School of Business offers the Bachelor of Science degree in Business Administration and the Master of Business Administration degree. Of the 42 faculty members, 8 are women; 25 have received a doctorate (5 have a law degree), and 17 have received a masters degree. The faculty of the School includes 12 professors, 14 associate professors, 10 assistant professors and 6 instructors.

Undergraduate Programs

Bachelor of Science in Business Administration
 Accounting
 Finance
 General Business
 Insurance
 Management
 Management Information Systems
 Marketing

To meet objectives of the school, it is necessary that a student pursuing the B.S. degree in Business satisfies the following requirements before graduation:

—Complete General Education requirements of 60 quarter hours.

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

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

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

—A minor is not required.

Honors: Latin honors designations are assigned to graduating seniors with high grade point averages as follows:

Top 2% Summa Cum Laude
 Next 2% Magna Cum Laude
 Next 2% Cum Laude

Admission Requirements

Admission requirements for the School of Business Bachelor of Science program:

ACT composite score of 23 *or* composite score of 19 *and* ranking in the upper one-half of the high school graduating class. A student not meeting either of the above requirements may gain admittance by completing 45 quarter hours of course work with no less than a 2.30 cumulative GPA.

Prefixes

ACCT Accounting
 BUS General Business
 FIN Finance
 MGT Management
 MKT Marketing
 MIS Management Information Systems
 QA Quantitative Analysis

Business Administration Core

Required Courses

MIS 180	Information Systems	4
ACCT 220	Principles of Accounting I	4
ACCT 221	Principles of Accounting II	4
BUS 231	Business Law I	4
QA 291	Business Statistics I	4
BUS 307	Technical Report Writing	4
MGT 350	Principles of Management	4
MKT 360	Marketing	4
FIN 370	Business Finance	4
QA 395	Production Management	4
MGT 456	Business Policies & Management	4

Hours credit 44

Other required courses, which may be used to meet part of

General Education requirements:

PHIL 352	Business Ethics	4
COMM 110	Public Speaking I	3
ECON 110	Principles of Economics: Microeconomics	4
ECON 120	Principles of Economics: Macroeconomics	4
ENG 101	Elementary Composition I	4
MATH 175	Essentials of Mathematics I	4
PSY 120	General Psychology	3
SOC 100	Principles of Sociology	5
And one of the two following courses:		
ENG 102	College Research Paper	4
<i>or</i>		
BUS 205	Business Communications	4

Hours credit 35

Emphasis in General Business

The purpose of the emphasis in General Business is to prepare students for career positions in business organizations for which a broad-based knowledge is preferred over specialization in one of the functional areas of business. The program requires at least two courses in each of the functional areas, providing more depth than would otherwise be possible. The entire School of Business faculty participates in offering courses in this program and in advising students.



Required Courses

BUS 232	Business Law II	4
ACCT 323	Cost & Managerial Accounting I	4
MGT 354	Human & Organizational Behavior	4
MKT 365	Marketing Strategy	4
MKT 460	Market Analysis & Research I	4
FIN 371	Financial Markets & Institutions	3
BUS 401	Public Policy & Private Enterprise	4
MKT 460	Marketing Analysis & Research I	4
FIN 470	Financial Management	3
<i>And one of the following advanced courses:</i>		
MIS 281	Fortran Programming	4
MIS 381	Pascal Programming	4
MIS 383	Cobol Programming	4
QA 396	Management Science: Deterministic Models	4
Electives: Upper division elective at 300-400 level		4
		Hours credit 38

Accounting Emphasis

Accounting program administered by the Department of Accounting

Location: Kepner Hall 211

Telephone: 351-2855

Paul Bohrer, Chair

Faculty

Paul Bohrer, MS, CPA, Prof.
 John Elsea, PhD, Assoc. Prof.
 Robert Elton, MA, Inst.
 Elizabeth Hittle, MS, CPA, Asst. Prof.
 Pauline Jaouen, MA, CPA, Asst. Prof.
 Calvin Kennedy, PhD, CPA, Prof.
 Terry Lynch, MS, Inst.
 Allen McConnell, MS, CPA, Prof.
 John Stewart, PhD, CPA, Assoc. Prof.

The emphasis in Accounting and the Department of Accounting are approved under the State Accountancy Law of Colorado. A student qualifies to write the CPA and other professional examinations by successfully completing the program requirements outlined below.

This program's primary objective is to provide a compre-

hensive accounting background so students completing the program are able to qualify for a broad range of jobs, including public accounting, industrial accounting, governmental accounting, and non-profit accounting.

The Accounting Department offers an internship program to seniors majoring in accounting who wish to utilize the knowledge they gain in the classroom in a real world experience under the supervision of a faculty member.

In addition to fulfilling the basic requirements listed for the Bachelor of Science degree in Business Administration, students must note a grade of "D" in any of the courses listed here for the Accounting emphasis will *not* count toward graduation.

Required Courses

BUS 232	Business Law II	4
ACCT 320	Intermediate Accounting I	4
ACCT 321	Intermediate Accounting II	4
ACCT 322	Intermediate Accounting III	4
ACCT 323	Cost & Managerial Accounting I	4
ACCT 324	Cost & Managerial Accounting II	4
ACCT 326	Governmental & Institutional Accounting	4
ACCT 420	Advanced Accounting I	4
ACCT 425	Auditing I	5
ACCT 428	Income Tax Accounting I	4
BUS 433	Business Law III	4
At least 8 hours of additional accounting chosen from the following:		
ACCT 421	Advanced Accounting II	4
ACCT 426	Auditing II	4
ACCT 429	Income Tax Accounting II	4
		Hours credit 53

Note: Students transferring accounting courses to UNC must complete ACCT 321, 322, 420, 421, 428 and 429 at UNC.

Finance Emphasis

Finance and Insurance programs are administered by the Department of Finance.

Location: Kepner Hall 106

Telephone: 351-2652

Marvin Halldorson, Chair

Faculty

Garth Allen, JD, CPCU, Assoc. Prof.
 Rodney Capron, JD, Asst. Prof.
 David Crockett, PhD, Assoc. Prof.
 Wanda DeBoer, EdD, Assoc. Prof.
 Caroll Dierks, PhD, Prof.
 Robert Dolphin Jr., DBA, Prof.
 Glen Droegemueller, JD, Asst. Prof.
 Marvin Halldorson, PhD, Prof.
 Wilfred Jacques Jr., JD, Assoc. Prof.
 Lynn Karowsky, JD, Asst. Prof.
 Philip Shade, DBA, Assoc. Prof.

The emphasis in Finance prepares students for careers in financial management of organizations or financial institutions such as banks, savings and loan associations, investment banking firms, brokerage houses. The program requires coursework in all traditional areas — financial markets and institutions, financial management, and investments — and includes their integration. Both theory and application are developed.

Required Courses

FIN 340	Introduction to Insurance	3
FIN 371	Financial Markets & Institutions	3
FIN 372	Principles of Real Estate	3
QA 390	Business Statistics II	4
FIN 470	Financial Management	3
FIN 471	Investments	4
FIN 474	Case Problems in Financial Management	3
ECON 202	Money & Banking	5

Electives

Eighteen additional hours, as follows:

At least eight hours of Accounting selected from ACCT 320, 321, 322, 323, 324 and/or 420; plus at least seven hours of Economics selected from ECON 300, 350, 400, 451, and/or 453; plus at least three hours of statistics and/or data processing selected from MIS 383, 396, 397 and/or 487 18

Hours credit 46

Insurance Emphasis

The emphasis in Insurance prepares students for careers in either the insurance industry or in risk management of businesses. This includes positions in underwriting, sales, agency operations, etc. The program requires coursework in both life and health insurance, and in property and casualty insurance, in addition to coursework in Finance. Both theory and application are developed.

Required Courses

BUS 232	Business Law II	4
FIN 340	Introduction to Insurance	3
FIN 341	Life & Health Insurance	3
FIN 371	Financial Markets & Institutions	3
FIN 372	Principles of Real Estate	3
QA 390	Business Statistics II	4
FIN 441	Estate Planning & Life Insurance	3
FIN 444	Property & Casualty Insurance	3
FIN 445	Risk Management	3
FIN 470	Financial Management	3

Electives

Six hours of Business or Economics courses with consent of advisors.

6

Hours credit 38

Management Emphasis

Management and Management Information Systems programs are administered by the Department of Management

Location: Kepner Hall 14

Telephone: 351-2088

William Duff Jr., Chair

Faculty

James Clinton, PhD, Assoc. Prof.

Edward Dubois, MBA, Assoc. Prof.

William Duff Jr., PhD, Prof.

R. John Freese, PhD, Asst. Prof.

R. Bruce Garrison, PhD, Assoc. Prof.

D. Lynn Hoffman, PhD, Asst. Prof.

Willie Hopkins, MBA, Asst. Prof.

Robert Lynch, PhD, Prof.

Emmett Ritter, EdD, Prof.

Ethel Kloos Smith, MS, Inst.

G. Wayne Smith, MS, Asst. Prof.

Neil Smith, MS, Inst.

Steve Teglovic, Jr., PhD, Prof.

Margaret Vaughan, PhD, Assoc. Prof.

With an emphasis in Management, you will learn how to plan, direct and control such resources as people, time, capital, raw materials and equipment. You will be asked to examine and understand issues and problems that confront society. You will learn how to manage, motivate and direct employees.

Opportunities exist to work with actual businesses as part of your academic program through a management internship or as a Small Business Institute consultant to businesses in the Greeley area.

A large number of business firms recruit UNC management graduates for entry level positions. Graduates also qualify for employment with local, state and federal government agencies.

Required Courses

ACCT 323	Cost & Managerial Accounting	4
MGT 354	Human & Organization Behavior	4
QA 390	Business Statistics II	4
QA 396	Management Science: Deterministic Models	4
QA 397	Management Science: Probabilistic Models	4
MGT 453	Human Resources Management	4
MGT 455	Collective Bargaining	4
At least 16 hours selected from the following:		
MGT 357	Managing New Business Ventures	4
MKT 365	Marketing Strategy	4
QA 391	Business Statistics III	4
MGT 454	Human Resource Development	4
MGT 457	Organizational Development & Conflict	3
FIN 470	Financial Management	3
ECON 300	The Price System	4
ECON 350	Income & Employment Analysis	4
JOUR 380	Public Relations	3
SOC 330	Complex Organizations	3

Hours credit 44

Management Information Systems Emphasis

If you choose Management Information Systems as a career field at UNC, you will investigate, design and develop computer systems to provide data required for business decision making. You will also learn how to use a computer to produce reports required by modern business.

By choosing this major, you will also gain an understanding of the business environment and the knowledge needed in accounting, finance, management and marketing. Business firms provide both part-time work and experience in MIS through the Business internship program offered to upper-level students.

The demand for students with an emphasis in MIS has been quite strong. The number and diversity of companies recruiting at UNC are increasing rapidly for MIS graduates.

After graduation, your first position probably will be as an entry-level programmer. Job opportunities related to the computer, such as marketing computer hardware or software and systems analysis are also available. MIS graduates do not remain programmers; they move rapidly into systems analysis and other management positions.

In addition to the basic requirements listed for the Bachelor of Science in Business Administration at the beginning of this section, students must note that a grade of "D" in MIS 180,

ACCT 221, QA 291 or in any of the required courses listed below will not count toward graduation with a MIS emphasis.

Required Courses

ACCT 320	Intermediate Accounting	4
ACCT 323	Cost & Managerial Accounting I	4
MIS 380	Interactive Languages & Techniques	4
MIS 383	COBOL Programming	4
MIS 385	Advanced Structured COBOL	4
QA 390	Business Statistics II	4
QA 395	Production Management	4
MGT 453	Human Resources Management	4
MIS 482	Computer Simulation Techniques	4
MIS 485	Data Base Management	4
MIS 486	Advanced Data Base Management	4
MIS 487	Systems Analysis & Design	4
MIS 488	Advanced Systems Analysis & Design	4
		Hours credit 52

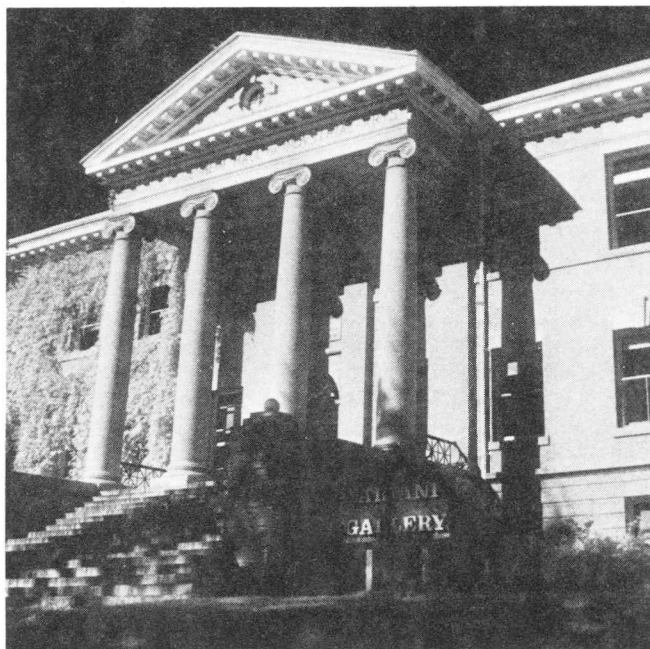
Marketing Emphasis

Administered by the Department of Marketing
 Location: Kepner Hall 217A
 Telephone: 351-2066
 Robert C. Harris, Chair

Faculty

Joseph Clithero, MS, Prof.
 Dennis Guseman, DBA, Assoc. Prof.
 Robert C. Harris, MA, Assoc. Prof.
 Lawrence Levenson, MBA, Assoc. Prof.
 Diana Miller, MS, Inst.
 G. Dean Palmer, EdD, Prof.
 Jeffrey Simkovic, MS, MPH, Inst.
 Louis Turley, MBA, Asst. Prof.

Choosing Marketing as an emphasis will prepare you for employment in the fields of retail sales and management, advertising, industrial sales, sales management, marketing research and marketing communications. The approach taken is to develop a conceptual framework and expose you to as much practical experience as possible. Projects and other experiences are used to show how the concepts apply in the business world.



Required Courses

MKT 365	Marketing Strategy	4
MKT 366	Consumer Behavior	4
MKT 460	Market Analysis & Research I	4
MKT 462	Marketing Problems	4
FIN 470	Financial Management	4

Electives

Students should consult advisor before selecting 20 hours of Marketing electives. Students must take two (8 hours) from the following 300 level courses:

MKT 361	Retailing	4
MKT 362	Advertising	4
MKT 363	Promotion Management	4
MKT 364	Personal Selling	4
MKT 367	Public Policy Issues in Marketing	4

Students must take three (12 hours) from the following 400 level courses:

MKT 461	Advertising Campaigns	4
MKT 463	Sales Management	4
MKT 464	International Marketing	4
MKT 465	Seminar in Retailing	4
MKT 466	Market Analysis & Research II	4
MKT 468	Industrial Marketing	4
MKT 469	Distribution Management	4

Hours credit 40

Business Administration Minor

Required Courses

MIS 180	Information Systems	4
ACCT 220	Principles of Accounting I	4
ACCT 221	Principles of Accounting II	4
BUS 231	Business Law I	4
QA 291	Business Statistics I	4
BUS 307	Technical Report Writing	4
MGT 350	Principles of Management	4
MKT 360	Marketing	4
FIN 370	Business Finance	4
ECON 110	Principles of Economics: Microeconomics	4
MATH 175	Essentials of Mathematics I	4

Hours credit 44

Note: ECON 110 and MATH 175 may be used to meet part of the General Education requirements as well as Business Administration minor requirements.

Master of Business Administration

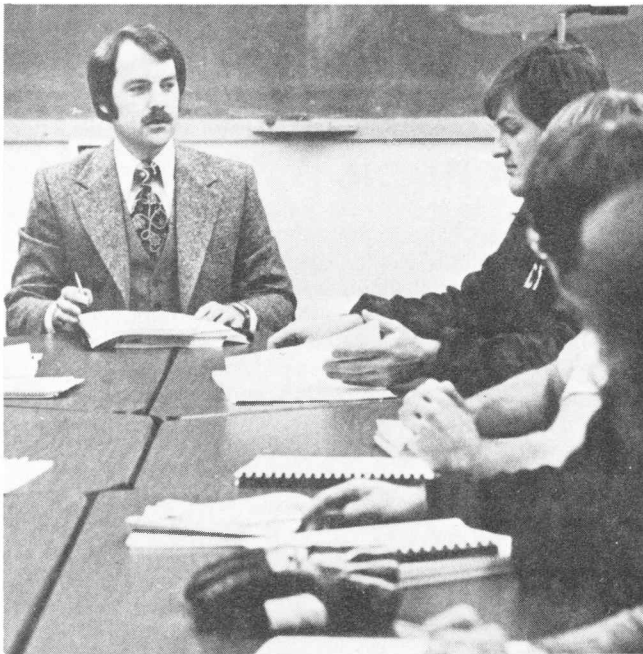
The MBA program of the School of Business is administered by the Graduate Academic Affairs and Curriculum Committee (GAACC) and the Director of Graduate and External Degree Programs. The GAACC originates policies, makes admission and transfer decisions, and processes student appeals arising from the administration of the graduate degree program. The Director of Graduate and External Degree Programs is responsible for administering the graduate program which includes the initial advising of students.

Admission Requirements

A student must meet the following criteria:

- Hold a baccalaureate degree from a regionally accredited college or university;
- Supply two official undergraduate transcripts for all institutions attended;
- Supply scores on the Graduate Management Admission Test (GMAT); and
- Have an overall baccalaureate GPA (A=4.0) times 200 plus the GMAT-total score for a total of at least 950 points OR and upper division baccalaureate GPA (A=4.0) times 200 plus the GMAT-total score for a total of at least 1000 points.

Applicants not satisfying GPA criterion above will be evaluated on an individual basis.



Program Requirements

Level I Requirements

Prior to completion of the MBA program, the student must have satisfied the undergraduate Business core course requirements or an equivalent consistent with the American Assembly of Collegiate Schools of Business (AACSB) recommendations:

- Accounting Principles I and II
- Economics (Macroeconomics and Microeconomics preferred)
- Finance (Business or Corporate)
- Information/Data Processing
- Law (Business or Legal Environment)
- Management Principles
- Marketing Principles
- Statistics (Business)

Implicitly, these core courses are minimal prerequisites for graduate courses in the particular subject areas.

Level II Requirements

ACCT 623	Managerial Accounting	4
MGT 652	Seminar in Organizational Behavior	4
MGT 656	Seminar in Business Policy	4
QA 692	Seminar in Business Statistics	4
ECON		5
(Graduate level Economics course. Courses available vary due to scheduling by Economics Department)		
FIN 670	Seminar in Financial Management	4
MKT 665	Seminar in Marketing	4
QA 697	Seminar in Business Decision Theory	4

Additional Course Work. Additional course work for the balance of the 48-quarter-hour program is to be taken in Business and related areas, with the approval of the student's advisor.

Comprehensive Examination Requirement. The written examination will not be approved until at least 36 quarter hours of Level II courses have been completed, with a grade average of at least 3.00.

College of Education

Location: McKee Hall 518

Telephone: 351-2817

Daniel J. Burke, Dean

Duane E. Henderson, Associate Dean

Douglas S. Burron, Assistant Dean

M. Lucille Chavez, Assistant Dean

The College of Education is a professional college offering specialized undergraduate and graduate degree programs in education to prepare elementary school teachers, special education teachers, educational media personnel, and other educational specialists. Basic teaching skills are also offered for teachers in subject areas at other educational levels.

The faculty of the College of Education is committed to the serious study of education and the promotion of professional standards to foster innovation in professional preparation. This commitment also encompasses social issues, such as multicultural and ethnic education, and increasing public awareness of education in general.

All programs in the College of Education are accredited by the National Council for the Accreditation of Teacher Education (NCATE), and all programs are approved for certification by the Colorado Department of Education.

The College is comprised of 9 departments. Of the 119 faculty members, 48 are women; 107 have doctorates and 12 have received a masters degree. The faculty of the College includes 59 professors, 33 associate professors, 25 assistant professors and 2 instructors.



Laboratory School

A single academic unit within the College of Education, the Laboratory School is a comprehensive early childhood through adult educational program. The total enrollment is approximately 600 students, representing all socio-economic levels reflected in the Greeley community. Presently, the school is engaged in numerous activities for the enhancement of its total educational program, with the goal of becoming the nation's finest experimental school.

Educational Planning Service

Consultant services for school districts and educational institutions are provided through the Educational Planning Service. It is organized to utilize the experience and specialized knowledge of the entire University faculty. Services to schools and colleges include planning of curriculum, educational facilities, higher education, and finding solutions for administrative and organizational problems.

Colorado State Committee, North Central Association of Colleges and Schools

The University of Northern Colorado is the sponsoring agency for the Colorado State Committee, Commission on Schools of the North Central Association (NCA).

NCA is a regional voluntary association that provides schools with accreditation, school improvement, evaluation and leadership services.

The Colorado State Committee provides services to senior high, junior high, middle, elementary, vocational occupational, adult high, optional and independent college preparatory schools.

Business Teacher Education

Administered by the Department of Vocational Teacher Education

Location: McKee Hall 27

Telephone: 351-2939

Jerry Moorman, Chair

Faculty

Jerry Moorman, EdD, Asst. Prof.

Anita Salazar, PhD, Asst. Prof.

Thomas D. Smith, MEd, Assoc. Prof.

Bachelor of Arts Degree in Business Education

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

- Complete General Education requirement of 60 hours.
- Schedule a conference with an advisor in Business and

Office Education in the Business Teacher Education Department as soon as the major is declared.

—Complete required courses listed in the Business Administration content core.

—Complete required courses listed for the Business and Office Education emphasis. The emphasis reflects current certification requirements of the Colorado State Department of Education and credentialing requirements of the Colorado State Board for Community Colleges and Occupational Education.

—Complete the required courses in Vocational Teacher Education.

—Complete electives in Business, Business Teacher Education or Vocational Teacher Education.

—All courses in the emphasis must have been passed with at least a grade of "C."

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

—Students planning to use this major as a certification program must complete the program of Professional Teacher Education as described in the PTE brochure.

—Students in the Business and Office Education emphasis will be placed in their teaching assignments in Fall and Winter quarters.

—Complete a minimum of three varied professional development experiences every calendar year.

—A minor is not required.

—Most secondary schools require a vocational credential for teaching business and office education. Majors should check with their advisors concerning current requirements for the credential. Requirements include: approved occupational experience in the area of emphasis; nine quarter hours of specific vocational teacher education (VTE) courses; and student teaching experience with a teacher holding a valid state vocational credential.

Business and Office Education Emphasis

The Business Teacher Education Program with an emphasis in Business and Office Education is an upper division teacher education program. The Business and Office Education program prepares students to teach basic business subjects, secretarial and clerical subjects and accounting subjects in the secondary schools. The faculty of the Vocational Teacher Education Department work closely with the School of Business and the College of Education to offer students a comprehensive, relevant program.

General Education

See General Education section of this Bulletin. The following three courses required in the Business Teacher Education core can be counted for General Education:

ECON 110	4
MATH 175	4
BUS 205	4
	Hours credit 12

Professional Teacher Education Requirements

Business Administration Content Core

BUS 100	The American Business System	3
MIS 180	Information Systems	4
ACCT 220	Principles of Accounting I	4
ACCT 221	Principles of Accounting II	4
BUS 231	Business Law I	4

BUS 291	Business Statistics I	4
MGT 350	Principles of Management	4
MKT 360	Marketing	4
FIN 370	Finance	4
QA 395	Production	4
MGT 456	Policies	3
ECON 110	Principles of Economics:	
	Microeconomics	4
MATH 175	Essentials of Mathematics I	4
BUS 205	Business Communications	4
	Total Business Administration Core	54

—Students majoring in Business and Office Education must successfully complete a competency examination and/or transfer courses from a community college or another university to reflect competencies in the these areas: Advanced Typewriting, Office Machines, including calculating, reproducing and copying machines, Word Processing and, for those students wanting to teach in a secretarial program, shorthand and transcription. All students are highly encouraged to learn at least an alphabetic system of shorthand.

The Business and Office Education faculty work closely with high schools and community colleges in Colorado to help students acquire competencies in the above-listed areas. Please contact the Business and Office Education faculty for detailed information on the competency examination and transfer process.

Course Requirements of the Emphasis

BUS 314	Records Management	3
ACCT 323	Cost and Managerial Accounting I	4
BUS 452	Administrative Office Systems	3
VTE 302	Instructional Design: Performance Objectives	1
VTE 303	Instructional Design: Classroom Evaluation	1
VTE 107	Computer Literacy or Demonstrated Competency	1
VTE 340	Organization & Administration of Business & Office Education	2
(Prerequisites: VTE 301, 302, 303, 304, 305, 306 & 307)		
VTE 341	Methods & Materials of Teaching Typewriting and Keyboarding	2
VTE 342	Methods & Materials of Teaching Basic Business Subjects	2
VTE 343	Methods & Materials of Teaching Accounting	2
VTE 345	Methods & Materials of Teaching Shorthand	2
VTE 346	Methods & Materials of Teaching Office Practice	2
VTE 440	Preparation for Teaching Vocational Business and Office Education (Take quarter before student teaching)	3
VTE 441	Teaching Improvement Seminar in Vocational Business & Office Education (Take during student teaching quarter)	1
VTE 310	Vocational Education Foundations	3
VTE 410	Cooperative Education and Coordination Techniques	3
VTE 412	Vocational Student Organizations	2
	Hours credit 24	

Add VTE 290, VTE 430 and VTE 491, plus 3 hours of methods and VTE 340 for PTE requirements.

Note: VTE 340 is prerequisite for VTE 341, 342, 343, 345, and 346.

Note: VTE 345 and 346 should be taken by those students who wish to teach in secretarial programs.

Bachelor of Arts Degree in Business Education

Marketing Education Emphasis

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

—Complete the General Education requirements of 60 quarter hours.

—Complete the required courses listed in the Marketing Education core, plus Business or Vocational Teacher Education electives. The emphasis reflects current certification requirements of the Colorado State Department of 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 Bulletin.

—Students placed in student teaching assignments Fall and Winter quarters.

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

—A minor is not required.

—Most secondary schools require a vocational credential for teaching marketing education. Each major in Marketing Education should check with his/her advisor concerning current requirements for this credential. Among the requirements are:

Approved occupational experience in the area of emphasis;

Nine quarter hours of specific Vocational Teacher Education (VTE) courses; and,

Student teaching experience with a teacher holding a valid state vocational credential.

General Education Required Courses

ECON 110	4
MATH 175	4
BUS 205	4

Total credit hours 12

The above courses may count toward the General Education requirement.

Required Courses

BUS 100	American Business System	3
MIS 180	Information Systems	4
ACCT 220	Principles of Accounting I	4
ACCT 221	Principles of Accounting II	4
BUS 231	Business Law I	4
QA 291	Business Statistics I	4
MGT 350	Principles of Management	4
MKT 360	Marketing	4
FIN 370	Business Finance	4

Hours credit 35

Course Requirements of the Emphasis

VTE 301	Instructional Design: Analysis & Planning	1
VTE 302	Instructional Design: Performance Objectives	1
VTE 303	Instructional Design: Classroom Evaluation	1
VTE 304	Instructional Design: Instructional Methods	1
VTE 107	Computer Literacy (or demonstrated competence)	1
VTE 307	Instructional Applications for Computers in VE	2

VTE 310	Vocational Education Foundations	3
VTE 360	Organization & Administration of Marketing Education	3
VTE 410	Cooperative Education & Coordination Techniques	3
VTE 412	Vocational Student Organizations	2
VTE 430	Vocational Education for Learners with Special Needs	3
VTE 460	Curriculum Development in Marketing Education	2
VTE 468	Program Development in Marketing Education	2
MKT 361	Retailing	4
MKT 362	Advertising	4
MKT 364	Marketing Strategy	4
MKT 365	Marketing Elective (300 or 400 level)	4
		Hours credit 48

Professional Teacher Education

Plus other PTE requirements as designated by student's particular Bulletin.

EPRE 347	Developmental Psychology for Teachers	3
EPRE 348	Learning Processes in Education	3
EDF 366	Foundations of Education	3
EDF 367	Philosophy of Education	3
EDF 385	Law and the Classroom Teacher	3
EDSE 405	Handicapped Students in the Regular Classroom	3
EDRD 420	Reading in the Secondary School	3
EDLS 360, 361, 362 or 363	Clinical Experiences	2
EDFE 444	Supervised Teaching	18

Hours credit 41
Total hours 184

College Student Personnel Administration (See Educational Leadership)

Computer Technology in Education (See Graduate Interdisciplinary Programs)

Counseling (See Professional Psychology)

Educational Leadership

Location: McKee Hall 419
Telephone: 351-2861

Donald B. Montgomery, Chair

The Educational Leadership Department offers courses, degree programs and certification programs related to the administration and leadership of all levels of education. The department consists of three instructional units:

- College Student Personnel Administration
- Educational Administration
- Educational Media

Through the College Student Personnel Administration unit, Ph.D. and Ed.S. degrees are available. Through the Educational Administration unit, an Ed.D. in higher education administration is available, and Ed.D., Ed.S. and M.A. degrees in general school administration are available. An M.A. degree is offered through the Educational Media unit. Non-degree certification programs for Type D, principal and superintendent endorsements, and for media certification are available through the appropriate unit within the department.

The service units, Educational Planning Service and North Central Association of Colleges and Schools, Colorado State Committee, are also housed within this department.

College Student Personnel Administration

Theodore M. Nelson, Acting Coordinator

Faculty

- Warren P. Best, MA, Assoc. Prof.
- James K. Bowen, EdD, Prof.
- Janet Fontaine, PhD, Asst. Prof.
- Bernard C. Kinnick, EdD, Prof.
- Theodore M. Nelson, PhD, Prof.
- Norman T. Oppelt, PhD, Prof.
- Charles E. Selden, MA, Asst. Prof.
- David W. Smart, PhD, Prof.

Doctor of Philosophy

The program of studies is especially planned for the preparation of persons for college and university positions in all divisions of college student personnel work.

The rationale underlying the program maintains that persons in student personnel work in higher education need a strong background in liberal arts, a broad understanding of educational psychology, a thorough knowledge of the field of student personnel administration, ability to teach college students, and skill in measurement, statistics and research. The doctoral program is designed to prepare generalists in the field of student personnel administration.

Applicants for admission to the doctoral program must meet the following requirements:

- Admission to the Graduate School for doctoral study
- A baccalaureate degree from an accredited institution
- Successful experience in student personnel work

—An acceptable personal interview with the department admissions committee

—Submission of scores on the Minnesota Multiphasic Personality Inventory (MMPI).

—A master's degree is strongly recommended.

Department Degree Requirements

The following courses are required of all doctoral students in College Student Personnel Administration.

Core Courses

CSPA 650	The College & Student Development	4
CSPA 651	Philosophy & History of CSPA	3
CSPA 658	Organization & Administration of CSPA	3
CSPA 671	Student Personnel Management	3
CSPA 700	Introduction to Doctoral Research	3
CSPA 752	Current Issues in CSPA	3
CSPA 753	Research & Evaluation in CSPA	3
	Hours credit	22

Service Courses

CSPA 652	Student Housing	3
CSPA 653	College Counseling & Health Services	3
CSPA 654	Admissions & Records	3
CSPA 657	Financial Aids & Placement Services in Higher Education	4
	Hours credit	13

Seminar

CSPA 758	Seminar in College Student Personnel Administration (2 hours)	6
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All doctoral students must register for seminar their first quarter of enrollment and any two succeeding quarters.

Practicums and Internships

All doctoral students must complete 12 quarter hours of credit in practicums and/or internships. These will be selected from the practical experiences listed in the Graduate School section of this Bulletin, with the advice and consent of his/her advisor.

Dissertation Credit

CSPA 797	Doctoral Proposal Research	6
CSPA 799	Doctoral Dissertation	18
	Hours credit	24

Credit earned upon completion of acceptable original research in the field of College Student Personnel Administration.

Statistical Requirements

All doctoral students are required to take a minimum of 12 quarter hours of graduate level statistics. This satisfies one of the two required research tools and these 12 hours may count toward the 90 hours of required doctoral course work.

The following statistics courses are required of all doctoral students in College Student Personnel Administration:

EPRE 504	Descriptive Statistics	3
EPRE 505	Statistical Inference	3
Select two from the following courses:		
EPRE 603	Analysis of Variance & Covariance	3
STAT 604	Advanced Experimental Design	3
STAT 615	Introduction to Linear Models	3
STAT 623	Nonparametric Statistics	3
EPRE 675	Scaling Techniques	3
	Hours credit	12

Computer Requirement

Doctoral students are required to take one of the following courses:

STAT 543	Computers & Information Processing	3
	<i>or</i>	
MATH 380	Computer Programming	3

(A comparable computer course may satisfy this requirement with approval of student's advisor).

Psychology Requirements

Doctoral students in CSPA are required to have a knowledge of appropriate areas in the field of psychology. Those students whose previous education has not included this knowledge will be required to take a minimum of 21 hours of psychology courses selected with consent of their advisor from a list of approved courses.

Research Tool Requirement

CSPA doctoral students must demonstrate competency in two acceptable research tools. These research tools include foreign language(s), applied statistics, computer science, mathematical statistics, and an acceptable collateral field. The collateral field should be related to the student's major work and interests, will be tailored to meet the individual student's educational goals and must include not less than 15 graduate quarter hours. The collateral field of study is to be selected by the student and his or her major advisor after admittance to the CSPA doctoral program. Hours taken to satisfy the second research tool requirement may not be included in the 90 hours of doctoral credit required by the Graduate School.

Educational Administration

Donald B. Montgomery, Chair

Faculty

Cile Chavez, EdD, Asst. Prof.
Frank P. Lakin, EdD, Prof.
Donald M. Luketich, EdD, Prof.
David Melendez, PhD, Assoc. Prof.
Donald B. Montgomery, EdD, Prof.
Arthur R. Partridge, EdD, Prof.
James Raine, EdD, Asst. Prof.
Emmett A. Ritter, EdD, Prof.
Glenn B. Schroeder, EdD, Prof.
David Whitehead, EdD, Prof.

In addition to the degree programs which follow, various certification programs are available. Completion of an approved certification program constitutes the basis for institutional recommendations for administrative certification in Colorado as well as many other states. Further information about certification requirements may be obtained from the program office. Certification programs are briefly described following the description of degree programs.

Students entering a degree program will be expected to meet the requirements of the officially approved program in effect at the time of their admission. The student's advisor, however, has the prerogative of waiving specific course requirements on the basis of the student's previous experience and education.

To qualify for admission to any graduate program in Educational Administration, the applicant *must*:

—Meet the Graduate School's minimum requirements for admission at the appropriate degree level.

—Submit an autobiographical sketch that reveals a desire for a career related to administration and that describes past professional accomplishments.

—Have had successful experience in education or related fields which indicates leadership ability, as verified by the present (or immediate past) employer's performance evaluation and recommendation for admission.

—Complete a satisfactory interview if one is requested. If an interview is deemed necessary, it will be scheduled by the program office.

Master of Arts Degree

All M.A. students majoring in elementary, secondary or general school administration must meet the following course requirements:

EDAD 521	Introduction to Organizational & Administrative Theory	2
EDAD 525	Introduction to Organization & Administration of Public Schools	3
EPRE 600	Introduction to Graduate Study & Research	3
EDAD 610	School Finance	3
EDAD 620	The Law & the Administrator	5
EDAD 650	School Personnel Administration	3

Courses related to curriculum planning, evaluation and change implementation

Foundations of Education

In addition to the above common requirements, each emphasis has unique course requirements, as follows:

Elementary School Administration Requirements

EDAD 670	Elementary School Organization, Administration & Supervision	3
PPSY 603	Guidance in the Elementary School	3

Those who do not have a background of preparation for elementary teaching are required to take four of the following:

EDRD 612	Reading in the Primary Grades	3
EDEL 620	Mathematics in the Elementary School	3
EDEL 640	English in the Elementary School	3
EDEL 650	Social Studies in the Elementary School	3
SCED 671	Science Curriculum in the Elementary School	3

Plus electives to complete graduation requirement of 45 hours.

Junior High School Administration Requirements

PPSY 602	Foundations of Guidance	3
EDAD 671	Secondary School Organization, Administration & Supervision	3
	Elective in Junior High/Middle School Instruction	3

Additional electives to complete graduation requirement of 45 hours.

Secondary School Administration Requirements

PPSY 602	Foundations of Guidance	3
EDAD 671	Secondary School Organization, Administration & Supervision	3
	Electives in Psychology	3-6
	Additional electives to complete graduation requirement of 45 hours.	

Specialist Degree

General School Administration

The following is the required program:
—Completion of the common requirements for the M.A. in Administration.

Required Courses

EDAD 660	Management Research & Statistical Analysis	4
	<i>or</i>	
EPRE 504	Descriptive Statistics (or EDAD 660)	3
EDAD 661	Management Research & Computer Utilization	4
EPRE 505	Statistical Inference (or EDAD 661)	3
EPRE 700	Introduction to Doctoral Research	3
EDAD 630	Methods of Comprehensive Educational Planning	3
EDAD 670	Elementary School Organization Administration & Supervision	3
EDAD 671	Secondary School Organization Administration & Supervision	3
EDAD 641	Seminar in Decision Theory	3
EDAD 642	Seminar in Communication Theory	3
EDAD 643	Seminar in Management Systems & Analysis	3
EDAD 701	Specialist Degree Practicum	6
	Courses related to curriculum planning, evaluation, and change implementation.	
	Two of the following:	
EDF 765	Sociological Foundations of Education	3
EDF 785	Philosophical Foundations of Education	3
EDF 740	Psychological Foundations of Education	3

Two methods courses in elementary education 6
—Additional electives to complete graduation requirement of 45 hours, including at least six quarter hours outside the field of education.

Note: An alternative to this degree plan is the EDAD 740 Program, consisting of six two-week seminars on campus during the academic year, plus one quarter of full-time residence. Admission by invitation of the program. Inquiries should be sent to the program office.

Doctor of Education Degree

Students in the doctoral program may pursue one of two emphases.

General School Administration

Students preparing for careers at the school district administrative level (e.g., superintendent, assistant superintendent, etc.) should select this emphasis.

Students planning for administrative careers in higher education (e.g., community colleges or universities) should choose this emphasis.

Administration of Higher Education

Students planning for administrative careers in higher education (e.g., community colleges or universities) should choose this emphasis.

Program Requirements

Students will plan their programs in consultation with their advisors, in light of their backgrounds and desired areas of concentration. The following requirements apply to all doctoral students majoring in general school administration. The course requirements for majors in higher education administration follow the general school administration program requirements.

—Complete the common course requirements for the M.A. and Ed.S. programs.

Course Requirements for General School Administration:

EPRE 700	Introduction to Doctoral Research	3
EDAD 641	Seminar in Decision Theory	3
EDAD 642	Seminar in Communication Theory	3
EDAD 643	Seminar in Management Systems & Analysis	3
EDAD 744	Seminar in Administrative Theory & Research	3
EDAD 745	Seminar in Executive Leadership	3
EDAD 746	Cases in Educational Administration (Seminar)	3
EDAD 797	Doctoral Proposal Research	6
EDAD 799	Doctoral Dissertation in Administration	12-18
EPRE 640	Principles of Learning	4
	One of the following:	
EPRE 603	ANOVA & Other Methods of Analysis	3
STAT 606	Multiple Regression	3
STAT 607	Nonparametric Statistics	3
	Courses in Foundations of Education	6



—Additional electives to complete graduation requirement of 90 hours with a master's degree, including at least 12 quarter hours of graduate work outside the field of education.

—Doctoral students are required to enroll in one of the practicums, EDAD 780, 781, 782, 783, or 784 during each of their quarters of residency during the academic year. No practicum is to be taken more than once. This requirement is usually waived for foreign students if English is not their first language.

Course Requirements for Administration of Higher Education

EDAD 621	The Law & Higher Education	3
EDAD 652	History of Higher Education in the United States	3
EDAD 641	Seminar in Decision Theory	3
EDAD 642	Seminar in Communication Theory	3
EDAD 643	Seminar in Management Systems & Analysis	3
EDAD 673	Personnel Management in Higher Education	3
EDAD 675	Higher Education Finance & Resource Management	3
EDAD 744	Seminar in Administrative Theory & Research	3
EDAD 745	Seminar in Executive Leadership	3
EDAD 653	The College & University Curriculum	3
<i>One of the following courses, depending on background:</i>		
EDAD 630	Methods of Comprehensive Educational Planning	3
<i>or</i>		
EDAD 677	Institutional Research, Planning & Reporting	3
<i>Two of the following courses, depending on background:</i>		
EDF 740	Psychological Foundations of Education	3
EDF 765	Sociological Foundations of Education	3
EDF 785	Philosophical Foundations of Education	6
<i>Three of the following courses depending on background:</i>		
EPRE 504	Descriptive Statistics	3
EPRE 505	Statistical Inference	3
EPRE 603	ANOVA and Other Methods of Analysis	3
EPRE 613	Introduction to Linear Models	3
EPRE 623	Nonparametric Statistics	3
<i>Two of the following courses, depending on background:</i>		
EDAD 651	Collective Bargaining	2
EDAD 654	Adult Education & Lifelong Learning	3
EDAD 655	Seminar on Initiating & Managing Change	3
CSPA 657	Financial Aids & Placement Services in Higher Education	4
CSPA 658	Organization & Administration of College Student Personnel Administration	3
<i>Graduate School requirements for all students:</i>		
EPRE 700	Introduction to Doctoral Research	3
EDAD 797	Doctoral Proposal Research	6
EDAD 799	Doctoral Dissertation in Administration	12
<i>Graduate electives outside the field of education, depending on background, e.g., computer science, business, social science</i>		
<i>Three of the following (or approved substitute) depending on background:</i>		
EDAD 780, 781, 782, 783, 784		12
<i>Internships are available for students who need them (EDAD 680, 1-6 quarter hours).</i>		

Principal's Certification Program

To obtain institutional recommendation for a Principal's Certificate, the following courses, in addition to the quarter hours specified in the M.A. in general and unique programs, are required:

EDAD 611, 632, 641, 642	17
Psychological Assessment	3
Cognate Fields (depending on undergraduate background)	0-6
Courses related to curriculum planning, evaluation, and change implementation (including those completed in master's program)	9
Building Level Internship (usually 3 hours)	1-6
The minimum number of hours for principal's certification is 68 quarter hours beyond the B.A. The candidate must have an M.A. A graduate grade point average of 3.00, or better, is required.	

Superintendent's Certification Program

To obtain institutional recommendation for a Superintendent's Certificate, the candidate must:

—Complete the principal's certification program stated immediately before this program, and,

—Successfully complete the following additional courses:

EDAD 614, 670 and/or 671, 745	9-12
Measurement and Data Processing	7
Foundations of Education	3

Courses related to curriculum planning, evaluation, and change implementation, 3-6 hours; Central Office Internship, 1-6 hours; plus 3-9 hours in cognate fields, depending upon previous course work.

—Have a total of 95 hours beyond the B.A. degree, including an M.A. degree, and have a graduate grade point average of 3.00 or better.

May complete all or part of superintendent certification program as a part of an Ed.D. or Ed.S. degree program.

Educational Media

D. Harold Bowman, Coordinator

Faculty

D. Harold Bowman, EdD, Prof.
 Andrew H. Gibbons, EdD, Assoc. Prof.
 Leroy A. Green, EdD, Prof.
 Donald E. Seager, EdD, Prof.

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

Undergraduate Program

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

—Complete the General Education requirements as specified in this Bulletin.

—Complete all requirements for a teaching major.

—Have 27 quarter hours of work in Educational Media and appropriate related courses. The following required and elective courses satisfy this requirement.

Required Courses

EDEM 410	Introduction to Educational Media	2
EDEM 420	Introduction to Media Design & Production	3
EDEM 433	Reference Materials: Basic School Reference Service	3
EDEM 530	Cataloging & Classification I	3
EDEM 536	Evaluation & 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 & Library Materials	3
EDEM 516	Utilization of Educational Resources	3
EDEM 534	Reference Materials: Service in Specialized Subject Areas & Government Publications	3
EDRD 314	Improvement of Instructional Literature in the Elementary School	3
EED 406	Literature for Adolescents	4
JMC 342	Television Production I	3

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.

Graduate Certification in Elementary School Media

The Colorado Teacher Certification Act of 1975 provides for two media endorsements.

The *Elementary School Media* endorsement does not require the master's degree, but does require graduate level work. It is for those persons who have or are eligible for a Colorado elementary certificate.

Candidates for elementary school media endorsement must:

—Hold a bachelor's degree from an accredited four-year institution.

—Have completed an approved teacher preparation program.

—Prior to the request, have completed two years of successful classroom teaching experience while holding a valid elementary teaching certificate.

—Satisfactorily complete the required courses listed here, together with electives from Media, Journalism/Mass Communications, children's or adolescent literature and/or field experience for a minimum of 27 hours.

Required Courses

EDEM 410	Introduction to Educational Media	2
EDEM 516	Utilization of Educational Resources	3
EDEM 520	Introduction to Media Design & Production	3
EDEM 533	Reference Materials: Basic School Reference Service	3
EDEM 534	Reference Materials: Service in Specialized Subject Areas & Government Publications	3
EDEM 530	Cataloging & Classification	3
EDEM 536	Evaluation & Selection of Educational Materials	3
EDEM 575	Administering Educational Media I	3



Master of Arts in Educational Media — Graduate Endorsement

The Colorado Teacher Certification Act of 1975 also provides for a professional media endorsement, *Educational Media Specialist*. The program outlined here has been designed to meet the requirement for Colorado endorsement as Educational Media Specialist and provide the Master of Arts degree that is necessary for such endorsement.

This endorsement is available as elementary, secondary or K-12. The basic differences in requirements lie in the areas of Curriculum, Materials for children and youth (literature), and Field Experience. Those students requesting only elementary or secondary endorsement will take the appropriate curriculum and literature courses listed here. Unless service experience is used as a substitute, students will take field experience at the endorsement level.

Those desiring K-12 endorsement must show, on their transcripts, suitable course work and field experience at *both* the elementary and secondary levels. Recent suitable service experience at a given level, properly documented, may be substituted for a portion of the field experience.

Students pursuing this plan for the M.A. degree in Educational Media, and the professional endorsement, must plan their programs to fulfill the following requirements:

—Complete an approved teacher preparation program at the undergraduate or graduate level.

—Complete, prior to request for endorsement, three years of successful classroom teaching experience while holding a valid Colorado Type A or equivalent teaching certificate.

—A person coming into the program with no course work in the field should expect to take six or eight hours beyond the 45 hour minimum. The following undergraduate courses or their equivalent would satisfy this requirement.

EDEM 410	Introduction to Educational Media	2
EDEM 520	Introduction to Media Design & Production	3
EDEM 533	Reference Materials: Basic School Reference Service	3
EDEM 314	Improvement of Instruction in Literature in the Elementary School	2

—Satisfactorily complete the required and elective courses as follows for a minimum of 45 hours.

Required Courses

EDEM 410	Introduction to Educational Media <i>and/or</i>	2
EDEM 516	Utilization of Educational Resources	3
EDEM 520	Introduction to Media Design & Production	3
EDEM 533	Reference Materials: Basic School Reference Service	3
EDEM 521	Design & Construction of Graphic Materials	3
EDEM 530	Cataloging & Classification I	3
EDEM 536	Evaluation & Selection of Educational Materials	3
EDEM 575	Administering Educational Media I	3
EPRE 600	Introduction to Graduate Study & Research	3
EDEM 601	Practicum	4
EDEM 610	Instructional Technology: Philosophy, Theory & Practice	4
EPRE 541	Principles of Learning	4
EDEM 675	Administering Educational Media II	3
EDF 667	Modern Curricular Trends & Issues	3
EDFE 601	Practicum	
	<i>or</i>	
EDFE 610	Field Experience	2-6
One or more of the following curriculum courses depending upon endorsement requested:		
EDEL 612	Elementary School Curriculum	3
EDMS 633	Middle School/Junior High Curriculum	3
EDF 666	Foundations for Curriculum Development	3
—One or more courses in literature for children and youth, depending upon endorsement requested.		
EDRD 314	Improvement of Instruction in Literature in the Elementary School	3
EDRD 614	Literature in the Elementary School	3
EDRD 615	Seminar in Children's & Young Adult's Literature	3
EED 406	Literature for Adolescents	4
EED 602	Seminar in Literature for Adolescents	4
Suggested Electives		
EDEM 430	Problems of Organizing Classroom & Library Materials	3
EDEM 516	Utilization of Educational Resources	3
EDEM 531	Cataloging & Classification II	3
EDEM 534	Reference Service in Specialized Areas	3
EDEM 622	Individual Studies	4
ET 585	Digital/Microprocessors	3
ET 623	Evaluation of Computer Based Education Software	3
ET 626	Orientation to Computer Based Education	3
JMC 342	Television Production I	3
JMC 534	Photography in Education	3
JMC 575	Color Photography — The Transparency	3
MED 678	Teaching Computer Literacy	3

Educational Field Experiences

Location: McKee Hall 404
Telephone: 351-2445
Donald K. Adams, Chair

Faculty

Donald K. Adams, EdD, Prof.
Gerald L. Burns, EdD, Assoc. Prof.
Jane C. Cox, EdD, Assoc. Prof.
Carl O. Erickson, EdD, Assoc. Prof.
Edgar E. Fielder, EdD, Prof.
J.M. Johnson, EdD, Prof.
James C. Ousley, EdD, Asst. Prof.
Robert C. Richardson, PhD, Prof.
Thomas E. Warner, PhD, Prof.
William H. Weltner, EdD, Assoc. Prof.

Early and continuous educational field experiences are available through a variety of courses for undergraduate and graduate students. Application forms and information are available in the Educational Field Experiences office.

Student teaching assignments are made with the approval of the Director of Educational Field Experiences under the policies of the Professional Educational Committee and in cooperation with academic departments.

Student teaching forms must be picked up four to six weeks before the application due dates. Winter assignment due date is November 1; Spring, February 1; and Summer and Fall, May 1. Students wishing to student teach summer or out of state should contact the EDFE office as early as possible.

The following requirements must be met before a student may report for student teaching assignment:

- Full PTE admission in the student's major field;
- Clearance by the UNC Health Center;
- Compliance with all specific academic department requirements for entering student teaching, including completion of the required methods course(s) and appropriate clinical experiences.

Educational Administration

(See Educational Leadership)

Educational Media

(See Educational Leadership)

Educational Psychology, Research and Evaluation

Location: McKee Hall 525
 Telephone: 351-2347
 Ronald D. Zellner, Chair

Faculty

Kyle R. Carter, PhD, Assoc. Prof.
 Donald W. Chaloupka, EdD, Prof.
 John B. Cooney, PhD, Asst. Prof.
 Augusta M. Fox, EdD, Prof.
 Beatrice B. Heimerl, EdD, Prof.
 Eugene D. Koplitz, PhD, Prof.
 Randy J. Lennon, PhD, Asst. Prof.
 Jeanne E. Ormrod, PhD, Assoc. Prof.
 Dale Shaw, PhD, Prof.
 Ronald D. Zellner, PhD, Assoc. Prof.

The Department of Educational Psychology, Research and Evaluation offers programs and service courses at both the graduate and undergraduate levels. The department is involved primarily in the teaching of psychological theories and principles and their applications to educational processes. These applications range from everyday concerns in the public school classroom to research on basic learning mechanisms and theory.

Faculty interests and research include topics such as giftedness, classroom management, evaluation procedures, learning problems, microcomputer uses in education and research, research design and human development. These interests are reflected in the departmental course offerings as well as individual courses such as independent studies and dissertation research.

The degree programs are designed to prepare individuals for educational activities such as classroom teaching, evaluation, test construction, educational research, educational consulting to business and public schools and university teaching. Faculty and students have access to mainframe computers with remote terminals, a complete set of statistical packages and a microcomputer laboratory. These facilities are available for both teaching and research purposes. The following degree programs are offered:

Undergraduate Minor in Educational Psychology
 M.A. in Educational Psychology
 Ed.D. in Educational Psychology

Educational Psychology Minor

The minor in Educational Psychology is intended to provide in-depth experience with educational applications of psychological theories and methods. The minor is intended for Professional Teacher Education students as well as students majoring in Psychology and other related areas.

Required Courses

EPRE 347 Developmental Psychology for Teachers

EPRE 347-G	Developmental Psychology for Teachers: Projects	1
EPRE 348	Learning Processes in Education	3
EPRE 349	Educational Psychology in Applied Settings	3
EPRE 350	Human Effectiveness in Education	3
EPRE 400	Educational Research: Methods	3
EPRE 420	Microcomputers in Education	3
PSY 271	Tests and Measurements	3
	Hours credit	21
	Electives to be chosen in consultation with minor advisor	6
	Total credit hours	27

Master of Arts Program in Educational Psychology

Applications for admission to the M.A. program in the Department of Educational Psychology, Research and Evaluation will be considered only after applicants have made application to and met the requirements of the UNC Graduate School.

Entrance to the M.A. program requires a description of educationally related work experience, statement of career goals, three

letters of reference, transcripts from previous undergraduate work. GRE or MAT scores are desirable but not required. Minimum criteria for acceptance include:

- GPA of 3.0 in the last 100 quarter hours of academic work.
- Letters of recommendation indicating a high potential for academic success and interpersonal competency.
- Congruency between the applicant's career goals and the purpose of the M.A. program.
- Educationally related work experience is desirable, but not required.
- Exceptions may be considered when warranted by special circumstances and individual situations.

Program of Study

The program of study leading to the Master of Arts degree in Educational Psychology prepares individuals to function in a variety of educational settings. After completing the required core of courses, students may choose to concentrate their study in one of the three specializations described as follows: **Instructional Technology**—Courses are selected to provide students with the skills needed to design and develop instructional materials and serve as instructional consultants in educational and business settings.

Research, Measurement and Evaluation—The student is prepared to conduct research, measurement and evaluation functions in a variety of educational settings such as the school district, social agencies or business organizations.

Human Growth and Development—Provides the students with a foundation of the principles of human development that will enable them to function as consultants in applied developmental settings such as day care facilities, youth centers or other social agencies.

Required Core Courses

EPRE 661	Orientation to Educational Psychology	1
EPRE 600	Introduction to Graduate Study & Research	3
EPRE 504	Descriptive Statistics	3
EPRE 530	Human Growth & Development	4
EPRE 540	Principles of Learning	4
	<i>or</i>	
EPRE 542	Learning Applied to Classroom Teaching	3
EPRE 570	Tests & Measurements for Educators	4
	<i>or</i>	
EPRE 674	Measurement I: Basic Principles	3
EPRE 670	Evaluation: Theory & Procedures	3
EPRE 640	Topics in Educational Psychology	3
EPRE 663	Apprenticeship	3

Core hours 26-28
 Emphasis electives 17-19
 Total required hours 45

Note: The areas of specialization are selected in consultation with the student's advisor and are not restricted to these three areas. EPRE 505, Statistical Inference, and EPRE 699, Thesis, are highly recommended electives for students intending to subsequently enter a doctoral program. Student competencies in the core and specialization areas are examined by comprehensive examination.

Ed.D. in Educational Psychology

Applications for admission to the EdD Program in the Department of Educational Psychology, Research and Evaluation will be considered only after applicants have made application to and met the requirements of the UNC Graduate School.

The following data must be in the Educational Psychology, Research and Evaluation Department for the application to be considered: GRE scores (forwarded from the Graduate School), a description of previous teaching or educationally related work experience, transcripts from previous undergraduate and graduate work, three letters of recommendation from immediate supervisors or professors, and a written statement on the relationship of the doctoral program to future career goals.

A personal interview may be required at the option of the program faculty.

Minimum criteria for acceptance include:

- GRE scores of 1050.
- Educationally related work experience (desirable).
- A GPA of 3.5 in the last 90 hours of academic work.
- Letters of recommendation indicating a high potential for academic success and interpersonal competency.
- Congruency between career goals and the goals of the doctoral program.

Note: In the case of GRE scores and the GPA, exceptions may be considered when warranted by special circumstances and individual situations.

Program of Study

This program prepares individuals for college teaching, educational research, educational consulting, or any combination of the three. Upon entrance, a candidate must be able to satisfy the core course requirements for the M.A. degree in

Educational Psychology, or must take additional courses to meet those requirements. Doctoral candidates are required to take a common doctoral core and then specialize in one of the following emphasis areas: learning and instruction, human growth and development, educational research and evaluation, or college teaching. A minimum of 90 hours is required for the doctorate. More hours may be required, depending on the student's background and program of study.

Program emphasis areas are distinguished on three criteria: course emphasis, dissertation focus, and practicum experience. For example, a student selecting the learning and instruction emphasis would take the required course work in that area, write a dissertation on a problem related to learning or instruction, and do a practicum related to that specialty area. Student competencies in the core and specialty areas are examined by both written and oral examinations.

Core Requirements

Learning		
EPRE 541	Human Information Processing	4
EPRE 641	Theories of Learning	4
EPRE 741	Advanced Seminar in Learning	3
		Hours credit 11

Human Growth and Development		
EPRE 630	Child Psychology	3
EPRE 631	Adolescent Psychology	3
EPRE 632	Adult Development & Aging	3
	Choose 2 or the 3 courses above.	
EPRE 730	Advanced Seminar in Growth & Development	3
		Hours credit 9

Research/Evaluation/Measurement		
EPRE 603	ANOVA & Other Methods of Research	3
STAT 606	Multiple Regression	3
EPRE 700	Introduction to Doctoral Research	3
PPSY 781	Evaluation of Psychological Services	3
		Hours credit 12

Professional Development		
EPRE 663	Apprenticeship	6
		Hours credit 6

Summary of Core Requirements

Learning	11
Human Growth & Development	9
Research/Evaluation/Measurement	12
Professional Development	6
	Hours credit 38

Specialty Areas

Each student is required to take a doctoral practicum and write a dissertation in his/her chosen area of specialization. Required in each specialty:

EPRE 704	Doctoral Practicum in Educational Psychology	5-15
	<i>or</i>	
EPRE 755	Supervised Practicum in College Teaching	5-15
EPRE 797	Doctoral Proposal Research	6
EPRE 799	Doctoral Dissertation	12-18
		Hours credit 23-39

Suggested Course Work

All other course work is selected in consultation with the major advisor to meet the student's unique needs in the specialty area. Some *suggested* courses from the EPRE curriculum for each specialty area follow here. Courses outside EPRE may be used to complement the program.

Elementary Education and Reading

Location: McKee Hall 227
 Telephone: 351-2702
 Elaine V. Wolfe, Chair

Learning and Instruction

EPRE 542	Learning Applied to Classroom Teaching	3
EPRE 518	Microcomputer Applications in Psychology & Education	3
EPRE 541	Human Information Processing	4
PSY 543	Theories of Motivation	3
PSY 618	Behavior Modification	4
PSY 624	Human Neuropsychology	4
PPSY 660	Systems Analysis & Consultation Theory	3
PPSY 681	Systems Intervention Practicum	4

Human Growth and Development

PPSY 558	Abnormal Psychology	3
PPSY 634	Death and Dying	3
PPSY 651	Theories of Personality	3
PPSY 660	Systems Analysis & Consultation Theory	3
PPSY 681	Systems Intervention Practicum	4
EDEC 534	Curriculum Development in Preschool Education	3
EDEC 539	Issues in Parent Education	3
GERO 515	Biology of Aging	3
GERO 525	Issues & Concepts in Gerontology	4
SOC 341	Sociology of Aging	3
SOC 415	Sociology of Child Development	3
SOC 515	Seminar in Socialization	3

Educational Research and Evaluation

EPRE 670	Evaluation: Theory & Procedures	3
EPRE 671	Evaluation: Techniques & Methods	3
EPRE 672	Seminar in Evaluation	3
EPRE 674	Measurement I: Basic Principles	3
EPRE 675	Measurement II: Questionnaires & Scaling	3
EPRE 676	Measurement III: Advanced Theory	3
STAT 604	Advanced Experimental Designs	3
STAT 605	Multivariate Analysis	3
EPRE 689	Internship in Research & Evaluation	1-15

College Teaching

EPRE 542	Learning Applied to Classroom Teaching	3
PPSY 618	Behavior Modification	4
EPRE 632	Adult Development & Aging	3
PPSY 650	Psychology of the Healthy Personality	3
EPRE 654	Seminar in College Teaching	3
EPRE 745	Doctoral Seminar in Psychology: College Teaching	3-9
EPRE 755	Supervised Practicum in College Teaching	5-15
PPSY 660	Systems Analysis & Consultation Theory	3
PPSY 681	Systems Intervention Practicum	4
PSY 664	Social Psychology	4
EDAD 621	The Law & Higher Education	5

Faculty

Phyllis E. Brazee, EdD, Asst. Prof.
Bruce W. Broderius, EdD, Prof.
Don A. Brown, EdD, Prof.
Arnold H. Burron, EdD, Prof.
Douglas S. Burron, EdD, Prof.
Jose E. Cordova, MA, Assoc. Prof.
Joyce M. Edwards, MA, Inst.
Phyllis M. Garcia, MA, Asst. Prof.
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Charles D. Weddle, EdD, Asst. Prof.
Phillip M. Wishon, PhD, Assoc. Prof.
Elaine V. Wolfe, PhD, Prof.

The Department of Elementary Education and Reading administers programs in Elementary Education, Early Childhood Education, Preschool Education, Middle School Education, and Reading at the undergraduate and graduate levels. These programs provide opportunities for students to become teachers and for experienced teachers to enhance their professional expertise through a variety of experiences, ranging from orientation in the field for freshmen, to conducting research for doctoral students.

Faculty in the department are committed to delivering individualized instruction for students in undergraduate and graduate degree programs. Degrees may be pursued in program areas through traditional and alternative modes. Courses in program areas components include instruction, on campus, in classrooms as well as in learning laboratory facilities and, off campus, in field-based practica and internship settings. Faculty serve as models through their own teaching behaviors, attempting to encourage pre-service and in-service teachers to acquire and implement the philosophy that learning must be efficiently directed to meet pupils; individual needs through varied teaching modes.

Student and faculty research is directed toward the study of learners from birth to adult maturity. Research sites, available to undergraduate and graduate students, include the Campus Child Care Center, the Early Childhood Studies Center, the UNC Preschool and Laboratory School (K-12), the Reading Center, and public as well as private schools.

Completion of degrees in specific program areas lead to career opportunities as teachers of preschool, elementary, middle school, and college/university students; directors of centers for child care; supervisors of preschool, elementary, middle school, and reading curricular development; specialists in developmental or remedial reading from pre-kindergarten to adult levels; and diagnosticians in preschool preventive/early intervention programs.

The demands for persons who complete various departmental degree programs is documented, now, at a high level. Documented national educational trends suggest increasing needs in the immediate years for professionals who would graduate from programs in the Department of Elementary Education and Reading.

Specific degree programs and minors in the Department of Elementary Education and Reading include:

Bachelor of Arts degree in:

- Elementary Education
- Option I — The Traditional Strand
- Option II — The Methods Block Strand
- Option III — Teacher Education Experimental Group
 - Elementary Education: Early Childhood Education
 - Preschool Education
 - Middle School Education

Dual Undergraduate Certification in Elementary Education and Middle School Education

Minor in:

- Preschool Education
- Reading

Graduate Certification in Elementary Education

Master of Arts degree in:

- Elementary Education
- Elementary Education: Early Childhood Education
- Elementary Education: Early Childhood Special Education
- Middle School Education
- Reading: Elementary
- Reading: Secondary

Specialist Degree in Reading

Doctor of Education Degree in:

- Elementary Education
- Elementary Education: Early Childhood Education
- Reading

Undergraduate Degree Programs

Entering undergraduate students may declare a major in the Department of Elementary Education and Reading concurrent with requests for admission to the University. Matriculated students, who have previously taken work at the University of Northern Colorado and wish to declare or change majors to a program administered by this department, must have a minimum grade point average of 2.30 in that work to be admitted to the department. Degree program requirements include:

—Students pursuing the B.A. degree with a major in this department must plan their programs to meet the General Education requirements of 60 hours as specified in this Bulletin, including the following required courses:

GEOG 100	World Geography	5
	<i>or</i>	
GEOG 148	Geography of the United States & Canada	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 24

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

Elementary Education

In addition to the General Education requirements, the student pursuing a B.A. degree with an Elementary Education major must complete one of the following options:

Option I: The Traditional Strand

EDEL 100	Orientation to Education	2
EDEL 320	Improvement of Instruction in Mathematics in the Elementary School (Must be taken at UNC)	4
EDEL 330	Teaching Handwriting & Spelling in the Elementary School (Must be taken at UNC)	2
EDEL 340	Improvement of Instruction in English in the Elementary School (Must be taken at UNC)	4
EDEL 350	Improvement of Instruction in Social Studies in the Elementary School (Must be taken at UNC)	4
EDLS 360, 361 or 362	Clinical Experience	2
EDRD 310	Improvement of Instruction in Reading in the Elementary School (Must be taken at UNC)	4
EDRD 314	Improvement of Instruction in Literature in the Elementary School (Must be taken at UNC)	3
EDRD 411	Approaches to Reading Instruction (Must be taken at UNC, and after student teaching)	3
HS 303	Health Education in the Elementary School	2
MUS 206	Music Methods & Materials for Elementary Teachers	2
PE 288	Physical Education Activities for the Elementary School	2
SCED 470	Teaching Science in the Elementary School	3
		Hours credit 37

Option II: The Methods Block Strand

Same as Option I, except enroll in blocked sections of EDEL 320 and EDEL 350 as designated and scheduled during a given quarter and substitute: EDEL 345 Communication Arts I: The Language Arts (Must be taken at UNC), for EDEL 330, 340 and EDRD 314

Students selecting this option should seek consistent advisor counsel.

Option III: Teacher Education Experimental Group

This option allows students to engage in early and continuous field experiences, to integrate coursework with field experiences, and to develop long-term student/faculty interaction. Acceptance in this option will be limited to 45 freshmen each year who will remain in the program all four years. Students should contact the chairperson of the department for specific information about this program.

—An art methods course for the elementary school is required for students in Options I, II and III.

—Recommended elective courses in Elementary Education for students in Options I, II and III:

EDEL 101	Introduction to Multiculturalism	3
EDEL 312	Introduction to Elementary School Curriculum	3
EDEL 412	Senior Seminar in Elementary Education	3

—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. The student must complete other requirements for each major as specified in this Bulletin.

—A student who pursues dual certification in Elementary Education and Middle School Education must complete courses common to those programs and those courses unique to each.

—A minimum of 18 quarter hours in Elementary Teacher Education courses, including EDEL 100, EDEL 320, EDRD 310 or EDEL 345, and either EDLS 360, 361 or 362 must be completed before applying for student teaching.

—Students planning to use this major as a certification program for teaching must complete the program of Professional Teacher Education as described in this Bulletin. Please note that the PTE program which accompanies the Elementary Education major involves the following modifications: Delete EDRD 420 Reading in the Secondary School and EDSE 409 Handicapped Students in the Secondary Classroom. Check major for requirements. Specified equivalents to EDSE 408 may be used. The 18 hours of student teaching, EDFE 444, must be in Elementary Education; that is, in kindergarten or in grades one through six.

—A student must complete either a minor, a second major, or an individually designed program of at least 30 quarter hours that is planned with the Elementary Education advisor and filed in the Elementary Education office.

—Complete sufficient electives for a minimum of 180 quarter hours of academic credit.

Elementary Education: Bilingual Bicultural Certification

Please see Hispanic Studies (College of Arts and Sciences) for a description of this program.

Elementary Education: Early Childhood Education

In addition to completing all requirements for the major in Elementary Education, except the requirement of a minor, the following Early Childhood Education courses are required:

EDEC 460	Nursery-Kindergarten Education (Must be taken at UNC)	3
EDEC 462	Classroom Management in Early Childhood (Must be taken at UNC)	3



Child Growth and Development

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

Compensatory Programs

EDEC 463	Diagnostic Teaching in Early Childhood (Must be taken at UNC)	3
EDEC 467	Compensatory Programs in Early Childhood (Must be taken at UNC)	3
EDSE 306	Identification of Learning Disabilities in Early Childhood	3
	or	
EDSE 326	Introduction to Teaching Learning Disabled Children	3

Hours credit 27

—Complete sufficient electives, chosen in consultation with the advisor, for a minimum of 180 quarter hours of academic credit.

Preschool Education Major

The Preschool Education major is appropriate for persons oriented toward teaching and/or administrative positions affiliated with child care centers and nursery schools which do not require Colorado teacher certification.

Following are program requirements:

—Complete General Education requirements of 60 hours as specified in this Bulletin.

—Complete the required core courses during the sophomore year.

Required Courses

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

—Complete the following required courses listed *according to recommended sequence*.

EDEC 136	Introduction to Preschool	2
EDEC 160	Introduction to Speech/Language Disorders	3
PSY 255	Psychology of Emotional Adjustment	3
FND 250	Principles of Human Nutrition	3
SOC 415	The Sociology of Child Development	3
EDEC 334	Preschool Curriculum & Methods (Must be taken at UNC)	4
EDEC 335	Observation & Participation in Preschool	4
EDEC 306	Identification of Learning Disabilities in Early Childhood	3
FND 456	Infant & Child Nutrition	3
PE 291	Rhythmic Education in the Elementary School	2
THEA 281	Creative Drama in the Elementary School	3
EDEC 460	Nursery-Kindergarten Education	3
EDEC 437	Administration of Programs for Young Children	3
EDEC 438	Practicum in Preschool Teaching (Must be taken at UNC)	4
EDEC 439	Parent Education	3
HS 262	Standard First Aid & Personal Safety	2
		Hours credit 51

—Although certification for preschool is not available in Colorado, students enrolling in Preschool Education must complete the program of Professional Teacher Education as follows:

—Educational Field Experience includes EDEC 333 (20 contact hours) and EDFE 270 or equivalent (20 contact hours). Please note that the PTE program which accompanies this major involves the following modifications:

EDEC 334	Preschool Curriculum & Methods	3
EDEC 335	Observation and Participation in Preschool (Substitutes for EDLS 360)	4
EDEC 438	Practicum in Preschool Teaching (Must be completed prior to student teaching)	4
EDEC 444	Student Teaching in Preschool (Substitutes for EDFE 444)	18
EDEC 463	<i>or</i>	
EDSE 306	<i>or</i>	
ART 348		3
EDRD 310	Improvement of Instruction in Reading in the Elementary School	4

—No minor is required.

—Complete sufficient electives, chosen in consultation with the advisor, for a minimum of 180 quarter hours of academic credit.

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 5-9). The students selecting this program will be assigned a major advisor in Middle School Education and at least one other support advisor in their selected academic area(s).

They will also have the opportunity to meet in special seminars with other students in the program on a regularly scheduled quarterly basis to discuss issues and concerns relative to Middle School Education.

The Middle School Council establishes policy for this major and helps advise the students in the academic portion of their programs.

Students pursuing this major must plan their programs to meet the following requirements:

—Meet all General Education requirements as specified in this Bulletin.

—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 must contain a minimum of 72 quarter hours.

—Complete the following program requirements:

Required Courses

EDEL 100	Orientation to Education	2
EDMS 302	Orientation to Middle Schools	2
EDRD 310	Improvement of Instruction in Reading in the Elementary School	4
<i>or</i>		
EDRD 420	Reading in the Secondary School	3
EDRD 520	Reading in the Content Field	3
EDFE 270	School Aide (minimum)	2

Elective

Psychology elective with approval of advisor 3

Students planning to use this major as a certification program for teaching must complete the program of Professional Teacher Education as described in this Bulletin (39-40 hours). Please note that a three-hour methods course in the content field and EDLS 362, Clinical Experience, are included in this PTE program.

Elementary Education/Middle School Education: Dual Certification

This program will result in dual certification for the student: Elementary (K-6) and Middle School (5-9).

—Fulfill all the requirements as listed in this Bulletin for the Professional Teacher Education core (PTE).

—Fulfill all the requirements for Elementary Teacher Education as listed in this Bulletin.

—Complete the following courses in Middle School Teacher Education:

EDLS 362	Clinical Experience: Middle School	2
EDMS 302	Orientation to Middle Schools	3
EDRD 420	Reading in the Secondary School	3
PSY Elective in Adolescent Psychology		3-5
		Hours credit 11-13

—Complete a total of 72 hours in subject matter courses according to the following specifications:

A. General Education courses applicable to both the Elementary and Middle School degree programs (to total 9 hours in each subject area).

Social Sciences

GEOG 100	World Geography	5
<i>or</i>		
GEOG 148	Geography of the U.S. and Canada	5
HIST 175	Themes in American History	4
		Hours credit 9

Mathematics

MATH 191	Mathematics for the Elementary School Teacher I	3
MATH 192	Mathematics for the Elementary School Teacher II	3
Course approved by advisor from General Education Category A		3
		Hours credit 9

Language Arts

Courses approved by advisor from General Education Categories B and C. Elective approved by advisor.

Hours credit 9

Science

Courses approved by advisor from General Education Category H.

Hours credit 9
Total hours credit 36

B. Additional subject matter courses for the Middle School degree:

Option I 18 quarter hours in each of *two* of the four subject areas (Social Science, Mathematics, Language Arts, Science) 36

Option II 12 quarter hours in each of *three* of the four subject areas (Social Science, Mathematics, Language Arts, Science) 36

—Complete two separate quarters of student teaching (18 quarter hours at the elementary school and 18 hours at the middle school level) OR elect to student teach for one 18 quarter hour experience including 9 weeks at the elementary school level and 9 weeks at the middle school level.

Preschool Minor

Students who take the Preschool Minor need an advisor to plan course sequence.



Required Courses (Listed in recommended sequence)

EDEC 136	Introduction to Preschool	2
EDEC 331	Development of the Infant & Toddler	3
EDEC 333	Development and Guidance of the Young Child	4
EDEC 334	Preschool Curriculum & Methods (Must be taken at UNC)	3
EDEC 335	Observation & Participation in Preschool	4
EDEC 437	Administration of Programs for Young Children	3
EDEC 438	Practicum in Preschool Teaching (Must be taken at UNC)	4
FND 250	Principles of Human Nutrition	3
One elective course selected from the following:		
EDEC 233	Child Within the Family	3
EDEC 332	Sequences of Conceptual Learning	3
EDEC 439	Parent Education	3
EDEC 460	Nursery-Kindergarten Education	3
SCED 475	Science for the Preschool Child	3
		Hours credit 29

Reading Minor

Students graduating with degrees in education will be expected to accept the responsibility for developing an effective reading program. In doing so, they will be bombarded with a myriad of questions relative to the objectives, procedures, materials and means of evaluating their programs. The Reading minor offers undergraduate students the option of pursuing in some depth this vital curriculum area. Upon completion of the minor, the student should be able to make more informed decisions relative to the establishment and implementation of a reading program. Students graduating with this background should be able to demonstrate knowledge and competencies which would make them more competitive in initial job placement.

Practical experience in diagnosis and teaching is part of the minor and takes place in the Reading Center, Laboratory School and/or public or private school settings.

—Any student enrolled in an undergraduate program at the University of Northern Colorado may pursue a Reading minor if he/she meets entry prerequisites.

—EDRD 310, 411, 420 or other reading courses listed as prerequisites for certification will be counted within the required 30 hours of credit to complete the minor.

—Completion of a minimum of 20 quarter hours to be selected from the following core courses:

EDRD 401	Practicum	1-4
EDRD 412	Applied Reading in the Elementary & Middle School	4
EDRD 413	Adolescent and Young Adult Literature: Expressive & Receptive Communication	3
EDRD 415	Trends & Issues in Reading Instruction	3
EDRD 416	Introduction to Reading for the Special Student	3
EDRD 417	Advanced Study in Reading for the Special Student	3
EDRD 418	Receptive & Expressive Communication Skills in a High-Tech Society	3
EDRD 419	Reading & Writing Development of Preschool Children	2
		Hours credit 25-29

— Elective courses are to be chosen in consultation with advisor.

Graduate Certification in Elementary Education

A student holding a baccalaureate degree in an area other than elementary education who wishes to pursue the Graduate Certification Program in Elementary Education applies to the Graduate School for admission. Upon admission by the Graduate School, professional education courses are evaluated by the College of Education. The Department of Elementary Education and Reading evaluates required subject matter courses and elementary teacher education courses.

The following are required:

—Subject matter background. Undergraduate or graduate credit in appropriate courses in geography, United States history, mathematics, fine arts and music fundamentals.

—Elementary teacher education courses:

EDEL 620	Mathematices in the Elementary School (Must be taken at UNC)	3
EDEL 630	Handwriting & Spelling in the Elementary School (Must be taken at UNC)	2
EDEL 640	English in the Elementary School (Must be taken at UNC)	3
EDEL 650	Social Studies in the Elementary School (Must be taken at UNC)	3
EDRD 612	Reading in the Primary Grades (Must be taken at UNC)	3
EDRD 613	Reading in the Intermediate Grades (Must be taken at UNC)	3
EDRD 614	Literature in the Elementary School	3
PE 288	Physical Education Activities for the Elementary School	2
HS 303	Health Education in the Elementary School ²	
MUS 206	Music Methods & Materials for Elementary Teachers	2
SCED 671	Science Curriculum in the Elementary School	3

An ART methods course for the elementary school is also required.

—Professional Education courses: See Graduate Academic Information section of this Bulletin.

—Eighteen hours of student teaching, EDFE 444, must be in Elementary Education; that is, in kindergarten or in grades 1-6.

—The following requirements in addition to those stated in the Graduate Academic Information section of this Bulletin must be completed before student teaching. Completion of 18 hours in Elementary Education courses including EDEL 620, EDRD 612 or 613, and EDLS 360, 361 or 362, must be completed before applying for student teaching.

—Students applying for initial Colorado certification are required by the Colorado Department of Education to be prepared to meet the wide range of educational needs and abilities, including the mildly or moderately handicapped, typically encountered in the regular classroom. Required course work is specified under Professional Education Requirements in this Bulletin.

Graduate Degree Programs

Students who possess a baccalaureate degree and wish to pursue a Master of Arts, Specialist in Education: Reading, or Doctor of Education degrees must apply to the Graduate School for admission. Upon admission by the Graduate School, applicants are carefully evaluated by faculty on the basis of demonstrated scholarship and professional promise.

The scope of graduate degree programs in the Department of Elementary Education and Reading includes programs with a focus from infancy to adult maturity. The curricula in graduate degree programs in the department are designed to meet student professional needs and expectations. Emphasis is placed on the advanced preparation of practitioners who demonstrate ability to understand and apply field research as well as to generate, develop and execute research proposals.

Students who complete M.A., Specialist or Ed.D. programs in the department are prepared for positions of leadership in public and private schools and/or colleges and universities. Graduates are prepared to provide expertise in teaching, consulting and other professional educational services. Degree programs offered in the Department of Elementary Education and Reading include those described subsequently.

M.A. in Elementary Education

—A student whose undergraduate major was not in Elementary Education must have evaluations by the College of Education and by the Department of Elementary Education and Reading.

—Core Course requirements

EDEL 612	The Elementary School Curriculum <i>or</i>	3
EDEL 667	Assessment, Design & Evaluation of Elementary/Middle School Curriculum	3
EDEL 619	Pluralism in Education	3
EDEL 620	Mathematics in the Elementary School (Must be taken at UNC)	3
EDEL 640	English in the Elementary School (Must be taken at UNC)	3
EDEL 650	Social Studies in the Elementary School (Must be taken at UNC)	3
EDEL 679	Appraisal & Evaluation of Teaching in Elementary & Middle Schools	3
EDRD 612	Reading in the Primary Grades (Must be taken at UNC) <i>or</i>	3
EDRD 613	Reading in the Intermediate Grades (Must be taken at UNC)	3
EPRE 600	Introduction to Graduate Study & Research	3
SCED 671	Science Curriculum in the Elementary School	3
		Hours credit 27

Complete one of the following:

EDEC 663	Diagnostic Teaching in Early Childhood Education	3
EDRD 617	Remedial Reading in the Elementary School	4
EPRE 504	Descriptive Statistics	3
EPRE 570	Tests & Measurements for Educators	4

Complete any two or more of the following for a total of five credits:

EDEL 609	Practicum in Multiculturalism	1-4
EDEL 613	Curriculum Practicum	1-4
EDEL 621	Mathematics Practicum	1-4
EDEL 641	English Practicum	1-4
EDEL 651	Social Studies Practicum	1-4
EDEL 611	Reading Practicum	1-4

Complete sufficient electives for a total of at least 45 quarter hours. These must be selected in consultation with the advisor. Recommended electives are:

EDEL 508	Elementary Education Workshops (Maximum quarter hours)	6
EDEL 610	Research & Analysis Processes in Elementary Education, Early Childhood, Middle School & Reading	3
EDEL 630	Handwriting & Spelling in the Elementary School	2
EDEL 678	Outcomes Based Education	3
EDRD 614	Literature in the Elementary School	3
EDRD 645	Seminar in Research & the Analysis of Reading Programs	3

In addition, a master's student may count a maximum of 12-13 quarter hours, individually or in combination with, courses numbered in that category toward his/her degree program. Electives may be taken in general Elementary Education, and within the department (i.e., EDEC, EDRD, EDMS) or within other areas in the University that would strengthen professional skills (i.e., sciences, English, art, etc.). These courses must be approved in advance and in writing by the major advisor.

M.A. in Elementary Education: Early Childhood Education

The following are required:

—A student whose undergraduate major was not in Elementary Education must have evaluations by the College of Education and by the Department of Elementary Education and Reading.

—Core course requirements:

A. Instructional techniques

EDEC 648	Psycholinguistics in Early Childhood (Must be taken at UNC)	3
EDEC 660	Critical Issues in Nursery-Kindergarten Education (Must be taken at UNC)	3
EDRD 612	Reading in the Primary Grades (Must be taken at UNC)	3
EPRE 600	Introduction to Graduate Study & Research	3

B. Child growth and development

EDEC 533	Child Development	3
EDEC 536	Seminar in Child Development	3
EDEC 622	Research in Early Childhood Education (Must be taken at UNC)	3

C. Compensatory Programs

EDEC 633	Educational Assessment, Evaluation & Prescription for the Young Child (Must be taken at UNC)	3
EDEC 664	Seminar in Early Childhood Education (Must be taken at UNC)	3
EDEC 667	Cultural Diversity in Early Childhood (Must be taken at UNC)	3

—Background course requirements. The following courses may be waived for a student who has had comparable courses at the undergraduate level.

EDEC 460	Nursery-Kindergarten Education	3
EPRE 630	Child Psychology	3

—Sufficient electives to complete 45 quarter hours of graduate academic credit. To be selected in consultation with the advisor.

M.A. in Elementary Education: Early Childhood Special Education

The following are required:

—A student holding a baccalaureate degree in an area other than elementary education must have evaluations by the College of Education and by the Department of Elementary Education and Reading.

—Core course requirements:

EDEC 533	Child Development	3
EDEC 539	Issues in Parent Education	3
EDEC 619	Practicum in Teaching Handicapped & High Risk Children in Early Childhood <i>and</i>	5
EDSE 619	Practicum in Teaching Handicapped & High Risk Children in Early Childhood (Must be taken concurrently)	5
EDEC 648	Psycholinguistics in Early Childhood	3
EDEC 662	Research in Early Childhood Education	3
EDEC 663	Educational Assessment, Evaluation & Prescription for the Young Child	3
EDEC 664	Seminar in Early Childhood Education	3
EDEC 667	Cultural Diversity in Early Childhood Education	3
EDSE 306	Identification of Handicapped & High Risk Children in Early Childhood	3
EDSE 616	Case Study in Visually, Auditorally Impaired, Mentally Retarded, Emotionally Disturbed, Learning Disabled or Physically Impaired	1-4
EDSE 617	Assessment & Methods of Teaching Intellectually Impaired, Learning Disabled & Emotionally Disturbed Young Children	4
EDSE 618	Assessment & Methods of Teaching Visually & Hearing Impaired Young Children	4
EPRE 600	Introduction to Graduate Study & Research	3

—Additional requirements for students lacking appropriate background courses will be selected in consultation with the advisor before or during the first quarter in which the student enrolls.

—Two years of teaching experience or its equivalent with children 0-8 years of age, is required before the degree program can be completed and the degree awarded.

M.A. in Middle School Education

The intent is to prepare classroom teachers for the middle school and junior high school.

Core Requirements

EDEL 612	The Elementary School Curriculum	3
	<i>or</i>	
EDEL 667	Assessment, Design & Evaluation of Elementary/Middle School Curriculum	3
EDEL 619	Pluralism in Education	3
EDEL 679	Appraisal and Evaluation of Teaching in Elementary & Middle Schools	3
EDMS 663	Middle School/Junior High School Curriculum	3
EDMS 664	Seminar in Middle School/ Junior High School Instruction	3
EDMS 601	Practicum	3
EPRE 600	Introduction to Graduate Study & Research	3
One of the following:		
EDRD 521	Reading in the Content Field	3
EDRD 613	Reading in the Intermediate Grades	3
EDRD 620	Developmental Reading in the Secondary School	3
Recommended		
EPRE 631	Adolescent Psychology	3

Electives

These are determined by the candidate's need to develop or strengthen understanding and competency in areas related to her/his professional growth and development with approval of student's advisor. Special consideration will be given to the professional growth activities approved and required by the student's school district or institution in planning the M.A. program.

The following are highly desirable electives:

EDEL 678	Outcomes Based Education	3
EDEL 610	Research & Analysis in Elementary Education, Early Childhood, Middle School & Reading	3
EDRD 615	Seminar in Children's & Young Adult's Literature	3
EDRD 627	Remedial Reading in the Secondary School	4
EDMS 508	Middle School Workshops (Maximum)	

The Practicum

The practicum is designed as a culminating experience for the degree program. It will serve as a replacement for the written comprehensive examination. There will be an oral defense of the practicum project.

M.A. Degree in Reading

The Master of Arts degree programs in Reading prepare a student to function more effectively as an elementary or secondary classroom teacher or to fulfill departmental requirements for institutional recommendation for teacher certification endorsement as a Reading Teacher: Elementary or a Reading Teacher: Secondary. Students seeking endorsement must provide evidence of two or more years of teaching experience in an accredited and/or established elementary or secondary school while holding a Type A or equivalent certificate before such recommendation will be made. Supervised practicum experiences and research are facilitated by the presence of the Reading Center and material resources.

M.A. in Reading: Elementary

The following are required:

—A student whose undergraduate major was not in Elementary Education must have evaluations by the College of Education and by the Department of Elementary Education and Reading.

—Core course requirements: EDRD 612, 613, 645, 650, 652 must be taken at the University of Northern Colorado.

EDRD 612	Reading in the Primary Grades	3
EDRD 613	Reading in the Intermediate Grades	3
EDRD 614	Literature in the Elementary School	3
EDRD 617	Remedial Reading in the Elementary School	3
EDRD 645	Seminar in Research & the Analysis of Reading Programs	3
EDRD 650	Remedial Reading Case Study—Elementary (Consent of instructor)	5
EDRD 652	Remedial Reading Internship—Elementary (Consent of instructor)	3
EDRD 672	Teaching Reading in a Pluralistic Society	3

—Elective courses in reading: A minimum of 30 quarter hours will be earned in core course requirements and elective courses in Reading.

EDRD 521	Reading in the Content Fields	3
EDRD 615	Seminar in Children's and Young Adult's Literature	3
EDRD 620	Developmental Reading in the Secondary School	3
EDRD 640	Linguistic Foundations of Reading Instruction	3
EDRD 654	Reading Center Internship: Reading Clinic, College Reading Adult Literacy (Consent of instructor) Maximum	9
EED 402	Methods & Materials for Teaching Literature in the Secondary School	5
EED 406	Literature for Adolescents	4

—EDRD 645 is a course substitute for EPRE 600, Introduction to Graduate Study and Research.

—In consultation with advisor, select 15 quarter hours in English and speech courses for an emphasis in developmental reading. For an emphasis in remedial reading select, in consultation with advisor, 15 quarter hours in psychology and special education courses.

M.A. in Reading: Secondary

The following are required:

—A student who does not hold certification as a secondary school teacher must have evaluations by the College of Education and by the department in which certification is sought.

—Core course requirements: EDRD 620, 627, 645, 651 and 653 must be taken at the University of Northern Colorado.

Select either EED 402, 406 or EDRD 615.

EDRD 521	Reading in the Content Fields	3
EDRD 615	Seminar in Children's and Young Adult's Literature	3
EDRD 620	Developmental Reading in the Secondary School	4
EDRD 627	Remedial Reading in the Secondary School	4
EDRD 645	Seminar in Research & the Analysis of Reading Programs	3
EDRD 651	Remedial Reading Case Study — Secondary (Consent of instructor)	5
EDRD 653	Remedial Reading Internship — Secondary (Consent of instructor)	3
EDRD 672	Teaching Reading in a Pluralistic Society	3
EED 402	Methods & Materials for Teaching Literature in the Secondary School	5
EED 406	Literature for Adolescents	4
—Elective courses in Reading: A minimum of 30 quarter hours will be earned in core course requirements and elective courses in Reading. If some of the core courses have been taken previously, the following electives may be substituted:		
EDEL 610	Research & Analysis Processes in Elementary Education, Early Childhood, Middle School & Reading	3
EDRD 612	Reading in the Primary Grades	3
EDRD 613	Reading in the Intermediate Grades	3
EDRD 614	Literature in the Elementary School	3
EDRD 640	Linguistic Foundations of Reading Instruction	3
EDRD 654	Reading Center Internship: Reading Clinic, College Reading Adult Literacy (Consent of instructor) Maximum	9
EDRD 602	Seminar in Literature for Adolescents	4

—EDRD 645 is a course substitution for EPRE 600, Introduction to Graduate Study and Research.

—In consultation with advisor, select 15 quarter hours in English and speech courses for an emphasis in developmental reading. For an emphasis in remedial reading, select in consultation with advisor, 15 quarter hours in psychology and special education.

Ed.S. in Reading

The Specialist in Education degree program is planned in consultation with an advisor for each individual on the basis of his or her background experience and professional aspiration. Students using this degree program to fulfill departmental requirements for institutional recommendation for teacher certification endorsement as a Reading Specialist K-12 must provide evidence of two or more years of teaching experience in an accredited/or established public school while holding a Type A or equivalent certificate before such recommendation will be made.

A student seeking a K-12 endorsement and who holds an endorsement as Reading Teacher: Elementary or Reading Teacher: Secondary must, to secure endorsement at the alternate level, complete course requirements at the level alternate to the existing endorsement, and complete advanced student teaching or its equivalent as required by the Reading Center Coordinator, at the level alternate to the existing endorsement.

—Core course requirements: EDRD 654 Reading Center Internship: Reading Clinic, College Reading Adult Literacy (Consent of instructor) Maximum 9

EDRD 701	Specialist Degree Practicum	8
EDRD 745	Seminar in Reading	3
EPRE 504	Descriptive Statistics	3
EPRE 505	Statistical Inference	3

—EDRD 645 is a course substitution for EPRE 600, Introduction to Graduate Study and Research.

—In consultation with advisor, select a minimum of 19 quarter hours in reading, educational administration, psychology, English, speech and special education.

Ed.D. in Elementary Education

The following are required:

—EPRE 504 and 505 are required and are to be taken concurrently with the required course EDEL 710, Seminar in Research Planning (2). EPRE 603 or EPRE 641 is also required and must be taken concurrently with the required course, EDEL 711, Advanced Seminar in Research Planning, (2). EPRE 702 and/or 703 may be required, based on the advisor's review of a student's previous work and demonstrated competence.

—Core course requirements: EDEL 625, 645, 655 and EDRD 745 must be taken at the University of Northern Colorado.

EDEL 625	Seminar in Elementary School Mathematics	3
EDEL 645	Seminar in Elementary School English	3
EDEL 655	Seminar in Elementary School Social Studies	3
EDEL 797	Doctoral Proposal Research	6
EDEL 799	Doctoral Dissertation 18	
EDRD 745	Seminar in Reading	3
EDF 740	Psychological Foundations of Education	3
EDF 765	Sociological Foundations of Education	3
EDF 785	Philosophical Foundations of Education	3
SCED 671	Science Curriculum in the Elementary School	3

—Background course requirements: The advisor may waive the following courses for a student who has appropriate background; however, the student is held for the course content on comprehensive examinations. The advisor may substitute subject matter courses for education courses if the student has an extensive background in education and a limited background in subject matter.

EDEL 612	The Elementary School Curriculum	3
EDEL 620	Mathematics in the Elementary School	3
EDEL 630	Handwriting & Spelling in the Elementary School	2
EDEL 640	English in the Elementary School	3
EDEL 650	Social Studies in the Elementary School	3
EDRD 612	Reading in the Primary Grades	3
EDRD 613	Reading in the Intermediate Grades	3
EDRD 614	Literature in the Elementary School	3
EDRD 645	Seminar in Research & the Analysis of Reading Programs	3
EPRE 570	Tests & Measurements for Educators	4

—Subject matter requirements: EPRE 504, 505 and 603 are required. Subject matter courses to total 24 quarter hours in one or more of the following areas, to be selected in consultation with the advisor. If a student has earned more than 15 quarter hours of graduate credit in subject matter courses

prior to the doctoral program, the advisor may substitute education courses in the amount of such excess of 15 quarter hours.

Required Courses

EPRE 504	Descriptive Statistics	3
EPRE 505	Statistical Inference	3
EPRE 603	ANOVA and Other Methods of Analysis	3
EPRE 641	Qualitative Methods in Research & Evaluation	3

Choose one of the following:

Anthropology
 Biological Sciences
 Chemistry
 Speech Communication
 Earth Science
 Economics
 English
 Visual Arts
 General Science
 Geography
 History
 Humanities
 Mathematics
 Music
 Philosophy
 Physics
 Political Science
 Statistics and Research Methods
 Social Sciences
 Sociology

—Sufficient electives to complete 96 quarter hours of graduate credit.

Ed.D. in Elementary Education: Early Childhood Education

The following are required:

—EPRE 504 and an Early Childhood Education course with the major advisor are required the first quarter, and EPRE 603 or EPRE 641 is required the second quarter on the doctoral program unless exemption is granted by the major advisor on the basis of previous course work.

—Background course requirements:

Students lacking appropriate background in Elementary Education must fulfill additional course requirements.

—Core course requirements, which *must be taken at UNC*.

A. Instructional Techniques

EDEC 648	Psycholinguistics in Early Childhood	3
EDEC 660	Critical Issues in Nursery-Kindergarten Education	3
EDEL 625	Seminar in Elementary School Mathematics	3
EDEL 645	Seminar in Elementary School English	3
EDEL 655	Seminar in Elementary School Social Studies	3
EDRD 645	Seminar in Research & the Analysis of Reading Programs	3

B. Child Growth and Development

EDEC 533	Research in Child Development	3
EDEC 536	Seminar in Child Development	3
EDEC 622	Research in Early Childhood Education (Must be taken at UNC)	3

C. Compensatory Programs

EDEC 664	Seminar in Early Childhood Education (Must be taken at UNC)	3
EDEC 667	Cultural Diversity in Early Childhood Education (Must be taken at UNC)	3
EDEL 619	Pluralism in Education	3

D. Research Track

EDEC 797	Doctoral Proposal Research	6
EDEC 799	Doctoral Dissertation	18

EPRE 504 and 505 are required and are to be taken concurrently with the required course EDEL 710, Seminar in Research Planning (2). EPRE 603 or 641 is also required and must be taken concurrently with required course EDEL 711, Advanced Seminar in Research Planning (2). EPRE 702 and/or 703 may be required, based on the advisor's review of a student's previous work and demonstrated competence.

F. Field Experiences

EDEC 601	Practicum	3-9
EDEC 755	Supervised Practicum in College Teaching	3-9

—Electives to complete a total of 96 quarter hours. To be selected in consultation with the advisor.

Ed.D. in Reading

The Doctor of Education program in Reading is based upon certification to teach in the elementary or secondary school and upon completion of 12 quarter hours of psychology.

Students using this degree program to fulfill requirements for institutional recommendation for teacher certification endorsement as a Reading Specialist K-12 must provide evidence of two or more years of teaching experience in an accredited and/or established public school while holding a Type A or equivalent certificate before such recommendation will be made.

A student seeking a Reading: K-12 endorsement and who holds an endorsement as Reading Teacher: Elementary or Reading Teacher: Secondary must, to secure endorsement at the alternate level, complete course requirements at the level alternate to the existing endorsement, and complete advanced student teaching or its equivalent, as required by the Reading Center Coordinator, at the level alternate to the existing endorsement.

Supervised practicum experiences and research are facilitated by the presence of the Reading Center and material resources.

—EPRE 504 and 505 are required and are to be taken concurrently with the required course EDEL 710, Seminar in Research Planning (2). EPRE 603 or EPRE 641 is also required and must be taken concurrently with the required course EDEL 711, Advanced Seminar in Research Planning (2). EPRE 702 and/or 703 may be required, based on the advisor's review of a student's previous work and demonstrated competence.

—In consultation with advisor, select 72 quarter hours from among the following courses:

EDRD 512	Reading in the Content Fields	3
EDRD 612	Reading in the Primary Grades	3
EDRD 613	Reading in the Intermediate Grades	3
EDRD 614	Literature in the Elementary School	3
EDRD 615	Seminar in Children's & Young Adult's Literature	3
EDRD 617	Remedial Reading in the Elementary School	4
EDRD 620	Developmental Reading in the Secondary School	3
EDRD 622	Individual Studies: Reading	4
EDRD 627	Remedial Reading in the Secondary School	4
EDRD 637	Developmental & Remedial Reading at the College Level	2
EDRD 640	Linguistic Foundations of Reading	3
EDRD 645	Seminar in Research & the Analysis of Reading Programs	3
EDRD 650	Remedial Reading Case Study—Elementary (Consent of instructor)	5
EDRD 651	Remedial Reading Case Study—Secondary (Consent of instructor)	5
EDRD 652	Remedial Reading Internship—Elementary (Consent of instructor)	3
EDRD 653	Remedial Reading Internship—Secondary (Consent of instructor)	3
EDRD 654	Reading Center Internship: Reading Clinic, College Reading Clinic, Adult Literacy (Consent of instructor)	9
EDRD 672	Teaching Reading in a Pluralistic Society	3
EDRD 745	Seminar in Reading	3
EDRD 755	Supervised Practicum in College Teaching	3-9
EDRD 797	Doctoral Proposal Research	6
EDRD 799	Doctoral Dissertation	18
EED 402	Methods & Materials for Teaching Literature in the Secondary School	5
EED 406	Literature for Adolescents	4
EPRE 504	Descriptive Statistics	3
EPRE 505	Statistical Inference	3
Choose one of the following:		
EPRE 603	ANOVA & Other Methods of Analysis	3
EPRE 641	Qualitative Methods in Research & Evaluation	3

—In consultation with advisor, select 24 quarter hours of course work in educational administration, English, speech communication, psychology and special education.

Evaluation

(See Educational Psychology, Research and Evaluation)

Foundations of Education

Location: McKee Hall 525
Telephone: 351-2347
David Roat, Chair

Faculty

David Glassman, EdD, Assoc. Prof.
Michael Jacobs, EdD, Prof.
Faustino C. Luna, EdD, Asst. Prof.
David Roat, PhD, Prof.
Dean Turner, PhD, Prof.

The academic and professional purpose which unifies the various approaches to Foundations of Education is the development of interpretive, normative and critical perspectives on education. Foundational study within education relies heavily on the resources and methodologies of the humanities and the social and behavioral sciences.

The primary objectives of foundational study at the University of Northern Colorado are to provide experiences and perspectives which allow students to explain and evaluate educational issues, practices and policies in a manner that leads to the development of a disciplined sense of professional responsibility.

Foundations courses are a major component in the undergraduate professional education core and in many graduate programs. Courses are open to all undergraduate and graduate students. A student pursuing a doctoral degree in any area may take support courses in Foundations of Education.

Health Occupations Teacher Education

Administered by the Department of Vocational Education
Location: McKee Hall 27
Telephone: 351-2939
Jerry Moorman, Chair

Faculty

Dora Johnson, EdD, Assoc. Prof.

Bachelor of Arts Degree in Health Occupations Teacher Education, Advanced Credentialing

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

VTE 310	Vocational Education Foundations	3
VTE 430	Vocational Education for Learners with Special Needs	3
VTE 301	Occupational Instructional Design: Analysis & Planning	1
VTE 302	Occupational Instructional Design: Per Objectives	1
VTE 303	Occupational Instructional Design: Classroom Evaluation	1
VTE 304	Occupational Instructional Design: Methods	1
VTE 305	Occupational Instructional Design: Media Utilization	1
VTE 306	Teaching Competency	1
VTE 107	Computer Literacy (or demonstrated competency)	1
VTE 450	Organization & Administration of Health Occupations Education	3
VTE 453	Clinical Teaching & Evaluation in Health Occupations	3
VTE 456	Preparation for Teaching Health Occupations Education	2
VTE 457	Teaching Improvement Seminar	2
EDFE 444	Supervised Teaching — Secondary or Post Secondary	18

Secondary Only:

VTE 410	Cooperative Education & Coordination Techniques	3
VTE 412	Vocational Student Organizations	2

Post Secondary:

VTE 418	Adult Vocational Education	3
Electives selected in conjunction with advisor. Options available for Secondary Certification, Post Secondary Teaching, Inservice/Continuing Education		
		Hours credit 54

Career Options/Alternatives

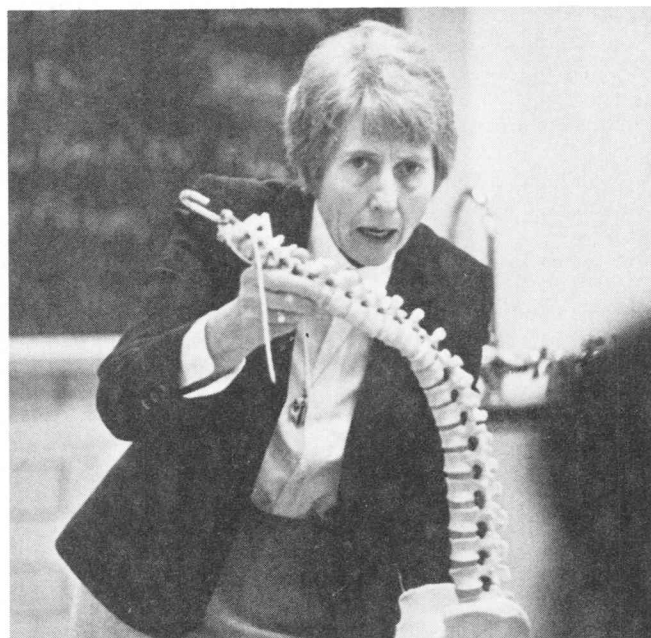
These are to be planned in conjunction with advisor prior to beginning

Hours credit 12

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's 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.



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 Bulletin, 46 hours.

Please note that the PTE program which accompanies this major involves the following modification: VTE 430 (3 credit hours) may be substituted for EDSE 406 or 407.

Advanced Credentialing Program

A student holding a baccalaureate degree and current licensure, registration or certification as a health practitioner may wish to pursue an advanced vocational teacher credentialing program in Health Occupations. This credential is required to teach in area vocational schools and community college Health Occupations programs.

Suggested courses

VTE 501	Instructional Design: Analysis & Planning	1
VTE 502	Instructional Design: Performance Objectives	1
VTE 503	Instructional Design: Classroom Evaluation	1
VTE 504	Instructional Design: Instructional Methods	1
VTE 505	Instructional Design: Media Utilization	1
VTE 506	Teaching Competencies	1
VTE 553	Clinical Teaching & Evaluation in Health Occupations Education	3
VTE 690	Field Experiences: Health Occupations Education Teaching	1-6

Graduate Support Option

A support option in Health Occupations is available for individuals interested in combining it with other master's, specialist or doctoral programs. Contact Health Occupations Teacher Educator in the Department of Vocational Teacher Education.

Measurement

(See Educational Psychology, Research and Evaluation)

Middle School Education

(See Elementary Education)

Professional Psychology

Location: McKee Hall 248
Telephone: 351-2731
Michael J. Gimmestad, Chair

Faculty

Richard L. Bear, EdD, Prof.
Margaret T. Blake, PhD, Prof.
David N. Bolocofsky, PhD, Assoc. Prof.
Madelyn E. Case, PhD, Assoc. Prof.
Ellis P. Copeland, PhD, Assoc. Prof.
Michael W. Flannigan, EdD, Prof.
Michael J. Gimmestad, PhD, Prof.
Byron E. Norton, EdD, Prof.
John E. Obrzut, PhD, Assoc. Prof.
Wendell A. Osorno, PhD, Prof.
Judith A. Praul, EdD, Prof.
John Ramirez, PhD, Assoc. Prof.
Elizabeth J. Rave, EdD, Prof.
Anne W. Schenkman, EdD, Prof.
Sarah F. Shaw, EdD, Prof.
Andrew Sweet, PsyD, Asst. Prof.
George A. Tate, ThD, Prof.
Maurice B. Ward, EdD, Assoc. Prof.
I. David Welch, EdD, Prof.

The Department of Professional Psychology offers graduate programs in the fields of counseling and school psychology which prepare students for careers in schools, community agencies, industry, higher education and private practice. Service courses are offered for other programs at both graduate and undergraduate levels. In addition, the department offers professional psychology services to the university and the local community through its clinic, a research and training facility. The doctoral program in School Psychology is fully accredited by the American Psychological Association. The M.A. counseling programs and the Ed.D. program in Counselor Education are provisionally accredited by the Council for Accreditation of Counseling and Related Educational programs.

Degree Programs Offered

Master of Arts in Agency Counseling
Master of Arts in Elementary School Counseling
Master of Arts in Secondary and Postsecondary School Counseling
Specialist in Education in School Psychology
Doctor of Education in Counseling Psychology
Doctor of Education in Counselor Education
Doctor of Education in School Psychology

Admission

Applications for admission to graduate programs in the Department of Professional Psychology will be considered only after applicants have made application to and met the requirements of the UNC Graduate School. Applications will be reviewed by, and decisions made by, the faculty of the specific program for which the applicant has applied. The following criteria, information and deadlines will be used for making departmental admission decisions.

M.A. Programs in Elementary School Counseling, Secondary and Postsecondary School Counseling, and Agency Counseling

After admission to the Graduate School, a separate process is conducted by the Counseling faculty for admission to any of the Professional Psychology programs described in this Bulletin. Attendance at a Pre-Admission Workshop is required for this departmental admission process to be completed. When attendance at the Pre-Admission Workshop is an extreme hardship for the applicant, special arrangements are made. These may include a conference telephone interview with faculty, contact with references, and/or campus interviews at alternate times. Acceptance is based on consideration of the following criteria:

- Two years of teaching or relevant work experience involving human interactions subsequent to receiving the baccalaureate degree and prior to admission.
- Clarity of career goals.
- Intellectual qualities.
- Professional judgement of appropriate personality characteristics as evidenced by personality assessment, a structured interview, interpersonal communication style and personal references.

Ed.S. Program in School Psychology

Data listed here must be in the Professional Psychology office by February 20. Decisions will be announced by March 31.

- Academic transcripts of all college or university training. A grade point average of at least 2.70 in the last 90 hours of academic work is preferred.
- Three letters of recommendation from immediate supervisors or professors. These letters should be addressed to the Director of School Psychology.
- A written statement regarding the relationship of the specialist program to the future career goals of the applicant.
- A personal interview may be required. Applications are evaluated competitively for a limited number of positions. The application must demonstrate clear potential for success in a specialist program in School Psychology.

Data listed here to be in Professional Psychology office by February 20. Decisions announced by March 31.

- Academic transcripts of all college or university training. A graduate point average of 3.0 in the last 90 hours of academic work is preferred.

—Scores on the verbal and quantitative sections of the Graduate Record Examination.

—Three letters of recommendation from immediate supervisors or professors. These letters should be addressed to the Director of School Psychology.

—A written statement regarding the relationship of the doctoral program to the future career goals of the applicant. Applications are evaluated competitively for a limited number of positions. The applicant must demonstrate clear potential for success in a doctoral program in School Psychology.

Ed.D. Programs in Counseling Psychology and Counselor Education

Data listed here to be in Professional Psychology office by February 20, with decisions announced by March 31.

—GRE scores of at least 500 Verbal and 450 Quantitative, or a total of 1050 with a minimum of 420 on either part.

—A master's degree in counseling or a related area, or the equivalent.

—Three letters of recommendation.

—Grade Point Average of 3.5 in the last 90 hours of academic work is desired.

—Written statement regarding the relationship of the doctoral program to the future career goals of the applicant.

—Two years of counseling, teaching or other acceptable work experience.

After admission to the Graduate School, a further review process is conducted by the Counseling faculty for admission to a specific program. Attendance at a Pre-Admission Workshop is required for the departmental admission process to be completed. In situations where attendance at the Pre-Admission Workshop is an extreme hardship for the applicant, special arrangements are made. These may include a conference telephone interview with faculty, contact with references, and/or campus interviews at alternate times.

Admission decisions are based on the professional judgment of the Counseling faculty, considering the above data, including personal characteristics and interpersonal communications style as assessed in the Pre-Admission Workshop. Applications are evaluated on a competitive basis, for a limited number of positions.

Comprehensive Examinations

Comprehensive examinations, or alternative evaluation methods, are administered by each program area for each graduate degree. Consult the program director for details for each specific degree program.

Certification and Credentialing

School Counselor Certification

The following requirements must be met by persons requesting institutional recommendation for school counselor certification from the University of Northern Colorado:

—For those persons who have completed a master's, specialist or doctoral degree in an area other than Counseling: Two years of public school teaching experience or recent comparable work experience are required (2260-R-8.01(10) of certification standards for school counselor certification in Colorado). Must have completed the following courses and requirements or their equivalent.

For secondary school endorsement: PPSY 602, 604, 606, 607, 608, 611, 612, 614, 671.

For elementary school endorsement: PPSY 603, 604, 606, 608, 611, 612, 613, 671.

Must pass master's comprehensive examination in school counseling prior to being recommended.

—Persons who have not completed a master's degree are required to complete the M.A. program in elementary or secondary school counseling at UNC in order to receive institutional recommendation.

—Those students *without* a Colorado Teaching Certificate wishing to pursue school counseling certification must include the following courses in their programs: EDF 585, Philosophy of Education; EDF 667, Modern Curricular Trends and Issues; and EPRE 542, Learning Applied to Classroom Teaching; or their approved equivalents.

Credentialing as Vocational Guidance Specialist

Students desiring this credential must complete the requirements for school counselor certification, plus 12 designated hours of specific course work in vocational education/career guidance (VTE 610, PPSY 615, 616 and 619) and have a minimum of two years (4,000 hours) of work experience at wage-earning pursuits other than the profession.

School Psychologist Certification

Institutional recommendation for endorsement in School Psychology is based on the completion of the Ed.S. or the Ed.D. programs in School Psychology. No prior teaching experience is necessary.

Application for Certification

Upon satisfactory completion of a certification program and any additional requirements that may be imposed by state law, a person is eligible for institutional recommendation to the State Commission on Teacher Education and Certification for the appropriate certification in Colorado. Near the end of the quarter in which the certification program is to be completed, the candidate should complete application forms in the College of Education office. Applications are processed as soon as official transcripts, ordered by the applicant, are received from the Registrar showing completion of requirements. Departmental recommendations are required before institutional endorsement is granted; this involves recommendations of the Program Director, the advisor and the program faculty.

Students desiring certification in states other than Colorado should note that requirements for certification are set by each state's Department of Education, and should become familiar with the requirements for any other state in which they desire certification.

M.A. Programs in Counseling

Philosophy—The Counseling faculty views each potential candidate as unique, with strengths and assets to be identified and encouraged in the program. The knowledge and human relations skills necessary to help individuals recognize their own and other persons' unique promise and discover opportunities for its expression form the core of professional preparation for students in Counseling. Such knowledge and skills

are learned in part from research and study in the behavioral and social sciences, various skill development activities and supervised practica. Opportunities for a broad understanding of human behavior and human relationships are included in the education of the student in Counseling.

Program Objectives—The Counseling faculty is committed to the development of broadly based competent professionals skilled in helping people with personal, career and leisure concerns in educational institutions and community agencies. The requirements of the program are conceptualized within the framework and standards set forth by the counseling profession, Colorado state law, Graduate School and job requirements.

Core Requirements

The following are required in all M.A. programs in Counseling:

PPSY 607	Principles & Practices of Counseling Theories	5
PPSY 612	Introductory Supervised Practice in Counseling	5
PPSY 662	Group Dynamics & Facilitation	3
PPSY 670	Psychological Testing & Measurement	4
EPRE 504	Descriptive Statistics	3
EPRE 600	Introduction to Graduate Study & Research	3
EPRE 540	Principles of Learning or	4
EPRE 641	Theories of Learning Comprehensive Examination	4

M.A. in Elementary School Counseling

The Elementary School Counseling program is designed at the master's level to develop a professional who works with children and adults in various settings, especially in elementary and middle schools. Specific program objectives include skill development in the following:

- Work with children, both individually and in groups, to maximize the child's personal, academic and family experiences.
- Consult with and assist adults in working with children.
- Provide counseling and guidance services for adults when appropriate.
- Provide in-service training in guidance-related areas.
- Initiate evaluative and other research related to children, their families and environment.
- Coordinate and manage guidance services appropriate to elementary and middle school settings.
- Evaluate cognitive and affective characteristics of learning.
- Explore career development as it relates to young children.

The following courses are required in addition to the core requirements listed for all M.A. programs in Counseling:

PPSY 603	Guidance in the Elementary School	3
PPSY 604	Occupational Information & Analysis in Vocational Guidance	3
PPSY 606	Theories & Practices in Group Guidance	3
PPSY 608	Organization & Administration of Guidance Services	3
PPSY 611	Externship in Guidance Services	3
PPSY 613	Externship in Counseling with Children	3
PPSY 671	Testing: Analysis & Interpretation	3
PSY 467	Psychology of Prejudice	3

One course selected from the following:		
EPRE 530	Human Growth & Development	4
EPRE 630	Child Psychology	3
EPRE 631	Adolescent Psychology	3
One course selected from the following:		
PPSY 558	Abnormal Psychology	3
PPSY 650	Psychology of the Healthy Personality	3
PPSY 651	Theories of Personality	3
Elective courses are selected in consultation with the advisor. A minimum of 60 quarter hours are required in the program.		

M.A. in Secondary and Post-Secondary School Counseling

The Secondary and Post-Secondary School Counseling program is designed at the master's level to prepare professionals to counsel with adolescents and adults in school settings. Specific program objectives include skill development in the following:

- Work with adolescents and adults both individually and in groups to maximize personal and academic experiences related to school and social life.
- Provide students with educational counseling for the formation of programs to meet individual needs.
- Provide students with career development information based on individual need, strengths and assets.
- Serve as a consultant to teachers, parents and other and provide for the affective needs of students.
- Coordinate and manage guidance services appropriate to the particular school setting.
- Initiate evaluative and other research relative to school guidance services.

The following courses are required in addition to the core requirements listed for all M.A. programs in Professional Psychology:

PPSY 602	Foundations of Guidance	3
PPSY 604	Occupational Information & Analysis in Vocational Guidance	3
PPSY 606	Theories & Practice in Group Guidance	3
PPSY 608	Organization & Administration of Guidance Services	3
PPSY 611	Externship in Guidance Services	3
PPSY 614	Externship in Counseling with Youth and/or Adults	3
PPSY 671	Testing: Analysis & Interpretation	3
PSY 467	Psychology of Prejudice	3
One course selected from the following:		
EPRE 530	Human Growth & Development	4
EPRE 631	Adolescent Psychology	3
EPRE 632	Adult Development & Aging	3
One course selected from the following:		
PPSY 558	Abnormal Psychology	3
PPSY 650	Psychology of the Healthy Personality	3
PPSY 651	Theories of Personality	3
Elective courses are selected in consultation with the advisor. A minimum of 60 quarter hours are required in the program.		

M.A. in Agency Counseling

The Agency Counseling program at the master's level prepares a professional to work in various agency settings such as mental health centers, probation and parole departments, substance abuse centers and residential treatment centers.

Specific program objectives include skill development in the following:

—Counseling children, adolescents and adults both individually and in groups to maximize personal, social and environmental experiences.

—Consulting with and assisting various community agencies and referral sources in the development of treatment interventions.

—Providing selected diagnostic and evaluative services for individuals and communities.

—Analyzing, integrating and applying a conceptual framework for working with developmental, learning and personality difficulties of individuals and groups.

—Initiating research relative to community and/or organizational mental health services.

The following courses are required in addition to the core requirements listed previously.

PPSY 558	Abnormal Psychology	3
PPSY 651	Theories of Personality	3
PPSY 692	Externship	4
EPRE 530	Human Growth & Development	4
One course selected from the following:		
PPSY 650	Psychology of the Healthy Personality	3
PPSY 655	Community Mental Health	3
PSY 664	Social Psychology	4
One course selected from the following:		
EPRE 630	Child Psychology	3
EPRE 631	Adolescent Psychology	3
EPRE 632	Adult Development & Aging	3
PPSY 634	Death & Dying	3
One course selected from the following:		
PSY 467	Psychology of Prejudice	3
PPSY 468	Psychology of Women	3
PPSY 623	Understanding & Counseling Minorities	3
HRS 592	Psycho-Social Aspects of Disability	3
BLS 380	Education in the Black Community	3
HISP 370	Chicano Psychology	3

Elective courses are selected in consultation with the advisor. A minimum of 60 quarter hours are required in the program.

Specialist in Education Degree

Ed.S. in School Psychology

The Specialist program in School Psychology is designed for those who wish to become practitioners meeting state certification requirements for school psychologists. Training is primarily oriented toward the acquisition of those skills necessary for effective functioning as school psychologists.

Completion of the specialist degree requires a *minimum* of 90 quarter hours of study beyond the bachelor's degree (usually seven quarters of study). The master's degree is not required for admission. Courses in tests and measurements, abnormal psychology and descriptive statistics are prerequisite to the program. Students who have not had these courses will be required to make them immediately upon entry into the program. Successful completion of this program provides the candidate with the requirements for department recommendation for certification in School Psychology.

The following courses are required (some courses may be waived if previously taken on the graduate level).

Psychological Foundations

PPSY 763	Introductory Seminar in School Psychology	3
EPRE 630	Child Psychology	3
	<i>or</i>	
EPRE 530	Human Growth & Development	4
EPRE 540	Principles of Learning	4
PPSY 651	Theories of Personality	3
PPSY 607	Principles & Practices of Counseling Theories	5
PPSY 660	Systems Analysis & Consultation Theory	3
PSY 664	Social Psychology	3
	<i>or</i>	
PPSY 655	Community Mental Health	3
EPRE 505	Statistical Inference	3
PSY 780	Introduction to Psychological Research	4
		Hours credit 31-32

Assessment and Intervention

PPSY 675	Intelligence Assessment	4
PPSY 676	Personality Assessment	4
PPSY 677	Educational/Academic Assessment	4
PPSY 679	Diagnostic Practicum	4
PPSY 617	Play Therapy	4
	<i>or</i>	
PPSY 618	Behavior Modification	4
PPSY 612	Introductory Supervised Practice in Counseling	5
PPSY 681	Systems Intervention Practicum	4
	<i>or</i>	
PPSY 662	Group Dynamics & Facilitation	3
PPSY 779	School Psychology Practicum	4
		Hours credit 32-33

Professional Education

PPSY 647	Psychological Aspects of Learning Disabilities	3
EDRD 617	Remedial Reading in the Elementary School	4
Choose 2 from the following:		
EDSE 523	Language Development & Disorders in Emotionally Disturbed & Learning Disabled Children	3
EDSE 542	Meeting Educational Needs of Severely/Profoundly Handicapped Blind Children	3
EDSE 602	Education & Psychology of Exceptional Children	3
EDSE 609	Basic Concepts of Mental Retardation	4
EDSE 611	Psychological Aspects of Mental Retardation	4
EDSE 624	Seminar in Education of Emotionally Disturbed/Learning Disabled	3
		Hours credit 13-17

Minority Understanding

Choose one course from the following list: BLS 380, HISP 302; PSY 467, PPSY 623, 468.

Supervised Field Work

PPSY 789	Internship in School Psychology (2 consecutive quarters full time — 8 credit hours per quarter)
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Electives

If additional hours are needed, students may choose these courses in consultation with their advisors.

Doctor of Education Degree

Ed.D. in Counselor Education

Doctoral students, who will be qualified academically, professionally and personally, are prepared to function as responsible counselor educators in college and university settings.

The goal is the development of counselor education competencies in these general areas: selection, retention and endorsement; instructional methods in counselor education and counseling and supervisory skills; research and evaluation; social systems and concerns; and professional and personal leadership.

Prerequisite Course Areas

Students entering a doctoral program should have completed courses in the following areas:

Introductory Research
 Tests and Measurements
 Descriptive Statistics
 Learning Theory
 Developmental/Child/Adolescent/Adult Psychology
 Personality Theories
 Organization and Administration of Guidance
 Career Development and Placement
 Counseling Theories
 Group Counseling/Guidance
 Testing: Analysis and Interpretation

Students who have not completed course work in these areas will need to complete these courses as deficiency course work *not* to be included in the 90 hours required for the degree. All deficiency course work and PPSY 612 must be completed before students will be eligible for the first letter of encouragement. Students will be required to satisfactorily complete doctoral comprehensive examinations and dissertations in addition to course work.

General Core (required)

PPSY 558	Abnormal Psychology	3
PPSY 722	Trends in Psychology, Counseling & Guidance	3
	<i>or</i>	
PPSY 723	Issues in Psychology, Counseling & Guidance	3
PPSY 755	Supervised Practicum in College Teaching — 3 hrs. for a total of 6 in Graduate Counseling	6
PPSY 751	Seminar in Personality Theories	3
PPSY 758	Advanced Psychopathology: Child and Adolescent	3
	<i>or</i>	
PPSY 759	Advanced Psychopathology: Adult	3
PPSY 657	Legal and Ethical Aspects of Psychology	3

Hours credit 29

Counseling Core (All required)

PPSY 612	Introductory Supervised Practicum in Counseling	5
PPSY 712	Advanced Practicum in Individual Counseling	4
PPSY 707	Seminar in Counseling Theories	3
PPSY 714	Practicum in Supervision of Counseling — 4 for a total of	12
PPSY 715	Seminar in Counselor Supervision & Theory	3
PPSY 662	Group Dynamics & Facilitation	3
PPSY 718	Practicum in Group Facilitation	4
PPSY 665	Marriage & Family Therapy	3
PPSY 792	Externship	8

Statistics and Research (All required)

PSY 780	Introduction to Psychological Research	3
EPRE 505	Statistical Inference	3
EPRE 603	ANOVA & Other Methods of Analysis	3

Psychology of Special Populations (Minimum of 3 hours)

PSY 467	Psychology of Prejudice	3
PPSY 468	Psychology of Women	3
PPSY 623	Understanding & Counseling Minorities	3
HRS 592	Psycho-Social Aspects of Disability	3

Electives (Minimum of 12 hours)

Any electives through the University approved by the student's advisor 12

Dissertation

PPSY 797	Doctoral Proposal Research	6
PPSY 799	Doctoral Dissertation (hours for dissertation are in addition to the 90 hours required for course work)	12

Ed.D. in Counseling Psychology

This program is designed to develop individuals who will be effective counseling psychologists in community, agency or system settings. Such a program would focus primarily on attaining the objectives of: training effective persons for therapy and assessment of individuals and groups; supervising others in the helping relations; and researching and evaluating programs relative to counseling. Secondly, the objectives are: teaching and training professionals and paraprofessionals in psychology and documenting the effectiveness of these programs, and consulting in prevention and treatment models.

Prerequisite Course Areas

Students entering the doctoral program should have completed courses in the following areas:

Introductory Research
 Tests and Measurement
 Descriptive Statistics
 Developmental/Child/Adolescent/Adult Psychology
 Personality Theories
 Abnormal Psychology
 Career Development and Placement
 Group Counseling/Guidance

Students who have not completed course work in these areas are required to complete these courses as deficiency credits. The deficiencies are *not* included in the 106 hours required for the degree. All deficiency course work and PPSY 612 *must* be completed before students will be eligible for the first letter of encouragement. Students will be required to satisfactorily complete a doctoral comprehensive examination and dissertation in addition to coursework.

General Core (Minimum of 9 hours)

PSY 624	Human Neuropsychology	4
EPRE 641	Theories of Learning	4
PSY 664	Social Psychology	4
PPSY 650	Psychology of Healthy Personality	3
EPRE 730	Advanced Seminar in Growth & Development	3
PSY 742	Seminar in Perceptual Psychology	3
PSY 543	Theories of Motivation	3
	<i>or</i>	
PSY 743	Seminar in Motivation	3

Counseling Core (Minimum of 22 hours)

PPSY 617	Play Therapy	4
PPSY 618	Behavior Modification	4
PPSY 628	Behavioral Counseling	3
PPSY 655	Community Mental Health (Required)	3
PPSY 707	Seminar in Counseling Theories	3
PPSY 751	Seminar in Personality Theories	3
PPSY 758	Advanced Psychopathology: Child & Adolescent	3
	<i>or</i>	
PPSY 759	Advanced Psychopathology: Adult	3
PPSY 665	Marriage & Family Therapy	3
PPSY 657	Legal & Ethical Aspects of Psychology	3

Assessment (All required)

PPSY 675	Intelligence Assessment	4
PPSY 676	Personality Assessment	4
PPSY 679	Diagnostic Practicum	4
PPSY 782	Introduction to Rorschach Administration & Scoring	3



Statistics and Research (All required)

PSY 780	Introduction to Psychological Research	3
EPRE 505	Statistical Inference	3
EPRE 603	ANOVA & Other Methods of Analysis	3
	Statistics/Research Elective	3

Practica (Minimum of 28 hours)

PPSY 612	Introductory Practicum in Counseling (required)	5
PPSY 712	Advanced Practicum in Individual Counseling (4 hours required) Maximum	8
PPSY 718	Practicum in Group Facilitation (4 hours required) Maximum	8
PPSY 714	Practicum in Supervision of Counseling (4 hours required) Maximum	8
PPSY 715	Seminar in Counselor Supervision & Theory (required)	3
PPSY 716	Practicum in Counseling Minorities	4
PPSY 717	Practicum in Psychotherapy with Children	4
PPSY 765	Practicum in Family Therapy Maximum	8
PPSY 773	Practicum in Supervision of Group Facilitation Maximum	8
PPSY 744	Practicum in Supervision of Family Therapy Maximum	8

Psychology of Special Populations (Minimum of 3 hours)

PSY 467	Psychology of Prejudice	3
PPSY 468	Psychology of Women	3
PPSY 623	Understanding & Counseling Minorities	3
HRS 592	Psycho-Social Aspects of Disability	3

Elective (Minimum of 3 hours)

Any elective throughout the University approved by the student's advisor.

Internship

PPSY 796	Internship in Counseling Psychology A one-year (12 month, 2,000 hour) internship after all coursework is completed. 6 credits per quarter for 4 consecutive quarters.
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Doctoral Dissertation

Hours for dissertation are in addition to the required hours for course work and internship.

PPSY 797	Doctoral Proposal Research	6
PPSY 799	Doctoral Dissertation	12

Ed.D. in School Psychology

The principal goal of the doctoral program is the training of a psychologist who, in addition to possessing general practitioner skills, has developed proficiency in the areas of administration, advanced consultation and systems change, research and evaluation. Doctoral graduates, in addition to

being eligible for certification as school psychologists, may also be qualified to assume positions as administrators, therapists, university professors, educational evaluators and private consultants.

To meet the specific requirements of the doctoral degree, the program of courses listed here is required. Courses in tests and measurements, abnormal psychology, and descriptive statistics are prerequisite to the program. Students who have not had courses previously will be required to take them immediately upon entry into the program. Satisfactory completion of the program provides the candidate with the requirements for department recommendation for certification in School Psychology.

Psychological Foundations

PPSY 763	Introductory Seminar in School Psychology	3
EPRE 505	Statistical Inference	3
EPRE 641	Theories of Learning	4
EPRE 530	Human Growth & Development	4
	<i>or</i>	
EPRE 630	Child Psychology	3
PPSY 651	Theories of Personality	3
PSY 780	Introduction to Psychological Research	4
PPSY 607	Principles and Practices of Counseling Theories	5
EPRE 603	ANOVA & Other Methods of Analysis	3
PPSY 660	Systems Analysis & Consultation Theory	3
PPSY 781	Evaluation of Psychological Services	3
PSY 543	Theories of Motivation	3
	<i>or</i>	
PSY 624	Human Neuropsychology	4
	<i>or</i>	
PSY 481	Comparative Psychology	4
PSY 664	Social Psychology	4
	<i>or</i>	
SOC 610	Seminar in Social Psychology	3
	<i>or</i>	
PPSY 665	Community Mental Health	3
	Hours credit 40-43	

Assessment and Intervention

PPSY 675	Intelligence Assessment	4
PPSY 676	Personality Assessment	4
PPSY 677	Educational/Academic Assessment	4
PPSY 679	Diagnostic Practicum	4
PPSY 617	Play Therapy	4
PPSY 618	Behavior Modification	4
PPSY 612	Introductory Supervised Practice in Counseling	5
PPSY 662	Group Dynamics & Facilitation	3
PPSY 681	Systems Intervention Practicum	4
PPSY 779	School Psychology Practicum	4
	Hours credit 40	

Professional Education

PPSY 647	Psychological Aspects of Learning Disabilities	3
EDRD 617	Remedial Reading in the Elementary School	4
EDSE 602	Education & Psychology of Exceptional Children	3
	<i>or</i>	
EDSE 707	Trends in Special Education	3

EDAD 520	School Law	3
	<i>or</i>	
PPSY 657	Legal & Ethical Aspects of Psychology	4
	Hours credit 13-14	

Minority Understanding

Choose *one* course from the following: BLS 380; HISP 302; PSY 467; PPSY 468, 623 3

Supervised Field Work

PPSY 789	Internship in School Psychology	24
	Maximum (Three quarters full time, 8 hours per quarter)	

Dissertation

PPSY 797	Doctoral Proposal Research	6
PPSY 799	Doctoral Dissertation	12

Related Course Work

The student must select a minimum of 10 credits from the following:

EDSE 610	Sociological & Educational Aspects of Mental Retardation	4
PPSY 628	Behavioral Counseling	3
PPSY 665	Marriage & Family Therapy	3
PPSY 680	Special Populations Practicum	2-4
PPSY 758	Advanced Psychopathology: Child & Adolescent	3
PPSY 782	Introduction to Rorschach Administration & Scoring	3
	Hours credit 10	

Doctoral students in School Psychology are required to engage in research with a graduate Psychology faculty member for 5 hours per week (equivalent 1 quarter hour) for three quarters.

Professional Teacher Education (PTE)

Administered by the College of Education
 Location: McKee Hall
 Telephone: 351-2430
 Douglas S. Burrton, Assistant Dean

Admission

PTE consists of a set of experiences, requirements and courses applicable to all students in a teacher education program. All teacher education majors, therefore, must apply for admission to PTE.

The following are minimal requirements for application to PTE:

- 45 quarter hours of college study
- 2.30 cumulative grade point average
- Speech/hearing screening, self assessment battery, and attendance at an information seminar.

Following are requirements students must complete before being given full admission to PTE:

- Documented evidence of 40 contact hours of educational field experience (use EDFE 270, (2) or equivalent),

including a positive recommendation from the supervisor of this experience.

—Recommendation of the major department(s), including compliance with departmental minimum grade point average(s).

—Demonstration of competencies in oral English, English composition (including spelling), and mathematics computation and application.

Proficiency in English composition and in mathematics must be demonstrated by attaining a score which is equivalent to or exceeds the 75th percentile on the California Achievement Test, Level 19. Testing dates and more information are available from the PTE office. Students who wish to take this test must register at the Professional Teacher Education office at least one week prior to the test date.

Proficiency in oral English can be demonstrated by one of two methods:

—Attain a grade of B or better in COMM 110, Public Speaking I (3). This course, or an equivalent which must be specifically approved, is required of all students in a teacher education program.

—Make an oral presentation before a panel of three qualified judges. Special arrangements to demonstrate oral English proficiency using this method must be made by contacting the PTE office.

—Art majors, with an emphasis in Art Education, should check with that department for specific departmental requirements for admission to PTE, in addition to those listed here.

Note: A student must have a minimum cumulative grade point average of 2.30 in order to graduate in a teacher education program and to receive institutional recommendation for certification.

Application to the PTE program should be made at the beginning of the 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 major. If a student changes majors or adds a second major, application must be made again for each new area.

Required Courses in PTE

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

EPRE 347	Developmental Psychology for Teachers	2
EPRE 348	Learning Processes in Education (Prerequisite: EPRE 347; graduate students may substitute EPRE 542)	3
EDF 364	Foundations of Education	4
EDF 385	Law & the Classroom Teacher	2
	<i>or</i>	
EDAD 385	Law & the Classroom Teacher (Graduate students may substitute EDAD 520)	2
EDSE 408	Handicapped Students in the Elementary Classroom	4
	<i>or</i>	
EDSE 409	Handicapped Students in the Secondary Classroom	4
	<i>or</i>	
EDSE 410	Handicapped Students in Regular Classrooms (K-12).	3

(Students in K-12 certification programs — Art, Music, Physical Education — and those seeking vocational credentialing must also complete appropriate courses in their majors: ART 248, MUS 414, PE 432, VTE 430.)

(Graduate students who are experienced teachers use EDSE 506 in lieu of EDSE 408, 409 or 410.)

EDRD 420 Reading in the Secondary School 3
(Elementary Education and Special Education majors take EDRD 310).

EDLS 360,
361, 362 or
363

Clinical Experience (or departmental equivalent) 2

EDEM 410 Introduction to Educational Media 2

EDFE 444 Supervised Teaching 18

Hours credit 39-40

Note: For majors in Special Education, EDSE 408, 409 and 410 are not required.

This program is designed to meet part of the Colorado state certification requirements and the NCATE accreditation standards. Additional Colorado state certification requirements are addressed in the requirements of specific majors. Other states may have unique certification requirements. In some cases, a teacher will be granted temporary initial certification and a specified period of time to satisfy such special requirements. If you plan to seek certification in a specific state, you should write to the appropriate state department of education to determine additional certification requirements, if any, and build them into your program. The PTE office will assist you as much as possible.

Required Courses

Professional Teacher Education students must also take at least *one* course (as noted) in each of the following areas. These courses may be applied to the General Education requirements in the indicated categories or as General Education electives.

Oral Communication

d-COMM 110 Public Speaking I 3
(Fulfills oral English proficiency if a grade of at least B is earned.)

Multiculturalism (One of the following)

i-ANT 240 Anthropological Techniques in the Multicultural Classroom 3

or

i-EDEL 101 Introduction to Multiculturalism 3

or

g-EDF 388 Social & Cultural Diversity in Education & Society 3

or

i-ID 330 Freeing Curricula of Sex-Race Bias 4

or

i-SOC 345 Sociology of Minorities 4

Personal Interaction (One of following)

i-EDF 345 Foundations of Human Interaction 3

or

i-EPRE 350 Human Effectiveness in Education 3

Substitutions and Electives

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

Supervised Teaching

Application forms and information are available in the Educational Field Experiences office, McKee Hall of Education.

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 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 Council and in cooperation with academic departments. Students should be prepared to move to the area of their assignments regardless of campus or personal commitments.

The following requirements must be met before a student may report to the field assignment: Full PTE admission in the student's major field; clearance (a current TB test on file) by the UNC Health Center, and compliance with all specific departmental requirements for entering student teaching including completion of the required "methods" course(s) and appropriate clinical experiences.

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 Colorado Department of Education 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 certification application forms in the College of Education offices 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.

Reading

(See Elementary Education and Reading)

Research and Evaluation

(See Educational Psychology, Research and Evaluation)

Research Methods

(See Mathematics in College of Arts and Sciences)

School Psychology

(See Professional Psychology)

Audiology and Speech/ Language Pathology

(See Communication Disorders)

Rehabilitation

(See Human Rehabilitative Services)

Special Education

Location: McKee Hall 318

Telephone: 351-2691

Oliver P. Kolstoe, Chair

Faculty

Judith Anderson-Wright, MA, Asst. Prof.

Clifford Baker, EdD, Assoc. Prof.

George Betts, EdD, Asst. Prof.

Tony Carvajal, EdD, Prof.

Ronald Childs, EdD, Asst. Prof.

James DeRuiter, PhD, Assoc. Prof.

Carmella Gates, MEd, Asst. Prof.

Bill R. Gearheart, EdD, Prof.

Carol Gearheart, EdD, Assoc. Prof.

Judy Gilbert, EdD, Assoc. Prof.

B. Robert Gonzales, EdD, Prof.

Allen Huang, EdD, Asst. Prof.

David Kappan, MA, Assoc. Prof.

Betty Kolstoe, EdD, Prof.

Oliver P. Kolstoe, PhD, Prof.

J. Melvin Lane, EdD, Prof.

Wilbur Millslagle, EdD, Prof.

Grace Napier, EdD, Prof.

LeAnn Olson, MS, Asst. Prof.

Kaye Owens, EdD, Prof.

H. Robert Reinert, EdD, Prof.

Norman Resnick, PhD, Assoc. Prof.

Harvey Rude, EdD, Asst. Prof.

Thomas Sileo, EdD, Asst. Prof.

Lee Swanson, PhD, Assoc. Prof.

Dean Tuttle, EdD, Prof.

Elaine Uhrig, EdD, Assoc. Prof.

Mel Weishahn, EdD, Prof.

The Department of Special Education offers 12 degree programs — two undergraduate, eight master of arts, a specialist in education and a doctor of education.

Bachelor of arts degrees are offered in Mental Retardation (EMH), with emphasis areas available in Secondary EMH, Moderately Mentally Handicapped and Severe/Profound Mentally Handicapped and in Acoustically Handicapped (AH).

Master of Arts degrees are offered in Acoustically Handicapped, Mentally Handicapped, Physically Handicapped (PH), Socially and Emotionally Disturbed (ED), Learning Disabilities (LD), Visually Handicapped (VH), Multihandicapped (MH) and Talented and Gifted.

All degree programs except the undergraduate AH program (which requires the fifth year) and the Gifted program for

which Colorado has no certification, lead to certification as a teacher. Master's degrees are required in Colorado to teach in the PH, ED, LD, VH and MH areas.

Typically, as an undergraduate in our department at UNC, you will have a double major in Special Education and regular education, either elementary or secondary. You will then be prepared to teach in regular or special classrooms (resource or self-contained) in a variety of public, private, institutional school or clinical settings.

A special five-year program can enable you to complete an undergraduate degree and a master's degree where this degree is required for certification. As a master's graduate you are eligible for both teaching and supervisory jobs in Special Education.

Job opportunities in Special Education are excellent. Graduates are employed throughout the United States and many foreign countries, and are in especially strong demand throughout the western United States.

The Special Education Department at UNC is one of the largest in the nation. It is the only Special Education department in a six-state region that offers degree programs in all areas of exceptionality. The department has 27 full-time faculty. Special programs associated with the department include the Summer Enrichment Program for the Gifted and Talented, the Kephart Memorial Child Study Center, and an annual symposium in Aspen, Colorado featuring renowned speakers.

The department also administers a special demonstration classroom for severely disturbed children, and works cooperatively with the Laboratory School on campus and public schools in providing practicum sites and services to children in all areas of exceptionality. Numerous experiences with exceptional students are required in the programs.

Faculty in the department are nationally recognized, have published in their respective areas, present papers at prestigious conferences and have many of their publications translated into several foreign languages. Numerous program and research grants provide support for professional development and student scholarships at the graduate level.

Undergraduate Programs In Special Education

The Special Education Department offers two majors at the undergraduate level: one in the area of Mental Retardation and the other in the area of Acoustically Handicapped. The major in Mental Retardation allows the student to be eligible for a K-12 teaching certificate in Educable Mentally Handicapped (EMH). The major in Acoustically Handicapped is a preprofessional program that leads to the bachelor of arts degree only. Certification in the Acoustically Handicapped areas is completed in the fifth year at the master's level.

Junior and senior students may take course work in the areas of teaching the visually handicapped, physically handicapped and educationally handicapped (emotional disturbance and learning disabilities). This course work may be used for certification in these special areas of teaching when all requirements for certification are met at the master's level.

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 accep-

tance is based upon: documented experience working with handicapped children at least 50 contact clock hours; positive letters of recommendation from persons who supervised and/or evaluated the contact with handicapped children; grade point average of at least 2.3.

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 area 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 area of Mental Retardation there is only one certification program: Educable Mentally Handicapped, K-12. Students who major in Mental Retardation and seek endorsement in EMH may, in addition to the major, select an area of emphasis.

The areas of emphasis available are: Secondary Educable Mentally Handicapped, Moderately Mentally Handicapped and Severe/Profound Mentally Handicapped. It is advisable that students seeking EMH endorsement also select a second major in Elementary Education.

Students who have majored in Mental Retardation can, in their last quarter, apply for admission to the master's degree program in either Learning Disabilities, Emotionally Disturbed (both of which lead to Colorado certification in educationally handicapped), Physically Handicapped or Multi-Handicapped. The master's degree program in these areas will take approximately three to four quarters, depending on the area selected. For further information on this option, contact the Chairman of the Department of Special Education.

Core Requirements (EMH Certification Program)

EDSE 100	Education of Exceptional Children	3
EDSE 250	Structure of Language	3
EDSE 302	Counseling Parents of Exceptional Children	3
EDSE 304	Introduction to Measurement of the Handicapped	3
EDSE 305	Education Prescription & Programming for Exceptional Children	4
EDSE 310	Introduction to Mental Retardation	4
EDSE 311	Education of the Moderately Mentally Handicapped	4
EDSE 412	Curriculum Development & Methodology for Mentally Retarded: Elementary Level 4	
EDSE 417	Curriculum Development & Methodology for the Educable Mentally Handicapped: Secondary Level	4
EDSE 421	Introduction to Classroom Management	2
EDRD 310	Improvement of Instruction in Reading in the Elementary School	4
ART 348	Art for the Handicapped	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 47

Note: EDSE 309 requires 30 hours of in-classroom field experience. Check with advisor.

Secondary Educable Mentally Handicapped Emphasis

Required Courses

EDSE 417	Curriculum Development & Methodology for the Educable Mentally Handicapped: Secondary Level	4
VTE 310	Vocational Education Foundations	3
VTE 410	Cooperative Education & Coordination Techniques	3
VTE 430	Vocational Education for Learners with Special Needs	3
		Hours credit 13

Moderately Mentally Handicapped Emphasis

Required Courses

EDSE 311	Education of the Moderately Mentally Handicapped	4
EDSE 312	Seminar: Teaching the Moderately Mentally Handicapped	2
EDSE 414	Problems in Teaching Moderately Mentally Handicapped Children	4
EDSE 415	Vocational Training for Moderately Mentally Handicapped	4
		Hours credit 14

Severe/Profound Mentally Handicapped Emphasis

Required Courses

EDSE 311	Education of the Moderately Mentally Handicapped	4
EDSE 312	Seminar: Teaching the Moderately Mentally Handicapped	2
EDSE 414	Problems in Teaching Moderately Mentally Handicapped Children	4
EDSE 415	Vocational Training for Moderately Mentally Handicapped	4
EDSE 416	Education of the Severe & Profound Mentally Handicapped	4
EDSE 418	Clinical Experiences with the Severe & Profound Mentally Handicapped	1-18

Electives

Six hours or more may be selected from the following courses:

EDSE 320	Introduction to the Education of Socially & Emotionally Disturbed	3
EDSE 326	Introduction to Teaching Learning Disabled Children	3
EDSE 330	Care & Pathology of the Physically Handicapped	3
EDSE 350	Pathology & Introduction to the Hearing Impaired	3
EDSE 440	Survey of Education of Visually Handicapped	3

Professional Teacher Education

Students planning to use this major as a certification program for teaching must complete the following Professional Teacher Education program. Please note the PTE program which accompanies this major deletes EDSE 408, 409 and 410. The following courses are required.

COMM 110	Public Speaking I	3
EDEL 101	Introduction to Multi-culturalism	3
EPRE 347	Developmental Psychology for Teachers	2
EPRE 348	Learning Processes in Education	3
EDF 364	Foundations of Education	4
EDF 385	Law & the Classroom Teacher	2
EDEM 410	Introduction to Educational Media	2
EDFE 444	Supervised Student Teaching (both elementary & secondary levels in Special Education)	18-36



Acoustically Handicapped Major

The bachelor of arts is preprofessional and does not complete all requirements for certification in teaching the 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.

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 the 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 McKee 318 for specific information.

Students must complete the course work necessary for certification in Early Childhood, Elementary or a specific area of Secondary Education, in addition to the courses for Acoustically Handicapped.

Required Courses

EDSE 100	Education of Exceptional Children	3
EDSE 250	The Structure of Language	3
CMDS 260	Introduction to Phonetics	3
CMDS 265	Acoustics of Speech	3
CMDS 270	The Structure & Pathology of Auditory & Vestibular Systems	3
EDSE 302	Counseling Parents of Exceptional Children	3
EDSE 304	Introduction to Measurement of the Handicapped	3
EDSE 309	Introduction to Special Education Student Teaching	2
EDSE 350	Pathology & Introduction to the Hearing Impaired	3
EDSE 356	Introduction to Manual Communication Skills	3
EDSE 357	Introduction to Hearing Aids & Amplification Systems	3
EDSE 358	Auditory Training & Speech reading	4
CMDS 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 & 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 63

Note: All electives must be approved by the student's advisor.

Non-Departmental Major

Early Childhood

—Meet all General Education requirements (minimum 60 quarter hours). See

General Education in this Bulletin.

—Meet all Elementary Education requirements (minimum 50 quarter hours); see Elementary Education in this Bulletin.

—Meet all Professional Teacher Education requirements (minimum 13 quarter hours); see PTE in this Bulletin.

—Meet all requirements for undergraduate Acoustically Handicapped courses (minimum 60 quarter hours). See foregoing section.

—Meet all Early Childhood Education course requirements (minimum 24 quarter hours). See Early Childhood Education in this Bulletin.

Elementary Education

—Meet all General Education requirements (minimum 60 hours). See General Education in this Bulletin.

—Meet all Elementary Education requirements (minimum 50 quarter hours). See Elementary Education in this Bulletin.

—Meet all Professional Teacher Education requirements (minimum 13 quarter hours); see PTE in this Bulletin.

—Meet all undergraduate Acoustically Handicapped course requirements (minimum 63 quarter hours). See foregoing section.

Secondary Education

—Meet all General Education requirements (minimum 60 quarter hours). See General Education in this Bulletin.

—Meet all undergraduate Acoustically Handicapped requirements (minimum 63 quarter hours). See foregoing section.

—A specific secondary major must be approved by an advisor in the Acoustically Handicapped area.

Visually Handicapped Concentration

The teacher training program leading to an endorsement to teach visually handicapped children is offered at the graduate level. (See Graduate Programs in this section). 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 in addition to the student's declared major.

The area of concentration in the education of the 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
EDSE 444	Adaptation in Recreation & Physical Education for the Visually Handicapped	3

With the consent of an assigned advisor in the Visually Handicapped area, a qualified student may take 12 or more additional hours of 500 level graduate courses.

Although this area of concentration does not lead to certification at the undergraduate level, completion of these courses on the undergraduate level allows for more electives on the graduate level, or even inclusion in the O&M and/or SPHB programs.

Graduate Programs In Special Education

The Special Education Department offers several majors at the graduate level, including the master of arts degree in the following areas:

- Teaching the Acoustically Handicapped
- Mentally Handicapped
- Multihandicapped
- Physically Handicapped
- Socially and Emotionally Disturbed
- Talented and Gifted
- Visually Handicapped

The doctoral degree in Special Education is offered with major emphases in:

- University Teaching
- Special Education Administration Research

M.A. In Special Education: Teaching the Acoustically Handicapped

Required Courses

EDSE 556	Advanced Manual Communication Skills	3
CMDS 575	Pediatric Audiology (or equivalent)	3
EDSE 605	Appraisal of Exceptional Children	5
EDSE 606	Practicum in Appraising Exceptional Children	4
EDSE 626	Behavior Management in the Classroom	3
EDSE 659	Seminar in Education of the Hearing Impaired	3
EDSE 651	Advanced Problems in Speech for the Hearing Impaired	3
EDSE 652	Linguistic Approach to Language for the Hearing Impaired	3
EDSE 654	Practicum with the Hearing Impaired K-12	15
HRS 690	Counseling the Handicapped (or equivalent)	3
EPRE 600	Introduction to Graduate Study and Research	3

The University of Northern Colorado offers a continual five-year program which includes a bachelor of arts in Early Childhood, Elementary or Secondary Education, and a master of arts degree in the area of the Acoustically Handicapped. The program is designed to meet the needs of the Colorado State Department of Education and the Council on Education for the Deaf. The bachelor of arts degree is developed during the first four years of the program. Please refer to the undergraduate program description in this Bulletin.

All transfer graduate students must comply with the Professional Teacher Education requirements for the area of Acoustically Handicapped. Graduate students will compete for openings with qualified sophomores and juniors entering the program at the same time.

Due to the large number of students desiring admission to the UNC graduate program, the Department of Special Education finds it necessary to restrict enrollment so that our faculty can provide the individual attention so necessary for training in this field.

Typically, the duration of the program should be three to four quarters for a graduate of the University of Northern Colorado undergraduate program. This period of time in the program includes a quarter full-time practicum in a public, residential or day-school program within Colorado. Practicum experience at both the elementary and secondary levels is required for all students.

Admission Requirements for the M.A. Degree Program

—Admission to the Graduate School is a minimum requirement for application to this program.

—The applicant must successfully complete B.A. level requirements in elementary or secondary education equivalent to those of UNC.

—The student must also complete the following:

Write a letter of intent stating your future goals as a teacher of the hearing impaired. State your major area of interest (pre-school, elementary or secondary). Enclose this letter with your application.

Two letters of recommendation from professors in your undergraduate program are required. Letters must come from professors in your major field of study, not necessarily the acoustically handicapped. These letters must be received within the same time period as your application. Your application cannot be processed until these letters are received. Letters of recommendation should be addressed to: Director of Acoustically Handicapped Program, Special Education Department, McKee Hall 318, University of Northern Colorado, Greeley, Colorado 80639.

Enclose a copy of your experience and observation hours accumulated during your undergraduate work and/or on the job. All forms must be signed by the supervisor for each experience, if possible.

Retention Requirements in the M.A. Degree Program in Acoustically Handicapped

—Maintain a 3.0 GPA for retention in the UNC Graduate School and the Acoustically Handicapped program.

—Satisfactorily complete preprofessional responsibilities listed in the undergraduate program section of this Bulletin for majors in Acoustically Handicapped.

—Satisfactorily complete the written comprehension examination.

—Submit, the first day of classes each quarter, the "grade report" from the previous quarter to be placed in individual file.

—At the end of each quarter in the program, the student's progress is considered by the faculty admissions committee. Accomplishments in theory and practice, relationship with students and others, and general development are considered. The Acoustically Handicapped faculty reserve the right to place on probation, or require withdrawal from the program, any student who, in their professional judgement, fails to satisfy requirements of scholarship, performance or personal suitability.

An Alternative Non-Certified Master's Degree in the Area of Acoustically Handicapped

This program is designed for teachers who have completed training and certification in the area of Acoustically Handicapped. Its primary goal is to provide an advanced degree. The program can be completed during summer school and will generally be designed around the graduate year of the five year master's program.

M.A. In Special Education: Teaching the Mentally Handicapped

Required Courses

EDSE 412	Curriculum Development & Methodology for Mentally Handicapped: Elementary Level	4
EDSE 417	Curriculum Development & Methodology for Mentally Handicapped: Secondary Level	4
CMDS 562	Language Characteristics of Exceptional Children	3
EDSE 602	Education & Psychology of Exceptional Children	5
EDSE 604	Principles & Practices of Measurement of the Handicapped	3
EDSE 605	Appraisal of Exceptional Children	5
EDSE 609	Basic Concepts of Mental Retardation	4
EDSE 610	Sociological & Educational Aspects of Mental Retardation	4
EDSE 611	Psychology Aspects of Mental Retardation	4
EDSE 612	Advanced Curriculum Development	4
EDSE 614	Practicum with Mentally Handicapped K-12 maximum	15
EDSE 626	Behavior Management in the Classroom	3
EPRE 600	Introduction to Graduate Study & Research	3

Elective Courses

EDSE 302	Counseling Parents of Exceptional Children	3
EDSE 311	Education of the Moderately Mentally Handicapped	4
EDSE 312	Seminar: Teaching the Moderately Mentally Handicapped	2
EDSE 330	Care & Pathology of the Physically Handicapped	3
EDSE 350	Introduction to the Hearing Impaired	3
EDSE 414	Problems in Teaching Moderately Mentally Handicapped Children	4
EDSE 415	Vocational Training for Moderately Mentally Handicapped	4
EDSE 440	Survey of Education of Visually Handicapped	3
HRS 590	Introduction to Rehabilitation Counseling	3
EDSE 603	Administration & Supervision of Special Education	3
EDRD 617	Remedial Reading in the Elementary School	4
EPRE 530	Human Growth & Development	4
PPSY 558	Abnormal Psychology	3
PPSY 655	Community Mental Health	3
MUS 414	Music for Children with Learning Disabilities	3
VTE 610	Foundations of Vocational Education — Advanced Seminar	3
VTE 612	Programs & Processes in Vocational Education	3
VTE 430	Vocational Education for Learners with Special Needs	3

Hours credit (minimum) 45

The master's program in Teaching the Mentally Handicapped is a three quarter program for students who are fully certified in some area of education. For students holding non-teaching degrees in a related area without teacher certification, an additional two quarters will be required to include basic certification requirements and related field experience.

Students without a teaching certificate must complete the PTE requirements. Students on a non-degree certification program must have a planned approved program filed with the College of Education and the Department of Special Education prior to application for certification or endorsement.

Note: EDSE 614 Practicum with the Mentally Handicapped, must be applied for within the first two weeks of the quarter previous to the one in which the graduate student plans to do this practicum.

M.A. In Special Education: Teaching Physically Handicapped Children

Required Courses

EDSE 330	Care & Pathology of the Physically Handicapped	3
EDSE 532	Problems of Teaching the Physically Handicapped	3
EDSE 530	Severely Physically Disabled & Other Health Impaired	1
EDSE 632	Language Development & Disorders of the Learning Handicapped	3
EDSE 602	Education & Psychology of Exceptional Children	3
EDSE 605	Appraisal of Exceptional Children	5
EDSE 609	Basic Concepts of Mental Retardation	4
EDSE 631	Advanced Problems in Teaching Children with Physical Defects	3
EDSE 633	Seminar in Crippled & Other Health Impaired	3
EDSE 634	Practicum with Physically Handicapped K-12	3-15
EPRE 600	Introduction to Graduate Study & Research	3

Elective Courses (Strongly Recommended)

EDSE 311	Education of the Moderately Mentally Handicapped	4
EDSE 320	Introduction to the Education of Social & Emotionally Disturbed Children	3
EDSE 326	Introduction to Teaching Learning Disabled Children	3
EDSE 404	The Resource Program Teacher	3
EDSE 603	Administration & Supervision of Special Education	3
EDSE 626	Behavior Management in the Classroom	3
EDRD 612	Reading in the Primary Grades	3
	<i>or</i>	
EDRD 613	Reading in the Intermediate Grades	3
PE 432	Adapted Physical Education	3

Total hours credit (minimum) 45

When a student enters the master of arts program without teacher certification from UNC, he/she is required to add the program course requirements listed under Professional Teacher Education, plus three methods courses, one of which

must be a course in the teaching of reading. Students must either have field experiences or student teaching with regular students or obtain this experience while pursuing the master's degree.

M.A. In Special Education: Teaching Socially and Emotionally Disturbed Children

Students applying for admission to the master's program in E.D. will be selected according to the following criteria:

- Two years of teaching experience or equivalent.
- A grade average of 2.70 or above on the most recent 100 quarter hours of A, B, C, D, F grades.
- A minimum of two letters of recommendation from previous employers.
- A statement of philosophy and goals of the applicant in relation to the needs of the field.
- A personal interview, if possible.

Acceptance or rejection of an applicant will be made after an evaluation of the above criteria.

The master's program in E.D. is a four-quarter program for students who are fully certified in some area of education. For students holding non-teaching degrees in a related areas without teacher certification, an additional two quarters will be required to include basic certification requirements and related related field experiences.

EDSE 625 Practicum with the Socially and Emotionally Disturbed (final quarter of the program) must be applied for within the first two weeks of the quarter previous to the quarter the student plans to do the practicum. *Exception:* Application for fall quarter practicum must be made during the previous spring quarter.

Students who are required to take a 10-15 hour practicum will not be able to complete their final quarter (practicum) during the summer quarter. Practicum experiences at both the elementary and secondary levels are required for all students.

Evaluation of the student's professional potential will be an on-going process throughout the program. Continuation in the program will be based on multiple criteria such as faculty interview, professional recommendations, recommendations of the advisor and other departmental faculty, academic ethics and potential for teaching E.D. children. The multiple criteria approach does not assume that each of these factors carry equal weight; any one factor might well outweigh all others.

The program consists of the required courses and electives agreed upon by the student and advisor.

Required Courses

EDSE 632	Language Development & Disorders of the Learning Handicapped	3
EPRE 600	Introduction to Graduate Study	3
EDSE 602	Education & Psychology of Exceptional Children	5
EDSE 605	Appraisal of Exceptional Children	5
EDSE 606	Practicum in Appraising Exceptional Children	4
EDSE 608	Directed Case Study with ED/LD Children	4
EDSE 609	Basic Concepts of Mental Retardation	4
EDSE 620	Teaching Strategies & Resources for Learning Disabled & Emotionally Disturbed	3

EDSE 624	Seminar in Education of Emotionally Disturbed & Learning Disabled	3
EDSE 626	Behavior Management in the Classroom	3
EDSE 627	Learning & Development Theories Applied to Emotionally Disturbed/Learning Disabled Persons	3
EDRD 617	Remedial Reading in Elementary School	4
	<i>or</i>	
EDRD 627	Remedial Reading in Secondary School	4
EDSE 667	Methods of Teaching the Learning Disabled	4
EDSE 665	Methods of Teaching Socially Emotionally Maladjusted	4
EDSE 623	Sociological & Cultural Aspects of Socially & Emotionally Disturbed Children	3
EDSE 625	Practicum with Socially & Emotionally Disturbed K-12 (maximum)	15
	<i>An Area of Emphasis is available in Severe Learning and Behavior Disorders. The following courses are taken in lieu of selected, required courses. Consultation with an advisor is mandatory.</i>	
EDSE 666	Methods for Severe Learning & Behavior Disordered Children	4
EDSE 628	Practicum with Severe Learning & Behavior Disordered K-12 (maximum)	15
	Prerequisite courses represent a body of knowledge that students may have acquired prior to entering the program. If not, prerequisites may be met during the program by any one of the following:	
	Successful completion of the course.	
	By examination.	
	By equivalent course.	
EDRD 612	Reading in the Primary Grades	3
	<i>or</i>	
EDRD 613	Reading in the Intermediate Grades	3
EDEL 620	Mathematics in the Elementary School	3
EDSE 320	Introduction to the Education of Socially & Emotionally Disturbed Children	3
EDSE 326	Introduction to Teaching Learning Disabled Children	3
EDSE 421	Introduction to Classroom Management	3
	Total hours credit (minimum) 45	

Elective courses (strongly recommended)

EDRD 650	Remedial Reading Case Study (Consent of instructor)	5
EPRE 540	Principles of Learning	4
PPSY 607	Principles & Practices of Counseling Theories	5
PPSY 558	Abnormal Psychology	3
PSY 624	Human Neuropsychology	4
EPRE 630	Child Psychology	3
EPRE 635	Psychology of Individual Differences	3
EPRE 641	Theories of Learning	4
PPSY 647	Psychological Aspects of Learning Disabilities	3
PPSY 650	Psychology of the Healthy Personality	3
PPSY 655	Community Mental Health	3
MUS 414	Music for Students with Special Needs	3
SOC 415	The Sociology of Child Development	3
SOC 645	Seminar in the Sociology of Mental Health & Illness	3

M.A. In Special Education: Learning Disabilities

Students applying for admission to the master's program in L.D. will be selected according to the following criteria:

- Two years of teaching experience or equivalent.
- A grade average of 2.70 or above on the most recent 100 quarter hours of A, B, C, D, F grades.
- A minimum of two letters of recommendation from previous employers.
- A statement of philosophy and goals of the application in relation to the needs in the field.
- A personal interview, if possible.

Acceptance or rejection of an applicant will be made after an evaluation of the above criteria.

The master's program in L.D. is a four-quarter program for students who are fully certified in some area of education. For students holding non-teaching degrees in a related area without teacher certification, an additional two quarters will be required to include basic certification requirements and related field experiences.

EDSE 629 Practicum with Learning Disabled Children (final quarter of the program) must be applied for within the first two weeks of the quarter previous to the quarter in which the student plans to do the practicum. Exception: application for fall quarter practicum must be made during the previous spring quarter. Practicum experiences at both the elementary and secondary levels are required for all students.

Evaluation of the student's professional potential will be an on-going process throughout the program. Continuation in the program will be based on multiple criteria such as: faculty interview, professional recommendations, recommendations of the advisor and other departmental faculty, academic ethics and potential for teaching L.D. children. The multiple criteria approach does not assume that each of these factors carry equal weight; any one factor might well outweigh all others.

The program consists of the required courses and electives agree upon by the student and advisor.

Required Courses

EPRE 600	Introduction to Graduate Study	3
EDSE 602	Education & Psychology of Exceptional Children	3
EDSE 605	Appraisal of Exceptional Children	5
EDSE 606	Practicum in Appraising Exceptional Children	3
EDSE 608	Directed Case Study with ED/LD Children	4
EDSE 609	Basic Concepts of Mental Retardation	4
EDSE 620	Teaching Strategies & Resources for Learning Disabled & Emotionally Disturbed	3
EDSE 624	Seminar in Education of Emotionally Disturbed/Learning Disabled	3
EDSE 626	Behavior Management in the Classroom	3
EDSE 627	Learning & Developmental Theories Applied to Emotionally Disturbed/Learning Disabled Persons	3
EDSE 629	Practicum with Learning Disabled Children K-12 (maximum)	15
EDSE 632	Language Development & Disorders in Emotionally Disturbed & Learning Disabled Children	3

EDSE 665	Methods of Teaching Socially Emotionally Maladjusted	4
EDSE 667	Methods of Teaching the Learning Disabled	4
	<i>or</i>	
EDRD 627	Remedial Reading in the Secondary School	4

An *Area of Emphasis* is available in Severe Learning and Behavior Disorders. The following courses are taken in lieu of selected required courses. Consultation with an advisor is mandatory.

EDSE 666	Methods of Teaching Severe Learning & Behaviorally Disturbed Children & Youth	4
EDSE 628	Practicum with Severely Emotionally Disturbed & Learning Disabled Children K-12 (maximum)	15

Prerequisite courses represent a body of knowledge student may have acquired prior to entering the program. If not, prerequisites may be met during the program by any of the following:

- Successful completion of the course.
- By examination.
- By equivalent course.

EDSE 320	Introduction to the Education of Socially & Emotionally Disturbed Children	3
EDSE 326	Introduction to Teaching Learning Disabled Children	3
EDSE 421	Introduction to Classroom Management	3
EDRD 612	Reading in the Primary Grades	3
	<i>or</i>	
EDRD 613	Reading in the Intermediate Grades	3
EDEL 620	Mathematics in the Elementary School	3
	Total hours credit (minimum)	45

Elective Courses (Strongly Recommended)

EDRD 650	Remedial Reading Case Study (Consent of instructor)	5
CMDS 663	Language Disorders in Children II	3
EPRE 530	Child & Adolescent Psychology	3
EPRE 540	Principles of Learning	4
PSY 624	Human Neuropsychology	4
EPRE 630	Child Psychology	3
EPRE 635	Psychology of Individual Differences	3
EPRE 641	Theories of Learning	4
PPSY 647	Psychological Aspects of Learning Disabilities	3
MUS 414	Music for Students with Special Needs	3
SOC 415	The Sociology of Child Development	3

M.A. In Special Education: Teaching the Visually Handicapped

Students entering the master's program in V.H will be selected according to the following criteria:

- GPA of 2.7 or better in the last 100 hours of undergraduate course work.
- Teaching certificate in any area. Students without teaching certification may complete work in any field at UNC prior to entering the V.H. program.
- Work experience appropriate to the area is desirable.
- Promise of academic achievement.
- References.

For the basic degree in Education of the Visually Handicapped, a 60-hour minimum is required. In addition to courses in the V.H. core, 9 hours in SPHB must be taken. For students enrolling with a secondary teaching certificate, up to 3 elementary courses may be required. Those enrolling with elementary education certification may have a secondary course required. Students may enter any quarter.

Required Courses

EPRE 600	Introduction to Graduate Study & Research	3
EDSE 604	Principles & Practices of Measurement of the Handicapped (Section for V.H. majors)	3
EDSE 602	Education & Psychology of Exceptional Children*	3
EDSE 605	Appraisal of Exceptional Children (Section for V.H. majors)	5
Take one of the following:*		
EDSE 302	Counseling Parents of Exceptional Children	3
	<i>or</i>	
HRS 690	Counseling the Handicapped	3
	<i>or</i>	
HRS 692	Psychological Aspects of Disability	3
EDSE 443	Teaching Daily Living for the Visually Handicapped*	2
EDSE 549	Introduction to the Severely/Profoundly Handicapped Blind*	3
EDSE 543	Braille & Other Communication Skills for V.H. I*	3
EDSE 544	Media & Methods for V.H. I*	3
EDSE 545	Media & Methods for V.H. II*	3
EDSE 546	Principles of Orientation & Mobility for V.H.*	3
EDSE 641	Structure & Function of the Eye*	3
EDSE 642	Low Vision & Its Educational Implications*	3
EDSE 643	Braille & Other Communication Skills II*	3
EDSE 670	Practicum with Visually Handicapped K-12* (maximum)	15

Note: Each course marked with an * is required for endorsement to teach V.H. children. Also, practicum sites are often located outside Greeley. Students are responsible for providing their own transportation.

Electives (or any other courses, with advisor approval)

EDSE 320	Introduction to Education of Socially & Emotionally Disturbed Children	3
EDSE 326	Introduction to Teaching Learning Disabled Children	3
EDSE 330	Care & Pathology of the Physically Handicapped	3
EDSE 350	Introduction to Hearing Impaired	3
EDSE 440	Survey of Education of Visually Handicapped	3
EDSE 441	Listening Skills for Learning	3
EDSE 442	Rehabilitation Teaching for the Visually Handicapped	3
EDSE 444	Adaptation in Recreation & Physical Education for the Visually Handicapped	3
EDSE 503	The Multihandicapped	3
EDSE 505	Curriculum for the Multihandicapped	3

EDSE 562	Language Characteristics of Exceptional Children	3
HRS 590	Introduction to Rehabilitation Counseling	3
EDSE 603	Administration & Supervision of Special Education	3
EDSE 609	Basic Concepts of Mental Retardation	4
EDSE 626	Behavior Management in the Classroom	3
EDSE 645	Teaching Reading with the Optacon	3

Additional Programs

With *special program application* and *program consent*, students may elect an additional area of emphasis either in Orientation and Mobility and/or in Severely/Profoundly Handicapped Blind. One or two extra quarters may be required. With *special area consent*, both areas of emphasis can be acquired through a six-quarter, 90 quarter hour program.

Students may not enroll in either the Orientation and Mobility Program or the Severely and Profoundly Handicapped Blind Program until they have been approved by the Area Admissions Committee.

Program In Orientation and Mobility

Students earning certification in Orientation and Mobility through the American Association of Workers for the Blind must complete the following additional requirements. Students must enter Fall or Spring quarters. Total programs are 75 hours minimum, including V.H. core requirements.

Required Courses

EDSE 547	Independence in Orientation & Mobility	3-5
EDSE 548	Advanced Independence in Orientation & Mobility	3-5
EDSE 647	Applied Methodology in Orientation & Mobility	2-4
EDSE 672	Practicum with Visually Handicapped Orientation & Mobility K-12	12

Practicum sites are often located elsewhere than in Greeley. Students are responsible for providing their own transportation.



Program in Severely and Profoundly Handicapped Blind (SPHB)

Students desiring training in SPHB must complete the following requirements in addition to the Visually Handicapped core. Students must enter Fall or Spring quarters. The total program is for five quarters, 75 hours minimum.

Required Courses

EDSE 541	Early Developmental Needs of Severely/Profoundly Handicapped Blind	3
EDSE 542	Meeting Educational Needs of Severely/Profoundly Handicapped Blind Child	3
EDSE 549	Survey of Severely/Profoundly Handicapped Blind	3
EDSE 640	Academic, Prevocational & Vocational Strategies for Severely/Profoundly Handicapped Blind	3
EDSE 671	Practicum in Severely/Profoundly Handicapped Blind	6-12
EDSE 649	Assessment of Severely/Profoundly Handicapped Blind	3

One additional course required for SPHB majors, and proficiency in manual communication through course work or proficiency test.

Practicum sites are often located elsewhere than in Greeley. Students are responsible for providing their own transportation.

Orientation and Mobility and Severely/Profoundly Handicapped Blind

Students desiring training in VH:O&M/SPHB must complete all requirements listed for the Visually Handicapped core and for the Orientation and Mobility and Severely/Profoundly Handicapped Blind programs. The total program is a minimum of 90 quarter hours.

M.A. In Special Education: Multihandicapped

Required Courses

EDSE 503	The Multihandicapped	3
EDSE 504	Practicum for the Multihandicapped (maximum)	15
EDSE 505	Curriculum for the Multihandicapped	3
EDSE 510	Severely Intellectually Handicapped	1
EDSE 520	Severely Emotionally Disturbed	1
EDSE 530	Severely Physically Disabled & OHI	1
EDSE 540	Introduction to the Severely/Profoundly Handicapped Blind	1
EDSE 550	Low Functioning Acoustically Handicapped	1
EPRE 600	Introduction to Graduate Study & Research	3
	Elective courses	16
	Total hours credit (minimum)	45

Students will be required to be certified and/or endorsed in a minimum of two emphasis areas from the following:

Physically Handicapped
Mentally Handicapped
Emotionally Disturbed
Acoustically Handicapped
Visually Handicapped
Learning Disabilities

These endorsement areas are in addition to the Multihandicapped courses and will be planned with an advisor in that speciality. If the student enters the program with a major or endorsement in some area of Special Education, then only one additional endorsement is required.

Concentration will be planned with the advisor in harmony with previous experience and career goals.

A student will be advised to carefully check his/her Bulletin for all requirements and policies of the Graduate School.

Program Requirements

—A teaching certificate (or the program must be completed while working on the Multihandicapped degree or certification); a bachelor's degree or concentration in some area of Special Education; one year's teaching experience or equivalent as an aide, volunteer worker, etc.

M.A. In Special Education: Teaching the Talented and Gifted Student

The master's degree in Special Education: Teaching the Talented and Gifted Student is designed to train teachers on the elementary and secondary levels to work with talented and gifted students in order to help them develop to their full potential.

Students entering the master's program in Talented and Gifted must meet the following requirements: possess a current teaching certificate; have at least two years teaching experience; show promise or academic achievement including a grade point average of 3.0 on the last 100 hours of instruction; submit three written references from the most recent or current employer or immediate supervisor; submit a written goal statement; and, attend a personal interview, if possible. Acceptance or rejection of an applicant will be made after an evaluation of the above requirements is made.

The master's program in Talented and Gifted is a four-quarter program for students who are fully certified in some area of education.

EDSE 582 Practicum with Talented and Gifted Students must be applied for two quarters prior to the quarter in which he/she will be doing his/her on-campus summer practicum. Exceptions are made only with permission of the advisor. All students are required to do a 15 hour practicum in the Summer Enrichment Program. Additional practica may be included in the program.

Evaluation of the student's professional potential will be an ongoing process throughout the program. Continuation in the program will be based on multiple criteria such as: faculty interview; professional recommendations; recommendations of advisor and other departmental faculty; academic ethics; and, potential for teaching talented and gifted students.

The multiple criteria approach does not assume that each of these factors carries equal weight. Any one factor might well outweigh all others.

In addition to admission to the program and satisfactory completion of all course work, each student must pass a written comprehensive examination as well as an oral examination before he/she is allowed to graduate.

Required Courses

EPRE 600	Introduction to Graduate Study & Research	3
EDSE 580	Nature & Needs of the Talented & Gifted Student	3
EDSE 581	Methods & Curriculum for Talented & Gifted	4
EDSE 582	Practicum in Teaching Talented & Gifted (minimum)	15
EDSE 583	Research Seminar in Gifted & Talented Education	3
EDSE 584	Organization & Administration of Public School Programs for the Talented and Gifted	3
PPSY 627	Counseling Intervention & Techniques for Talented & Gifted Students	3
EDSE 506	Seminar in Mainstreaming Handicapped Students in Regular Classroom	3
EDSE 605	Appraisal of Exceptional Children	5

Electives

May be chosen from the following, including courses in selected content areas (e.g. math, science, history) and/or:

EDEC 533	Research in Child Development	3
EDEC 539	Issues in Parent Education	3
EDAD 520	School Law	3
EDRD 612	Reading in the Primary Grades	3
EDRD 613	Reading in the Intermediate Grades	3
PPSY 650	Psychology of the Healthy Personality	3
PPSY 673	Individual Tests of Intelligence	3
EPRE 570	Tests & Measurements for Educators	4
ID 425	Professional Teacher Competencies	3
ID 626	Computer Assisted Instructions	3
EDSE 562	Language Characteristics of Exceptional Children	3
SCED 674	Instructional Problems Teaching Science	3
SCED 671	Science Curriculum in the Elementary School	3
ENST 209	Energy & Environment	3
THEA 380	Children's Theater Production	3
THEA 281	Creative Drama in Education	3
SCED 675	Developing Scientific Inquiry Through Science	4
PPSY 651	Theories of Personality	3
PPSY 607	Counseling Theories	5

Total hours credit (minimum) 60

Forty-five of the 60-hour total must be taken on the UNC campus in Greeley, Colo.

Independent studies approved by the major advisor may also be included.

It is the philosophy of this program that teachers of talented and gifted students should have certain skills that are generic to the education of all children. It is also considered important to have the skills that apply to the specific population of talented and gifted students.

In addition, the philosophy of this program stresses the attainment of knowledge and skills in specific content areas germane to the particular interest of the graduate student or content areas to be taught to talented and gifted students upon the completion of the graduate student's program.

The required courses in this master's degree and the structure of the elective sequence reflect this concern with generic and specific competencies in individual content areas.

All Graduate School requirements must be met before graduation; knowing and meeting these requirements are the responsibility of the student.

All courses in this program are to be chosen in conference with the advisor, and only with the approval of the advisor.

M.A. In Elementary Education: Early Childhood/Special Education

Program Requirements

—A student holding a baccalaureate degree in an area other than elementary education must have evaluations by the College of Education, the Department of Elementary Education and Reading and the Special Education Department.

Required Courses

EDEC 533	Child Development	3
EDEC 539	Issues in Parent Education	3
EDEC 648	Psycholinguistics in Early Childhood	3
EDEC 662	Research in Early Childhood	3
EDEC 664	Seminar in Early Childhood Education	3
EDEC 667	Cultural Diversity in Childhood Education	3
EDSE 306	Identification of Handicapped & High Risk Children in Early Childhood	3
EDEC 663	Educational Assessment, Evaluation & Prescription for the Young Child	3
EDSE 616	Case Study with Handicapped Children	1-4
EDSE 617	Assessment & Methods of Teaching Intellectually Impaired Learning Disabled & Emotionally Disturbed Young Children	4
EDSE 618	Assessment & Methods of Teaching Visually & Hearing Impaired Young Children	4
EDEC 619	Practicum in Teaching Handicapped & High Risk Children in Early Childhood	5
EDSE 619	Practicum in Teaching Handicapped & High Risk Children in Early Childhood	5
EPRE 600	Introduction to Graduate Study & Research	3

—Additional requirements for students lacking appropriate background courses will be selected in consultation with the advisor before or during the student's first quarter of enrollment.

—One year of teaching experience (ages 0-8) or its equivalent is required before the degree program can be completed and the degree awarded.

Post-Master's Special Education

Administration Endorsement Program

A program to prepare Special Education administrators and leading to endorsement by the University to serve in this capacity is available. Requirements vary in relation to previous education, but basic teacher certification is a prerequisite. This program is available to those who meet the Graduate School admission requirements, have completed the master's degree, and have obtained teacher certification at either the B.A. or M.A. level. Those interested should contact the Special Education Department for specifics.

Specialist in Education Degree

A specialized program leading toward a specialist degree in education may be designed for those students with master's degrees who meet Graduate School admission requirements.

Doctor of Education Degree in Special Education

Admission to the doctoral program is dependent upon meeting Graduate School admission standards and a positive recommendation by the Special Education doctoral review committee.

When a prospective student has met general University requirements for admission, his or her application is submitted to the Special Education Department for evaluation. Additional information and materials that pertain to criteria established by the Special Education Department are required from the prospective student.

The committee reviews each application for admission to determine evidence of:

Potential for scholarship.

Relevant previous formal training at the undergraduate and/or graduate level.

Evidence of successful teaching or clinical experience with exceptional children for a minimum of two years.

Potential for leadership.

Professional commitment.

Clarity and rationality of professional and personal goals.

Potential for conceptualization and reporting research.

Each applicant must receive a positive recommendation from a majority of the doctoral review committee members to be recommended for admission to the Graduate School.

Each student, upon admission to the doctoral program, will be assigned an advisor. In consultation with this advisor, he or she should determine courses for the first quarter on campus (usually, required courses should be selected). During the first and second quarters on campus, the student and advisor in joint planning sessions should establish a tentative doctoral program. This program should be based on past experience and training and must include a statement of goals and rationale for proposed course work and educational experiences. Planning should provide for flexibility for future professional effort, but must have meaningful direction reflecting the rationale. The program, including rationale, must then be submitted to the doctoral program review board of the Special Education Department for approval. If the board is concerned with elements of the plan, it will make recommendations for revisions or additions. Enrollment in third quarter courses of the doctoral program without an approved program may lead to the inclusion of courses not ultimately approved as part of the doctoral plan.

The Ed.D. in Special Education is a flexible doctoral program with provision for major emphases in university teaching, administration or research. Major emphases are internally flexible and may be established to fit a variety of points of focus.

Core requirements for all students are:

General Special Education Component

EDSE 706	Research Seminar in Special Education	3
EDSE 707	Trends in Special Education	3
EDSE 709	Problems in Assessment in Special Education	3
EDSE 797	Doctoral Proposal Research	6
EDSE 799	Doctoral Dissertation (minimum)	18

Quantitative Component

EPRE 700	Introduction to Doctoral Research	3
EPRE 504	Descriptive Statistics	3
EPRE 505	Statistical Inference	3
One additional course which requires EPRE as prerequisite		
Total minimum		45

Requirements for University Teaching Emphasis

ID 702	The Teacher in the College Community (or approved substitute)	3
EDSE 714	Seminar: Professional Writing	3
EDSE 755	Supervised Practicum in College Teaching (3-9 credits)(minimum)	6
EDSE 705	Internship in Special Education (4-15 credits) (minimum)	12

In addition to the above, the student must select three of the following doctoral level courses for a minimum of 9 credit hours:

EDSE 711	Advanced Seminar in Mental Retardation	3
EDSE 712	Advanced Seminar in Learning Disabilities	3
EDSE 713	Advanced Seminar in Applied Behavior Analysis	3
EDSE 741	Advanced Seminar in Visually Handicapped	3
Total minimum		33

Requirements for Special Education Administration Emphasis

EDSE 603	Administration & Supervision of Special Education	3
EDSE 685	Administrative Planning & Program	3
EDSE 705	Internship in Special Education (4-15 credits minimum)	12
EDAD 610	School Finance	3
EDAD 620	School Law II	5

In addition to the preceding, the student must complete six additional credit hours of advisor-approved course work in the area of educational administration.

In addition, the student must select *two* of the following doctoral level courses for a minimum of 6 credit hours.

EDSE 711	Advanced Seminar in Mental Retardation	3
EDSE 712	Advanced Seminar in Learning Disabilities	3
EDSE 713	Advanced Seminar in Applied Behavior Analysis	3
EDSE 741	Advanced Seminar in Visually Handicapped	3
Total minimum		38

Requirements for Research Emphasis

EPRE 543	Introduction to Information Processing	3
EPRE 603	Analysis of Variance & Covariance	3
EPRE 615	Linear Models	3
EPRE 604	Advanced Experimental Design	3
EPRE 670	Evaluation Theory & Procedures	3
EPRE 713	Planning & Methodology	3
EDSE 705	Internship in Special Education	4
EDSE 622	Independent Study in Research	6
EDSE 714	Seminar: Professional Writing	3

In addition to the above courses, the student must select *three* of the following doctoral level courses for a minimum of 9 credit hours:

EDSE 711	Advanced Seminar in Mental Retardation	3
EDSE 712	Advanced Seminar in Learning Disabilities	3
EDSE 713	Advanced Seminar in Applied Behavior Analysis	3
EDSE 741	Advanced Seminar in Visually Handicapped	3
Total minimum		40

Areas of Special Interest

The student will select an area of interest (one or more) in conference with his/her advisor, from the following areas:

—Emphasis in vocational preparation of handicapped children and youth.

—Emphasis in education of preschool handicapped children.

—Emphasis in any of the categorical areas (mental retardation, gifted, learning disabilities, emotionally disturbed, visually handicapped, etc.)

—Emphasis in education of minority, ethnic and cultural groups.

—Emphasis in curriculum development.

—Emphasis in appraisal/interpretational/pupil program prescription.

—Emphasis in institutional programming and management.

—Other — as designed by the student and his/her advisor.

Candidates for the doctorate at the University of Northern Colorado must meet all requirements of the Graduate School. It is the responsibility of the student to make certain that these requirements are met, in addition to specific requirements outlined in the preceding sections.

The student is expected to engage in research during the first quarter of residency under the direction of a research advisor within the Special Education Department. This independent research should continue during the student's program at the discretion of the research advisor.

Statistics

(See Educational Psychology, Research and Evaluation, and also see Mathematics)

Vocational Home Economics

Administered by the Department of Vocational Teacher Education

Location: McKee Hall 27

Telephone: 351-2939

Jerry Moorman, Chair

Faculty

Valerie Sorensen, EdD, Assoc. Prof.

Linda Tharp, MA, Asst. Prof.

The Vocational Home Economics Program focuses on the preparation of teachers for the improvement of home and family life. Through the identification of competencies and the synthesis of concepts from a variety of areas of family concern and study such as human development, interpersonal relationships, child care and guidance, personal and family management, consumer education, housing and home furnishings, foods, nutrition, and textiles and clothing; vocational home economics teachers address individual and family-related problems and concerns.

Vocational Home Economics provides for the undergraduate preparation of individuals who desire to teach in either Consumer Homemaking or Wage Earning Home Economics programs at the secondary, post-secondary or adult level. A combination of course work and Home Economics-related work experiences enables the individual to develop the skills essential for teaching in either consumer homemaking or wage earning programs.

Program Requirements

—General Education requirements of 60 hours as specified in this Bulletin. Students are to consult with an advisor to determine courses which satisfy General Education, Professional Teacher Education and Vocational Home Economics requirements.

—Professional Teacher Education requirements as specified in this Bulletin. Courses in the major, such as EDLS 363, VTE 373, and VTE 430 satisfy a portion of the PTE requirements. See PTE section in this Bulletin.

—Completion of wage-earning hours as determined by the type of vocational credential. Types of credentials are:

Consumer-Homemaking — 2,000 hours of home-related work or 2,000 hours of paid employment in home economics-related occupations.

Multi-Occupational — 4,000 hours of occupational experience distributed among the subject matter areas of Home Economics.

Specific Skill Occupational — 4,000 hours of occupational experience directly related to the area to be taught. Check with advisor for additional information.

Required Courses

VTHE 170	Vocational Home Economics Education	2
BUS 101	Consumer Business Problems	3
CHEM 108	General Chemistry	5
CHEM 130	Introductory Organic Chemistry	5
SOC 120	Marriage & Family	4
VTHE 182	Consumer Textiles	3
VTHE 183	Clothing Consumerism	3
VTHE 184	Clothing Construction	5
VTHE 274	Personal, Family & Professional Management	4
PSY 230	Human Growth & Development	5
FND 241	Principles of Food Preparation I	4
FND 242	Principles of Food Preparation II	4
FND 250	Principles of Human Nutrition	3
	<i>or</i>	
FND 251	Nutrition I	3
FND 459	Foods: Facts & Fallacies	3
PE 262	Standard First Aid & Personal Safety	2
BIO 283	Biology & Behavior of Human Sexuality	3
VTHE 272	Living Environments I	5
VTHE 273	Living Environments II	5
VTE 290	Directed Field Experiences	4
ID 310	Effective Parenting	2
VTE 310	Vocational Education Foundations	3
EDEC 333	Development & Guidance of the Young Child	4
EDF 345	Foundations of Human Interaction	3
	<i>or</i>	
EPRE 346	Human Effectiveness in Education	3
FND 349	Meal Planning & Service	1
VTE 301	Instructional Design: Analysis & Planning	1
VTE 302	Instructional Design: Performance Objectives	1
VTE 303	Instructional Design: Classroom Evaluation	1
VTE 304	Instructional Design: Instructional Methods	1
VTE 305	Instructional Design: Media Utilization	1
VTE 107	Computer Literacy	1
EDLS 363	Clinical Experience	2
VTE 373	Preparation for Teaching Home Economics	3
VTHE 375	Teaching Child Development & Family Living	3
VTE 412	Vocational Student Organizations	2
VTE 410	Cooperative Education & Coordination Techniques	3
VTE 430	Vocational Education for Learners with Special Needs	3
VTE 474	Teaching Improvement Seminar in Vocational Home Economics	2
VTE 475	Consumer Homemaking & Wage Earning Program Development	3

College of Health and Human Services

Location: Patton House
Telephone: 351-2877
Donna M. Arlton, Dean

Programs in the College of Health and Human Services prepare students for a variety of health professions. These programs also provide a strong liberal arts and general education foundation, allowing graduates to compete successfully for career opportunities and to pursue advanced educational opportunities. Students receiving graduate degrees are especially well prepared to take leadership positions at state and national levels.

College of Health and Human Services faculty assist students in developing their potential through nurturing a sense of self-worth, an awareness of social and moral issues and a concern for the welfare of others. The faculty designs individual learning experiences to meet the needs of students.

The College contains three units; the Department of Communication Disorders, the Department of Human Services, and the School of Nursing. Programs within each unit are approved and/or accredited by appropriate organizations. Of the 43 faculty members, 27 are women; 21 have received a doctorate and 22 have received a master's degree. The faculty of the college includes 11 professors, 11 associate professors, 15 assistant professors and 6 instructors.

Clinics

Faculty and students from all programs in the college participate in health and human services clinics that provides student observation and learning experience. The clinics offer an alternative to the high cost, acute-care institutions which treat only the most seriously ill. Students and staff of the clinics also teach people to care for their own health.

The Speech-Language Pathology and Audiology Clinics, part of the interdisciplinary clinics, are fully accredited by the American Boards of Examiners in Speech-Language Pathology and Audiology (ABESPA) of the American Speech-Language Hearing Association (ASHA) to provide professional services.

The Speech-Language Pathology Clinic is located in Bishop-Lehr Hall. It provides complete assessment and treatment services for speech and language problems found within the general categories of articulation, voice, stuttering and language.

The Audiology Clinics, located in McKee Hall and Bishop-Lehr Hall, provide a full range of services related to hearing, including standard hearing assessment, special hearing tests, hearing aid evaluations, hearing aid analysis and dispensing,

speech reading/auditory training, counseling on hearing impairment, noise measurement and evaluation, ear protection from noise and other related services.

The Human Services Clinic, located in McKee Hall, provides learning experiences and services in vocational evaluation, job seeking and placement skills and independent living.

Programs in nutrition and nursing in the School of Nursing clinic, also located in McKee Hall, provide experiences in a variety of health areas. Included are nutrition assessment, health counseling, health promotion and illness prevention activities.

Department of Communication Disorders

B.A. Communication Disorders: Audiology
B.A. Communication Disorders: Speech-Language Pathology
M.A. Communication Disorders: Audiology
M.A. Communication Disorders: Speech-Language Pathology

Department of Human Services

B.S. Gerontology
M.A. Gerontology
B.S. Human Rehabilitative Services
M.A. Rehabilitation Counseling
Ph.D. Human Rehabilitation

School of Nursing

B.A. Dietetics
B.A. Food and Nutrition: Emphasis, Food Service Management
B.S. Nursing

Communication Disorders

Location: McKee Hall 29
Telephone: 351-2012
Raymond H. Hull, Chair

Faculty

Mary M. Ball, MA, Clinical Staff
Donna J. Bottenberg, MA, Asst. Prof.
Linda K. Cleeland, MA, Inst.
Kristine Cordova, MS, Inst.
Andrea M. Draizar, PhD, Asst. Prof.
Raymond H. Hull, PhD, Prof.
Rhonda E. Kaley, MS, Asst. Prof.
Dale J. Lundeen, PhD, Prof.
Vicki A. Reed, EdD, Asst. Prof.
Jean S. Smith, MS, Clinical Staff
Judy K. Underwood, PhD, Prof.

The Department of Communication Disorders offers two training programs, both with clinical orientation. The Department also houses two diagnostic and treatment clinics, the Audiology Clinic and the Speech-Language Pathology Clinic. Students majoring in areas of this department are offered the opportunity for hands-on experiences through the various clinics, centers and programs.

The training programs offered through this Department are as follows:

Audiology—The diagnosis, treatment and management of hearing disorders and related areas.

UNC offers both an undergraduate pre-professional major

in Audiology and a professional certifying master's degree program. Both are fully accredited and provide excellent training. Areas emphasized during training include:

—Diagnosis of a broad range of hearing disorders in an age range of clients from infancy through the older adult.

—Audiologic treatment of the hearing impaired, including counseling and specific treatment procedures for children and adults.

—Diagnosis for and dispensing of hearing aids and other amplification and auditory prosthetic devices.

— Consultation for and administering of noise abatement programs for industry, hearing science, school audiology and others.

This program offers extensive hands-on clinical experience through the well-equipped and accredited UNC Audiology and Aural (Re)Habilitation Clinics, and its ancillary clinics and programs in northern Colorado. The program is fully accredited for both Service and Training through the American Boards of Examiners in Speech-Language Pathology and Audiology (ASHA), and fully accredited for educational audiologists by the Colorado Department of Education (CDE).

Career opportunities include positions in hospital ear, nose and throat clinics; audiology clinics; private ear, nose and throat medical practices; rehabilitation centers; schools; industry and in private practice.

Speech-Language Pathology—This is the diagnosis and treatment of speech and language disorders.

UNC offers both an undergraduate pre-professional major and a professional certifying master's degree program. Both are fully accredited by ASHA and offer excellent training.

Areas emphasized during training include the diagnosis and treatment of disorders of articulation, voice, stuttering and language from early childhood through the older adult. Among others, the disorders range from functional to neurologically-based articulation problems, voice abuse and related pathologies, environmentally and/or organically based disorders of stuttering, language and many others.

This program offers extensive hands-on clinical experiences through the well-equipped and accredited UNC Speech-Language Pathology Clinic. The UNC program is accredited for both Training and Service by the American Boards of Examiners in Speech-Language Pathology and Audiology. It is also fully accredited by the Colorado Department of Education for certification of those who desire employment in the schools.

Career opportunities include positions in schools, hospitals, ear, nose and throat medical practices, rehabilitation clinics, and private practice.

Undergraduate Degree Programs

The Department of Communication Disorders offers comprehensive pre-professional bachelor of arts degree programs in both Speech-Language Pathology and Audiology. These programs and their associated on-campus clinics are fully accredited for *both* education and training, and professional services by the American Speech-Language-Hearing Association. Both programs are also fully accredited by the Colorado State Department of Education for certification for those who desire employment in the schools upon completion of the certified master's degree program.

Students may begin their course work early in the freshman and sophomore levels, and are offered greater concentration in academic preparation during the junior and senior years. In the sophomore year, students begin to observe clinical practices within the University of Northern Colorado's accredited

Speech-Language Pathology and Audiology Clinics. Observation at a more advanced level occurs during the junior and senior years. Advanced students are permitted to engage in supervised hands-on experiences in the clinics during the senior year.

Academic and clinical experiences at the undergraduate level provide a strong base for students as they prepare to enter their professional certifying degree programs at the master's degree level. For a broader base of knowledge and experience, undergraduate students are encouraged to double major in both Audiology and Speech-Language Pathology. The student should obtain a faculty advisor in both areas to coordinate course scheduling.

Audiology Major

A bachelor of arts degree is pre-professional 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-Language-Hearing Association, and endorsement standards for school audiology for those who wish to complete the additional requirements.

The program in Audiology is accredited for both education and training and professional services by the American Boards of Examiners in Speech-Language Pathology and Audiology (ABESPA), of the American Speech and Hearing Association (ASHA).

For students who wish to work toward entrance into the UNC graduate program, courses listed under "Other Recommended Courses" should be completed at the undergraduate level.

Clinical practica, CMDS 474, 475 and 476, are allowed by permission only at the undergraduate level.

Program Requirements

General Education requirements of 60 hours as specified in this Bulletin.



Required Courses:

EDSE 100	Education of Exceptional Children	3
CMDS 160	Introduction to Speech-Language Disorders	3
CMDS 260	Introduction to Phonetics	3
CMDS 265	Acoustics of Speech	3
CMDS 266	Speech & Language Development	3
CMDS 267	Anatomy & Physiology of Speech & Hearing	5
CMDS 270	Structure & Pathology of Auditory & Vestibular Systems	3
CMDS 274	Clinical Observation in Audiology	2
EDSE 356	Introduction to Manual Communication Skills	3
EDSE 357	Introduction to Hearing Aids & Amplification Systems	3
EDSE 358	Auditory Training & Speech Reading	4
CMDS 360	Articulation Disorders I	3
CMDS 361	Voice Disorders I	3
CMDS 364	Introduction to Clinical Practicum II	2
CMDS 370	Introduction to Audiology	3
CMDS 372	Advanced Audiology	5
CMDS 374	Advanced Observation in Audiology (Maximum)	12
CMDS 464	Clinical Practicum in Speech-Language Pathology	2
CMDS 468	Neurological Bases for Speech Language & Hearing	5
CMDS 582	School Audiology	5
ZOO 105	Human Biology	4
ZOO 156	Elements of Human Physiology-Anatomy	5
PPSY 407	Introduction to Counseling Theory	3
Other recommended courses		
CMDS 570	Adult/Geriatric Audiology & Aural Rehabilitation	3
CMDS 578	Pediatric Aural Rehabilitation	3
IAT 180	General Electricity	3
COMM 110	Public Speaking I	3
GERO 205	Introduction to Gerontology	3
HRS 290	Introduction to Human Rehabilitative Services	3

Speech-Language Pathology Major

The bachelor of arts degree is pre-professional and does not lead to certification of any type. The master of arts degree is the professional degree and enables the student to meet the academic and practicum requirements for certification by 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 2nd typing skills.

Programs in Speech-Language Pathology and Audiology are accredited for both education and training, and professional services by ASHA.

Program Requirements

General Education requirements of 60 hours as specified in this Bulletin.

Required Courses:

EDSE 100	Education of Exceptional Children	3
CMDS 160	Introduction to Speech-Language Disorders	3
CMDS 260	Introduction to Phonetics	3
CMDS 264	Introduction to Clinical Practicum I	2
CMDS 265	Acoustics of Speech	3
CMDS 266	Speech & Language Development	3
CMDS 267	Anatomy & Physiology of Speech & Hearing	5
CMDS 270	Structure & Pathology of Auditory & Vestibular Systems	3
CMDS 274	Clinical Observation in Audiology	2
EDSE 356	Introduction to Manual Communication Skills	3
EDSE 358	Auditory Training & Speech Reading	4
CMDS 360	Articulation Disorders I	3
CMDS 361	Voice Disorders I	3
CMDS 364	Introduction to Clinical Practicum II	4
CMDS 365	Language Disorders in Children I	3
CMDS 367	Research Writing in Communication Disorders	3
CMDS 370	Introduction to Audiology	3
CMDS 372	Advanced Audiology	5
CMDS 374	Advanced Observation in Audiology	2
CMDS 462	Stuttering I	3
CMDS 464	Clinical Practicum in Speech-Language Pathology (minimum)	6
CMDS 466	Neuropathologies Related to Communication Disorders	3
CMDS 467	Diagnosis in Speech-Language Pathologies	3
CMDS 468	Neurological Bases for Speech, Language & Hearing	5
CMDS 469	Introductory Laboratory in Diagnostics	2
CMDS 474	Clinical Practicum in Audiology	2

Hours credit 87

Upon completion of required observation hours, undergraduate Speech-Language Pathology majors, whether full or part time, are required to register for CMDS 464 during each quarter on campus.

Recommended PTE courses

EPRE 347	Developmental Psychology for Teachers	2
RE 348	Learning Processes in Education	3
EDF 366	Foundations of Education	4
EDF 385	Law & the Classroom Teacher	2
<i>or</i>		
EDAD 385	Law & the Classroom Teacher	2
Other recommended courses		
COMM 110	Public Speaking I	3
GERO 305	Introduction to Gerontology	3
HRS 290	Introduction to Human Rehabilitative Services	3
CMDS 578	Pediatric Aural Rehabilitation	3
EDSE 357	Introduction to Hearing Aids & Amplification Systems	3

Master of Arts Degree

Audiology Major

The Audiology Program is accredited for both education and training, and professional services by ASHA.

Following is the required program:

CMDS 468	Neurological Bases for Speech Language & Hearing	5
CMDS 474	Clinical Practicum in Audiology	2
CMDS 475	Practicum in Rehabilitative Audiology: Pediatric	2
CMDS 476	Practicum in Rehabilitative Audiology: Adult & Geriatric	2
CMDS 570	Adult/Geriatric Audiology & Aural Rehabilitation	3
CMDS 571	Hearing Science	3
CMDS 572	Noise & Noise Control	3
CMDS 573	The Auditory Mechanism	3
CMDS 574	Advanced Clinical Practicum in Audiology (maximum)	8
CMDS 575	Pediatric Audiology: Etiology & Assessment	3
CMDS 576	Electrophysiological Audiometry	3
CMDS 577	Advanced Problems in Audiology	3
CMDS 578	Pediatric Aural Rehabilitation	3
CMDS 579	Administrative Aspects of Communication Disorders	3
CMDS 580	Advanced Practicum in Aural Rehabilitation: Pediatric (maximum)	8
CMDS 581	Advanced Practicum in Aural Rehabilitation: Adult & Geriatric (maximum)	8
CMDS 582	School Audiology	5
CMDS 674	Externship in Audiology	5
CMDS 675	Differential Diagnosis of Auditory Problems	3
CMDS 678	Hearing Aids & Uses of Amplification	3
EPRE 600	Introduction to Graduate Study & Research	3

Advisement on Speech-Language Pathology courses and practicum experiences needed for certification requirements is recommended.

For those students desiring to complete certification requirements in School Audiology who do not have an adequate undergraduate background, the following additional courses are required:

PPSY 407	Introduction to Counseling Theory	3
	<i>or</i>	
CMDS 568	Counseling in Communication Disorders	3
CMDS 673	Practicum in School Audiology	2

The following courses are among those highly recommended as electives:

CMDS 361	Voice Disorders I	3
CMDS 565	Aphasia & Related Disorders of Adults	3
CMDS 567	Auditory Processing Disorders	3
CMDS 568	Counseling in Communication Disorders	3
CMDS 667	Research in Communication Disorders	3

The master's degree program in Audiology is capped in its enrollment. For information regarding admission procedures, contact the Director of Audiology, Bishop-Lehr Hall 1520.

Students applying for the master's program in Audiology will be selected according to the following criteria:

- Promise of academic achievement
- Letters of reference
- Writing skills
- Personal interview (recommended)
- Admission to the Graduate School does not guarantee

Communication Disorders Minor

The purpose of the minor in the Department of Communication Disorders is to acquaint interested students with various aspects of disorders of human communication. Minors include Audiology, the diagnosis and management of disorders of hearing; and Speech-Language Pathology, the diagnosis and management of speech and language disorders.

Students enroll in course work in both programs, and observe ongoing diagnostics and therapy in the Department's fully accredited out-patient Audiology and Speech-Language Pathology clinics. The student should consult with an advisor in Communication Disorders to plan a course sequence.

The minor does not lead to licensure or certification that would permit practice of these fields. Only the majors as listed in this Bulletin lead to licensure or certification in Audiology or Speech-Language Pathology.

Required Courses

CMDS 160	Introduction to Speech-Language Disorders	3
CMDS 260	Introduction to Phonetics	3
CMDS 264	Introduction to Clinical Practicum I	2
CMDS 265	Acoustics of Speech	3
CMDS 266	Speech & Language Development	3
CMDS 267	Anatomy & Physiology of the Speech & Hearing Mechanism	5
CMDS 270	Structure & Pathology of the Auditory & Vestibular System	3
CMDS 274	Clinical Observation in Audiology	2
CMDS 357	Introduction to Hearing Aids & Amplification Systems	3
CMDS 365	Language Disorders in Children I	3
CMDS 370	Introduction to Audiology	3
	Hours credit	33

Graduate Degrees

The Department of Communication Disorders offers comprehensive professional certified master of arts degree programs in both Speech-Language Pathology and Audiology. These programs and their associated on-campus clinics are fully accredited for *both* Education and Training, and Professional Services, by the American Boards of Examiners in Speech-Language Pathology and Audiology (ASHA). Both programs are also fully accredited by the Colorado State Department of Education for those who desire to complete requirements for employment in the schools.

The student's course work is sequenced with supervised practicum experiences in these programs accredited on-campus Speech-Language Pathology, Audiology and Aural Rehabilitation clinics. Students also gain supervised practical experiences through contracted off-campus auxiliary programs for assessment and/or treatment of speech-language and/or hearing disorders.

During the final quarter of the program, the student completes a full time internship in a carefully selected hospital or clinical setting. For those desiring certification for employment in the schools, additional practicum experiences in a school environment are required. For further information, write: Chair, Department of Communication Disorders, McKee 29, University of Northern Colorado 80639, or call (303) 351-2012.

admission to the Audiology graduate program. Separate application procedures are required. For information regarding admission to the Graduate School, go to the office, Carter Hall 2007.

Application deadline, both to the Graduate School and this department, is April 1 of the year the student wishes to enter. However, decisions regarding acceptance or denial are made throughout the year as applications are received, and applicants are notified shortly thereafter. All other applicants are notified of our decisions by April 15 each year, or shortly thereafter. Official notice is sent by the University of Northern Colorado Graduate School. Decisions regarding assistantships are also made by April 15 for the coming year. Because the training program is sequenced, one half of the admitted class must begin training during Summer Quarter, and one half during Fall Quarter immediately following notification of acceptance.

It is the philosophy of the area of Audiology that the audiologist should possess knowledge and expertise in both the (re)habilitative and diagnostic aspects of this field. Graduates are thus better prepared for employment in a variety of settings, including the schools. For this reason, the student and his or her advisor should select courses to complete a minimum of 55 quarter hours. At least 45 of these hours should be in academic courses, as opposed to practicum courses, in order for the student to meet national certification standards of the American Speech-Language-Hearing Association.

For those students who wish certification through the Colorado State Department of Education as school audiologists, additional requirements may have to be met, as recommended by the advisor or the Director of Audiology. Prerequisite courses will be based primarily on the bachelor of arts in Audiology requirements of the University of Northern Colorado. The student must also complete a *minimum* of 300 clock hours of supervised practicum experience in Audiology, 150 of which must be earned at the graduate level. The clinical internship will be initiated only after the student has had experience dealing with a wide range of clients from infants to the elderly in both diagnostic and (re)habilitative aspects of Audiology. Their practical expertise must then be assessed by the Audiology faculty.

Speech-Language Pathology Major

The Speech-Language Pathology program is accredited for both education and training, and professional services by the American Boards of Examiners in Speech-Language Pathology and Audiology (ABESPA), of the American Speech and Hearing Association (ASHA).

Following is the required program:

CMDS 560	Public School Speech-Language Pathology	3
CMDS 561	Voice Disorders II	3
CMDS 563	Clinical Supervision	3
CMDS 564	Graduate Practicum in Speech-Language Pathology (minimum)	6
CMDS 565	Aphasia & Related Disorders of Adults	3
CMDS 566	Clinical Writing	3
CMDS 567	Auditory Processing Disorders	3
CMDS 568	Counseling in Communication Disorders	3
CMDS 569	Advanced Laboratory in Diagnostics	6
CMDS 660	Articulation Disorders II	3
CMDS 661	Neurological Motor Speech Disorders	3
CMDS 662	Stuttering II	3
CMDS 663	Language Disorders in Children II	3

CMDS 664	Internship in Speech-Language Pathology	15
CMDS 665	Public School Practicum in Speech-Language Pathology	15
CMDS 666	Cleft Palate	3
EPRE 600	Introduction to Graduate Study & Research	3

The student and advisor must select courses to complete a include courses and practicum experiences which will allow them to meet American Speech-Language-Hearing Association certification standards. These are minimum requirements, and assume an adequate undergraduate background in Speech-Language Pathology and related areas. Students who do not have this background, or students who wish acknowledgement or additional experience in related disciplines must fulfill additional academic requirements as determined by their major advisors.

Prerequisite courses will be based primarily on the Speech-Language Pathology bachelor of arts requirements of the University of Northern Colorado. The student must also complete a minimum total of 300 clock hours of supervised practicum experience, 150 of which must be earned at the graduate level. This practicum experience must include a minimum of 25 hours each with individuals exhibiting voice, articulation and rhythm disorders; 75 hours with language impaired persons; 50 hours of diagnosis of speech-language disorders; and 17 ½ hours in audiological assessment, and 17 ½ hours in aural rehabilitation. All eligible graduate Speech-Language Pathology majors, either full or part time, are required to register for CMDS 564 each quarter.

Although not always desirable, it is possible to complete the master's degree in six academic quarters. Students should discuss the length of their programs with their academic advisors to consider variables such as undergraduate preparation, clinical experiences, and outside commitments as well as financial responsibilities when planning their programs.

Students who complete the master's degree are eligible for Type E certification from the Colorado Department of Education. Those who may seek employment in the public schools in other states should discuss the appropriateness of the Professional Teacher Education (PTE) program with their advisors.

The following courses are highly recommended as electives:

CMDS 575	Pediatric Audiology: Etiology & Assessment	3
CMDS 577	Advanced Problems in Audiology	3
CMDS 604	Principles & Practices of Measurement of the Handicapped	3
CMDS 605	Appraisal of Exceptional Children	3
CMDS 667	Research in Communication Disorders	3
CMDS 668	Selected Topics in Communication Disorders	3-6
CMDS 694	Advanced Phonetics	3
CMDS 695	Pragmatic Aspects of Language Functioning	3
CMDS 696	Emotionally Based Speech & Language Disorders	3
CMDS 697	Advanced Diagnosis in Speech-Language Pathology	3
PSY 624	Human Neuropsychology	4
PPSY 647	Psychological Aspects of Learning Disabilities	3
EDEC 648	Psycholinguistics in Early Childhood	3
ZOO 553	Central Nervous System & Special Senses	3

The master's program in Speech-Language Pathology is limited in its enrollment in order to provide individual attention about in both academic and clinical training. For information admission procedures, contact the Coordinator of Speech-Language Pathology, Bishop-Lehr Hall 1520. Students applying for this program will be selected according to the following criteria:

- Promise of academic achievement
- Minimum of two letters of recommendation
- Goals in relation to needs in the field
- Graduate Record Examination
- Personal interview (if possible)

Admission by the Graduate School is a minimum requirement for admission to the Speech-Language Pathology program, and does not guarantee admission to the program.

Application deadline both for the Graduate School and this Department is April 1 of the year the student wishes to enter. However, decisions regarding acceptance or denial are made throughout the year as applications are received, and applicants are notified shortly thereafter. All other applicants are notified by April 15 each year, or shortly thereafter. Official notice is sent by the University of Northern Colorado Graduate School. Decisions regarding assistantships are also made by April 15. Prospective students are advised to begin application procedures in the preceding fall.

It is possible for a student who is not accepted into the program to enroll in certain courses as an unclassified student. Interested persons should contact the Speech-Language Pathology office for specific information.

This training program is sequenced, so students who are accepted must begin their training either Summer or Fall Quarter following notification of admission. Approximately one half of the students admitted must begin training Summer Quarter; the other half must begin Fall Quarter. Although an attempt is made to admit students for the quarter (Summer or Fall) requested, it may be necessary to begin the other quarter.

Dietetics, Food and Nutrition

Administered by the School of Nursing

Location: University Hall
Telephone: 351-2293
Sandra C. Baird, Director

Faculty

Joyce Kliewer, EdD, Asst. Prof.
Philomena Lomena, EdD, Asst. Prof.
Elisabeth Wirick, MA, Assoc. Prof.

Degree Programs

Bachelor of Arts in Dietetics
Bachelor of Arts in Food and Nutrition with emphasis in Food Service Management

Students must satisfy the following requirements:

- Complete the General Education requirements of 60 quarter hours.
- Courses in the selected major.
- Electives to complete the 180 quarter hours of academic credit required for graduation.

Dietetic Major

The major focus of the bachelor of arts degree program in Dietetics is in the field of health. It is a useful and practical area of study for students interested in health maintenance and rehabilitation through the science of nutrition.

This major offers a wide range of studies applicable to institutional, administrative, clinical, commercial, industrial and educational aspects of nutritional health care, integrating the physiological, biological and behavioral sciences.

Students in this program develop human relationship skills and expertise in addressing the nutritional needs for human growth and development throughout the life cycle.

Upon completion of the prescribed course of study, students are qualified for a variety of careers in hospital dietetics, commercial and college food service management, school lunch program supervision, public health nutrition services, extended care facilities and consultation services.

A student may apply for a dietetic internship or a three-year work experience under the supervision of an American Dietetic Association (ADA) registered dietitian. Completion of the internship or work experience qualifies a student to apply for membership in the ADA, and to take the examination to become a registered dietitian.

The following courses are required to meet departmental requirements and are listed in the recommended sequence.

Required Courses

BUS 180	Information Systems	3
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
ZOO 105	Human Biology	4
BUS 220	Principles of Accounting I	4
ZOO 221	Human Anatomy	4
FND 241	Principles of Food Preparation I	4
FND 242	Principles of Food Preparation II	4
ZOO 250	Human Physiology	5
FND 251	Nutrition I	3
FND 259	Nutrition Module: Medical Terminology	1
BIO 261	Medical and Public Health Microbiology	4
CHEM 281	Fundamentals of Human Biochemistry	5
BUS 281	FORTRAN Programming	3
	<i>or</i>	
BUS 383	COBOL Programming	3
BUS 350	Principles of Management	4
FND 351	Nutrition for the Older Adult	3
FND 353	Clinical Nutrition	4
FND 359	Nutrition Module: Interpreting Laboratory Data	1
FND 362	Demonstration Techniques	2
FND 408	Seminar in Food, Nutrition & Dietetics	1
FND 445	Experimental Food Studies	4
FND 446	Food Service Administration	3
FND 447	Quantity Food Purchasing & Preparation	4
FND 448	Organization & Management of Food Service	3
FND 451	Nutrition II	3
FND 456	Infant & Child Nutrition	3

The following courses should be chosen from General Education foundations and other categories:

MATH 101	Fundamental Mathematical Skills	3
MATH 123	Intermediate Algebra	5
PSY 120	General Psychology	3
	<i>or</i>	
SOC 100	Principles of Sociology	5
ANT 100	General Anthropology	5
	<i>or</i>	
ANT 110	Introduction to Cultural & Social Anthropology	4
	<i>or</i>	
SOC 272	The Community	3
	<i>or</i>	
SOC 325	Sociology of Medicine	3
BUS 453	Personnel Management	4
	<i>or</i>	
PSY 366	Industrial Psychology	3
ECON 100	Introductory Economics	5
PSY 341	Phenomenological Approaches to Perception	3
STAT 303	Statistics for Health Sciences	3

The student, with the guidance of an advisor, will select electives to supplement major requirements and to allow for individual needs and interests.

Food and Nutrition Major: Emphasis in Food Service Management

A growing need for well-prepared professionals in today's food service industry is addressed by the Food and Nutrition major. This program emphasizes food systems management principles as applied in commercial and institutional settings. Course work incorporates the sciences, foods, nutrition and business.

Students are prepared for management positions in institutional food service organizations such as restaurants, schools, colleges and universities, industrial feeding, in-transit feeding, health care, military and governmental agencies.

A student may anticipate that many food service institutions may require additional training in their specific programs. A student must work closely with an advisor in completing this major.

Required Courses

CHEM 108	Fundamentals of General Chemistry	5
CHEM 109	Fundamentals of General Chemistry — Organic	5
BUS 180	Information Systems	4
BUS 205	Business Communications	4
BUS 220	Principles of Accounting I	4
FND 241	Principles of Food Preparation I	4
FND 242	Principles of Food Preparation II	4
FND 249, 349, 449	Food Module	5
FND 251	Nutrition I	3
BUS 350	Principles of Management	4
FND 362	Demonstration Techniques	2
BIO 363	Food Microbiology	5
FND 408	Seminar in Home Economics	1
FND 409	Home Economics Internship	15
FND 445	Experimental Food Studies	4
FND 446	Food Service Administration	3
FND 447	Quantity Food Purchasing & Preparation	4

FND 448	Organization & Management of Food Service	3
BUS 221	Principles of Accounting II	4
BUS 231	Business Law I	4
BUS 291	Business Statistics I	4
BUS 354	Human Organizational Behaviors	4
BUS 360	Marketing	4
BUS 365	Marketing Strategies	4
BUS 370	Business Finance	4
ECON 110	Micro-Economics	4
MATH 115	Essentials of Mathematics I	3

Note: ECON 110 and MATH 115 are included in courses to be selected from General Education which may be credited toward the major.

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.

Gerontology

Administered by the Department of Human Services
 Location: McKee Hall 41
 Telephone: 351-2403
 Dennis A. Gay, Chair

Faculty

John Cronin, EdD, Prof.
 Eugene Dawson Jr., PhD, Assoc. Prof.
 Nora Ernst, PhD, Assoc. Prof.

Gerontology provides the opportunity to study the human aging process and to learn skills needed in direct service to the older adult population.

The baccalaureate program offers a broad spectrum of courses that include the social, psychological and biological aspects of aging, management and other related areas.

Those who hold a bachelor of science degree in Gerontology are prepared to work as managers and/or providers of service in social and health agencies, as well as nutrition sites, senior citizen centers and other community organizations.

Gerontology Major

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

—Complete the University's General Education requirements of 60 quarter hours.

—Complete a minor or supporting area selected with the approval of the major advisor, with a minimum of 30 credit hours.

—Complete advisor-approved courses to fulfill the minimum credits required by the University.

—The major advisor will reserve the authority to alter a student's program with regard to the core courses as determined by the background of the student.

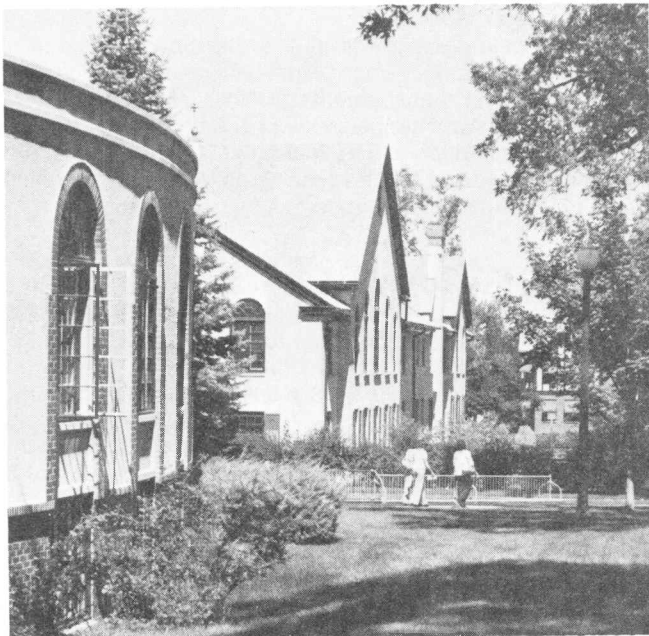
—Complete the following courses in the major with a minimum of 65 credit hours.

e-GERO 205	Introduction to Gerontology	3
PSY 230	Human Growth & Development	3
HS 236	Introduction to Health Aspects of Gerontology	3
REC 251	Leisure, Recreation & the Older Adult	3
HRS 290	Introduction to Human Rehabilitative Service Systems	3
SOC 341	Sociology of Aging	3
FND 351	Nutrition for the Older Adult	3
ANT 380	Cross Cultural Perspectives in Aging	3
GERO 397	Direct Practice with Older Persons	3
GERO 410	Community Resources for the Elderly	5
GERO 415	Biology of Aging	3
PSY 430	Maturity & Aging	3
GERO 434	Management/Administration in the Aging Network	3
GERO 485	Senior Seminar	3
GERO 495	Internship in Gerontology	18
GERO 496	Long Term Care Administration	3
CMDS 583	Communication Disorders Among the Aging	3
		Hours credit 68

Gerontology Minor

The minor in Gerontology is designed to provide students who are majoring in other programs with the necessary knowledge of aging and the aged to facilitate employment opportunities in occupations which serve the older adult.

e-GERO 205	Introduction to Gerontology	3
HS 236	Introduction to Health Aspects of Gerontology	3
SOC 341	Sociology of Aging	3
GERO 397	Direct Practice with Older Persons	3
GERO 410	Community Resources for the Elderly	5
PSY 430	Maturity & Aging	3
GERO 434	Management/Administration in the Aging Network	3
CMDS 583	Communication Disorders Among the Aging	3
GERO 485	Senior Seminar	3
		Hours credit 29



Persons who have already earned an undergraduate degree may also pursue a certificate in Gerontology independently. Twelve credit hours in approved Gerontology courses are required for the certificate. GERO 205 is a specific requirement. A degree in a specific discipline and certification in Gerontology enhances opportunities in Gerontology-related professions.

Master of Arts Degree: Gerontology

Administered within the Department of Human Services

The Master of Arts program in Gerontology consists of three degree options: Counseling Gerontology, Gerontological Administration and a Generalist program.

All candidates must take the required core curriculum in Gerontology, and then choose one of the three options. The major advisor, however, may alter the student's program based upon the student's background and academic interests.

Graduates who earn the Master of Arts degree find professional responsibility in counseling-related, administrative positions, or similar professional endeavors within the aging network. Others find employment in health-related or long-term care facilities, senior centers, recreational leisure oriented programs, community college teaching, pre-retirement educational programs, mental health related activities, industrial settings, or private practice/consultation.

The Gerontology program also awards a certificate in Gerontology at the graduate level to those students who complete an approved list of courses. Graduate certificates may be awarded to students at the master, specialist or doctoral level.

Persons who have already earned degrees at undergraduate levels may pursue the certificate independently. GERO 525 must be among the courses selected. Other courses are selected from approved offerings. Holding a degree in a specific discipline and certification in Gerontology enhances opportunities in Gerontology-related professions.

Degree Requirements

—Candidates in Gerontology should consult with the Gerontology faculty to plan their course of study.

—The number of credit hours required for the M.A. in Gerontology is up to 60 hours. For a certificate, the total number of credit hours is 16.

—Previous academic and professional deficiencies in Gerontology may require additional course work and agency internship experience. In addition to degree requirements, SOC 341, GERO 415 and 515, and PSY 430 or advisor-approved equivalents are required.

—A candidate for the M.A. in Gerontology is expected to pass a written comprehensive examination. A thesis is optional.

Required Core Courses

GERO 510	Community Resources for the Elderly	5
GERO 525	Issues & Concepts in Gerontology	4
HS 531	Health Aspects of Aging	3
GERO 540	Professional Intervention with the Elderly	3
GERO 586	Social Policies in Aging	3
HRS 610	Interpretation & Evaluation of Behavioral Research	3
GERO 652	Internships in Gerontology	16
		Hours credit 27

Management/Administration Track

GERO 534	Management/Administration in Aging Network	3
GERO 541	Urban/Regional Planning for Aging Programs	3
GERO 544	Evaluation of Aging Programs	3
GERO 546	Needs Assessment for Aging Programs	3
GERO 594	Budget Principles for Management & Policy Analysis in Aging Programs	3
GERO 595	Personnel Policies & Administration in Aging Programs	3
GERO 596	Long Term Care Administration	3
		Hours credit 21

Counseling Gerontology Track

HRS 630	Human Services Counseling: Theories & Techniques	3
HRS 631	Practicum in Human Services Counseling	6
Four of the following (12 credits):		
PPSY 558	Abnormal Psychology	3
PPSY 623	Understanding & Counseling Minorities	3
PPSY 650	Psychology of the Healthy Personality	3
PPSY 651	Theories of Personality	3
PPSY 655	Community Mental Health	3
		Hours credit 21

Generalist Track

Core plus 21 hours determined through advisement.

Certificate in Gerontological Administration

GERO 525	Issues & Concepts in Gerontology	4
12 additional hours in Gerontology approved by faculty advisor. GERO 546, 594 and 596 recommended.		
GERO 534	Management /Administration of Aging Programs	3
Completion of a supervised field experience or research project in Gerontological Administration. (S/U grade)		
		9
		Hours credit 16

Certificate in Gerontology Counseling

GERO 525	Issues & Concepts in Gerontology	4
GERO 540	Professional Intervention with Elderly	3
HRS 630	Human Services Counseling: Theories & Techniques	3
HRS 631	Practicum in Human Services Counseling	6
		Hours credit 16

Recommended Electives

REC 530	Recreation for the Older Adult	3
FND 551	Nutrition for the Older Adult	3
CMDS 583	Communication Disorders Among the Elderly	3
GERO 600	Special Topics in Gerontology	3
GERO 507	Seminar: Current Issues in Gerontology	3
HRS 550	Independent Living in Rehabilitation	3
PPSY 634	Death & Dying	3
HRS 620	Assessment & Evaluation of the Handicapped	3
GERO 543	Grant Development & Administration	3

Human Rehabilitative Services

Administered by the Department of Human Services
Location: McKee Hall 41
Telephone: 351-2403
Dennis A. Gay, Chair

Faculty

Jack Bowen, PhD, Prof.
John Cronin, EdD, Prof.
Garth Eldredge, PhD, Prof.
Dennis Gay, PhD, Prof.
William Martin, EdD, Asst. Prof.
Vincent Scalia, EdD, Assoc. Prof.
Richard Wolfe, PhD, Prof.

Major in Human Rehabilitative Services

The bachelor of science degree in Human Rehabilitative Services is a non-teaching, non-certification degree program which utilizes a generic training model to prepare students for careers in rehabilitation and/or related human service professions.

Students pursuing the B.S. degree must plan their programs to complete:

—General Education requirements of 60 quarter hours as specified in this Bulletin.

—The major core requirements as listed here (59 credits).

—An emphasis area selected from one of the three emphasis areas presented here.

—An advisor-approved supporting area, a second area of emphasis, or an advisor-approved non-teaching minor.

—Advisor-approved electives to complete the 180 quarter/-credit hours required for graduation.

Major Core Requirements

f-HRS 290	Introduction to Human Rehabilitative Services	3
HRS 391	Special Client Concerns	5
HRS 392	Psychological Aspects of the Handicapped	3
HRS 393	Client Management Techniques	3
HRS 394	Practicum in Human Rehabilitative Services	6
i-HRS 395	Working with Families of the Handicapped	3
HRS 491	Interviewing, Client Program Planning & Casework Techniques	5
HRS 492	Medical Information for Human Rehabilitative Services	4
HRS 494	Supervised Field Practice	15
HRS 495	Vocational Development & Job Placement	3
HRS 496	Client Assessment	3
e-ID 337	Job Readiness Skills	3
a-STAT 203	Introduction to Statistical Analysis	3
<i>or</i>		
a-STAT 303	Statistics for Health Sciences	3
		Total core credits 59

Emphasis Area I — Juvenile and Adult Correctional Rehabilitative Services

HRS 390	Introduction to Social Rehabilitation Services	3
HRS 397	Rehabilitation of the Substance Abuser	3
HRS 480	Juvenile Offender Rehabilitation	3
HRS 481	Adult Offender Rehabilitation	3
COMM 345	Juries, Justice & Jurisprudence	3
i-SOC 120	Marriage & the Family	4
f-SOC 240	Criminology	4
f-SOC 340	Juvenile Delinquency	4

Emphasis Area II — Rehabilitative Services for the Aged

e-CMDS 470	Communication Disorders of the Aging	3
e-GERO 205	Introduction to Gerontology	3
GERO 397	Direct Practice with Older Persons	3
GERO 434	Management/Administration in the Aging Network	3
GERO 447	Long-Term Care Administration	3
f-FND 351	Nutrition for the Older Adult	3
f-HS 236	Introduction to Health Aspects of the Aged	3
HRS 390	Introduction to Social Rehabilitation Services	3
PSY 430	Maturity & Aging (Prerequisite: PSY 230)	3

Emphasis Area III — Rehabilitative Services for the Severely Disabled

e-CMDS 160	Introduction to Speech/Language Disorders	3
e-EDSE 350	Introduction to Hearing Impaired	3
HRS 370	Habilitation of the Developmentally Disabled	3
HRS 371	Rehabilitation of the Severely Physically Disabled	3
e-EDSE 442	Rehabilitation Teaching for the Visually Handicapped	3
HRS 497	Rehabilitation/Counseling of Acoustically Handicapped	3
HRS 390	Introduction to Social Rehabilitation Services	3
HRS 450	Independent Living for Rehabilitative Services	3

Minor — Human Rehabilitative Services

A minor in Human Rehabilitative Services is offered to complement other majors students may be pursuing, such as psychology, sociology, gerontology, health education, special education, etc.

Required Courses

f-HRS 290	Introduction to Human Rehabilitative Services	3
HRS 391	Special Client Concerns	5
HRS 394	Practicum in Human Rehabilitative Services	6
i-HRS 395	Working with the Families of the Handicapped	3
HRS 491	Interviewing, Client Program Planning & Casework Techniques	5
HRS 496	Client Assessment	3
e-ID 337	Job Readiness Skills	3

Hours credit 28

Alcohol and Drug Abuse Counselor Certification Option

The Colorado State Department of Health, Alcohol and Drug Abuse Division has approved the following course work to meet the specialized training required to apply for Alcohol and Drug Abuse Counselor certification. Successful completion of this course work does not assure certification, but fulfills the specialized training requirement.

HRS 380	Alcohol & Drug Rehabilitation: Basic Counseling Skills	4
HRS 381	Alcohol & Drug Rehabilitation: Client Treatment Planning & Record Management	4

In addition, a six month (1,000 hours) internship in a Department-approved agency is required. Students who have previously attained a minimum of 1,000 hours work experience in an approved setting may be able to waive the internship requirement with approval from the Colorado Alcohol and Drug Abuse Division.

Human Services Graduate Programs

Two degree programs are offered: Master of Arts degree in Rehabilitation Counseling and Doctor of Philosophy degree in Human Rehabilitation.

Master of Arts Degree in Rehabilitation Counseling

The Master of Arts degree in Rehabilitation Counseling is a non-teaching, two academic year program fully accredited by the Council on Rehabilitation Education (CORE), and facilitates a student's application for national certification as a Certified Rehabilitation Counselor (CRC). Prospective applicants should contact the Department of Human Services, McKee Hall Room 41, for additional program information.

Required Core Courses

RS 510	Rehabilitation Case Management	3
HRS 590	Introduction to Rehabilitation Counseling	3
HRS 591	Community Resources for Rehabilitation	3
HRS 592	Psycho-Social Aspects of Disability	3
HRS 593	Medical Aspects of Disabilities	3
HRS 595	Vocational Placement & Adjustment	3
HRS 596	Job Development, Analysis & Placement in Rehabilitation	3
HRS 610	Interpretation & Evaluation of Behavioral Research	3
HRS 611	Seminar in Rehabilitation Counseling	3
HRS 620	Assessment & Evaluation of the Handicapped	3
HRS 621	Principles of Vocational Evaluation	3
HRS 630	Human Services Counseling: Theories & Techniques	3
HRS 631	Practicum in Human Services Counseling	6
HRS 694	Supervised Clinical Practice in Rehabilitation Counseling	30
Total required core		72

Required core courses may be waived only by the department chair on the written recommendation of the student's advisor.

Group A — Deficiency Courses

Group A deficiency courses must be taken by all students who have not had the equivalents. HRS 394 (4 credits) must be taken early by students who have not had at least one year of work experience in an advisor-approved related area.

HRS 394	Practicum in Human Rehabilitative Services	4
PPSY 558	Abnormal Psychology	3
PPSY 623	Understanding & Counseling Minorities	3
PPSY 651	Theories of Personality	3

Group B — Emphasis Area

PPSY 605	Employment/Career Counseling Utilizing the GATB	2
HRS 480	Juvenile Offender Rehabilitation	3
HRS 481	Adult Offender Rehabilitation	4
HRS 589	First Line Supervision in Vocational Rehabilitation	3
HRS 650	Seminar: Administration of Rehabilitation Programs	3
HRS 651	Advanced Seminar: Rehabilitation Research	3
HRS 660	Seminar: Psychiatric Rehabilitation	3
HRS 661	Seminar: Rehabilitation of the Substance Abuser	3
HRS 662	Sexuality & Disability	3
HRS 672	Advanced Seminar: Individual Assessment for Vocational Evaluation	3
HRS 673	McCarron-Dial Work Evaluation System	3
HRS 550	Independent Living for Rehabilitation	3

Group C — Electives

Select any advisor-approved course appropriate to the area of specialization. Minimum total program credits: 90

Alcohol and Drug Abuse Counselor Certification Option

The Colorado State Department of Health, Alcohol and

Drug Abuse Division has approved the following course work to meet the specialized training required to apply for the Alcohol and Drug Abuse Counselor certification. Successful completion of this course work does not assure certification, but fulfills the specialized training requirement.

HRS 580	Alcohol & Drug Rehabilitation: Basic Counseling Skills	4
HRS 581	Alcohol & Drug Rehabilitation: Client Treatment Planning & Record Management	4

In addition, a six-month (1,000 hour) internship in a department-approved agency is required. Students who have previously attained a minimum of 1,000 hours work experience in an approved setting may be able to waive the internship requirement with approval from the Colorado Alcohol and Drug Abuse Division.

Doctor of Philosophy Degree in Human Rehabilitation

Admission into the doctoral program in Human Rehabilitation is determined by the Graduate faculty of the Department, with final approval of the Graduate dean. All doctoral applicants must meet the following criteria for preliminary consideration:

—A master's degree from an accredited college or university approved by the University of Northern Colorado, in Rehabilitation Counseling or a closely allied discipline. The appropriateness of a degree in a related discipline will be determined by the Graduate faculty of the department.

—Two years of work experience (or equivalent, as determined by the Department's Graduate faculty) in the field of rehabilitation. This must include the minimum of one year's experience subsequent to receipt of the master's degree, and completion of a minimum of two years of work experience prior to receipt of the doctorate.

—Meet all University of Northern Colorado Graduate School requirements.

—Submit all requested materials to the Department of Human Services for review by its faculty.

—Participate in a personal interview on request.

Admission decisions are based on multiple criteria, without fixed weights for any criterion.

Required Core Courses

EPRE 700	Introduction to Doctoral Research	3
<i>or</i>		
STAT 715	Planning & Methodology of Research	3
HRS 610	Interpretation & Evaluation of Behavioral Research	3
HRS 650	Seminar: Administration of Rehabilitation Programs	3
HRS 651	Advanced Seminar: Rehabilitation Research	3
HRS 755	Supervised Practicum in College Teaching	3
HRS 756	Internship in Supervising College Teaching	3
HRS 757	Advanced Practicum in Rehabilitation Administration	3
HRS 758	Advanced Practicum in Rehabilitation Research	3
HRS 794	Advanced Clinical Internship	8
HRS 797	Doctoral Proposal Research	6
HRS 799	Doctoral Dissertation	18

Required core courses may be waived only by the Department Chair on written request from the major advisor.

Select 15 credits from the following:

EPRE 603	Analysis of Variance & Covariance	3
STAT 604	Advanced Experimental Design	3
STAT 605	Multivariate Analysis	3
STAT 606	Multiple Regression	3
STAT 607	Nonparametric Statistics	3
STAT 608	Factor Analysis	3
STAT 609	Sampling Methods	3

Select 9 hours from the following:

CSCI 542	Computer Programming	3
CSCI 543	Computer & Information Processing	3
CSCI 544	Statistical Software	3
MIS 580	Information Processing	4

Select a minimum of 10 hours from the following:

PSY 635	Psychology of Individual Differences	3
PPSY 707	Seminar on Counseling Theories	3
PPSY 781	Evaluation of Psychological Services	3
MGT 654	Seminar on Human Behavior in Organizations	4

Select 9 hours from the following:

EDAD 521	Introduction to Organizational and Administrative Theory	3
EDAD 641	Seminar in Decision Theory	3
EDAD 744	Seminar in Administrative Theory & Research	3
MGT 650	Administrative Theory	4

Total core course credit 96

Deficiency Courses

If a student has not completed the equivalents determined by the major advisor, the following courses must be included in the doctoral program:

HRS 630	Human Services Counseling: Theories & Techniques	3
HRS 631	Practicum in Human Services Counseling	6
PPSY 558	Abnormal Psychology	3
EPRE 641	Theories of Learning	3
PPSY 651	Theories of Personality	3
EPRE 504	Descriptive Statistics	3
EPRE 505	Statistical Inference	3

The remainder of the student's program will be selected by the student and the major advisor on the basis of the student's background and interests.

Total minimum program credits 96

Nursing

Administered by the School of Nursing
 Location: University Hall
 Telephone: 351-2293
 Sandra Baird, Director

Faculty

- Sandra Baird, MS, Asst. Prof.
- Agnes Biegel, MSN, Assoc. Prof.
- Audrey Bopp, MS, Inst.
- Adah Bossart, MS, Assoc. Prof.
- Gale Foster, MS, Asst. Prof.
- Mary Heckman, MS, Asst. Prof.
- Joan Hurlock, MS, Assoc. Prof.
- Virginia Kinnick, MSN, Asst. Prof.
- Judy Malkiewicz, M.S., Asst. Prof.
- Majel Martin, MS, Asst. Prof.
- Rita Payton, DA, Prof.
- Mary Rahjes, MPH, Assoc. Prof.
- Joan Rappaport, MS, Inst.
- Judy Richter, MSN, Asst. Prof.
- Gordon Sawatzky, MN,MS, Assoc. Prof.
- Patricia Zurenda, MS, Inst.

The undergraduate program in Nursing is a 13-quarter program leading to a bachelor of science degree. Qualified students are prepared as professional nurses and receive a foundation for graduate study in Nursing.

The School of Nursing subscribes to a philosophy of nursing which views the patient holistically. Congruent with the belief in the dignity and worth of mankind is the belief that the individual has a right to be an active participant in decisions concerning his or her well being.

Nursing is an independent professional discipline requiring critical inquiry and discriminating judgment to assist individuals and groups to attain and maintain health.

Nursing students have a variety of clinical experiences in hospitals, nursing homes, industry, schools and public health agencies, primarily in northern and southeastern Colorado communities. Clinical practice is concurrent with nursing theory (classes) and is guided by Nursing faculty.

The Nursing program 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 the examinations of all other states.

Students pursuing the Bachelor of Science degree with a major in Nursing must plan their programs to fulfill the following requirements:

- Complete 60 hours of General Education (Foundations of Education and all category requirements.)

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
FND 251	Nutrition I	3
FND 357	Therapeutic Nutrition	3
STAT 303	Statistics for Health Sciences	3
PSY 230	Human Growth & Development	5

Electives to make two courses from Psychology, Sociology and/or Anthropology. (These two courses may be taken in any one discipline or in any combination of the given discipline and are in addition to the required PSY 230.)

Take one course in cultural awareness from the following: Any Hispanic Studies course; any Black Studies course; or

one of these Anthropology courses — ANT 320, 381, 382 or 472.

NURS 300	Conceptual Foundations of Nursing Practice I	4
NURS 302	Conceptual Foundations of Nursing Practice II	4
NURS 303	Techniques & Skills in Nursing Practice I	6
NURS 307	Parent-Infant Nursing Theory	4
NURS 308	Mental Health Nursing Theory	4
NURS 309	Nursing Care of the Hospitalized Adult	4
NURS 310	Professional Practice Issues	3
NURS 320	Physical Assessment	3
NURS 321	Clinical Practicum in Physical Assessment	1
NURS 370	Clinical Practicum in Parent-Infant Nursing	6
NURS 380	Clinical Practicum in Mental Health Nursing	6
NURS 390	Clinical Practicum in Adult Nursing	8
NURS 395	Techniques & Skills in Nursing Practice II	2
NURS 402	Community Health Nursing	4
NURS 403	Nursing Care of Children in a Variety of Settings	4
NURS 404	Advanced Nursing Care of the Adult	4
NURS 405	Nursing Theory & Research	3
NURS 410	Nursing Leadership	3
NURS 420	Clinical Practicum in Community Health Nursing	6
NURS 430	Clinical Practicum in Nursing Care of Children in a Variety of Settings	6
NURS 440	Clinical Practicum in Advanced Nursing Care	5
NURS 450	Selected Professional Nursing Roles	7

For Registered Nurses Only

NURS 305	Nursing Theory: An Adaptation Model	3
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Electives sufficient to complete the 180 hour graduation requirement.

Policy for Admission of Students to the Nursing Major

Pre-Clinical Majors—Students interested in Nursing are accepted as Nursing majors if they meet the general admission requirements of the University. Formal application to the University is made to and obtained from the University of Northern Colorado Office of Admissions.

It is highly recommended that students planning a career in Nursing include chemistry, biology and basic mathematics in their high school programs. Proficiency in basic mathematics is essential to success in the Nursing program.

Students enrolled in the pre-clinical major will receive academic advisement from members of the School of Nursing faculty.

Clinical Major—The designation of Nursing major does not assure admission to the Clinical Nursing program.

A separate admission and acceptance process during the sophomore year is required for the student to enter Clinical Nursing courses in the summer before the junior year. Forms for applying to the Clinical program and information about application procedures are obtained at the School of Nursing.

The following factors may be considered by the Nursing Student Affairs Committee in the selection of students:

—Cumulative grade point average at UNC and/or all previous institutions.

—Only applicants who, at the time of application, have earned a cumulative grade point average of 2.0, based on a 4.0 scale in the following required support science courses: CHEM 108, 109, 281, and ZOO 105, 221 and 250.

—Results of the health assessment required for admission to the Clinical Nursing program (See Health Policies for Nursing Majors).

The number of students admitted to the Clinical Nursing program is determined by available resources. Available resources may also limit possibilities for readmission to the program for those students who withdraw for any reason.

Scores on selected tests measuring such factors as aptitude; cognitive, affective and psychomotor skills; and achievement may be used for advisement.

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 and NLN). The first Nursing course required for registered nurse students is not offered every quarter (NURS 305).

Admission procedure for R.N.'s—Individuals seeking admission must be admitted to the University of Northern Colorado following the procedures outlined in this Bulletin. Students should contact the School of Nursing at the same time for information about admission to the Nursing major.

The Nursing Programs

Progression—Nursing majors must earn a minimum grade of "C" in all required Nursing courses for progression in the Nursing major. The Nursing program 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. A student receiving a grade less than "C" in a Nursing course will be readmitted to that course on a space available basis only.

Probation/Termination Policy, Critical Behaviors for Satisfactory Achievement in Clinical Nursing Courses, Withdrawal Policy and Cheating/Plagiarism Policy are published in the required Student Handbook.

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.

A student who does not enroll for either required support courses or Nursing courses for three successive quarters and has not made prior arrangements with the Director/Assistant Director will not be considered a Nursing major.

Graduation—The degree of Bachelor of Science in Nursing will be granted by the Board of Trustees upon recommendation of the faculty of the School of Nursing, to those who have successfully completed the prescribed curriculum with an average of "C" or above.

William R. Ross Award—In 1966, the Nursing program faculty established the William R. Ross Achievement Award in honor of retiring president, Dr. William R. Ross. This award recognizes a senior Nursing student each year 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 assessment, the following are required:

Immunizations—Adult tetanus-diphtheria, and polio. A student's previous immunization record should be checked. A complete series, a booster or no further immunizations may be indicated at this time.

Tests—A tuberculin skin test, a large chest x-ray if the tuberculin test is positive, VDRL, and rubella titer record or proof of immunization on file at the UNC Student Health Center.

Additional Expenses—Clinical Nursing majors are charged a laboratory fee of \$30 for every quarter they are enrolled in a clinical laboratory course (NURS 303, 370, 380, 390, 420, 430, 440, 450) Clinical Nursing majors, in addition, may anticipate the following expenses in the Summer Quarter before the junior year.

Uniforms	\$75.00
Lab coat	25.00
Chest x-ray	20.00
White shoes	30.00
Name pin	2.00
Penlight	3.00
Scissors	3.50
Rubella Titer	8.00
Watch with second hand	30.00
Nursing Achievement Examinations	20.00
Stethoscope	35.00
Travel	Cost varies

Required uniforms are ordered the quarter before clinical assignment. Costs listed here are approximate and subject to change.

Senior year expenses are:

School pin (optional)	Cost varies
Travel	Cost varies

Clinical Practice—Student practicums are offered in agencies according to available resources. All placements require transportation and may necessitate moving from the Greeley area. Students are responsible for their own transportation to all clinical practicums.

School of Health, Physical Education and Recreation

Location: Butler-Hancock Hall 230
Telephone: 351-2565
Martilu Puthoff, Dean

The School of Health, Physical Education and Recreation offers high-quality programs dedicated to career education. Students are prepared for supervisory and administrative careers in exercise, health care delivery, coaching and recreation to be used in business, schools and government. Students may also be educated to teach health and physical education at the elementary, secondary, university and community levels. Graduate programs offer preparation for administrative and advanced-level teaching careers.

A wide variety of physical activity courses and broadly diversified programs including campus recreation, intramurals and intercollegiate athletics provides for a student's present and future recreation and leisure interests.

A faculty and staff of approximately eighty-eight are assigned to four departments: Health and Safety, Physical Education, Recreation, and Intercollegiate Athletics.

Of the 38 faculty members, 17 are women; 19 have doctorates and 19 have received a master's degree. The faculty of the School includes 15 professors, 5 associate professors, 16 assistant professors and 2 instructors.

Facilities

Extensive facilities for instruction, recreation and intercollegiate athletics are housed in the Health, Physical Education and Recreation complex. They include a gymnastics studio, dance studio, two general purpose gymnasias, one multi-purpose arena, a weight training room, two swimming pools, twelve tennis courts, a combatives (wrestling) room, a modern athletic training facility, indoor and outdoor tracks, racquetball courts, and a large number of fields and baseball diamonds. Extended instructional opportunities such as skiing and skating are available in cooperation with community resources.

Well-equipped laboratories for studying physiology, biomechanics, and psychological kinesiology provide excellent instructional and research facilities for students and faculty.

Degree Programs

Health and Safety Education

Undergraduate

Health Education major (School Health emphasis) — Bachelor of Arts
Health major (Community Health emphasis) — Bachelor of Science
Health Education minor (School Health emphasis)
Health minor (Community Health emphasis) Certification
K-12 Health Education
Driver and Traffic Safety Education

Graduate

Health Education major — Master of Arts

Physical Education

Undergraduate

Physical Education major — Bachelor of Arts
Teaching option
Non-teaching option
Athletic training
Fitness and exercise specialist
Physical Education minors
Coaching
Dance
Elementary teaching
Secondary teaching

Graduate

Physical Education major — Master of Arts
Physical Education major — Doctor of Education

Recreation

Undergraduate

Recreation major — Bachelor of Science

Graduate

Recreation Administration major — Master of Arts

Health and Safety Education

Location: Michener L136
Telephones: 351-2755, 351-2757

Faculty

Bryan E.M. Cooke, PhD, Prof.
Larry Harrison, MS, Asst. Prof.
Jack LaBonde, MA, Assoc. Prof.
William G. Parkos, PhD, Prof.
Debra Sutton, MS, Asst. Prof.

The Department of Health and Safety Education at the University of Northern Colorado is the only program in Colorado to offer the following undergraduate and graduate degree programs:

Bachelor of Arts major and minor in Health Education (School Health emphasis)

Bachelor of Science major and minor in Health (Community Health emphasis)

Teaching Certification Program in Driver and Traffic Safety Education

Master of Arts in Health Education

Students in this department are concerned with overall health knowledge, attitudes and behavior, and the importance of these factors for developing and maintaining a healthy life style. They study a wide variety of health and safety education courses, including a number of courses from the behavioral, natural and social sciences.

Undergraduate Programs

School Health is endorsed by the Colorado Commission on Teacher Education, approved by the Colorado State Board of Education and accredited by the National Commission for the Accreditation of Teacher Education. Students may choose to be certified for the secondary level alone, or for K-12.

Students in Community Health are prepared for job opportunities in the health care delivery system. Such specialists may work in laboratories, county and state health departments, health maintenance organizations, hospitals, voluntary health agencies or private health enterprises.

Both undergraduate programs include a period of pre-professional work experiences through student teaching and aide work in schools or through internships in community health settings.

Teaching Certification in Driver and Traffic Safety Education includes three courses required by the Colorado Department of Education, plus a variety of electives through advisement, for a total of 18 hours.

Graduate Programs

Graduate programs are designed to accommodate students who wish to earn the Master of Arts degree in Health Education on either a part-time or full-time basis. Because of our open enrollment policy, student applications are received throughout the year. Some students choose to go to school for three consecutive summers. Others take two or three evening classes during the academic year and complete the program during the summer. Graduate tuition scholarships for in-state students, and teaching assistantships are available on a competitive basis.

Recent graduates have found teaching opportunities in colleges and universities, teaching, administrative and coordinating positions in schools, hospitals, health promotion units, voluntary and official health agencies and industry. Careers in the field are people-oriented, requiring skills in communication, organization and administration. Graduates in the health field earn a better than average income, and the short and long term job prospects are promising.

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:

—Complete General Education requirements of 60 quarter hours.

—Complete Professional Teacher Education requirements of 39-40 quarter hours.

—Complete the following required courses:

CHEM 108	Fundamentals of General Chemistry	5
	<i>or</i>	
CHEM 109	Fundamentals of Organic Chemistry	5
	<i>or</i>	
CHEM 130	Introductory Organic Chemistry	5
ZOO 156	Elements of Human Physiology-Anatomy	5
	<i>or</i>	
ZOO 250	Human Physiology	5
HS 200	Introduction to Health Education	3
HS 236	Introduction to Health Aspects of Gerontology	3
HS 238	Contemporary Issues in Drug Abuse	3
HEC 250	Principles of Human Nutrition	3
	<i>or</i>	
HEC 251	Nutrition I	3
PSY 230	Human Growth & Development	5
PSY 250	Humanistic Psychology	3
	<i>or</i>	
PSY 255	Principles of Emotional Adjustment	3
BIO 261	Medical & Public Health Microbiology	4
	<i>or</i>	
BIO 361	Microbiology	5
PE 262	Standard First Aid & Personal Safety	2
HS 299	Community Health	3
HS 303	Health Education in the Elementary School	2
HS 336	Human Sexuality	3
HS 342	Modern Concepts of Health & Disease	3
HS 343	Methods & Observations of Health Education in Secondary Schools	5
HS 350	Introduction to Environmental Health	3
HS 471	Safety Education	3

Hours credit 58-59

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:

HS 200	Introduction to Health Education	3
HS 205	Issues in Health	3
HS 299	Community Health	3
HS 303	Health Education in Elementary Schools	2
HS 343	Methods & Observations of Health Education in Secondary Schools	5

Hours credit 16

Take 16 hours of electives through advisement.

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:

—Complete General Education requirements.

—Complete a minor program of study through advisement.

—Complete the following required courses:

CHEM 108	Fundamentals of General Chemistry	5
CHEM 109	Fundamentals of Organic Chemistry	5
	<i>or</i>	
CHEM 130	Introductory Organic Chemistry	5
ZOO 156	Elements of Human Physiology- Anatomy	5
	<i>or</i>	
ZOO 250	Human Physiology	5
HS 200	Introduction to Health Education	3
HS 236	Introduction to Health Aspects of Gerontology	3
HS 238	Contemporary Issues in Drug Abuse	3
HEC 250	Principles of Human Nutrition	3
	<i>or</i>	
HEC 251	Nutrition I	3
PSY 250	Humanistic Psychology	3
	<i>or</i>	
PSY 255	Principles of Emotional Adjustment	3
BIO 261	Medical & Public Health Microbiology	4
	<i>or</i>	
BIO 361	Microbiology	5
PE 262	Standard First Aid & Personal Safety	2
HS 299	Community Health	3
HS 336	Human Sexuality	3
HS 342	Modern Concepts of Health & Disease	3
HS 350	Introduction to Environmental Health	3
HS 471	Safety Education	3
HS 454	Internship in Community Health	9-18

Hours credit 60-70

Take 16 hours of electives through advisement.

Hours credit 76-86

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:

HS 200	Introduction to Health Education	3
HS 205	Issues in Health	3
HS 299	Community Health	3
HS 342	Modern Concepts of Health & Disease	3
HS 350	Introduction to Environmental Health	3

Hours credit 15

Take 18 hours of electives through advisement

Hours credit 33

Driver and Traffic Safety Education

Student pursuing teaching certification in Driver Education must complete the following requirements:

—Complete a major and minor program of study through advisement.

—Complete the following required courses:

HS 471	Safety Education	3
HS 474	Driver & Traffic Safety Education I	3
HS 475	Driver & Traffic Safety Education II	3

Hours credit 9

—Complete 9 additional hours from the following recommended electives:

HS 238	Contemporary Issues in Drug Abuse	3
PSY 255	Principles of Emotional Adjustment	3

PE 262	Standard First Aid & Personal Safety	2
EDEM 410	Introduction to Media	2
HS 503	Drug Abuse Education	4
HS 508	Alcohol Abuse Education	2
HS 508	Motorcycle Education	3
HS 508	Special Topics in Driver & Traffic Safety Education	3

Hours credit 18

M.A. in Health Education

The Master of Arts degree is offered in Health Education.

Required Courses

HS 503	Drug Abuse Education	4
HS 506	Contemporary Issues in Sex Education	4
HS 509	Health Behavior	4
HS 550	Environmental Health	4
PE 602	Introduction to Research in HPER	4
HS 603	Scientific Foundations of Health Education	4
HS 604	School Health Administration	4
HS 605	Public Health Problems	4

Electives to be selected with advisement to meet student's professional objectives and correct deficiencies apparent after evaluation of previous college work -13

Hours credit 45

Note—Completion of a Master of Arts degree in Health Education does not meet all the College of Education PTE requirements for certification in Health Education. Please contact departmental advisor and/or the College of Education PTE office for information on K-12 and secondary certification.

Physical Education

Location: Butler-Hancock Hall

Telephone: 351-2535

George Sage, Chair

Faculty

Jerry Barham, EdD, Prof.
 William Barnes, PhD, Asst. Prof.
 Mary Behling, PhD, Prof.
 Thomas Benich, MA, Asst. Prof.
 Robert Blasi, MA, Assoc. Prof.
 Cynthia Carlisle, EdD, Assoc. Prof.
 Teri Caswell, MA, Inst.
 Carolyn Cody, PhD, Prof.
 Linda Delk, MA, Asst. Prof.
 Rosemary Fri, MA, Asst. Prof.
 Karen Genoff, MA, Inst.
 Jean Hedberg, MA, Asst. Prof.
 Christy Howard, MA, Asst. Prof.
 Dianne Hurley, PhD, Asst. Prof.
 Daniel Libera, MA, Asst. Prof.
 Tess Malumphy, PhD, Prof.
 Jane Martindell, MA, Asst. Prof.
 Harold McKain, PhD, Prof.
 Sandra Minton, PhD, Assoc. Prof.
 Robert Montgomery, EdD, Prof.
 Carol Mosser, MA, Asst. Prof.
 Thomas Petroff, MA, Asst. Prof.
 D. Allen Phillips, EdD, Prof.
 Martilu Puthoff, PED, Prof.
 Buck Rollins, MA, Asst. Prof.

Tony Rossi, MA, Prof.
 George Sage, EdD, Prof.
 Nancy Van Anne, EdD, Prof.
 Thurman Wright, MA, Assoc. Prof.

Physical education is the study of human movement, and academic preparation in this field gives the student an in-depth understanding of kinesiology, the science of human movement. Programs in this department prepare students for careers in teaching physical education and athletic coaching, and in non-teaching fields such as athletic training, health and sports club work, exercise specialists, and in other related fields.

The strength of the Physical Education programs at UNC is based on a unique emphasis. The undergraduate programs prepare students to create and provide meaningful movement experiences for persons from early childhood through adulthood. The curriculum is comprised of both required and elective courses which provide opportunities for developing expertise in understanding human movement. In all classes, the scientific basis of physical activity is explained—both the “whys” and “hows” are examined carefully. Focus is on putting theory into practice to improve human performance, and all undergraduate programs provide experiences on the sports fields, in the classrooms, and in the laboratories.

Graduate programs in Physical Education provide students with an opportunity to go into greater depth in the study of human movement, and both theory and professional applications are emphasized. UNC's Michener Library is especially useful for graduate study because it is one of the major research libraries of the state. It is converting its traditional card catalog to an on-line video display system. Through computers and interlibrary loan, it has access to research materials nationwide. Library holdings in Physical Education (bound volumes) number more than 5,000, with over 300 serials in the field, as well as ongoing access to AAHPERD publications and the University of Oregon's Completed Research in Physical Education on microform.

In addition to library facilities, many laboratory research opportunities are available within the building used by the Department of Physical Education. Physiological kinesiology facilities are available for the assessment of biochemical, morphological and general physiological adaptations to acute and chronic exercise. Emphasis is on biochemical properties of muscle and blood, histochemistry of muscle, and the physiological properties of the muscular and cardiorespiratory systems during exercise. Mechanical kinesiology facilities include a cinematographic analysis system for three-dimensional data acquisition, using high speed cameras and computerized data reduction to determine the mechanical parameters of total body motion. There is a computerized system for acquiring electronic data through the use of the force platform. Psychological kinesiology laboratory equipment is available for testing a wide variety of perceptual-motor abilities; equipment is also available for motor learning and motor control research, as well as biofeedback experiments. Most of the equipment can be interfaced with an on-line computer.

All data processing services are provided at no cost, and a research assistant is available for consultation. The Computer Center subscribes to several nationally known statistics packages including Statistical Package for the Social Sciences (SPSS) and Statistical Analysis Subsystem (SAS). An optical mark reader is available for data-capturing services. Other equipment includes an IBM 370-148 computer, a DEC 1134 for instructional use, and Apple microprocessors.



Physical Education Major

Students pursuing the B.A. degree in Physical Education must plan their programs to fulfill the following requirements:

—Complete General Education requirements of 60 quarter hours.

Teaching Option (K-12, K-6, 7-12)

—Students pursuing the teaching option, K-12, K-6, 7-12, must complete the nine courses listed here:

PE 270	A&M Weight Training & Conditioning	2
PE 271	A&M Soccer	2
PE 273	A&M Basketball	2
PE 274	A&M Volleyball	2
PE 277	A&M Track	2
PE 278	A&M Softball	2
PE 284	A&M Tennis	2
PE 285	A&M Gymnastics	2
PE 290	A&M Folk & Square Dance	2

A student must attain competency in six of these nine required activities. Students are encouraged to attain as many competencies as possible. Competency examinations will be given in both required *and* elective A & M courses.

Competency must be demonstrated while the student is enrolled at the University of Northern Colorado. A student may receive credit for the courses listed here, 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 must contact an instructor who teaches in this area and arrange to take the competency examination when it is given.

Competency examinations consist of a knowledge, analysis and skill proficiency test for each motor activity. Standard criteria for acceptable competency in each motor area have been established. Competency in each activity may be met in the following ways:

—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 *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 A&M classes are designed to help students improve their ability in various motor activities, but some students will not have mastered an activity well enough to pass the Physical Education Department Competency requirements by the end of one quarter, although they may receive a passing grade in the class.

—Competency examinations may be taken after a student has completed the A&M class for that motor activity, if the student does not meet the competency requirement while taking the class.

—When competency examinations are to be taken after an A&M class, the student must arrange the examination at the convenience of the instructors. Normally, these examinations are given only once a quarter.

—Students must complete three of the courses listed here:

PE 268	A&M Flag Football	1
PE 272	A&M Field Hockey	2
PE 275	A&M Wrestling	2
PE 276	A&M Football	2
PE 279	A&M Self Defense	1
PE 280	A&M Badminton	1
PE 281	A&M Fencing	2
PE 282	A&M Bowling	1
PE 283	A&M Swimming (No competency)	2
PE 286	A&M Archery	1
PE 287	A&M Golf	2
PE 289	Mechanical Analysis & Spotting of Advanced Gymnastic Skills (Primarily for those interested in coaching and officiating Gymnastics)	2
PE 292	A&M Baseball	2
PE 293	A&M Modern Dance (particularly for those who plan to teach high school Dance)	2
PE 192	Advanced Life Saving & Aquatics Instruction	4

—Students must successfully complete coaching classes in three of the following areas: (At least one sport for each season recommended).

Baseball or Softball	Swimming
Basketball	Tennis
Dance Production	Track & Field
Football	Volleyball
Gymnastics	Wrestling

Students must successfully complete an officiating class (PE 366) in at least one of the following sports:

Baseball or Softball	Volleyball
Tennis	Gymnastics
Basketball	Wrestling
Track & Field	Swimming
Football	

—The following courses are also required in the teaching

option:		
PE 202	Introduction to Physical Education	2
HS 205	Issues in Health	3
PE 220	Anatomical Kinesiology	3
PE 221	Mechanical Kinesiology	3
PE 222	Physiological Kinesiology	3
PE 223	Psychological Kinesiology	3
PE 224	Maturational Kinesiology	3
PE 262	Standard First Aid & Personal Safety	2
PE 291	Rhythmic Education in the Elementary School	2
PE 380	Prevention & Care of Sports Injuries	2
PE 432	Adapted Physical Education	3

PE 436	Sociological Interpretations in Physical Education & Sport	3
PE 450	Administration of Physical Education	3
Methods Block Courses (<i>Must be taken concurrently and at UNC</i>)		
PE 235	Teaching Experience Seminar	1
PE 344	Methods & Observation of Teaching Physical Education in Elementary Schools	3
PE 345	Methods & Observation of Teaching Physical Education in Secondary Schools	2
PE 346	Assistant Teaching	1
PE 426	Tests & Measurement in Physical Education	3

Hours credit 70-75

—Students who plan to use this major as a certification program for teaching must complete the program of Professional Teacher Education as described in this Bulletin.

—Students who plan to earn K-12 Teacher Certification must student teach at *both* elementary and secondary school levels.

Students who plan to earn *only* K-6 or *only* 7-12 certification are required to student teach at the appropriate educational level.

—The Methods Block and *all* 9 required PE Analysis and Movements classes, and *all* 6 required competencies *must* be completed before a student may student teach in this field.

—A minor of 30 quarter hours or more is required. It is recommended that this be a teaching minor. It may be selected from outside the School of Health, Physical Education and Recreation, or from within the School, in either Health Education or Dance. The Physical Education non-teaching options of Athletic Training or Fitness and Exercise Specialist may be used in place of a minor.

Non-Teaching Option — Athletic Training

Required Courses

PE 220	Anatomical Kinesiology	3
PE 221	Mechanical Kinesiology	3
PE 222	Physiological Kinesiology	3
PE 223	Psychological Kinesiology	3
PE 224	Maturational Kinesiology	3
PE 262	Standard First Aid & Personal Safety	2
PE 263	Advanced First Aid & Emergency Care	3
PE 264	Instructor's Course in Standard First Aid	1
PE 270	Analysis & Movement in Weight Training & Conditioning	2
PE 380	Prevention & Care of Sports Injuries	2
PE 381	Practical Experiences in Athletic Injuries (Repeat for 12 hours)	3
PE 422	Individual Study in Sports Injuries	3-6
PE 432	Adapted Physical Education	3
FND 250	Principles of Human Nutrition	3
ZOO 221	Human Anatomy	4
ZOO 250	Human Physiology	5
HS 299	Community Health	3
<i>or</i>		
HS 191	Personal & Family Health	3
PSY or EPRE	—One course (e.g. Abnormal Psychology, Educational Psychology)	

Hours credit 58-61

—Clinical Experience of 1800 hours (2-3 years) under supervision of certified trainer is required.

—Upon graduation, the student will have met requirements to take the National Certification Examination under the internship section of the National Athletic Trainer's Association. Certification is accredited through the certifying agencies of the National Commission on Health.

—The number of students admitted to this program is limited to availability of resources. Admission to this option is further limited and based on available openings, grades in related classes, experience and interview. Additional information is available from Dan Libera, Trainer / Assistant Professor, Department of Physical Education.

Non-Teaching Option — Fitness and Exercise Specialist

Required Courses

PE 220	Anatomical Kinesiology	3
PE 221	Mechanical Kinesiology	3
PE 222	Physiological Kinesiology	3
PE 223	Psychological Kinesiology	3
PE 224	Maturational Kinesiology	3
PE 262	Standard First Aid & Personal Safety	2
PE 380	Care & Prevention of Athletic Injuries	2
PE 270	Analysis & Movements of Weight Training & Conditioning	2
PE 480	Adult Fitness Principles	3
PE 499	Internship in Fitness & Exercise	18
ZOO 221	Human Anatomy	4
ZOO 250	Human Physiology	5

Twenty additional quarter hours of individually designed electives planned with the Fitness and Exercise Coordinator and filed in the Physical Education office.

Hours credit 71

Physical Education Minor — Coaching (Men and Women)

A minimum of six courses selected from the following list of courses is required.

PE 268	A&M Flag Football	1
PE 270	A&M Weight Training & Conditioning	2
PE 271	A&M Soccer	2
PE 272	A&M Field Hockey	2
PE 273	A&M Basketball	2
PE 274	A&M Volleyball	2
PE 275	A&M Wrestling	2
PE 276	A&M Football	2
PE 277	A&M Track	2
PE 278	A&M Softball	2
PE 283	A&M Swimming	2
PE 285	A&M Beginning Tumbling & Gymnastics	2
PE 289	Mechanical Analysis & Spotting Advanced Gymnastics Skills	2
PE 292	A&M Baseball	2

A student must achieve competency in at least three of these activities. (See Competency Requirements for Physical Education major in the Teaching Option section).

Note—Competency may be obtained in either Flag Football or Football. Either Softball or Baseball. Competency is not available in PE 283.

Students must successfully complete coaching classes in three of the following areas. It is recommended that at least one sport be taken for each season.

Baseball or Softball	Swimming
Basketball	Tennis
Dance Production	Track & Field
Football	Volleyball
Gymnastics	Wrestling

Students must successfully complete an officiating class (PE 366) in at least one of the following sports:

Baseball or Softball	Tennis
Basketball	Track & Field
Football	Volleyball
Gymnastics	Wrestling
Swimming	

Required Courses

PE 220	Anatomical Kinesiology	3
PE 380	Prevention & Care of Sports Injuries	2
PE 436	Sociological Interpretations in Physical Education & Sport	3
PE 470	Administration of Athletics	3
Select two of the following PE courses:		
PE 221	Mechanical Kinesiology	3
	or	
PE 222	Physiological Kinesiology	3
	or	
PE 223	Psychological Kinesiology	3

Hours credit 35-38

Physical Education Minor (Teaching — Secondary Level)

Students pursuing this minor must complete the nine courses listed here.

PE 270	A&M Weight Training & Conditioning	2
PE 271	A&M Soccer	2
PE 273	A&M Basketball	2
PE 274	A&M Volleyball	2
PE 277	A&M Track	2
PE 278	A&M Softball	2
PE 284	A&M Tennis	2
PE 285	A&M Gymnastics	2
PE 290	A&M Folk & Square Dance	2

A student must attain competency in six of these nine required activities. Competency examinations will be given in all A&M courses. See the Teaching Option section for rules governing competency examinations.

Students minoring in this program must complete two coaching classes.

Required Courses

PE 220	Anatomical Kinesiology	3
PE 221	Mechanical Kinesiology	3
PE 222	Physiological Kinesiology	3
PE 223	Psychological Kinesiology	3
PE 262	Standard First Aid & Personal Safety	2

Methods Block Courses (*Must be taken concurrently and at UNC*)

PE 235	Teaching Experience Seminar	1
PE 344	Methods & Observation of Teaching Physical Education in Elementary Schools	3
PE 345	Methods & Observations of Teaching Physical Education in Secondary Schools	2
PE 346	Assistant Teaching	1
PE 426	Tests & Measurement in Physical Education	3

Hours credit 46

—The Methods Block and all of the PE A&M classes and all of the competencies must be completed before a student may student teach in this field.

Physical Education Minor (Teaching — Elementary Level)

Students pursuing this minor must complete the nine courses listed here.

PE 270	A&M Weight Training & Conditioning	2
PE 271	A&M Soccer	2
PE 273	A&M Basketball	2
PE 274	A&M Volleyball	2
PE 277	A&M Track	2
PE 278	A&M Softball	2
PE 284	A&M Tennis	2
PE 285	A&M Gymnastics	2
PE 290	A&M Folk & Square Dance	2

A student must attain competency in six of these nine required activities, but are encouraged to achieve as many competencies as possible. See requirements governing competency examinations in the Teaching Option section of the Physical Education major.

Students minoring in this program must complete two coaching classes.

Required Courses

PE 220	Anatomical Kinesiology	3
PE 224	Maturational Kinesiology	3
PE 262	Standard First Aid & Personal Safety	3
PE 291	Rhythms for Elementary School	2
Methods Block Courses (<i>Must be taken concurrently and at UNC</i>)		
PE 235	Teaching Experience Seminar	1
PE 344	Methods & Observations of Teaching Physical Education in Elementary Schools	2
PE 345	Methods & Observations of Teaching Physical Education in Secondary Schools	3
PE 346	Assistant Teaching	1
PE 426	Tests & Measurement in Physical Education	3
Select two of the following courses:		
PE 221	Mechanical Kinesiology	3
	or	
PE 222	Physiological Kinesiology	3
	or	
PE 223	Psychological Kinesiology	3

Hours credit 43-56

The Methods Block and all of the PE Analysis & Movement classes, and all of the Competencies *must* be completed before the student may teach in this field.

Physical Education Minor — Dance Education (Men and Women)

Required Courses

PE 295	Modern Dance Theory & Technique	2
PE 297	Dance Composition	2
PE 256	Improvisation & Composition Forms	3
PE 255	Modern Dance Techniques	3
PE 456	Workshop in Modern Dance	3
The above courses should be taken in the order shown.		
Remaining minor courses required are:		
PE 290	Analysis & Movement of Folk & Square Dance	2
PE 291	Rhythms for the Elementary School	2
PE 296	Rhythmic Analysis & Dance Accompaniment	2
PE 326	Teaching of Dance	2
PE 457	Dance History & Philosophy	4
PE 459	Dance Production in High School & College	2
PE 130	Modern Dance (Beginning)	1
PE 130	Modern Dance (Intermediate)	1
PE 132	Jazz Dance	1
PE 136	Ballet	1

Hours credit 31

Suggested for non-Physical Education majors selecting this minor:

PE 220	Anatomical Kinesiology	3
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Graduate Degrees

The degrees of Master of Arts and the degree of Doctor of Education are offered in Physical Education.

M.A. in Physical Education (Men and Women)

The Physical Education Department at the University of Northern Colorado believes that applicants who wish to complete the master's degree program must have the equivalent of the UNC undergraduate major series of courses as well as the M.A. course requirements. Therefore, in evaluating undergraduate transcripts, the department chair compares the M.A. applicant's undergraduate transcript against the UNC undergraduate Physical Education requirements. When the applicant has not had an equivalent undergraduate course, he or she is held for this course or a UNC graduate course equivalent.

Required Core Courses

PE 602	Introduction to Research in Health, Physical Education & Recreation	4
PE 612	Evaluation in Health, Physical Education & Recreation	4
PE 680	Perspectives in Physical Education	4
PE 620	Advanced Anatomical Kinesiology <i>or</i>	4
PE 621	Advanced Mechanical Kinesiology <i>or</i>	4
PE 623	Advanced Psychological Kinesiology <i>or</i>	4
PE 624	Advanced Maturational Kinesiology <i>or</i>	4
PE 626	Advanced Physiological Kinesiology	4

Hours credit 16

—Each student will be required to select one of the following areas of specialization:

Teaching: Physical Education

Adapted Physical Education (see department for specific courses).

Administration of Physical Education and Athletics

Coaching

—Students must take a minimum of 15 credit hours from the area of specialization. The additional 14 hours of electives may be taken through advisement. The student may elect a second specialization area.

Specialization in the Teaching of Physical Education

Required Courses

PE 640	Curriculum in Health & Physical Education	4
PE 549	Advanced Techniques of Teaching (Select any two courses)	4
PE 635	Seminar in Sports Psychology <i>or</i>	3
PE 636	Seminar in Sports Mechanics <i>or</i>	2
PE 637	Seminar in Sports Physiology	2

Electives

PE 614	Analysis of Teaching in Physical Education	4
PE 620	Advanced Anatomical Kinesiology	4
PE 621	Advanced Mechanical Kinesiology	4
PE 623	Advanced Psychological Kinesiology	4
PE 624	Advanced Maturational Kinesiology	4
PE 626	Advanced Physiological Kinesiology	4
PE 540	Perceptual-Motor Learning Theories	3
PE 550	Administration of Physical Education	3
PE 570	Administration of Athletics	3
PE 660	Administrative Interrelationships in Health, Physical Education & Recreation	4
PE 580	Advanced Prevention, Care & Rehabilitation of Athletic Injuries	3
PE 641	Advanced Elementary Physical Education	3
PE 625	Laboratory Techniques in Kinesiological Research	3

Specialization in Administration of Physical Education and Athletics

Required Courses

PE 640	Curriculum in Health & Physical Education	4
PE 635	Seminar in Sports Psychology <i>or</i>	3
PE 636	Seminar in Sports Mechanics <i>or</i>	2
PE 637	Seminar in Sports Physiology	2
PE 660	Administrative Interrelationships in Health, Physical Education & Recreation	4
EDAD 620	Law & the Administrator	5

Electives

PE 614	Analysis of Teaching in Physical Education	4
PE 620	Advanced Anatomical Kinesiology	4
PE 621	Advanced Mechanical Kinesiology	4
PE 623	Advanced Psychological Kinesiology	4
PE 624	Advanced Maturational Kinesiology	4
PE 626	Advanced Physiological Kinesiology	4
PE 550	Administration of Physical Education	3
PE 570	Administration of Athletics	3
REC 675	Areas & Facilities in Physical Education & Recreation	4
EDAD 610	School Finance	3
EDAD 626	School-Community Relations	3
PE 670	Sociology of Sports & Physical Education	3

Specialization in Coaching

Required Courses

PE 549	Advanced Techniques of Teaching (Select any one course)	2
PE 565	Advanced Coaching Procedures (Select any one course)	2
PE 580	Advanced Prevention, Care & Rehabilitation of Athletic Injuries	3
PE 635	Seminar in Sports Psychology <i>or</i>	3
PE 636	Seminar in Sports Mechanics <i>or</i>	2
PE 637	Seminar in Sports Physiology	2

Electives

PE 550	Administration of Physical Education	3
PE 570	Administration of Athletics	3
PE 660	Administrative Interrelationships in Health, Physical Education & Recreation	4
PE 620	Advanced Anatomical Kinesiology	4
PE 621	Advanced Mechanical Kinesiology	4
PE 623	Advanced Psychological Kinesiology	4
PE 624	Advanced Maturational Kinesiology	4
PE 626	Advanced Physiological Kinesiology	4
PE 670	Sociology of Sports & Physical Education	3

Ed.D. in Physical Education

—In addition to the general requirements listed in the Graduate School section of this Bulletin, students seeking a degree in this program must have two years of teaching experience before completion of the degree.

—The following common courses or their equivalents are required. ("Equivalent" indicates a student possesses and can demonstrate the necessary knowledge and competencies acquired through previous course experience, substitute courses, or experience.) Competency examinations are required for the demonstration of an equivalency.

PE 702	History of Physical Education & Sport	4
PE 703	Research Seminar in Physical Education	4
PE 624	Advanced Maturational Kinesiology	4
PE 797	Doctoral Proposal Research	6
PE 799	Doctoral Dissertation	¹²⁻¹⁸

(See advisor for guidelines for dissertation development)
Student must select three of the four following Statistics courses:

EPRE 504	Descriptive Statistics	3
EPRE 505	Statistical Inference	3
EPRE 603	Analysis of Variance & Covariance & Other Methods of Analysis	3
STAT 606	Multiple Regression	3

All doctoral students must select one or more of the following emphasis areas for their programs:

- Curriculum and Administration
- Social Science of Sports
- Kinesiology with specializations in:
 - Physiological Kinesiology
 - Psychological Kinesiology
 - Mechanical Kinesiology

Specific requirements for each emphasis area may be obtained from the department chair or from the Dean of the School of Health, Physical Education and Recreation.

Recreation

Location: Gunter Hall
Telephone: 351-2596
Max Shirley, Chair

Faculty

Larry A. James, MA, Asst. Prof.
Max Shirley, EdD, Prof.
Norbert Van Dinter, EdD, Prof.

The Department of Recreation Education is housed within the School of Health, Physical Education and Recreation. The Department maintains a personal and professional relationship with its majors, and places a special emphasis on advising. The Department also sponsors a Recreation Majors Club through which students have opportunities to gain leadership skills through a variety of community projects.

The primary scholarly thrust of the Department is identifying and keeping abreast of current recreation and leisure behavior patterns in society, as well as refining and updating the curriculum to keep pace with these changes.

Undergraduate

A student may earn a bachelor of science (non-teaching) degree in Recreation at UNC. This undergraduate program can prepare the student majoring in Recreation to assume leadership, supervisory and beginning management roles in many settings, including eight emphasis or concentration areas: industrial, commercial, community, sports and fitness, therapeutic, youth agency, cultural arts, aging and outdoor.

The Recreation core curriculum is designed to provide the student with leadership and management skills, philosophy, and knowledge about a variety of recreation settings. All students are required to satisfactorily complete this basic core.

The 18-hour internship which is required of all senior Recreation majors at the end of their academic program, has a wide variety of locations from which to choose. There are numerous local, state, federal and private agencies which cooperate in this program. The central purpose of the internship is to help make an effective transition from the classroom to the practical situation.

Upon completion of the program as a Recreation major, the graduate will be able to function competently as an entry-level professional in a wide variety of agencies and organizations responsible for providing leisure services.

Graduate

The graduate program provides academic study in the core areas of Recreation and Parks Administration; academic study with an emphasis in therapeutic recreation; practica and internships in a variety of settings, including working with the handicapped; opportunity for research for independent study or a thesis; and study in allied areas.

The graduate program is the only one in the state of Colorado to culminate in a Master of Arts degree in Recreation Administration. The curriculum is designed to prepare the student as an administrator, supervisor, educator or researcher to assist people to live richer lives through leisure experiences. It is structured so that if the student holds an undergraduate degree from an allied field, he/she can pursue course work which may be useful in the chosen area of Recreation. A strong emphasis in therapeutic recreation is also offered.

Career opportunities are varied. Graduates are finding positions in federal, state and local government, schools, colleges, industry, hospitals, the armed services, clubs, churches, camps, resorts and other private agencies.

Undergraduate Program Requirements

—Students pursuing the B.S. degree with a non-teaching major in Recreation must plan their programs to fulfill the following requirements.

—Complete the General Education requirements of 60 quarter hours.

REC 203	Introduction to Recreation	3
REC 250	Therapeutic Recreation	3
REC 252	Social Recreation	3
REC 265	Recreation Skills	3
REC 267	Outdoor Recreation Programming	3
PE 290	Analysis & Movements of Folk & Square Dance	2
REC 337	Socio-Psychological Concepts of Leisure	3
REC 368	Volunteer Management	3
REC 369	Management of Recreation Facilities	3
REC 468	Programs in Recreation	4
REC 451	Administration of Community Parks & Recreation	5
REC 452	Internship in Recreation	18
REC 472	Recreation Leadership	4
REC 495	Senior Seminar	2
ART 348	Art for the Handicapped	3
MUS 315	Music & Recreation	2
THEA 280	Drama in the Community	3
		Hours credit 67

—One minor of 30 quarter hours, or 30 quarter hours of supporting courses selected with the approval of the major advisor.

—Senior Recreation majors will complete REC 452, 18 hours. REC 368, 468, 451, 472 and 495, a GPA of 2.30 in the required courses, and a 2.30 cumulative GPA are prerequisites for REC 452.

—Before graduation, students must possess and present a current Standard First Aid card to their advisors.

—Electives sufficient to complete requirements for the Bachelor of Science degree.

Graduate Program Requirements

The degree of Master of Arts is offered in Recreation and Parks Administration.

Students with this major may select an emphasis in Therapeutic Recreation.

Required Courses

PE 602	Introduction to Research in Health, Physical Education & Recreation	4
REC 610	Evaluation & Research in Parks & Recreation	4
REC 675	Areas & Facilities in Physical Education & Recreation	4
REC 676	Seminar in Contemporary Problems in Recreation	4
REC 677	Parks & Recreation Management	4
REC 678	Organization & Operation of Park & Recreation Services	4

Electives to be selected with advisement to meet student's professional objectives and correct deficiencies apparent after evaluation of previous college work -21

Hours credit 45

Emphasis in Therapeutic Recreation

Required Courses

REC 520	Therapeutic Recreation Services	3
REC 525	Seminar in Recreation Program Development for Special Populations	3
REC 530	Recreation for the Older Adult	3
REC 652	Graduate Internship in REC	4-16

Selected courses from other departments may be taken with advisement to meet the student's professional objectives.

College of Performing and Visual Arts

Location: Frasier Hall 102
Telephone: 351-2678
James E. Miller, Dean

The College of Performing and Visual Arts believes that the arts are the most powerful tools available for refining and broadening human experience. They represent beauty and order in our environment, and are important to cultural heritage. The specific role of the arts at UNC is to address the aesthetic and creative potentials of students by blending theory with practical study.

The College's performing groups, artists and art works have brought regional and national recognition to UNC, as well as many opportunities for the placement of graduates in prestigious performance and educational positions.

The College of Performing and Visual Arts, with 600 music, theatre and visual arts majors and 56 full-time faculty, stresses a rigorous curriculum and maintains an annual calendar of more than 300 cultural events.

The three divisions within the College — the School of Music and the Departments of Theatre Arts and Visual Arts — provide valuable experiences for students by enabling them to demonstrate their talents through numerous exhibits, concerts, operas, musicals, recitals, dance and academic performances.

Of the 56 faculty members, 12 are women; 25 have doctorates and 31 have received a master's degree. The faculty of the college includes 23 professors, 22 associate professors and 11 assistant professors.

The college maintains Frasier Theatre, a 612-seat fully rigged theater with production areas; Gray Theatre, an experimental space seating up to 125; and Foundation Hall, which seats 700 and is used primarily by the School of Music.

Visual Arts

Location: Guggenheim Hall
Telephone: 351-2143, 2477
Richard S. Munson, Chair

Faculty

Betty E. Carlisle, EdD, Assoc. Prof.
William S. Cordiner, MA, Prof.
Michael A. Coronel, MA, Asst. Prof.
David M. Haas, MA, Assoc. Prof.
Susan L. Hoover, MFA, Asst. Prof.
Dana F. Johnson, EdD, Prof.
Richard C. Luster, MFA, Assoc. Prof.

Donald A. Macfarlane, MFA, Assoc. Prof.
G. Joseph Moody, EdD, Prof.
Richard S. Munson, PhD, Assoc. Prof.
Frederic L. Myers, MFA, Assoc. Prof.
Herbert C. Schumacher, EdD, Prof.
Hyun K. Shin, MA, Assoc. Prof.
Robert B. Turner, EdD, Assoc. Prof.

The Department of Visual Arts awards the Bachelor of Arts degree in Art, and the Master of Arts degree in Art.

The Department of Visual Arts offers the opportunity to study the artistic aspects of our heritage, our culture, visual communications and personal artistic expression, as well as the arts of other cultures and civilizations. It is the purpose of the department to provide a comprehensive education in the visual arts through studio practice, art history, cultural studies and critical studies.

Students learn to produce works of art in a variety of media, and to understand the processes of various art forms as they relate to personal expression and professional application. Through the programs of the Art Department, students learn to analyze and make reasoned, critical judgments about the significance and quality of works of art. This approach gives students an excellent background for recognizing and understanding art in context, which is necessary preparation for the many careers in the visual arts.

Bachelor of Arts Degree

The undergraduate study of art, leading to the Bachelor of Arts degree, prepares students for a variety of careers, typically as artists/craftspersons, art teachers, or as graphic artists. As a major in art, a student can choose a program emphasis in Art, Art Education or Graphic Arts.

The Art emphasis is a liberal arts program designed to give students broad exposure to the studio arts and art history. It prepares the artist/craftsperson, and is an ideal preparatory program for students planning to do graduate study in Art or Art History.

If a student selects the Art Education emphasis and successfully completes the program, the student will be certified to teach art in elementary and secondary schools. The Art Education program is one of the most comprehensive and thorough programs of its kind.

The Graphic Arts emphasis prepares the student for a career in a commercial field, such as graphic design, illustration, advertising, publications and communications.

The areas of emphasis in the Department of Visual Arts share a common freshman core curriculum and many of the same sophomore studio courses. The undergraduate curriculum is designed to allow students the opportunity to change an emphasis, share areas of emphasis, and take elective courses in all three areas of emphasis. In the Art emphasis, upon completion of the freshman core curriculum and the appropriate required studio courses, a student may elect to concentrate studies in art history or one of the following studio areas: ceramics, drawing, fiber arts, painting, printmaking or sculpture.

The goal of the Department is artistic and academic excellence, a tradition it has long held as one of the oldest art departments in the state of Colorado.

Art Minor

A minor in Art is available to students majoring in other programs or departments. The Art minor is designed to broadly acquaint students with the visual arts through studio practice and the historical and cultural study of art. Art minors learn to produce works of art in a variety of media and to

understand the significance of art as an important aspect of our heritage and culture. The minor in Art allows students to concentrate part of their studies in art history or a studio area.

Master of Arts Degree

The graduate programs in the Department of Visual Arts lead to the Master of Arts degree. The Master's degree program offers a concentrated, in-depth and individualized course of study. The graduate student in Art may choose an emphasis in art education, ceramics, drawing, fiber arts, painting, printmaking or sculpture. The program provides specialized learning opportunities allowing students to gain expertise in an area of their choice. In order to meet the particular needs of students, the programs afford the opportunity to develop as individualized a course of study as possible, taking into account degree requirements and the recommendations of the student's graduate committee. A graduate committee consists of a faculty advisor and two other art faculty members in the chosen area of study or related areas.

A written thesis is required of all Master of Arts degree candidates in the Department of Visual Arts. For those who select an emphasis in one of the studio areas, an exhibition of art work completed for the degree is also required. Students with an emphasis in Art Education are required to do a research thesis. Faculty expertise is available to assist the student with various approaches to research in Art Education, ranging from curricular issues to theoretical problems.

Graduate programs in the Art Department are ideally suited to the student who wants to develop extensive expertise in a studio area or in a particular aspect of art education. Any of the areas of emphasis offered are suitable for the elementary or secondary school art teacher seeking a master's degree. It is the goal of the Department of Visual Arts to encourage, foster and provide artistic and academic excellence through the pursuit of the Master of Arts degree.

Bachelor of Arts Degree in Art

An Art major consists of a minimum of 100 credit hours of course work.

Program Requirements

—Meet all General Education requirements as specified in this Bulletin.

—Complete the following required Freshman Core Curriculum courses:

Fall Quarter

ART 180	Introduction to Art	3
ART 181	History of Art I	4
ART 184	Drawing & Design I	3

Winter Quarter

ART 182	History of Art II	4
ART 185	Drawing & Design II	3
ART 186	Color Theory	3

Spring Quarter

ART 183	History of Art III	4
ART 187	Three Dimensional Design	3
ART 233	Introduction to Life Drawing	3

Hours credit 30

—All Art and Art Education students must complete the following required studio courses as prerequisites to upper division studio courses:

ART 211	Ceramics I	3
ART 212	Ceramics II	3
ART 221	Fibers I	3
ART 224	Fibers II	3
ART 231	Painting I	3
ART 232	Painting II	3
ART 252	Printmaking I	3
ART 253	Printmaking II	3
ART 261	Sculpture I	3
ART 262	Sculpture II	3

Hours credit 30

Art Emphasis

—Complete 40 credit hours of Art electives, including two advanced (300 level) Art History courses. Subject to advisement, select an area or areas of concentration from the following: Art History, Ceramics, Drawing, Fiber Arts, Painting, Printmaking and Sculpture. Freshman core curriculum courses and required studio courses do not apply to an area of emphasis.

—The Art Seminar is required of all Art emphasis students each quarter of the junior and senior year (1 credit hour per quarter for a total of six credit hours. Junior year: ART 310, Fall; ART 320, Winter; ART 330, Spring. Senior year: ART 410, Fall; ART 420, Winter; ART 430, Spring).

—The 400 level studio courses may be repeated once for an additional three credit hours.

—Complete up to 20 credit hours of University electives. These may be concentrated in the Department of Visual Arts. Students may be advised or required to take courses in specific areas to augment their studies in Art.

Art Education Emphasis

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

Students who are not in the Art Education emphasis and are not seeking certification, may enroll in art education courses to provide background for teaching art in the helping professions and other non-traditional programs. Appropriate advisement is recommended to plan a suitable course of study for a non-certification program.

—Complete the following required Art Education courses:

ART 241	Basic Crafts Design	3
ART 242	Jewelry	3
ART 248	Art for the Handicapped	3
ART 340	Clinical Experience: K-12 Art	2
ART 440	Cultural Studies in K-12 Curriculum (Fall)	4
ART 441	Readings in Art Education (Fall)	3
ART 442	Curriculum in Art Education (Winter)	4
ART 443	Art Education Studio & Strategies (Spring)	3

Hours credit 25

—Complete 15 credit hours of Art electives subject to advisement by the Art Education advisor. A minimum of nine of these elective credits must be in an area of concentration (300 level or above courses): Art History, Ceramics, Drawing, Fiber Arts, Painting, Printmaking or Sculpture.

—Complete JMC 346 Basic Photography.

—Students in Art Education must apply for admission to the

Professional Teacher Education program (PTE). At the time application is made to PTE, the student must also apply for the Art Education/PTE program.

—Application to the Art Education/PTE program requires the completion of EDFE 270 for a minimum of two quarter hours of credit. Art Education students must complete this requirement by taking one quarter hour 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 or secondary age students.

—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 of the junior year. Application to the PTE program must be made at the beginning of the quarter. Application to PTE requires the student to have declared a major in the Art department. A copy of the requirements for departmental admission to PTE should be obtained from the Art Education advisor prior to making application for the PTE program.

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

—Complete the College of Education PTE requirements (see Art Education advisor).

—ART 248 may be used to fulfill one of the PTE Special Education courses.

—Comprehensive Art Education PTE Review. Before receiving approval to student teach, an Art Education student must complete the Comprehensive Art Education PTE Review. This review is scheduled each quarter. Students are advised to complete the review at least two quarters prior to the quarter they plan to student teach. In order to take the Comprehensive Review, students must have completed the prerequisites, and be currently enrolled in the Art Education program.

Students being reviewed make a presentation to this committee in accordance with the requirements specified in the departmental guidelines available from the Art Education advisor 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:

- Oral presentation
- Visual presentation
- Use of media and techniques
- Design qualities
- Artistic excellence
- Ability to talk about his/her art
- Intentions of his/her art
- Philosophy of teaching
- Attitude
- Poise and self-confidence

All students preparing for the review should work closely with the advisor.

The committee will determine whether the student satisfactorily passes the review and is approved to student teach; passes with stated conditions that must be met prior to gaining approval to student teach; or fails to satisfactorily pass the review. A student who fails the review will not be approved to student teach, but 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.

—Following satisfactory completion of the review, a student is eligible to student teach.

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

Graphic Arts Emphasis

The Graphic Arts emphasis prepares students for careers in the commercial fields of art such as graphic design, illustration, advertising, publications and communications. Students work toward the completion of a placement portfolio.

Graphic Arts students must complete the following required studio and preprofessional courses as prerequisites to upper division (300 level and above) courses:

ART 231	Painting I	3
ART 232	Painting II	3
ART 234	Interpretive Drawing	3
ART 240	Lettering	3
ART 252	Printmaking I	3
ART 253	Printmaking II	3
ART 270	Graphic Arts I	3
ART 271	Graphic Arts II	3
ART 272	Graphic Drawing	3
ART 290	Visual Thinking & Visual Images	3
		Hours credit 30

Complete the following required Graphic Arts emphasis courses:

ART 332	Watermedia Painting	3
ART 334	Interpretive Drawing	3
ART 370	Graphic Arts III	3
ART 372	Copy Preparation & Camera Procedures	3
ART 374	Illustration I	3
ART 376	Basic Typography	3
ART 379	History of Graphic Arts	4
		Hours credit 22

—Complete 18 credit hours of upper division Art and GraArts phic electives, subject to advisement by the Graphic Arts advisor.

—Complete JMC 346 Basic Photography.

—Complete up to 20 credit hours of University electives. These may be concentrated in the Department of Visual Arts. Students may be advised or required to take courses in specific areas to augment their studies in Graphic Arts.



Art Minor

The Art minor is an academic (non-teaching) minor consisting of 36 quarter hours of Art course work.

Required Courses

ART 181	History of Art I	4
ART 184	Drawing & Design I	3
ART 185	Drawing & Design II	3
ART 187	Three-Dimensional Design	3
		Hours credit 13

Take one Art History course from the following:

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

Take three studio courses from the following:

ART 211	Ceramics I	3
ART 221	Fibers I	3
ART 252	Printmaking I	3
ART 261	Sculpture I	3
ART 231	Painting I	3
		Hours credit 13

—Elect 10 hours of course work in Art to complete the minor requirement of 36 hours. At least six of these quarter hours must be concentrated in one of the studio areas selected from the group here. An Art minor advisor is required.

Master of Arts Degree

The Master of Arts degree requires a minimum of 50 quarter hours and permits in-depth study in the following areas of emphasis: Art Education, Ceramics, Drawing, Fiber Arts, Painting, Printmaking and Sculpture.

Program Requirements

—Applicants must have completed an undergraduate degree in Art or Art Education, or the equivalent, with a minimum grade point average of 3.0, based on the last 100 quarter hours of course work.

—After the application has been evaluated and accepted by the Graduate School and the Department of Visual Arts, the student will be assigned an academic advisor in the area of emphasis designated by the applicant.

—It will be the joint responsibility of the student and the academic advisor to select a graduate committee of at least two other faculty from the Art department. This committee must be chosen during the first quarter in the graduate program. To change committee membership, a student must formally petition the department graduate coordinator. The graduate coordinator and the department academic affairs committee will review the student's petition. The graduate coordinator will advise the student of their decision in writing.

—The student, with the approval of the academic advisor and his/her committee, will develop a course of study for the degree program. Students having less than 16 quarter hours of art history in their undergraduate program will include enough hours in art history to make up the deficiency over and above the quarter hours required for a master's degree. The approved course of study will be submitted, typewritten, to the graduate coordinator. Changes in the course of study must be approved by the student's academic advisor and his/her committee, and submitted to the graduate coordinator. The course of study must include a minimum of 40 quarter hours of course work. No less than 25 quarter hours of course work must be taken in the designated area of emphasis.

—Each student is required to have a graduate committee review each quarter. The student will submit a written report of the graduate review to the academic advisor and the graduate coordinator. The student assumes responsibility for scheduling quarterly graduate reviews. Two consecutive quarters of unsuccessful graduate review will be considered grounds for termination of the program.

—After completing two quarters in the degree program, the student will prepare and submit a written thesis proposal. The thesis proposal will be prepared according to departmental guidelines and the recommendations of the student's committee.

The proposal must be approved by all members of the committee prior to beginning the thesis. Copies are submitted to the academic advisor and the graduate coordinator.

—The Master of Arts degree in Art requires the student to complete ten quarter hours of thesis work. Students taking a master's degree in a studio area are required to present an exhibit of their thesis work in order to complete their program. Works for exhibition must be approved by the academic advisor and committee. One of the works from the graduate thesis exhibit may be retained by the department, and will be selected by the student's graduate committee.

—The academic advisor, committee and the graduate coordinator have the authority to make all final decisions in reference to the student's program and thesis proposal. The student agrees to accept the standards of the Department and the University for the master's degree.

—Upon completion of the program, the student will be required to demonstrate competence in the designated area of emphasis in accordance with approved departmental standards. Permit forms, to demonstrate competence or to take the comprehensive examination, will be secured by the student from the Graduate School office. The student's committee must approve the candidate for graduation.

Application Procedures

Students who have completed an undergraduate degree in Art or Art Education or the equivalent, and whose grade point average is a minimum of 3.0 based on the last 100 quarter hours of course work, may apply for the Master of Arts degree program in the Department of Visual Arts. Application for admission to the Graduate School is made to: The Graduate School, University of Northern Colorado, Greeley, Colorado 80639.

Initial clearance by the Graduate School does not qualify a graduate student for a Master of Arts degree program in the Department of Visual Arts. Admission to the master's degree program in Art is approved by the faculty of the Department of Visual Arts following an evaluation of the applicant's admission materials.

At the time of application to the Graduate School, departmental application materials should be sent to: Graduate Coordinator, Department of Visual Arts, University of Northern Colorado, Greeley, Colorado 80639.

Application materials must include the following:

—A slide portfolio of no less than 20 different pieces of work in the proposed area of study on 135mm color slides of professional quality.

—A typewritten statement by the applicant elaborating the reasons for pursuing advanced studies in Art or Art Education.

—Three letters of recommendation.

—An official transcript of all undergraduate and previous graduate work.

—If possible, a personal interview with the graduate coordinator and faculty representatives of the designated area of emphasis should be arranged.

An applicant who does not have an undergraduate major in Art or Art Education, or its equivalent, will be required to complete specified course work or areas of study prior to beginning the program for the Master of Arts degree. These quarter hours will be in addition to those required for the graduate degree program.

Additional information concerning departmental program requirements and guidelines is available upon request from the graduate coordinator.

School of Music

Location: Frasier Hall 102

Telephone: 351-2678

James E. Miller, Director

Richard Bourassa, Assistant Director

Robert Ehle, Assistant Director

Faculty

A. Eugene Aitken, PhD, Prof.

Shari Anderson, MM, Assoc. Prof.

Jim Bailey, MM, Asst. Prof.

Edwin D. Baker, MM, Prof.

Loren W. Bartlett, PhD, Prof.

Richard N. Bourassa, DA, Assoc. Prof.

R. Evan Copley, PhD, Prof.

Charmaine Coppom, MA, Assoc. Prof.

Eugene Corporon, MA, Assoc. Prof.

Elza L. Daugherty, EdD, Asst. Prof.

Dale Dykins, MM, Prof.

Robert Ehle, PhD, Prof.

Kenneth G. Evans, PhD, Prof.

Derryl F. Goes, MAT, Assoc. Prof.

Daniel Graham, DMA, Prof.

Roger Greenberg, MM, Asst. Prof.

Donald L. Hamann, EdD, Asst. Prof.

Errol Haun, DMA, Assoc. Prof.

Jack Herrick, MA, Assoc. Prof.

Joseph E. Himmel, MM, Prof.

William R. Jamieson, MA, Assoc. Prof.

Michael Jothan, PhD, Asst. Prof.

Monrico Lehnert, MA, Assoc. Prof.

Sanford A. Linscome, DMA, Prof.

James E. Miller, PhD, Prof.

Kathy Bundock Moore, MA, Asst. Prof.

William A. Pfund, MM, Prof.

Mary Rhoads, PhD, Prof.

Jack C. Robinson, MM, Assoc. Prof.

Walter A. Schenkman, DM, Prof.

Howard M. Skinner, DM, Prof.

Ronald Smith, MM, Assoc. Prof.

Walter G. Smith, MFA, Assoc. Prof.

James S. Upton, PhD, Prof.

David Wallace, MA, Asst. Prof.

Approximately 400 music majors annually have made UNC their choice for many reasons. The School of Music offers nationally recognized faculty with specialists on every instrument, including harp, string bass, harpsichord, tuba and classical guitar. The School maintains more than thirty performing ensembles, a number of which are nationally recognized. Some of these ensembles, together with other designated courses, are also offered as General Education electives for the non-music major.

The UNC School of Music, with 37 full-time and six part-time faculty, is organized into eight departments, each headed by a chairperson, and five performance programs, each with a director. The departments are Brass and Percussion, Music

Education, History and Literature, Piano and Organ, Strings, Theory and Composition, Voice and Woodwinds. The performance programs are Bands, Choirs, Opera Theatre, Orchestras and Jazz Studies.

Students may choose from a full range of degrees, bachelor through doctoral programs, and from emphases in performance, conducting, pedagogy, music education, music theory, music history and music theatre. Considerable variety and depth of course offerings are available at UNC. The academic year program is augmented by a comprehensive summer schedule with a full complement of music theory, music history, music education and applied music opportunities; and with workshops in special areas such as jazz, strings, Orff Schulwerk, recorder performance, multi-cultural education, choral issues, woodwind techniques, conducting, and many others.

In addition, UNC possesses one of the most active summer performance programs in the Rocky Mountain region. The Summer Festival of the Arts, a definite asset for undergraduate and graduate majors, offers concentrated, pre-professional performance experience and association with outstanding guest artists, conductors and clinicians.

General objectives of the University of Northern Colorado School of Music are based on service and leadership in the arts at local, state, regional and national levels.

An integral unit within the University, the School of Music embraces the role and mission statements of the University of Northern Colorado and has designed its goals and objectives to support and enhance institutional purposes and directions. The School of Music lends considerable support through its course offerings to programs in Elementary Education, Special Education and Recreation.

The primary goal of the UNC School of Music is to develop skilled and sensitive musicians at the undergraduate, master's and doctoral levels, including performers, conductors, educators, composers, historians, theorists and administrators. The UNC School of Music maintains a two-fold objective of providing the strongest preparation possible in music education, theory and history, while encouraging the highest standards of performance.

School of Music graduates are well accepted in the professional world. UNC-prepared educators hold positions at universities, colleges, high schools, junior high and elementary schools throughout the United States and Canada. School of Music performance graduates are found in professional symphony orchestras, opera and musical theatre repertory companies, the nation's premier military ensembles, top freelance positions in metropolitan centers, and in professional chamber ensembles and jazz bands.

Admission to the School of Music involves general admission to the University, and formal application for admission to the School of Music, to include audition and interview. Admission forms are available from the office of the Director of the School of Music.

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.

All graduate students enrolling in the School of Music as majors are expected to attend major recitals and concerts on a regular basis as part of their course program.

Individual Performance

The music major must demonstrate continuous growth in ability to perform on his or her major instrument. Each student is expected to appear frequently as a soloist in the weekly student recital series. During the senior year, the student will be presented in public recital. Such proficiency in performance requires continuous study of the major instrument, or voice, under the tutorship of a private teacher.

Credit for all individual music instruction will be entered in the student's registration under the title and course number appearing here. 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 on the degree sought: 1 — Music Performance major; 2 — Music Education major; or 3 — Non-music major.

Refer to the Handbook for specific references.

Freshmen and sophomores: (200 series) Introductory work in the fundamentals of the chosen performance medium — technical studies and repertoire will be selected according to the student's needs.

Juniors and seniors: (400 series) Continuation of technical studies for further development of performance competency. Repertoire from standard literature will be selected. Voice majors will begin to draw from Italian, German and French sources in the art song, opera and oratorio.

Graduate students: (600 series) Music study in performance at this level will assume a technical proficiency sufficient for extensive familiarity with the advanced repertoire, drawing upon all periods and styles of solo performance.

269, 469, 669 Individual Performance in Voice for those with non-voice emphasis. 2-4 hours credit. Consent of instructor.

270, 470, 670 Individual Performance in Voice. 2-4 hours credit. Consent of instructor.

271, 471, 671 Individual Performance in Piano. 2-4 hours credit.

272, 472, 672 Individual Performance in Organ. 2-4 hours credit. Consent of instructor.

273, 473, 673 Individual Performance in Strings. 2-4 hours credit.

274, 474, 674 Individual Performance in Woodwinds. 2-4 hours credit.

275, 475, 675 Individual Performance in Brass. 2-4 hours credit.

276, 476, 676 Individual Performance in Percussion. 2-4 hours credit.

277, 477, 677 Individual Instruction in Composition 2-4 hours credit. Consent of instructor.

278, 478, 678 Individual Performance in Harp 2-4 hours credit. Consent of instructor.

279, 479, 679 Individual Performance in Guitar. 2-4 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 a vocal or an instrumental organization for a minimum of eight hours. The remaining three quarter hours will be in a piano ensemble.

Credit for all music performance organizations will be entered on the student's registration under the title and course number appearing here:

200 series — Freshmen and sophomores

400 series — Juniors and seniors

600 series — Graduate students

Major Musical Organizations

268, 468, 668 Summer Festival Orchestra. 1-6 hours credit.

280, 480, 680 Mixed Concert Choir, 1 hour credit.

281, 481, 681 University Chorus, 1 hour credit.

283, 483, 683 Women's Concert Choir, 1 hour credit.

284, 484, 684 Varsity Men's Glee Club, 1 hour credit.

287, 487, 687 Summer Symphonic Band, 1 hour credit.

290, 490, 690 Wind Ensemble, 1 hour credit.

291, 491, 691 Symphony Band, 1 hour credit.

293, 493, 693 Concert Band, 1 hour credit

295, 495, 695 University Brass Choir, 1 hour credit.

296, 496, 696 University Symphony Orchestra, 1 hour credit.

Musical Performance Organizations

221, 421, 621 Small Jazz Ensembles, 1 hour credit. Contemporary Small Jazz Ensemble, Dixieland Jazz Band, Jazz Bebop Quintet, Jazz Octet, Jazz Quartet, Jazz Quintet, Jazz Rock Ensemble, Jazz Sextet I, Jazz Sextet II, Jazz Trombone Quintet, Jazz Tuba Ensemble

224, 424, 624 Vocal Jazz Ensemble, 1 hour credit.

230, 430, 630 String Ensemble, 1 hour credit.

231, 431, 631 Brass Ensemble, 1 hour credit.

232, 432, 632 Woodwind Ensemble, 1 hour credit.

233, 433, 633 Percussion Ensemble, 1 hour credit.

234, 434, 634 Piano Ensemble, 1 hour credit.

235, 435, 635 Classical Guitar Ensemble, 1 hour credit.

236, 436, 636 Reading Jazz Band, 1 hour credit.

267, 467, 667 Sinfonia, 1 hour credit.

282, 482, 682 University Singers, 1 hour credit.

285, 485, 685 Opera Workshop, 1-3 hours credit.

286, 486, 686 Chorus & Orchestra Workshop, 1 hour credit.

288, 488, 688 Opera Orchestra, 1 hour credit.

292, 492, 692 Marching Band, 1 hour credit.

294, 494, 694 Jazz Ensemble, 1 hour credit.

297, 497, 697 Chamber Orchestra, 1 hour credit.

Honors —The School of Music participates in the Honors Program. See Honors Program section in this Bulletin.

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.

—Complete 60 hours of General Education (Foundations and all category requirements) as specified in this Bulletin. Music Education and liberal arts majors may use MUS 141, 142, 143, Music Literature and Styles, I, II, III (6 hours) toward 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 Music.

—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, Concert Band, University Symphony Orchestra, or University Brass Choir.

—Meet all music performance and recital attendance requirements as listed in the respective departmental handbook.

—Electives to meet requirements for graduation.

—An 87-hour major in Music outlined here:

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	18th Century Counterpoint	3
MUS 302	Form & Analysis	3
	Individual Performance Minimum	24
	Major Musical Organizations Minimum	12
	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

Bachelor of Music Degree

The Bachelor of Music degree prepares 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:

—Complete at least 45 hours of General Education, including Foundations of Education and all category requirements. MUS 152 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.

—Complete required courses listed below for Instrumental, Voice, Piano or Theory and Composition Emphasis.

—Meet all recital attendance requirements as listed in the respective departmental Applied Music and Performance Handbook.

—When a student is accepted in the performance program, four credit hours of individual performance (1 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.

—Electives to meet requirements for graduation.

—Students pursuing the Vocal Emphasis are required to have 27-30 hours of study in foreign languages. Specifics will be determined in consultation with the major advisor.

—Students pursuing the Instrumental Emphasis are required to have six credit hours of piano study. Placement in class piano or private lessons is determined by audition.

—Students pursuing the Vocal Emphasis are required to have six quarters of piano study. The level of study will be determined by audition.

—Students wishing to enter the Theory and Composition Emphasis in the freshman year must submit evidence of prior

training in the area to the Department of Theory and Composition. 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 faculty should be arranged if possible.
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 <i>and/or</i>	3
MUS 260, 261, 262	Intermediate Class Piano I, II, III <i>and/or</i>	3
MUS 271, 471	Individual Performance in Piano	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	18th Century Counterpoint	3
MUS 302	Form & Analysis	3
MUS 303	Instrumentation	3
MUS 320, 321, 322	Instrumental Techniques & Conducting I, II, III	3
MUS 400	Pedagogy of Music Theory	3
MUS 403	Acoustics of Music	3
MUS 427	Orchestral Excerpts (Strings) <i>or</i>	3
MUS 428	Orchestral Excerpts (Brass) <i>or</i>	3
MUS 429	Orchestral Excerpts (WW)	3
MUS 449	History of Musical Instruments	12
	Individual Performance minimum	12
	Major Musical Organizations minimum	12
	Small Ensembles	12
	Hours credit	138



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 <i>and/or</i>	3
MUS 260, 261, 262	Intermediate Class Piano I, II, III <i>and/or</i>	3
MUS 271, 471	Individual Performance in Piano	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	18th Century Counterpoint	3
MUS 302	Form & Analysis	3
MUS 303	Instrumentation	3
MUS 323, 324	Choral Techniques & Conducting I, II	2
MUS 410	Introduction to Vocal Pedagogy	2
MUS 445	German for Singers	2
MUS 446	French for Singers	2
MUS 447	Italian for Singers	2
	Individual Performance (Minimum)	42
	Major Musical Organizations (Minimum)	12
	Non-Music Requirement: 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	18th Century Counterpoint	3
MUS 302	Form & Analysis	3
MUS 323, 324	Choral Techniques & Conducting I, II	2
MUS 350, 351, 352	Principles of Piano Teaching I, II, III	3
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, 455, 456	Pedagogical Approaches to Keyboard Literature I, II, III	6
	Major Musical Organizations (minimum)	12
	Hours credit	125

Theory and Composition 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 <i>and/or</i>	
MUS 260, 261, 263	Intermediate Class Piano I, II, III <i>and/or</i>	
MUS 271, 471	Individual Performance in Piano	12-18
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	18th Century Counterpoint	3
MUS 302	Form & Analysis	3
MUS 303	Instrumentation	3
MUS 320, 321, 322	Instrumental Techniques & Conducting I, II, III	3
MUS 323, 324	Choral Techniques & Conducting I, II	2
MUS 340	Survey of History & Literature of Jazz	3
MUS 360	Voice Class	1
MUS 361	Flute & Saxophone Class	1
MUS 362	Clarinet Class	1
MUS 363	Double Reed Class	1
MUS 364	Trumpet & 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 Form & Analysis	3
MUS 277, 477	Individual Instruction in Composition	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 admission to the School of Music as majors in a performing area in 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 programs to meet the following requirements:

- 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 (6 hours) toward meeting the General Education requirements. MUS 152 may be selected to satisfy category "C" of the General Education requirements. All other General Education courses must be outside Music.

- Complete the Professional Teacher Education program (46) hours. Please note that the PTE program accompanying this major involves the following adaptations: MUS 414 satisfies the EDSE 406 or EDSE 407 requirement. MUS 210 is the departmental equivalent of EDLS 360.

- Complete the required courses listed for the Instrumental Emphasis or the Vocal, Piano and General Emphases.

- Meet requirements for admission to the Professional Teacher Education Program.

- Complete all music courses designated PTE, choral or instrumental conducting courses, and required techniques classes before student teaching.

- Meet all music performance, recital attendance and music education requirements stated in the respective department handbooks.

- Complete electives to meet requirements for graduation.

- 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 11 quarters. In addition, one quarter hour must be earned in a major musical organization each quarter in residence, for a minimum of 11 quarters.

- Marching Band is required during fall quarter of all freshmen, sophomore and junior wind and percussion majors on campus pursuing the instrumental music education degree. Transfer students may transfer a maximum of one quarter of credit in Marching Band, with additional requirements 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

Minimum requirements for application to PTE are printed in the front of the Bulletin. Students pursuing the BME degree who have completed 45 quarter hours should apply for admission to the PTE program by the end of the sophomore year.

Preferably, this will be done during the quarter in which students are enrolled in MUS 210. 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 of the PTE committee, Music Education majors must:

- Demonstrate an acceptable level of performance on their major instrument. Evaluation will be through jury examinations conducted by Music faculty and scheduled performances in the weekly recital series.

- Demonstrate proficiency in functional piano to the satisfaction of Piano faculty.

- Maintain a 2.50 GPA in the required freshman and sophomore Music Theory classes.

- Demonstrate professional promise as a teacher to the satisfaction of the Music Education faculty.

- Meet all music performance and recital attendance requirements listed in the respective departmental Handbooks.

- Continue to show professional growth in 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's being dropped from the PTE Music Education curriculum.

- Students pursuing the Instrumental emphasis are required to have six quarters of piano study. The level of study will be determined by an audition and availability of staff.

- String majors should substitute two quarters of private instruction on a secondary instrument for MUS 163, 164, and 165.

- Percussion majors are excused from MUS 366.

- Students pursuing Vocal, Piano and General emphases are limited to a maximum of ten hours of MUS 285 and 485 applicable to the 16 required hours of electives.

- Piano majors are required to take at least three courses from 415, 416, 417, 418, 419 and 420. These courses are open to all students at the sophomore level or above.

- Upper level proficiency in voice is required as a prerequisite to MUS 445, 446, and 447.

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 & Styles I, II, III	3
MUS 160, 161, 162	Beginning Class Piano I, II, III <i>or</i>	3
MUS 260, 261, 262	Intermediate Class Piano I, II, III	6
MUS 163, 164, 165	Beginning Strings I, II, III	3
MUS 201, 202, 203	Advanced Sight & 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	18th Century Counterpoint	3
MUS 302	Form & Analysis	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 & Conducting I, II, III	3
MUS 356	Marching Band Techniques I	1
MUS 357	Marching Band Techniques II	1
MUS 358	Marching Band Techniques III	1
MUS 360	Voice Class	1
MUS 361	Flute & Saxophone Class	1
MUS 362	Clarinet Class	1
MUS 363	Double Reed Class	1
MUS 364	Trumpet & Horn Class	1
MUS 365	Low Brass Class	1
MUS 366	Percussion Class	1
MUS 412	Instrument Repair & Care	1
MUS 414	Music for Students with Special Needs	3
MUS 443	Instrumental Literature	3
Individual Performance		22
Major Musical Organization		11

Electives

To be selected from the following: 8

		Hours credit	130
MUS 314	Guitar in the Classroom	1	
MUS 316	Teaching Music Listening	3	
MUS 317	Choral Literature for Elementary through High School Students	2	
MUS 318	Music in Early Childhood	3	
MUS 325	Choral Conducting & Literature for High School	1	

MUS 340	Survey of History & Literature of Jazz	3
MUS 341	Introduction to the Arts	2
MUS 401	Improvisation	2
MUS 410	Introduction to Vocal Pedagogy	2
MUS 449	History of Musical Instruments	3
MUS 451	Kodaly — His Impact on American Music Education	1
MUS 452	Orff Schulwerk in American Schools	1
MUS 457	Public Relations in School Music	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 <i>and/or</i>	3
MUS 260, 261, 262	Intermediate Class Piano I, II, III <i>or</i>	3
MUS 271, 471	Individual Performance in Piano (Voice majors)	6-12
MUS 269, 469	Individual Performance in Voice (Piano majors)	10
MUS 410	Introduction to Vocal Pedagogy	2
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	18th Century Counterpoint	3
MUS 302	Form & Analysis	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 & Conducting I, II	2
MUS 325	Conducting & Teaching Choral Music in Junior-Senior High School	2
MUS 359	Woodwind Class	1
MUS 367	Brass & Percussion Class	1
MUS 368	String Class	1
MUS 414	Music for Students with Special Needs	3
Individual Performance		22
Major Music Organization		11

Electives

To be selected from courses below:		16
		Hours credit 112-122
MUS 285, 485	Opera Workshop	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
MUS 317	Children's Song Literature	3
MUS 318	Music in Early Childhood	3
MUS 340	Survey of History & 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 415, 416, 417, 418, 419, 420	Piano Literature I, II, III, IV, V, VI	12
MUS 445	German for Singers	2
MUS 446	French for Singers	2
MUS 447	Italian for Singers	2
MUS 451	Kodaly — His Impact on American Music Education	1
MUS 452	Orff Schulwerk in American Schools	1
MUS 457	Public Relations in School Music	1

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 on the recommendations 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 listing, "Second Baccalaureate Degree Program" in this Bulletin.

Requirements

- Complete requirements for the BME degree in Music Education.
- Complete performance and organization/ensemble requirements for the B.M. degree.
- Present a complete graduation recital.
- Meet all music performance and recital attendance requirements as listed in the Applied Music and Performance Handbooks of the respective departments.
- Complete requirements listed below in an emphasis area. (See requirements in the Bachelor of Music degree section).

Instrumental Emphasis

—Complete a minimum of 20 additional hours for a total of 42 hours in Individual Performance and 14 additional hours in large and small ensembles.

—Complete the following required courses:		
MUS 100	Recitals, Concerts, Productions	0
MUS 400	Pedagogy of Music Theory	3
MUS 403	Acoustics of Music	3
MUS 449	History of Musical Instruments	3
	Individual Performance	20
	Ensembles	14
		Hours credit 43

Voice Emphasis

—Complete a minimum of an additional 26 hours for a total of 48 hours in Individual Performance in Voice.

—Complete 27-30 hours of a foreign language.

—Complete the following required courses:

MUS 100	Recitals, Concerts, Productions	0
MUS 285, 485	Opera Workshop	6
MUS 316	Teaching Music Listening	3
MUS 410	Introduction to Vocal Pedagogy	2
MUS 445	German for Singers	2
MUS 446	French for Singers	2
MUS 447	Italian for Singers	2
	Individual Performance	26

Non-Music Requirements

Foreign Language	27-30
	Hours credit 70-73

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 33 required hours (maximum of 6 hours performance and 3 hours ensemble participation may apply toward meeting elective requirements).

Students who wish to use Voice as a credit toward their minor requirements must audition and have permission from 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

Graduate Programs

Graduate Admission

Admission to the Graduate School does not guarantee admission to the School of Music. Prerequisite to admission to any graduate program in Music is completion of an appropriate undergraduate degree. Admission will be based on an evaluation of the student's competencies and the content of the undergraduate program. For application forms and admission requirements for programs in the School of Music, students should write the Graduate Coordinator, School of Music.

Graduate Advisory Examinations

Advisory examinations in music history and literature, music theory, music education, writing skills and instrumental techniques are given during the first week of graduate study. Consult the appropriate program for specific examinations

required. Courses required on the basis of advisory results become part of the degree requirement.

Residence Requirement

Students seeking the master's or specialist's degree program may not use the alternative method of satisfying the residence requirement (see Graduate Degree section).

Master of Music Education Degree

The Master of Music Education degree has been developed for the music teacher who has made a professional commitment to effective music instruction in grades K-12. To assist such students, the faculty believe it imperative that the curriculum should provide experiences designed to develop and enrich musical competencies, professional understandings and skills, and personal qualities that will allow the teacher to function in a world and in a profession of perpetual change.

Advisory examinations are required in music history and literature, music theory, writing skills, music education, and for instrumental majors, instrumental techniques. Each graduate Music Education major will include the following core courses in his or her curriculum: MUS 519, 533, 610, 615 and 618. MUS 615 will be taken during the first quarter in residence.

Qualified graduate students may follow one of the four tracks presented here:

Track I

Track I serves to strengthen musical competencies by emphasizing a balanced program between courses in music content, music education and performance. It encourages flexibility in each of several broad areas without sacrificing a basic structure necessary for strong musical growth.

Each candidate will audition on his or her major instrument and will take advisory examinations in history, music education and theory. All examinations will be completed during the first week of the candidate's first quarter.

Course advisement regarding courses taken and the project will be based on advisory examinations, letters of recommendation and interviews.

Qualifications to pursue the Track I program must include: Satisfactory undergraduate record indicating understanding of the essential elements of music and education; evidence of teaching ability; evidence of necessary motivation and mental endowment for competent graduate work. Investigation based upon these criteria should be made during the student's first term of residence. The students may be required to correct certain deficiencies prior to admission to the program.

To allow flexibility in individual performance and ensemble participation, a candidate on this track may choose study outside his or her major individual performance area and work in small ensembles under the following conditions:

—Candidate must audition on his or her major instrument before the performance faculty.

—If the candidate qualifies at the 400 level or above on his or her major instrument, he or she may elect individual or class instruction on an instrument other than his or her own major instrument.

—The candidate who qualifies at the 400 level or above on his or her major instrument may also elect to use two of his or her three ensemble credits in small ensembles. He or she must, however, use the other ensemble credit in his or her major area large ensemble. Written permission will be required from the major ensemble director each quarter a small ensemble is substituted.

Candidates on this track who do not qualify at the 400 level or above must take six hours in their major instrument and three hours in their major large ensemble.

Courses in Music Content	12-15
Courses in Music Performance (6 hours individual performance, 3 hours ensemble)	9
MUS 600 Introduction to Musical Scholarship	3
Courses in Music Education	15
Electives in or outside School of Music 6-12	

Comprehensive examinations will be administered by the departments of History, Music Education and Theory in a manner determined by individual departments in compliance with University regulations. A comprehensive permit approved by the major advisor and the Graduate School is required before a candidate will be allowed to take comprehensive examinations.

Track II

The inherent purpose of this program is to develop the candidate's qualities of professional leadership. Therefore, the curriculum is built upon a core which emphasizes the investigation of important ideas and practices pertaining to the the School of Music, and the development of skills, concepts and plans to meet situations in the field. In addition, opportunity is provided to acquire greater breadth of musicianship with a useful degree of specialization.

Track II is developed around professional music education experience while offering a continuation of music skills and knowledge through required work in the areas of music history, theory, individual performance and/or ensembles.

Central to Track II is the provision of a variety of in-service experiences, advanced teacher apprentice experiences and experimental off-campus work corresponding to the specific needs and desires of the individual student to increase his or her music teaching competencies.

Each candidate will audition on his or her major instrument, and will take advisory examinations in history, music education and theory. All of the above will be completed during the first week of the candidate's first quarter.

If the candidate qualifies through audition at the 400 level of performance, he or she may elect either individual instruction on his or her major instrument or voice; or individual or class instruction on instruments or voice other than his or her major instrument or voice; and/or to participate in small or large ensembles. Individual performance and ensemble work must be decided in consultation with his or her major advisors on a criteria of teaching competency needs. Candidates on this track who do not qualify at the 400 level or above must take six hours in their major instrument and three hours in their major ensemble.

Course advisement on courses taken and the project will be based on advisory examinations and interviews.

If the student receives an average grade of 3.00 or above in the areas of music history and/or theory, he or she will not be required to take a written comprehensive examination in that area. A comprehensive permit approved by the major advisor and the Graduate School is required before a candidate will be allowed to take comprehensive examinations.

Qualifications to pursue the Track II program must include a satisfactory undergraduate record indicating understanding of the essential elements of music and education; evidence of teaching ability; and evidence of necessary motivation and mental endowment for competent graduate work. Investigation based on these criteria should be made during the student's first term of residence. He or she may be required to correct certain deficiencies prior to admission to the program.

Pursuit of these goals may be arranged in terms of courses or seminars dealing with action research techniques and bibliography, leading to some form of individual study.

Courses in music content	6
Courses in individual performances and/or ensembles	9
MUS 600 Introduction to Musical Scholarship	3
Courses in music education	18-21
Individual music education project minimum	4
Electives in or outside School of Music (in consultation with major advisor)	6-9

Each student is required to pass a written comprehensive in the major field (Music Education).

Music Education Project

The master's degree implies an ability to analyze and pursue problems independently. Thus, while the full-scale research problem is usually reserved for the doctoral program, the master's candidate should become oriented to the process of investigation, including familiarity with pertinent studies in Music Education and related fields; understanding of basic forms and techniques of educational research; and skill in developing an investigation or creative project of educational importance.

Track III

Track III focuses on an open, flexible and personalized approach to Music Education, intended to develop within the student the same kind of openness and flexibility toward teaching and learning. In this track, there is a minimum of prescribed requirements. Therefore, each student, in consultation with his or her advisor, develops a program uniquely matched to his or her professional objectives, interests, strengths and weaknesses.

Each candidate will audition on his or her major instrument and will take advisory examinations in history, music education and theory. These examinations will be completed during the first week of the candidate's first quarter.

If the candidate qualifies through audition at the 400 level of individual performance, he or she may elect individual instruction on his or her major instrument or voice; individual or class instruction on instruments or voice other than his or her major instrument; and /or to participate in small or large ensembles. Individual performance work and ensemble work must be decided in consultation with his or her major and performance advisors on a criteria of teaching competency needs. Candidates on this track who do not qualify at the 400 level or above must take six hours on their major instrument and three hours in their major ensemble.

Course advisement about courses taken and the project will be based on advisory examinations and interviews.

If the student receives an average grade of 3.00 or above in the areas of music history and/or theory, he or she will not be required to take a written comprehensive examination in that area.

Qualifications to pursue the Track III program must include: satisfactory undergraduate record indicating understanding of the essential elements of music and education; evidence of teaching ability; and evidence of necessary motivation and mental endowment for competent graduate work. Investigation based on these criteria should be made during the student's first term of residence. He or she may be required to correct certain deficiencies prior to admission to the program.

Music Theory	3-6
Music History	3-6
MUS 600 Introduction to Musical Scholarship	3
Individual Performance & Ensembles	9

Electives in or outside School of Music (in consultation with advisor) 15-21
Courses in music education 15-25

Each student is required to pass a written comprehensive examination, or otherwise demonstrate competency in the major field (Music Education) or a departmentally approved equivalent. A comprehensive permit approved by the major advisor and the Graduate School is required before a candidate will be allowed to take comprehensive examinations.

Track IV

Track IV provides opportunity for in-depth study and research in the field of music administration and supervision, K-12. A broad base in Music Education and at least two years of successful music teaching are required before pursuing this program.

Each candidate will audition on his or her major instrument, and will take advisory examinations in history, music education, theory and instrumental techniques. All examinations will be completed during the first week of the candidate's first quarter.

If the candidate qualifies through audition at the 400 level of individual performance, he or she may elect individual instruction on his or her major instrument or voice; individual or class instruction on instruments or voice other than his or her major instrument or voice; and/or to participate in small or large ensembles. Individual performance and ensemble work must be decided in consultation with his or her major and performance advisors on a criteria of teaching competency needs. Candidates on this track who do not qualify at the 400 level or above must take six hours on their major instrument and three hours in their major ensemble.

Course advisement about courses taken and the project will be based on advisory examinations and interviews.

If a student receives an average grade of 3.00 or above in the areas of music history and/or theory, he or she will not be required to take a written comprehensive examination in that area.

Qualifications to pursue the Track IV program must include a satisfactory undergraduate record indicating understanding of essential elements of music and education; evidence of teaching ability; evidence of necessary motivation and mental endowment for competent graduate work. Investigation based on these criteria should be made during the student's first term of residence. He or she may be required to correct certain deficiencies prior to admission to the program.

The candidate will research an area of music administration and supervision that will culminate in a written thesis.

Courses in music content	6
Courses in individual performance and/or ensembles	9
MUS 600 Introduction to Musical Scholarship	3
Courses in Music Education	9
Courses in Administration & Supervision	12
Thesis (Music 699)	8-12
Electives in or outside School of Music in consultation with advisor	14

A written comprehensive examination in the area of music administration and supervision will be required, and will be administered by the Music Education Department. A comprehensive permit approved by the major advisor and the Graduate School is required before a candidate will be allowed to take comprehensive examinations.

Note: Completion of a Master of Arts degree in Music Education does not meet all the College of Education PTE requirements for certification in Music Education. Please consult your department advisor and/or the PTE office if you are interested in elementary or secondary certification.

Master of Music Degree

The Master of Music degree is designed to assist the graduate student to develop professional competence in such areas of emphasis as performance, conducting or theory and composition, and to broaden and deepen scholarly abilities, research and pedagogical techniques.

Performance emphases are available in bassoon, clarinet, flute, horn, oboe, percussion, piano, alto saxophone, string bass, bass trombone, tenor trombone, trumpet, tuba, tenor tuba, viola, violin, violoncello and voice.

General Requirements

—Admission requirements for all Master of Music students include advisory examinations in music history and literature, music theory, and writing skills. In addition, brass, woodwind, string and percussion majors will take a techniques examination in their instrument area. Additional courses may be required as the result of the advisory examinations.

—Master of Music students in Performance or Conducting must have a qualifying audition. A Theory and Composition student must submit examples of works he/she has composed, supported if possible by recordings.

—No graduate student may register for further courses for graduate credit in the Master of Music program after one quarter of study in residence until he or she has completed both the qualifying audition (or composition examination) and advisory examinations.

—On the basis of the qualifying audition or compositions examination, advisory examinations and conferences with the advisor and/or faculty jury, the student will be advised on his or her status as a candidate for the Master of Music degree.

—Should the faculty deem it necessary, arrangements may be made for remedial work carrying no graduate credit. This may take the form of additional undergraduate courses, repertoire, diction courses or formal language courses offered by the Department of Foreign Languages.

—Candidates are required to have at least one-third of their program (15 credit hours) in the major area — performance, conducting, or theory and composition.

—At a time approved by the major advisor, the candidate will take written comprehensive examinations covering music history and literature, music theory and the major area. Examinations will last 4 hours each, and will usually be scheduled on 3 consecutive school days.

—A comprehensive permit approved by the major advisor and the Graduate School is required before a candidate will be allowed to take comprehensive examinations.

Performance: Specific Requirements

In addition to the General Requirements, performance majors must satisfy the following:

—Master of Music students in Performance must have a qualifying audition sometime during the first quarter of degree work. This is often accomplished at the first performance jury; major works should be performed.

—A recorded, public recital and correlative paper will constitute four quarter hours of individual performance credit (MUS 601 Practicum). It is the responsibility of the student to file a printed program and a tape recording of the performance with the School of Music office. The student will not be graduated until this material is on file.

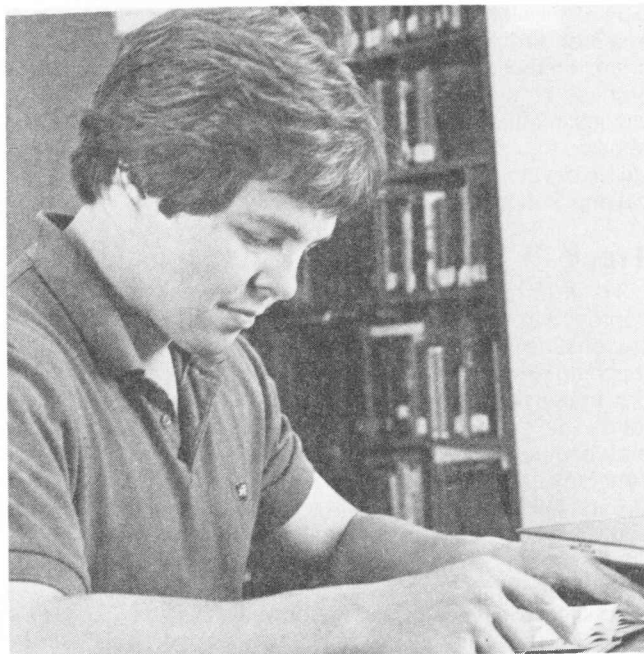
—A minimum of three weeks prior to the scheduled recital date, the proposed recital will be performed at a recital hearing before a committee composed of faculty members in the performing area. Faculty members outside the performing area may be invited to this hearing, either by the student or the performing area faculty.

Should the recital hearing not be accepted, the candidate may be allowed one other hearing after further prescribed study. The recital cannot be rescheduled the same quarter. It will be the student's responsibility to request the second hearing.

—The grade evaluation of the student's correlative paper shall be determined by a faculty committee in the student's area of emphasis.

—Candidates for the degree may be accepted in the areas of voice, keyboard, band and orchestral instruments.

Note: Vocal candidates will be expected to perform one or more art songs in French, German, Italian and English, and also one aria from a major oratorio or opera, for the qualifying examination. This examination will be heard by the Voice faculty. At the time of the examination, the student shall present a complete list of repertoire studies prior to application for admission. The vocal candidate may challenge a portion of the language requirement.



Required Core Courses for the Performance Major

MUS	Individual Performance	12
MUS	Major Performing Organization	3
MUS 502	18th Century Harmony & Forms	3
MUS 600	Introduction to Musical Scholarship	3
MUS 601	Practicum (Recital & Paper)	4
MUS 643-648	Music History Courses	6
MUS 653	History of Opera	3
	<i>or</i>	
MUS 656	Choral Literature	3
	<i>or</i>	
MUS 657	Symphonic Literature	3

(Vocal candidates may substitute a history or literature course with approval of advisor)

Additional electives to satisfy graduation requirements.

Conducting: Specific Requirements

In addition to the General Requirements, conducting majors must satisfy the following:

—The prospective wind conducting applicant should have had at least two years of experience in high school teaching or equivalent experience prior to making application. A personal audition is required.

—Write the appropriate director for specific information concerning audition and interview procedures.

—A recorded public recital and correlative paper will constitute four quarter hours of individual performance credit (MUS 601 Practicum). It is the student's responsibility to file a printed program and a tape recording of the performance with the School of Music office.

The student will not be graduated until this material is on file.

Required Core Courses for Conducting Majors

MUS	Individual Performance	6
MUS	Major Performing Organization	3
MUS 502	18th Century Harmony & Forms	3
MUS 551	Individual Performance in Conducting	2
MUS 600	Introduction to Music Scholarship	3
MUS 601	Practicum in Music (Performance will consist of a concert conducted by the candidate and evaluated by the major advisor. A correlative paper is also required. The organization used for this performance must have been rehearsed regularly by the candidate and approved by the major advisor. Additional performances may be arranged)	
MUS 643-648	Music History courses	6

Choral Conducting Emphasis (Required)

MUS 656	Choral Literature	3
MUS 685	Opera Workshop	4

Recommended Electives

MUS 445	German for Singers	2
MUS 446	French for Singers	2
MUS 447	Italian for Singers	2
MUS 617	Psychology of Conducting	3
MUS 622	Individual Studies in Music	1-4
MUS 650	Seminar: Choral Music	3

Additional electives to satisfy graduation requirements through consultation with major advisor

Wind Conducting Emphasis (Required)

MUS 511	History of the Wind Band & Its Literature	3
MUS 519	Foundations of Music Education	3
MUS 525	20th Century Wind Literature & Conducting Techniques	3
MUS 550	Score Reading & Analysis	2
MUS 618	Aesthetics & the Arts	3
MUS 658, 659, 661, 662	Instrumental Techniques & Materials (2 courses required)	6

Recommended Electives

MUS 403	Acoustics of Music	3
MUS 503	19th Century Harmony & Forms	3
MUS 504	20th Century Harmony & Forms	3
MUS 507	Performance Practices	3
MUS 551	Individual Performance in Conducting	2
MUS 657	Symphonic Literature	3
MUS 677	Individual Performance: Composition	12

Additional electives to satisfy graduate requirements through consultation with major advisor.

Orchestral Conducting Emphasis (Required)

MUS 657	Symphonic Literature	3
MUS 685	Opera Workshop	3

Recommended Electives

MUS 617	Psychology of Conducting	3
MUS 618	Aesthetics & the Arts	3
MUS 658	Instrumental Techniques & Materials (Trumpet & Horn)	2
MUS 659	Instrumental Techniques & Materials (Low Brass)	3
MUS 660	Instrumental Techniques & Materials (Strings)	3
MUS 661	Instrumental Techniques & Materials (Percussion)	3
MUS 662	Instrumental Techniques & Materials (Woodwinds)	5

Theory and Composition

Students entering this area of emphasis must have the equivalent of the undergraduate program in Theory and Composition as outlined in this Bulletin.

The student must also submit examples of works he or she has composed, supported if possible by recordings.

Required Core Courses for the Theory and Composition Major

MUS 502	18th Century Harmony & Forms	3
MUS 503	19th Century Harmony & Forms	3
MUS 504	20th Century Harmony & Forms	3
MUS 505	16th Century Counterpoint	3
MUS 509	Electronic Music	3
MUS 600	Introduction to Music Scholarship	3
MUS 643-647	Music History courses — minimum	6
MUS 648	Seminar: New Music	3
MUS 677	Individual Performance: Composition	12
MUS 699	Thesis	8-12
MUS	Individual Performance	6
MUS	Major Performing Organizations	3

Additional electives to satisfy degree requirements.

In addition to the above requirements, the candidate for this degree will be expected to prepare the equivalent of a full program of his or her own compositions.

Students who are able to prove genuine competency in any of the required courses listed may substitute electives chosen in consultation with the advisor. The following list contains courses which would enhance studies in Theory and Composition.

Suggested Electives

MUS 400	Pedagogy of Theory	3
MUS 507	Performance Practices	3
MUS 603	Analytical Studies I	3
MUS 604	Analytical Studies II	3
MUS 605	Practicum in Arranging & Performance	3
MUS 643	Seminar: Medieval Music	3
MUS 644	Seminar: Renaissance Music	3
MUS 645	Seminar: The Baroque Period	3
MUS 646	Seminar: The Romantic Period	3
MUS 649	Seminar: Beethoven	2
MUS 650	Seminar: Choral Music	3
MUS 652	Historical Analysis of Music Structure	3
MUS 655	History of Music Theory	3
MUS 657	Symphonic Literature	3

Doctor of Arts Degree

The program leading to the Doctor of Arts degree is designed to prepare professional, academically well-qualified teaching scholars for the junior and senior college level. The degree is available in the areas of music history and literature, theory and composition, music performance, conducting or performance, and pedagogy.

Performance emphases are available in bassoon, clarinet, flute, horn, oboe, percussion, piano, alto saxophone, string bass, bass trombone, tenor trombone, trumpet, tuba, tenor tuba, viola, violin, violoncello and voice.

Admission Requirements

Candidates must meet the general Graduate School requirements for admission. In addition, candidates are required to take:

—School of Music advisory examinations in Music History and Music Theory. Brass, woodwind, string or percussion majors will be asked to take techniques examinations in their performance areas in addition to the advisory examination.

—Major applied area audition.

These examinations will be administered by the School of Music when the candidate arrives on campus.

General Requirements

The candidate's individualized program will be determined by his or her graduate advisory committee after reviewing with the student his or her educational objectives, transcripts, advisory examinations and audition results. A minimum of 90 hours beyond the Master's level are to be earned in graduate study and distributed through the following areas:

Area of Primary Emphasis: The primary area develops a major scholarly and/or performing function for the junior and senior college level in Music History and Literature, Theory and Composition, Music Performance, Conducting, or Performance and Pedagogy.

Dissertation Requirement: A dissertation is required that provides for the development of research skills in the student's subject matter area, and utilizes research in the classroom. The 18 hours allotted to the doctoral dissertation may be divided between performance and the dissertations requirements according to the degree plan as outlined and approved by the candidate's committee. For doctoral programs requiring recital or concert performance, it will be the responsibility of the student to file a minimum of two printed programs and a tape recording of the performance with the School of Music office.

Distribution and Grading of Dissertation Hours in Primary Emphasis:

— D.A. in Performance or Conducting Two recitals or concerts	12
Dissertation	6
	Hours credit 18
— D.A. in Pedagogy & Performance	
One recital	6
Dissertation	12
	Hours credit 18
— D.A. in Music History & Literature	
Dissertation	18
— D.A. in Theory & Composition (Credit may be divided in blocks of 6 hours between Composition & Theoretical Research)	18

A letter grade will be given by the Research and Dissertation committee, in consultation with faculty members of the candidate's individual performance department upon completion of each recital or concert. A grade of A or B will be considered acceptable. A grade of C or below will be considered unacceptable.

Should the candidate's recital or concert be unacceptable, the student will be required to do another program. A minimum of 10 weeks must elapse before this program may be done, and a new repertoire will be required.

The candidate will be allowed one failure and subsequent make-up program for each recital required on the degree emphasis.

Area of Second Emphasis: This area develops a secondary scholarly and/or performing function in one of the primary areas listed here, in Jazz Pedagogy, Music Education, or in related areas outside Music.

Creative Requirement for Secondary Emphasis: It is normally expected that a creative project of some type will be undertaken as part of the secondary emphasis. Credit will be given, generally on an ID basis. The project might be similar to the following:

—Secondary Emphasis in History & Literature — a minor research project.

—Secondary Emphasis in Performance — a recital.

—Secondary Emphasis in Conducting — conducting a recital or research project in literature.

—Secondary Emphasis in Theory and Composition — composition or research project.

—Secondary Emphasis in Music Education — a minor research project.

—Secondary Emphasis in Jazz Pedagogy — a recital, research or creative project.

—Secondary Emphasis outside Music — creative project in areas outside the School of Music will be administered by the candidate's committee.

If the candidate qualifies in the secondary emphasis at a primary proficiency level, he or she may, with the approval of the doctoral committee and the department chairperson of the primary and secondary areas, incorporate the secondary creative requirement into the dissertation requirement.

College Teaching and Learning

An internship ranging from limited responsibilities to full-time classroom teaching under direct supervision of the graduate faculty in the School of Music is required. Externships are highly recommended subsequent to successful completion of an internship.

Appropriate course work in the area of higher education, learning theory, foundation courses, tests and measurements, and/or media will be selected through consultation with the professor and advisory committee.

Distribution of Hours

Credit hours in a typical program are approximate unless required and may vary according to the number of hours used for MUS 755 Teaching Practicum, and for other reasons approved by doctoral committee.

Primary Emphasis		27
Secondary Emphasis		15
MUS 623	Individual Studies in Effective Teaching (required & satisfies DA Seminar in Teaching requirement)	3
MUS 700	Research Seminar (required)	3
ID 702	Seminar on Teacher in the College Community (required)	3
MUS 755	Supervised Practicum in College Teaching (required) Internship and/or Externship	3-9
MUS 799	Doctoral Dissertation (required)	18
	Electives	12
	Hours credit	90

Comprehensive Examinations — At a time approved by the major professor, the candidate will take written and oral examinations covering the primary and secondary areas of emphasis, plus Music History and Literature and Music Theory if these are not part of his or her primary or secondary emphasis. Candidates should typically expect three and one-half days of examinations; one day each for Music History, Music Theory, and primary emphasis, and one half day for secondary emphasis. This time requirement may be varied to fit individual circumstances.

Foreign Language Requirements for Doctor of Arts Degree Candidates

History and Literature Primary Emphasis: A reading knowledge of one foreign language required. A second language may be required through advisement. Secondary Emphasis: Open. The candidate and advisor will determine language requirements.

Theory and Composition: Reading knowledge in one foreign language required.

Conducting: Translation of vocal skills in one foreign language, and mastery of diction in two additional languages are highly recommended for candidates in Choral Conducting. Italian is recommended for candidates in the instrumental areas.

Performance

Brass — Reading knowledge of one foreign language required.

Piano — Reading knowledge of one foreign language required.

Strings — Reading knowledge of one foreign language required.

Vocal — Skills in translations of vocal literature in one foreign language (French, German or Italian) is required, and diction mastery of all three.

Woodwind — Reading knowledge of one foreign language required. A substitute research tool may be permitted after consultation and approval by candidate's committee.

Pedagogy — Reading knowledge of one foreign language required.

Research and Examination Committee for the Doctor of Arts Candidate in Music

—The candidate's major advisor shall be appointed by the director of the School of Music after consultation with the chair of the department of the candidate's area of emphasis.

—The Examination Committee shall be composed of at least four faculty members of the School of Music, recommended by the major advisor, approved and transmitted by the Director of the School of Music to the Dean of the Graduate School for appointment.

This committee shall include the major advisor, the Secondary Emphasis advisor, and represent the following departments in the School of Music: Music History and Literature, Music Theory and Composition, the respective performance or conducting area for DA candidates whose primary emphasis is in performance, performance/pedagogy or conducting; and a faculty representative appointed by the Dean of the Graduate School.

The departments represented by the above committee members shall design, administer and evaluate the written comprehensive examination in their respective areas, in consultation with the full Examination Committee.

An oral comprehensive examination shall be given by this committee only after successful completion of the written comprehensives. For additional information, see "Graduation."

The Research and Dissertation Committee shall be composed of at least four faculty members of the School of Music, recommended by the major advisor, approved and transmitted by the Director of the School of Music to the Dean of the Graduate School for appointment. In addition, a faculty representative from a department other than the School of Music shall be appointed by the Dean of the Graduate School.

This committee must unanimously approve the topic for a dissertation and the topic proposal must be signed by all committee members. The committee, in consultation with the appropriate applied department, will also approve the repertoire for the candidate's recital or concert and will grade the program. For additional information, see "Doctor of Arts Sequence and Check List" published by the School of Music.

Doctor of Music Education Degree

The DME program prepares students as comprehensively-oriented educator musicians, and develops expertise in teaching, consulting and administration within public schools, college music education, and community cultural responsibilities.

Admission Requirements

Prospective candidates must meet the general Graduate School requirements for admission. School of Music requirements are as follows:

—Advisory Examinations in Music Education, Music History, and Music Theory, administered by the School of Music faculty upon the student's arrival on campus. The results of these examinations will aid in program formulation. Also, students with an instrumental emphasis will be required to take techniques examinations in their performance area. The fulfillment of remedial requirements will not apply toward the degree.

—Major applied area audition, from which recommendations will be made regarding continued study and ensemble participation.

—Three letters of recommendation.

—The Director of the School of Music, after consultation with the chair of the Music Education Department, will assign the major advisor.

Program Formulation

The student's individualized program will be determined by members of the Music Education Department and other involved members of the School of Music, including a representative from History and Theory. The student's educational objectives and deficiencies as reflected in transcripts, advisory examinations, performance audition results and the three letters of recommendation, will be reviewed. A minimum of 90 hours are to be earned in graduate studies beyond the master's level, and distributed throughout the following areas:

Area of Primary Emphasis

The primary emphasis is placed upon a comprehensive working knowledge of contemporary music education practices in public school and college music programs and community cultural life. This is based on philosophy, psychology, and contemporary and past history, and supported by scholarly musicianship through the areas of music history and literature, theory and composition, and performance.

Doctoral dissertations should be limited only by the scholarship and creativity of the candidate. Research tools may therefore cover a wide range such as media, research methods of anthropology and the social sciences, chronology, clinical and observation techniques from psychology, descriptive or narrative techniques, statistics computer technology, and foreign languages according to requirements of the dissertation subject. The dissertation should include goals such as:

- Extension of the student's knowledge and/or improvement of his or her teaching ability in the field;
- Development of new knowledge that can be added to common knowledge in Music Education;
- Implementation of Music Education theory to the practical aspects of on-going school music programs.

Area of Secondary Emphasis

The secondary emphasis is placed on an understanding of the role of specialized instruction integrated within a comprehensive Music Education framework. A project integrating one or more subject areas with Music Education, will be part of the secondary emphasis expectation. This project is given on an individual study basis. Integrative ideas such as recital-demonstration, lecture-demonstration, minor thesis, multimedia, etc. may be considered. Projects within the secondary emphasis may be extended into the framework of the dissertation.

Distribution of Hours

Credit hours listed here are approximate, unless required, and may vary for any reason approved by the student's advisory committee.

Primary Emphasis	27
Secondary Emphasis	15
MUS 601 Practicum in Music (Required for secondary emphasis project)	3
MUS 615 Seminar in Music Education (Required)	2
MUS 622 Individual Studies in Music (Required for secondary emphasis project)	3
MUS 700 Research Seminar (Required)	3
MUS 799 Doctoral Dissertation (Required)	18
Three foundation courses required	9
Electives	10
Hours credit	90

Comprehensive Examinations for DME Program Candidates. At a time approved by the major advisor, the candidate will take written and oral examinations covering Music Education and the secondary area(s) of emphasis. In order to integrate content areas with Music Education, questions from music history and theory will be submitted for the examination at the discretion of the History and Theory departments in consultation with the Music Education Department.

Research and Examination Committees for the Doctor of Music Education Candidate

—The candidate's major advisor shall be appointed by the Director of the School of Music after consultation with the chair of the Department of Music Education.

—The Examination Committee shall be composed of at least four faculty members of the School of Music, recommended by the major advisor, approved and transmitted by the Director of the School of Music to the Dean of the Graduate School for appointment.

—This committee shall include the major advisor, secondary emphasis advisor, one other professor in the Music Education Department, two professors in the School of Music whose expertise is closely allied to the candidate's interests, and one faculty representative outside the School of Music and appointed by the Dean of the Graduate School.

—The departments represented by the above committee shall design, administer and evaluate the written comprehensive examination in their respective areas, in consultation with the full Examination Committee.

—An oral comprehensive examination shall be given by this committee only after successful completion of the written comprehensives. For additional information, see "Graduation" section of this Bulletin.

—The Research and Dissertation Committee shall be composed of at least four faculty members of the School of Music, recommended by the major advisor, approved and transmitted by the Dean of the School of Music to the Dean of the Graduate School for appointment. In addition, a faculty representative from a department other than the School of Music shall be appointed by the Dean of the Graduate School.

The majority of the committee must approve the topic for a dissertation and the topic proposal must be signed by all committee members.

Theatre Arts

Location: Frasier Hall 119
Telephone: 351-2454
Ronald B. Gloekler, Chair

Faculty

John S. Girault, PhD, Prof.
Ronald B. Gloekler, MA, Assoc. Prof.
Cheryl A. King, MS, Asst. Prof.
Lloyd A. Norton, MA, Prof.
Jeannette Triomphe, MA, Asst. Prof.
Barrett W. Van Loo, MA, Assoc. Prof.
John W. Willcoxon, PhD, Prof.

The Department of Theatre Arts, comprised of seven full-time faculty, a costume supervisor and technical supervisor, serves approximately 100 students. The Department offers a Bachelor of Arts degree with opportunities to pursue a liberal arts or teacher education emphasis. The curriculum offers pre-professional acting, directing and technical experience, as well as a strong academic and theoretical base for further

study. In addition to a challenging curriculum for theatre majors, the Department of Theatre Arts also offers designated courses for General Education credit.

UNC's Theatre Arts program combines classroom instruction with first-hand experiences in the Little Theatre of the Rockies (LTR), established in 1934. In addition to theatre productions, LTR serves as the production entity for Opera Theatre, and provides technical support, scenes, costumes, stage direction, choreography, promotion and general management for UNC's popular Performing Arts Series.

During the summer, the College of Performing and Visual Arts sponsors the annual Summer Festival of the Arts, which showcases a wide variety of cultural events, including virtually every genre of theatre along with opera and musical theatre. LTR Summer company members are involved in acting and technical aspects of professional theatre, working under the excitement of a rigorous production schedule. As participants, they encounter a wide variety of opportunities to observe, learn from and share ideas with an experienced faculty, professional actors, singers and technicians.

General objectives of the University of Northern Colorado Department of Theatre Arts are based on service and leadership in the arts at local, state, regional and national levels. An integral unit within the University, the Department embraces the role and mission of the University, and has designed its goals and objectives to support and enhance institutional purposes and directions.

The primary goals of the Department of Theatre Arts are to prepare teachers of theatre arts; to provide pre-professional training for students who have professional theatre employment as their career goal; and to cultivate an appreciation and understanding of theatre as a part of American society and culture, and as an amateur avocation for the enrichment of life. The Department also sponsors an internationally distinguished child drama program, and in cooperation with the School of Music, supports an active musical theatre program.

UNC theatre graduates are well accepted in the professional world. UNC-prepared theatre educators hold positions at universities, colleges and high schools throughout the United States. Acting and directing graduates are found in professional theatre and musical theatre repertory and touring companies, as successful playwrights and technical directors, and as managers and performers in dinner theatres and community theatres in many parts of the nation.

Undergraduate

Program Requirements

—All General Education requirements as specified in this Bulletin.

—The following core 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 190, 191, 192	Stage Speech	3
THEA 260	Acting II (Externals)	3
THEA 361	Advanced Stage Make-Up	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 in Theatre Arts 6
		Hours credit 26

General Theatre

Required Courses

THEA 210	Stagecraft	3
THEA 260	Acting II (Externals)	3
THEA 340	Directing Period Plays	3
THEA 341	Directing Experimental Plays	3
THEA 342	Directing Musical Theatre	3
THEA 411	Stage Lighting	3
THEA 430	Dramatic Theory I	3
THEA 431	Dramatic Theory II	3

One of the following:

THEA 310	Beginning Scene Design	3
THEA 320	Stage Costuming Design I	4
THEA 321	Stage Costuming Design II	4
		Electives in Theatre Arts 1-2
		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 in Theatre Arts	3
	Hours credit	26
	Total credit hours of major	70

All majors in the liberal arts program must have 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 individual 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" to focus on their programs and for planning them. 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.

—Attendance at or involvement in all productions of the Little Theatre of the Rockies during residency.

—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 required hours of the Professional Teacher Education program (PTE) as defined in this Bulletin.

Required Courses

THEA 110	Introduction to Stagecraft	3
THEA 130	Introduction to 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	3-6
THEA 342	Directing Musical Theatre	3
THEA 380	Children's Theatre Production	3
THEA 385	Methods of Teaching	3
THEA 411	Stage Lighting	3
THEA 440	Directing the One-Act Play	2
	Electives in Dramatic Literature	6
	Individual Performance in Theatre	18
	Hours credit	82

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 possession of all teacher education majors in Theatre Arts.

—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. A student desiring this certification should be prepared for many additional requirements in content and in methods and observation in the minor field.

—This program meets the current certification requirements for teaching drama in the secondary schools of Colorado.

—This program meets the current minimum requirements of the North Central Association for teachers of drama. See your advisor for current information.

—Attendance at or involvement with all productions of the Little Theatre of the Rockies during residency.

—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 in Theatre Arts	12
	Hours credit	30



Theatre Arts Minor (Teaching)

For students desiring to teach drama on a part-time basis, the Department of Theatre Arts requires the following program in the minor:

- An advisor from the Theatre Arts faculty.
- 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 in Theatre Arts	0	
	Hours credit	38	

—THEA 385 (3 hours credit) and EDLS 363 (2 hours credit) taken in Theatre Arts.

—This program does not meet the current certification requirements for endorsement in drama in the secondary schools of Colorado.

—This program meets the current minimum requirements of the North Central Association for teachers of drama. See advisor for updates.

Theatre Arts Minor (Child Drama)

The Child Drama minor provides students with a broad knowledge of Creative Drama and Children's Theatre. Courses in Creative Drama focus on theory and research, in addition to practical field observations and experiences. Scripting narrative literature and reading children's scripts, as well as learning production aspects of Children's Theatre, comprise the courses in this area of the minor. The Child Drama minor would be beneficial for anyone who plans to work with children, either in education or recreation programs, as well as with special populations where drama can provide creative outlets.

Required Courses

THEA 110	Stagecraft	3
THEA 165	Theatre Improvisation	3
THEA 170,		
171, 172	Stage Movement I, II, III	3
THEA 281	Creative Movement & Drama for Children	3
THEA 333	Script Development for Children	3
THEA 353	Theatre Tour	2
THEA 380	Children's Theatre Production	3
THEA 480	Drama in Education	3
THEA 481	Seminar in Child Drama	4

Demonstrated course work relating to child development, with a minimum of credit hours. You must choose the courses from the groups shown here, with at least one course from each group:

Group A: Child Development

EDEC 233
EDEC 331
EDEC 333

Group B: Psychology

PSY 230
PSY 431
PSY 432

Sociology

SOC 415

Theatre

THEA 401

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 consists of two short monologues 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 an appointment with the member of the faculty from whom you wish to receive an evaluation.

Music/Theatre

Department of Theatre Arts
Location: Frasier Hall 119
Telephone: 351-2454
Jeannette Triomphe, Coordinator

Faculty

Shari Anderson, MM, Assoc. Prof.
Charmaine Coppom, MA, Assoc. Prof.
John S. Girault, PhD, Prof.
Jeannette Triomphe, MA, Asst. Prof.
John Willcoxon III, PhD, Prof.

For students who aspire to work in musical theatre, either opera or musical comedy, the Bachelor of Arts with a major in Music/Theatre is excellent preparation. Because the program is interdisciplinary, the School of Music, Department of Theatre Arts and the Dance Program offer their full resources.

Undergraduate Program

Admission to the Music/Theatre program involves general admission to the University and formal application for admission to the Music/Theatre program, including audition and interview. Admission forms are available from the office of the Music/Theatre Coordinator, Frasier 121.

Students pursuing the B.A. degree with a major in Music/-Theatre must plan their programs to meet the following requirements:

- Complete 60 hours of General Education as specified in this Bulletin.
- Meet all recital and production attendance requirements as specified for the program. See your advisor.
- The following courses in the major.

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
THEA 160	Acting I (Internals)	3
THEA 170, 171, 172	Stage Movement I, II, III	3
THEA 260	Acting II (Externals) Recommended Fall Quarter	3
THEA 261	Stage Make-Up	2
MUS 270, 470	Individual Performance in Voice	24
MUS 271	Individual Performance in Piano	12
MUS 285, 245	Opera Workshop	12
THEA 360	Acting III (Music/Theatre Acting in Music/Theatre)	3
THEA 370, 371, 372	Rhythmic & Dramatic Movement I, II, III	3
MUS 407	Individual Coaching in Music/Theatre (take concurrently with THEA 465)	2
THEA 465	Music/Theatre Repertory I	2
THEA	Individual Performance in Theatre (technical only)	4
MUS	Music Performance (Vocal Ensembles)	12
HPER 136	Beginning Ballet	1
A minimum of 5 additional hours of Dance chosen from HPER or THEA Dance courses		5

Hours credit 109

—Electives sufficient to complete Bachelor of Arts degree requirements.

—Twelve quarters of MUS 100 are required.

—MUS 141, 142, 143 may be used as part of the 60 hours of General Education, thus allowing for 6 additional hours of electives.

—Students must have a minimum of 6 hours of MUS 270, 470 prior to taking MUS 409 and THEA 466.

Students contemplating graduate work should prepare to meet the requirements of graduate study in Music or Theatre Arts. This involves preparation in the disciplinary competencies as well as research requirements to enter Graduate School. See advisor.

Aerospace Studies

Office: 1925 Tenth Avenue
Telephone: 351-2061
Col. Jack P. Bujalski, Chairman

Faculty

Maj. Terry D. Nunn
Capt. James M. Farrell
Capt. Harrison Bryant

The purpose of the Department of Aerospace Studies is to educate students on matters relating to the United States Air Force, with the ultimate goal of qualifying graduates for commissions as Air Force officers.

Both two-year and four-year Air Force Reserve Officer Training Corps (ROTC) programs are offered, with four-year program students earning a minor in Aerospace Studies. Instruction is provided by active duty Air Force officers. Uniforms and specialized textbooks and equipment are provided the student without charge.

ROTC graduates normally go on active duty with the Air Force. Initial assignments may include Flight training for pilots and navigators, missile training or other technical or management training, depending on the individual's assignment.

Aerospace Studies Minor

Requirements for a minor include 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 six quarters. During the second year of the GMC, qualified cadets may apply for membership in the POC. Cadets selected by the Chairman of Aerospace Studies will enter the POC at the beginning of the junior year, or six quarters prior to completion of their academic degree programs. Cadets will be commissioned in the Air Force on completion of the GMC and POC; a four-week Field Training Course between the sophomore and junior years; and 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 POC selection during the academic year preceding the year of entrance into the POC. Students considering the two-year program should contact the Air Force ROTC office during winter quarter of their sophomore year. Students will be commissioned in the Air Force on completion of a six-week Field Training Course during the summer prior to entering the POC; six quarters of undergraduate/graduate academic work; and college degree requirements. Testing information is available at the AFROTC office.

Flight Instruction Program

Students selected for Pilot Training receive 13 hours of flight instruction during the senior year of POC. Students possessing private pilot licenses are excused from this portion of training. All other POC students may volunteer for two familiarization flights.

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 Civil Air Patrol and former member 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.

Freshmen enroll in the following courses:

AS 110	The Air Force Today I	2
AS 111	The Air Force Today II	2
AS 112	The Air Force Today III	2

Sophomores enroll in the following courses:

AS 210	The Developmental Growth of Air Power I	2
AS 211	The Developmental Growth of Air Power II	2
AS 212	The Developmental 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. The curriculum is continually updated to include current technological developments. All course instruction is student-centered. Additionally, POC cadets must successfully complete a course in mathematical reasoning prior to commissioning. The Chairman of Aerospace Studies selects the most highly qualified applicants for enrollment. All cadets enlisted in the POC receive a \$100 per month, tax-free stipend.

Required Professional Officer Courses

AS 310	Concepts of Air Force Leadership & Management I	3
AS 311	Concepts of Air Force Leadership & Management II	3
AS 312	Concepts of Air Force Leadership & Management III	3
AS 410	American National Security I	3
AS 411	American National Security II	3
AS 412	American National Security III	3
AS 403	Flight Instruction (Required of all pilot trainees. Any interested student may enroll in ground school class with instructor's permission)	3

Staff

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

AFROTC College Scholarship Program

Scholarships are offered for three and a half, three, two and a half and two years, depending upon time remaining in school. The program includes full tuition, fees, reimbursement for all required text materials, 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, mathematical reasoning and a foreign language.

Graduate Interdisciplinary Programs

Administered by the Graduate School
Location: Carter Hall 2007
Telephone: 351-2831
Director: George Leach

The purpose of the Graduate Interdisciplinary Degree Program is to offer students and faculty a method for developing innovative interdisciplinary arrangements designed to meet the individual needs of the student. The program is intended for students who wish to pursue a graduate degree program that combines two or more disciplines rather than a professional curriculum or a specialization in a traditional discipline.

Degrees Offered

Master of Arts
Master of Science
Specialist in Education
Doctor of Arts
Doctor of Education

Administration

Graduate Interdisciplinary Programs are supervised by the Dean of the Graduate School and the Graduate Interdisciplinary Coordinating Committee made up of representatives from each school/college of the University, and three at-large members.

Admission

—Satisfy admission requirements of the Graduate School.
—Be recommended for formal acceptance by at least one department with a graduate degree program, or an academic unit with an organized group of graduate courses taught by graduate faculty.
—Student is notified of provisional admission and is authorized to begin preparation of the program proposal in conjunction with a minimum of two assigned faculty advisors. There is no guarantee that a student admitted on provisional status will be admitted to a degree program. The student may be in provisional status (not over two quarters) or until he/she has completed 15 quarter hours applicable to the program. The student's program proposal with all required signatures must be filed in the Graduate School no later than the end of the second week of the quarter that begins immediately after the student's provisional admission quarter. All provisions of Graduate sections of this Bulletin apply to students in the Interdisciplinary Degree Program (i.e. transfer of credits, time limits, etc.)

—Final admission must be recommended by all departments (a minimum of two departments or academic units are required) in which the student proposes to take 15 or more credit hours of work applicable to the master's or specialist degree program, and 20 or more credit hours of work applicable to the doctoral degree program.

Program Requirements

There are two types of Interdisciplinary programs:
—Programs designed by departmental advisors to meet individual needs;
—Standardized programs involving two or more disciplines. Examples of this type of program are:

Computer Technology in Education

The College of Education at the University of Northern Colorado is developing a comprehensive program and center for educational technology. Through the cooperation of the Graduate School, Interdisciplinary Programs relating to the application of computer technology to instruction are being offered at the master's and doctoral levels.

These programs are designed to prepare students to: 1) plan, develop and implement computer based educational systems in public schools, universities, military training programs and industry; 2) evaluate existing computer based educational systems; and 3) conduct experimental and developmental research regarding the use of computer technology for training and instruction.

Resources at the University that support the Computer Technology in Education Program include mainframe and microcomputer based educational systems, a digital electronics laboratory and a television production studio.

Master's Degree Program

The master of arts program is designed as a foundation of knowledge and skills in computer technology, educational psychology and computer based education. Electives may be selected to develop or support a student's teaching or research interests. An equivalent or more advanced course may be substituted.

Core courses

ET 521	Technology and Its Impact on Society	3
ET 585	Digital and Microprocessor Basics	3
ET 623	Evaluation of Computer Based Educational Software	3
ET 626	Orientation to Computer Based Education	3
ET 637	Educational Analysis Techniques	3
ET 690	Educational Research Storage & Retrieval Systems	1
EPRE 504	Descriptive Statistics	3
EPRE 518	Microcomputer Applications	3
EPRE 540	Principles of Learning	4
EPRE 570	Tests and Measurement for Educators	4
EPRE 600	Introduction to Graduate Study	3
	Required Hours	33
	Elective Hours	12
	Total Hours	45

Doctoral Degree Program

The doctor of education program provides students with advanced knowledge and skills in computer hardware and software development, the theory of learning and instruction, and research and evaluation.

Core courses

ET 585	Digital & Microprocessor Basics	3
ET 623	Evaluation of Computer Based Educational Software	3
ET 627	Computer Assisted Instruction	3
ET 628	Computer Managed Instruction	3
ET 637	Educational Analysis Techniques	3
ET 797	Doctoral Proposal Seminar	3
EDEM 610	Instructional Technology: Theory and Practice	3
EPRE 518	Microcomputer Applications	3
EPRE 541	Human Information Processing	4
EPRE 603	Analysis of Variance and Covariance	3
EPRE 610	Statistical Packages for Educational Research	3
EPRE 641	Theories of Learning	4
EPRE 670	Evaluation: Theory and Procedures	3
EPRE 675	Measurement II	3
EPRE 700	Introduction to Doctoral Dissertation	18
	Required hours	65
	Elective hours	31
	Total hours	96

An equivalent or more advanced course may be substituted.

In addition to the required core courses, a student should select electives to develop two areas of specialization that consist of at least 10 hours each. Depending on the student's background, the advisor may recommend additional coursework to develop the support areas. A sample of the academic disciplines from which courses may be selected include:

- Applied Statistics and Mathematics
- Business
- Computer Science
- Educational Administration
- Educational Media
- Educational Psychology, Research and Evaluation
- Educational Technology
- Elementary Education
- Journalism and Mass Communications
- Modern Languages
- Music
- Psychology
- Reading
- Special Education

Upon admission to the program, the student will be assigned an advisor in the area of interest indicated on the application.

Science Education

General Requirements: The student must have completed at least 60 quarter hours of science, with course work represented in each of the fields of biology, earth science, chemistry and physics. Mathematics courses through trigonometry are minimum recommendations. Deficiencies in a student's background will be identified by his or her graduate committee upon admission and must be removed prior to graduation.

The primary goals of this Science Education program are:

- To increase teachers' competence and broaden their training as instructors of science.
- To prepare teachers for positions as science supervisors in elementary, junior high or senior high schools.
- To increase students' skills through cross-discipline work in curriculum integration and planning.



Science Content Block

Candidates for this degree must complete a minimum of 30 hours of science content courses distributed among at least two science departments (biology, chemistry, earth sciences or physics). The candidate's academic program will be determined through consultation with and approved by an advising committee. The advising committee will consist of one science educator and two scientists from different departments. The individual courses should not merely satisfy the credit requirements; rather each course should contribute to the specific professional growth of the candidate.

Science Education Block Required Courses

SCED 673	Seminar in Science Education Research	3
SCED 674	Instructional Problems in Teaching Science	3
SCED 676	Evaluation of Classroom Performance in Science	3
SCED 678	Science Education Seminar (1)	2
	Hours Credit	11

Electives

The candidate must take two courses from the following:

SCED 672	Science Curriculum in the Secondary School	3
	<i>or</i>	
SCED 679	Science Curriculum in the Junior High School	3
SCED 680	Problems in Teaching Physics	4
SCED 681	Problems in Teaching Biology	4
SCED 682	Problems in Teaching Chemistry	4
SCED 596	Development of the Learner & Science Instruction	3
SCI 592	Computer Simulation in Science	3
SCI 595	Advanced Computer Application to Science	3

Total hours credit 17-19

7 Course Descriptions

Alphabetized by Department

The lower case letter that precedes certain courses (i.e., e-AS 110) refers to the General Education category in which that course will fit. For a detailed explanation, see Chapter 3. Undergraduate Information, section General Education.

Accounting

ACCT 220 Principles of Accounting I (4) Apply principles of Accounting to the recording, summarizing and reporting of common business transactions on classified financial statements, with special emphasis on current assets.

ACCT 221 Principles of Accounting II (4) Prerequisite: ACCT 220. Apply principles of Accounting to the measurement and reporting of assets, liabilities, ownership equities, periodic revenues and period expenses.

ACCT 320 Intermediate Accounting I (4) Prerequisite: ACCT 221 with a minimum grade of "C." An advanced course in accounting principles stressing statement presentation and evaluation problems in presenting current assets on the statements.

ACCT 321 Intermediate Accounting II (4) Prerequisite: ACCT 320 with a minimum grade of "C." Continue ACCT 320 by emphasizing problems encountered in valuing investments, plant and equipment, and stockholder's equity for statement presentation.

ACCT 322 Intermediate Accounting III (4) Prerequisite: ACCT 321 with a minimum grade of "C." Continue ACCT 320 and 321, emphasizing special topics including revenue recognition, leases, pensions, error analysis, accounting changes, statement of charges and inflation accounting.

ACCT 323 Cost and Managerial Accounting I (4) Prerequisite: ACCT 221 with a minimum grade of "C." Study the accumulation and analysis of financial data for management purposes. Emphasis is placed on cost volume, profit relationships, budgeting, job-order and standard costing.

ACCT 324 Cost and Managerial Accounting II (4) Prerequisite: ACCT 323 with a minimum grade of "C." A continuation of ACCT 223, emphasizing special topics including capital budgeting, process costing, cost allocation, joint and by-product costing, and decision-making.

ACCT 326 Governmental and Institutional Accounting (4) Prerequisite: ACCT 221 with a minimum grade of "C." Study accounting for cities, counties, school districts, hospitals, non-profit institutions, and other governmental units.

ACCT 327 Managerial Accounting (4) Prerequisite: ACCT 221. Open to non-Accounting majors only. Study accounting for management planning and control, emphasizing cost-volume-profit analysis, budgeting and responsibility accounting. May not be taken in place of ACCT 323 or 324.

ACCT 328 Accounting for Small Business (4) Prerequisite: ACCT 221 with a minimum grade of "C." No graduation credit for Accounting majors. Study business uses of accounting information for decision-making, including study and analysis of basic financial statements, cost accounting systems and their information, introduction to business tax problems, and various accounting systems.

ACCT 406 Internship in Accounting (12) Prerequisite: Faculty coordinator's consent. Get practical experience and opportunities to utilize theory of academic Accounting courses. S/U grading.

ACCT 420 Advanced Accounting I (4) Prerequisite: ACCT 321 with minimum grade of "C." Study business combinations, consolidated financial statements, branch operations, foreign operations and consolidated earnings per share.

ACCT 421 Advanced Accounting II (4) Prerequisite: ACCT 321 with minimum grade of "C." Study real estate, franchises, income presentation, interim reporting, partnerships, business segments, fiduciary, government and earnings per share.

ACCT 425 Auditing I (4) Prerequisite: ACCT 321 with minimum grade of "C." Overview procedures and techniques of auditing, including auditor's reports, internal control, evidence gathering, legal liability, statistical sampling, general objectives, ethics and limited EDP applications.

ACCT 426 Auditing II (4) Prerequisites: ACCT 322 or concurrently and ACCT 425 with minimum grade of "C." For those intending to practice public accounting and sit for CPA exam. Complete simulated audit, including working papers, gather evidence, and make auditing judgments. Also, detail analysis of current pronouncements which are changing auditors' responsibilities and reporting obligations.

ACCT 428 Income Tax Accounting I (4) Prerequisite: ACCT 321 with minimum grade of "C." Study basic rules of federal taxation, emphasizing taxation of individuals.

ACCT 429 Income Tax Accounting II (4) Prerequisite: ACCT 428 with minimum grade of "C." Continuation of ACCT 428. Emphasize federal income tax rules applicable to partnerships and corporations.

ACCT 520 Seminar in Financial Accounting (4) A survey course for students who have not completed Principles of Accounting sequence. Students are exposed to, work with and understand various financial accounting concepts which include recording transactions and preparation and use of financial statements. No graduate credit.

ACCT 521 Seminar in Accounting Standards Procedures (4) Prerequisite: ACCT 322. Emphasize current literature to study the development and present status of financial accounting standards and procedures.

ACCT 522 Seminar in Accounting Problems I (4) Prerequisite: Consent of instructor. Make an in-depth study of current and complex problems confronting the profession.

ACCT 523 Contemporary Readings in Accounting (2) Read current publications in Accounting, emphasizing articles on tax, theory, auditing, systems, managerial accounting and management services.

ACCT 524 Seminar in Accounting Problems II (4) Prerequisite: Consent of instructor. Continue ACCT 522. Make an in-depth study of current and complex problems confronting the profession.

ACCT 526 Seminar in Internal Auditing and Report Writing (4) Prerequisite: Intermediate and Cost Accounting. Study needs and procedures of internal auditing and preparation and writing of accounting reports.

ACCT 527 Seminar in Auditing Problems (4) Prerequisite: One undergraduate auditing course. Make a detailed study of current auditing procedures and their application to actual auditing problems and cases.

ACCT 620 Seminar in Controllorship (4) Prerequisite: Consent of instructor. Make an in-depth study of principles and procedures used to provide data to assure efficiency of the organization and individuals.

ACCT 623 Seminar in Management Accounting (4) Prerequisite: ACCT 221 or equivalent. Understand the use of Accounting for control and planning, through study of accounting systems used to generate information for internal management.

ACCT 624 Seminar in Accounting Control Systems and Budgeting (4) Prerequisite: One course in cost or managerial accounting, or consent of instructor. Design, implement and evaluate accounting control systems and budgets.

ACCT 628 Seminar in Income Taxation (4) Prerequisite: ACCT 428. Make an in-depth study of some more complex areas of tax law.

Aerospace Studies

A weekly one-hour leadership laboratory is integral to courses offered in the Aerospace Studies curriculum, except for the AS 403 Flight Instruction course.

e-AS 110 The Air Force Today I (2) Investigate the role of military power in support of national objectives and become familiar with Air Force doctrine and its relationship to national strategy.

e-AS 111 The Air Force Today II (2) Examine the Strategic Air Command, Military Airlift Command, Tactical Air Command and overseas commands of the U.S. Air Forces as instruments of national power.

e-AS 112 The Air Force Today III (2) Make an in-depth study of the coordination between the Air Force, Army and Navy as these organizations are used to achieve national goals.

e-AS 210 Developmental Growth of Air Power I (2) Learn about the development of air power from ancient times through the period between WW I and WW II.

e-AS 211 Developmental Growth of Air Power II (2) Consider the development of military air power in the major nations of the world from World War II through the Korean War years.

e-AS 212 Developmental Growth of Air Power III (2) Analyze the development of military air power in the United States from the post-Korean War to the post-Vietnam War years.

AS 310 Concepts of Air Force Leadership and Management I (3) Emphasize a study of human behavior and relations and how they affect AF leadership and management. Develop communication skills as a major goal.

AS 311 Concepts of Air Force Leadership and Management II (3) Emphasize leadership and planning and organizing functions of management. Further develop communicative skills.

AS 312 Concepts of Air Force Leadership and Management III (3) Stress coordination, direction and control functions of AF management, and also cover the management environment, how to manage change, and management strategy and tactics. Further develop communication skills.

AS 403 Flight Instruction (3) Meet ground school requirements for a private pilot license. Study Federal Aviation regulations, meteorology, *Airman's Information Manual*, aerial navigation, radio procedures, flight computer and flying safety practices.

AS 410 American National Security I (3) Understand the Armed Forces as an integral element of society, emphasizing societal attitudes toward the military; role of professional military leader-managers in a democratic society; and fundamental values and socialization processes. Make presentations, write reports and participate in discussions.

AS 411 American National Security II (3) Emphasize the manifold variables involved in formulating and implementing national security policy, and the impact of international and regional security issues on policy. Make presentations, write reports and participate in discussions.

AS 412 American National Security III (3) Focus on national security priorities in the 1980's, international law and the military justice system. Make presentations, write reports and participate in discussions.

AS 422 Independent Study (2-3) Approval of department chairman required. For students with practicum or other course conflicts which prevent attendance in normal Aerospace Studies program flow. No General Education credit may be repeated.

Anthropology

f-ANT 100 General Anthropology (5) Discover the nature and scope of anthropology, organic humans, and the nature of culture.

f-ANT 140 Introduction to Archaeology (4) Offers broad background in archaeological procedures, with focus on the formation of sites, excavation methods and analytical methods and goals of archaeology referencing worldwide sites.

f-ANT 220 Seminar in Modern Ethnology (3-9) Analyze selected modern ethnographies to present current materials and problems in various culture areas.

f-ANT 223 Sex Roles in Cross Cultural Perspective (4) Study biologically and culturally determined gender role differentiation by comparing sex-related behavior in a wide variety of cultures.

ANT 240 American Archaeology (4) Study selected prehistoric American Indian cultures (Paleo Indians, the Great Plains, the Mississippi Valley, the Chibcha, the Inca) in North and South America.

h-ANT 284 Techniques of Cross Cultural Research (3) Prerequisite: ANT 100. Learn basic techniques for investigating cultural patterns with worldwide ethno-graphic data, using computer techniques for analysis of Standard Cross-Cultural Sample, Ethnographic Atlas, and Cross-Cultural Summary.

ANT 290 Field Methods in Ethnography (4-8) Introduction to field work and consideration of various methods in sociocultural anthropology, with emphasis on short-term field projects.

ANT 320 Ethnology of Hispanic Peoples (4) Survey the various Hispanic populations of the New World with special emphasis upon native populations of Central and South America.

ANT 321 Anthropology of the Third World: Africa and the Middle East (4) Study the cultural development and dynamics of contemporary Third World countries in Africa and the Middle East.

ANT 323 Anthropology of the Third World: South and Southeast Asia (4) Study the cultural development and dynamics of contemporary Third World countries in South and Southeast Asia.

f-ANT 328 Studies of Native Americans of the New World (4) Survey the various Native American cultural groups that inhabit the North and South American continents.

f-ANT 329 Peoples and Cultures of the Caribbean (4) Study the development of an underdeveloped area in relation to its disappearing plantation systems, growing industry and tourist business.

f-ANT 331 Urban Anthropology (4) Study the concept of urbanization in depth, focusing on the process in both developed and developing nation states with special emphasis directed toward the urban poor.

ANT 340 Archaeology of Colorado and Southwest (4) Study ancient cultural horizons in the Southwest up to the Spanish Conquest emphasizing chronology, cultural change, and classification, including Colorado's relationship to Anasazi archaeology.

ANT 342 Near Eastern Archaeology (4) Survey prehistoric foundations and cultural development of civilizations in Near East and Indus Valley as revealed by major archaeological discoveries, and study theories of cultural evolution and diffusion.

f-ANT 344 Archaeology of Africa (3) Study the antiquity of humans in Africa by reviewing the archaeological development from the Australopithecines, through the Paleolithic, Mesolithic and Neolithic stages to the 18th Century A.D.

g-ANT 345 Archaeology of Mexico (4) Compare cultural development in ancient Mexico and Central America, emphasizing agricultural beginnings, settlement patterns, urbanization, hieroglyphics, calendrical systems and religious activities. Thoroughly examine Archaic, Toltec, Aztec, and Mayan cultures.

ANT 347 Archaeology of Greece (4) Survey Greek civilization comprehensively, including phases of architecture, statuary, funeral rites, commerce and trade, etc., based on archaeological interpretation.

ANT 348 Etruscan and Roman Archaeology (4) Reconstruct Etruscan origins and culture and study, by archaeological interpretation, its effects upon the development of Roman civilization at the time of Augustus.

ANT 349 Archaeology of Egypt (4) Historically reconstruct Egyptian archaeology from Stone Age and predynastic cultures, sequential development of Old, Middle and New Kingdoms, concluding with Persian, Ptolemaic and Roman occupations.

ANT 380 Great Ideas in Anthropology (3-9) Current important ideas in special fields of anthropology within a seminar.

I-ANT 381 Cultural Patterns for Learning Lifestyles (4) Study the patterned interactions by which individuals become oriented to their cultures, and through which they learn to feel, think, believe, express appropriate personality characteristics, and perform adequately as adult members of society. Compare the process in selected societies including our own.

I-ANT 382 Anthropology of Modernization and Development (4) Study of the process by which various cultural groups change and modernize, focusing upon economic, political, legal, and symbolic concerns in cultural systems in the developed and developing nation states in the contemporary world.

ANT 384 Quantitative Methods in Anthropology (4) Use basic formal techniques to treat problems unique to various subfields and to provide a format for quantitative application investigation. Learn problem formation, statistical description, probability distributions and significance testing.

ANT 401 Internship (4-12) Anthropological field experiences in ethnology, museology, and teaching. Graded S or U.

ANT 420 Anthropological Techniques in the Multicultural Classroom (3) Helps potential teachers to develop ethnic and racial sensitivity in the classroom, and to internalize skills so they become automatic (as math, language, and typing skills become automatic).

ANT 422 Individual Studies (Maximum 4) Qualified undergraduates outline and spend a 25 clock hour minimum per quarter hour on a problem. For credit, file two copies of a well-written paper, one with instructor and one with department chair. Not for General Education credit.

ANT 430 Visual Anthropology (3) Learn to arrange and synthesize ethnographic information from various cultural systems into a visual presentation or argument, using drawings, video, and photographs.

ANT 440 Techniques of Archaeology (3) Review field methods and laboratory techniques utilized in prehistoric archaeology, especially stratigraphy, typological analysis, dating techniques and research publication.

I-ANT 470 The Nature of Humans (3) Study humans as biosocial beings through analysis of functional requirements of social living to see how these are met.

I-ANT 472 Health in Transcultural Perspective (4) Analyze health and illness in a sample of ethnic groups and cultural systems. Study health practices of various ethnic groups and develop alternatives to the bio-medical model.

I-ANT 480 Survey of Anthropological Theory (3) Discuss in seminar the development of anthropological theory from Tylor to the present, including cultural evolution, diffusion and historical reconstruction, functionalism and psychologically oriented theories.

ANT 508 Workshop (4) Survey anthropological problems of current interest, especially those of interrelationships between Anthropology and other disciplines.

ANT 537 Seminar in Cultural Anthropology (3-9) Prerequisite: Two courses in cultural Anthropology or permission of instructor. Investigate specific ethnographic cultural areas or aspects of culture-economic systems, social organization, culture change, political behavior, urban affairs, cognition, etc. Specific geographical areas and topics selected by student interest.

ANT 600 Introduction to Concept of Culture (3) Seminar on development and uses of the culture concept as an important working tool for understanding and interpreting varieties of human action. For advanced level students who have not had ANT 100.

ANT 622 Individual Studies (4 maximum) Qualified graduate students outline and spend 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed with instructor before credit is given.

Applied Statistics

h-STAT 203 Introduction to Statistical Analysis (3) Prerequisite: MATH 123. Study techniques used in organizing data, including frequency distributions, histograms, measures of central tendency, measures of dispersion, probability distributions, point estimation, interval estimation and testing hypotheses.

h-STAT 303 Statistics for Health Sciences (3) Receive an introduction to applied statistics, including such topics as histograms, central tendency, dispersion, normal distribution, hypothesis testing, chi-square and regression. Primarily for Nursing and Health Science majors.

h-STAT 304 Basic Statistical Inference (3) Prerequisite: STAT 203 or equivalent. As a service student, become acquainted with statistical procedures used by the researcher, with emphasis on applications. Topics include simple hypothesis testing, analysis of variance, chi-square analysis, elementary probability and distribution functions.

STAT 350 Elementary Probability Theory (4) Prerequisite: MATH 133. Learn about 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.

STAT 351 Elementary Statistics Theory (4) Prerequisite: STAT 350. A continuation of STAT 350. Learn about jointly distributed random variables, central limit theorem, sampling distributions, maximum likelihood estimation, properties of estimation, confidence intervals and tests of hypothesis.

STAT 503 Descriptive Statistics (3) Prerequisite: MATH 123 or consent of instructor. Investigate applications and statistical reasoning about central tendency, normalized and unnormalized standard scores, percentiles, correlation and regression and probability distributions.

STAT 504 Inferential Statistics (3) Prerequisite: STAT 503 or consent of instructor. Study applications and inferences arising from various distribution functions: t, F, chi-square, binomial, normal and Poisson, hypothesis formulation and testing; estimation and confidence limits; one- and two-sample tests; and statistical decision theory.

STAT 551 Introduction to Mathematical Statistics I (4) Prerequisite: STAT 350. Study distributions of discrete and continuous random variables, moments and moment-generating functions, marginal and conditional distributions, distributions of function of random variables, t, F, and chi-square distributions.

STAT 552 Introduction to Mathematical Statistics II (4) Prerequisite: STAT 551. Learn interval estimation, point estimation and maximum likelihood procedures; distributions of order statistics, stochastic convergence, central limit theorem and limiting distribution theory; sufficient statistics and completeness property.

STAT 553 Introduction to Mathematical Statistics III (4) Prerequisite: STAT 552. Study tests and hypotheses, analysis of variance, non-central, t, F, and chi-square distributions, and multivariate normal distributions.

STAT 555 Probability Theory (4) Prerequisite: STAT 350. Investigate Chebyshev's inequality, laws of large numbers, sums of independent random variables, central limit theorem, sequence of random variables, different modes of convergence, and probability generating functions.

STAT 556 An Introduction to Stochastic Processes (4) Prerequisite: STAT 555. Define stochastic processes and probability laws, Weiner process, Poisson process, covariance stationary process and Markov chain.

STAT 603 Analysis of Variance (3) Prerequisite: STAT 504. Study application and interpretation of single and multiple classification designs. Topics include use of classification as control, methods of unweighted means, commonly used post-test comparisons and trend analysis.

STAT 604 Advanced Experimental Design (3) Prerequisite: STAT 603. Continuation of STAT 603. Study high-order factorial design, three-factor design with repeated measurements, trend analysis and response surface analysis, transformation, pre- and post-multiple comparison considerations, power of F-tests, fixed, mixed and random models.

STAT 605 Multivariate Analysis (3) Prerequisite: STAT 603. Receive introduction to multivariate analysis of variance, multivariate one- and two-sample tests on means, canonical correlation, profile analysis, and discriminant function.

STAT 606 Multiple Regression (3) Prerequisite: STAT 603. Take the matrix approach to continuous and categorical variables, polynomial and selected non-linear models; formulation of ANOVA and ANCOVA designs and collinearity; regression methods: backward elimination, forward selection, stepwise and stagewise; and part-regression.

STAT 607 Nonparametric Statistics (3) Prerequisite: STAT 504. Study nonparametric tests of research hypotheses relative to the data to which the test is applicable; the rationale underlying the test; examples of application of the test in behavioral research; and comparison of the test with its parametric equivalent.

STAT 608 Factor Analysis (3) Prerequisite: STAT 603. Consider Spearman's g-factor, eigenvectors, eigenvalues, principal axis analysis, and promax models. Also consider the theory of oblique and orthogonal solutions and the communality problem.

STAT 609 Sampling Methods (3) Prerequisite: STAT 504. Learn methods of survey sampling, including such topics as simple and stratified random sampling, ratio estimation, cluster sampling, systematic sampling, questionnaire design, problems of non-response, and sources of non-sampling errors.

STAT 622 Individual Studies (1-4) Qualified graduate 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 the instructor before credit is given.

STAT 641 Seminar: Special Topics (1-5) Advanced topics in applied statistics, measurement theory and research. Specific topics will be determined by the instructor and by current student needs.

STAT 689 Internship in Applied Statistics and Research Methods (1-15) A supervised program of observation and participation in a one-quarter research assignment. The internship requires a minimum of 25 hours of student field experience for each credit hour given.

STAT 699 Thesis (8) Optional for Master of Science program in Applied Statistics and Research Methods.

STAT 715 Planning and Methodology of Research (3) Prerequisite: STAT 504. Consider technical problems in planning and conducting studies. Topics include locating and defining problems, measurement and scaling, sampling designs, problems specific to correlational, survey, experimental, and Monte Carlo studies. Open to non-majors.

STAT 742 Seminar (1-5) Prerequisite: STAT 605 or consent of instructor. Study advanced topics in statistics, mathematics, research design and information processing.

STAT 755 Supervised Practicum in College Teaching (1-9) Practice college teaching under supervision.

STAT 797 Doctoral Proposal Research (1-6) Required of all doctoral students. Although the student may register for 1-6 hours in any quarter, the student must earn a minimum maximum of 6 hours of credit in partial fulfillment of requirements for admission to candidacy.

STAT 799 Doctoral Dissertation (1-18) Required of all doctoral candidates. Although a student may register for 1 to 18 hours of dissertation credit in any quarter, the student must earn a minimum maximum of 12-18 hours of credit for the dissertation in partial fulfillment of the requirements for the doctoral degree.

Astronomy

Astronomy courses are administered by the Department of Earth Sciences.

h-AST 100 General Astronomy (4) (3 lecture, 2 laboratory) Study the universe and our place in it. No mathematics background required.

h-AST 301 Principles of Astronomy I (4) (3 lecture, 2 laboratory) Survey the dynamics and physical properties of the solar system.

AST 302 Principles of Astronomy II (3) Prerequisite: AST 100 or 301. Learn about stars and stellar systems beyond the solar system.

h-AST 310 Observational Astronomy (4) (2 lecture, 6 laboratory; maximum 12) Prerequisite: AST 100 or 301. Work with the equipment, materials and techniques used in astronomical research. Conceive and carry out observational projects.

h-AST 420 Lunar and Planetary Astronomy (3) Prerequisite: AST 100 or 301. Survey the techniques and results of space exploration, and 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 instructor and one with department chair. No General Education credit.

AST 499 Seminar in Astronomy (Maximum 9) Prerequisite: Consent of instructor. An opportunity to explore areas of astronomy beyond the scope of existing department offerings. Specific topics determined by interests of students and instructor.

AST 599 Special Topics in Astronomy (1-4) Explore areas of astronomy beyond the usual courses. Specific topics determined by interests of students and instructor.

AST 622 Individual Studies (4 maximum) Qualified graduate 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. Does not satisfy 500 level requirement unless student takes course in residence.

Biology

Biology courses are administered by the department of Biological Sciences.

h-BIO 101 Principles of Biology (5) (4 lecture, 3 laboratory) Investigate principles which drive biological actions within the biosphere and within cells; especially structural and functional bases of life in genetics, evolution and ecology.

h-BIO 102 Principles of Botany (5) (3 lecture, 4 laboratory) Prerequisite: BIO 101. Understand plant diversity viewed from knowledge of 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. Survey animal diversity, including principles of structure and function, phylogeny, life cycles and systematics, stressing the relation of the animal kingdom to humans.

h-BIO 104 Topics in Biological Sciences (3, maximum 9) Current problems and topics in biology, with topics announced each quarter. No credit for Biological Science majors or minors.

h-BIO 105 Biology of Food (3) Examine biological substances for nutritional values, diseases and toxic compounds associated with them, and find what biological problems are associated with the quality of fresh and stored foods.

h-BIO 170 Laboratory in Biological Sciences (1) (2 laboratory) Co-requisite: BIO 104. Gain laboratory experience with organismal structure, function, diversity and ecological relationships.

BIO 231 Genetics (3) Prerequisite: BIO 102 or 103. Discover how the fundamental laws of heredity apply to plants and animals and particularly to humans. Majors electing BIO 231 must take BIO 232 also.

BIO 232 Genetics Laboratory (2) (4 laboratory) Prerequisites: BIO 102, 103, 231 (or concurrent) Discover fundamental laws of heredity in plants, animals and humans through laboratory experiences.

BIO 234 Population Genetics (3) Prerequisite: BIO 101 or ZOO 105. Discover the action of genes in diverse populations and consider the influence of various environmental factors on gene distribution and evaluation.

h-BIO 240 General Ecology (4) (3 lecture, 3 laboratory) Study plant and animal communities and their environmental relationships. Analyze biotic communities on field trips, and observe human effects on natural ecosystem. Not recommended for Biological Sciences majors. Field trip transportation fee required.

BIO 261 Medical and Public Health Microbiology (4) (3 lecture, 3 laboratory) Recommended: CHEM 281, ZOO 221, 250. Learn about microorganisms of public health significance: their diseases, detection, and treatment. Primarily for dietetics, nursing, pre-medicine, pre-dentistry, pre-veterinary medicine students.

BIO 262 Common Infections of Humans (3) Survey human infections for their effects, transmission and treatments.

BIO 265 Medical & Public Health Microbiology Laboratory (1) Prerequisite: BIO 261 concurrently. Learn techniques and methods of medical diagnostic and public health microbiology. Not for Medical Technology students.

h-BIO 283 Biology and Behavior of Human Sexuality (3) Study the human reproductive process, with structure and function of organs, genetics of sex, fertility, contraception and socially acceptable and unacceptable sexual behavior.

c-BIO 291 Seminar in Scientific Writing (3) Prerequisite: Sophomore classification, ENG 101. Learn to write in a scientific style. Delineate problems, survey biological literature and synthesize data.

BIO 336 Evolution (3) Prerequisite: BIO 231. Discover how organisms have changed through time, how genetic variations are related to natural selection and formation of species, and the impact of Darwin on biological sciences.

BIO 346 Aquatic Ecology (5) (3 lecture, 6 laboratory) Prerequisites: BIO 101, 102, 103. Learn methods of collecting, classification, ecological relations and economic importance of fresh water biota in the Rocky Mountain region. Field transportation fee required.

BIO 350 Cell Physiology (5) (3 lecture, 4 laboratory) Prerequisites: BIO 101, 102, 103 CHEM 130 or 332; recommend CHEM 281. Study biological principles relating cell structure to function, genetic control of cell activity, molecular basis of cell metabolism, energy transformations within cells and homeostatic regulation of cell environment.

BIO 361 Microbiology (5) (3 lecture, 4 laboratory) Prerequisite: CHEM 130 or 332; recommend BIO 103 or Zoo 105. Examine microorganisms and their activities in the biological world; study primarily bacteria, but also molds and viruses. 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) Cover the theory and laboratory applications of immunology to supplement immunological aspects of medical microbiology.

BIO 363 Food Microbiology (5) (3 lecture, 4 laboratory) Prerequisite: CHEM 130 or 332; (Recommend BIO 361). Examine microbial agents of food technology, spoilage and disease, including viruses and animal parasites transmitted by food and water. Recommended for Dietetics majors and as an elective for Biological Sciences and Health majors.

BIO 365 Medical Technology Microbiology Laboratory (2) (4 laboratory) Prerequisite: BIO 361 concurrently. Advanced course primarily for Medical Technology students, covering diagnostic medical and public health microbiology.

BIO 371 Topics and Techniques of Biology (2) (1 lecture, 2 laboratory) Prerequisite: Acceptance in PTE. Learn techniques of laboratory preparation for biological investigation, lecture presentation, construction and use of biological equipment and approaches to controversial subject matter.

BIO 380 Sexually Transmitted Diseases (3) Introduces the history, epidemiological control, human impacts and medical aspects of common venereal and other sexually transmitted diseases.

BIO 401 Practicum in College Biological Science Instruction (1, maximum 3; 3 laboratory). Gain experience teaching an introductory biological science laboratory, aid in lab preparation, tutor students individually, and instruct in lab. Consent of instructor and departmental PTE committee required.

BIO 402 Conservation of Natural Resources (4) (3 lecture, 2 activity) Discover the relation of natural resources to development of humans and their cultures. Soil, water, forests and forest products, range management, wildlife and mineral resources covered. Field trips and fee required.

BIO 405 Special Topics in Biology (3) Advanced study for qualified undergraduates in an area of the Biological Sciences.

BIO 406 Special Laboratory Topics in Biology (1-2) Advanced study in the laboratory for qualified undergraduates in an area of the Biological Sciences.

BIO 422 Individual Studies (4 maximum) Prerequisite: Overall 2.5 GPA or better. Qualified undergraduate students outline and spend a 25 clock hour minimum per quarter hour on a problem. No credit given until a paper is filed, one copy with instructor and one with department chair.

BIO 430 Behavioral Genetics (3) Prerequisites: BIO 231, also PSY 120 or PSY 121. Explore the genetic basis of behavior in humans and animals and study such contemporary issues as counseling, eugenics, intelligence and genetic correlates of psychopathy.

BIO 431 Human Genetics for the Health Sciences (2) Prerequisite: 1 year college biology. Apply genetics to health problems, including genetic counseling techniques, family trait histories, and genetic disease treatments.

BIO 471 Biological Microtechnique (3) (1 lecture, 6 laboratory) Prerequisites: BIO 102 and 103. Learn skills of preparing plant and animal tissues for microscopic study.

e-BIO 475 Biological Photography (3) (2 lecture, 3 laboratory) Develop photographic techniques such as close-up, copying, slide duplication, wildlife, and photomicroscopy for producing audiovisual aids and for scientific publication.

h-BIO 480 Topics in Field Biology (1-15) Study biology in the field on a national or international basis. Investigate in depth after preparatory work on campus. Topic varies.

BIO 491 Undergraduate Seminar (1) Survey current research and literature on selected biological topics.

BIO 499 Undergraduate Research (Maximum 10) Prerequisites: Consent of instructor and BIO 291 or equivalent. Conduct original research and learn the theories and practice of research in the Biological Sciences. Submit two copies of a final report to the supervising instructor.

BIO 501 Current Issues in Biology (1) Prerequisite: Undergraduate degree in Biological Sciences or related area. Discuss current issues in designated areas of basic biology. Especially for those with outdated or weak preparation in fundamental principles of biology, botany or zoology. Graded S-U.

BIO 505 Special Topics in Biology (4, maximum 12) (2 lecture, 4 laboratory) Study on advanced levels of microbiology, cell biology or genetics at an advanced level.

BIO 508 Workshop (1-10) Study topic of biological interest for one to four weeks. Each workshop is subtitled and no subtitle may be repeated for credit.

BIO 513 Professional Enrichment (15 maximum) Study topic of biological interest for four to ten weeks.

BIO 530 Advanced Genetics (3) Prerequisites: BIO 231 or equivalent and CHEM 482. Survey experimental advances in characterizing gene regulation in growth, maintenance and protection of various organisms. Study aberrant biochemical pathways for insights into gene action.

BIO 531 Human Genetics and Social Issues (3) Prerequisite: BIO 231. Investigate principles of human heredity and their significance in world problems, as well as the importance of genetics in family planning and in medical and legal practices.

BIO 533 Cytology (4) Study cells with special reference to organelles, morphology, cyto-chemistry and physiology.

BIO 536 Evolution and Speciation (3) Prerequisite: BIO 231 or 336. Survey concepts of evolution, evidence of speciation and origin of plants and animals.

BIO 542 Analysis & Alteration of Ecosystems (3) Study structure, function, methods of analysis, and flow of energy through various ecosystems by modeling.

BIO 544 Limnology (4) (3 lecture, 3 laboratory) Prerequisite: BIO 346. Study the physical, chemical and biological interactions in lakes, and the factors affecting productivity of fresh water communities. Field trip transportation fee required.

BIO 560 Advanced Microbiology (5) (3 lecture 6 laboratory) Prerequisites: BIO 361, CHEM 334 or 482. Examine prokaryotic anatomy, physiology, genetics and taxonomy, with laboratory studies of major bacterial groups and use of advanced microbiology techniques.

BIO 561 Pathogenic Microbiology (3) Prerequisites: BIO 261 or 361. Learn about pathogenic bacteria, viruses, rickettsiae, fungi, and protozoa, primarily in humans and higher vertebrates and disease mechanisms.

BIO 563 Virology (3) Prerequisites: BIO 261 or 361. Study viruses through ecology, structure, classification, genetics, pathogenicity. Examine methods of detection and isolation of plant, animal and bacterial viruses.

BIO 580 Public Schools & Venereal Disease Education (3) Introduction to the history, epidemiological control, human impacts and medical aspects of common venereal and other sexually transmitted diseases.

BIO 581 Human Sexuality for Teachers & Students (3) Learn the biology of sex, cycles of sexual development and sexual behavioral patterns. For teachers competent and secure in their own sexuality and that of their students.

BIO 622 Individual Studies (4 maximum) Qualified graduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Credit given only when one copy of a paper is filed with instructor, and one with department chair. Does not satisfy 500-level requirement unless student is in full-time residency at UNC during quarter course is taken.

BIO 642 Human Ecology (3) View ecology and populations from the perspective of developments in science and technology and their impact on humans.

BIO 681 Effective Teaching Forum (3) Seminar to discuss problems faced by college level biology teachers. Discussions include course organization, sequence of topics and teaching aids.

BIO 691 Seminar in the Biological Sciences (1) Invited speakers present topics of interest pertinent to biology. S/U grades.

BIO 692 Special Topics in Biology (1) Research and present segments of selected topics of current biological interest.

BIO 694 Foundations of Biological Research (3) Delineate the philosophy, the methods of research and the presentation of scientific findings. Required of all first-year graduate students in Biological Sciences.

BIO 697 Graduate Research (10 maximum) Prerequisites: BIO 694 and consent of instructor. Qualified graduate students outline and spend a minimum of 25 clock hours per quarter credit hour on a research problem. Before credit is given, a well-written report must be submitted to the instructor.

BIO 699 Thesis (15 maximum)

BIO 755 Doctoral Supervised Teaching (2, maximum 9) Experience supervised college level biological sciences teaching. Develop course outlines and effective teaching techniques.

BIO 797 Doctoral Proposal Research (1-6) Required of all doctoral students. Although students may register for 1-6 hours of this course in any quarter, they must earn 6 hours of credit for doctoral dissertation proposal research as a partial fulfillment of requirements for all doctoral degrees prior to admission to candidacy.

BIO 799 Doctoral Dissertation (6-18)

Black Studies

g-BLS 101 Crisis of Identity (3) Analyze identity formation and self-concept processes from a Black perspective, related to Black experience. Explore identity formation as a function of societal attitudes.

f-BLS 102 Crisis of Identity II (3) Make a psychodynamic and sociological analysis of the formation of self-concept and processes of identification relative to the Black woman.

f-BLS 220 Black Community Development (3) Analyze historically the origins and development of institutions in the Black community, including migrations of Black people from the rural South and the effects of urban life on the Black community.

f-BLS 240 Dynamics of Racism (3) Explore 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) Literary genres in Black writing: the novel, poetry, drama, essay, short story and autobiography. Recognize the development of similarities and differences in Black writing and thought from slavery to Black Power movements.

BLS 313 Professional Renewal (1-12) Discuss various topics of interest in Black Studies, depending on instructor. Each will have a subtitle, and no subtitle may be repeated for credit.

f-BLS 320 The Black Economy (3) Learn about economic capitalism, its historical effect on Black communities, and its relationship to Black capitalism. Examine economic programs and policies of federal and local governments and labor unions.

g-BLS 322 Black Nationalism (3) Analyze the development of Black social movements: nationalism, integration and separation, including Vesey, Garvey, Malcolm X and Pan-African movements.

f-BLS 340 The Black Family (3) Take a social system approach to the study of the Afro-American family, dynamics of family relationships and effects of social, political and economic institutions on Black family life.

BLS 350 Black Psychology (3) Analyze various schools of psychology as they apply to the Black experience. Study the environment of the Blacks and its effect on application of these theories.

d-BLS 360 Rhythm and the Black Experience (3) Learn the historical, thematic and stylistic development of Black music from ancient Africa to the present.

BLS 370 Black Cultural Development (3) Survey contemporary Black musicians, artists, playwrights and writers. Listen to and read works of Bullins, Baraka, Coltrane, Pharoah Sanders, Gordone, Angelou and Baldwin.

f-BLS 380 Education in the Black Community (3) Analyze economic, sociological and political foundations of education in the Black community. Learn about aims, methods and leaders in Black education, emphasizing interrelations between Black schools, Black values and the Black community.

d-BLS 392 Linguistic Styles of Black America (3) Trace the historical development of Black dialect from West Africa to the present. Examine and analyze research on Black language from social, economic and political perspectives.

BLS 399 Community Study Project (1-4) Do field work in a community-based project in housing, education or social services.

f-BLS 420 Black Urban Politics (3) Examine American government and laws, and analyze the concept of Black Power, and the combined influence on 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 instructor and one with department chair. No General Education credit.

f-BLS 430 Law in the Black Community (3) Approach Black community law enforcement and legal processes from a social systems standpoint, examining the relationship between poverty and justice and effects of institutional racism on Black community legal agencies.

g-BLS 432 Pan African World (3) Compare the politics and government of selected states and colonies in Africa, the Caribbean, South America and the United States.

BLS 460 Black Religion (3) Explore historical and social forces in the formation of Black religious institutions in the United States.

BLS 462 Theater of Black America (3) Survey dramatic forms of Afro-American expression from the minstrel through early 20th century to current theatrical forms such as Black repertory workshops and street theaters.

g-BLS 463 The Black Man & Woman in American Drama II: 1945 to Today (3) Examine, study and discuss the image of the Black man and woman as they appear in contemporary drama, emphasizing Black characters and playwrights, in lecture-discussions.

d-BLS 464 Seminar in Black Theater (4) Learn through production and discussion. In addition to writing six papers on selected subjects, students are required to participate in a play presented at the quarter's end.

f-BLS 465 Black Media (3) Analyze the relationship of Blacks and mass communication -- journalism, broadcasting and creative writing. Study visual communication -- motion pictures and television -- which contribute to the Black image in America.

BLS 480 Black Curriculum Development (3) Examine curriculum development as it relates to minorities and affects sociological perspectives, and gain experience in developing curriculum.

f-BLS 495 Interpersonal Communication (3) Understand styles and attitudes of different socio-economic groups and improve communication between cultures.

BLS 508 Workshop in Black Studies (1-3) Provides interactive opportunity for socio-cultural economic exploration of total complexity of participants' educational problems.

Botany

The Department of Biological Sciences administers courses in Botany.

h-BOT 306 Economic Botany (3) Consider plants that directly affect human welfare: Food, drugs, fibers, naval stores, wood, dyes, insecticides, and others according to their taxonomy, structure and ecological requirements.

BOT 310 Plant Taxonomy (5) (3 lecture, 6 laboratory) Prerequisite: BIO 102. Recognize and identify plants at species and family levels, using keys and manuals. Native plant collection required. Field trip fee required.

BOT 323 Morphogenesis of Nonvascular Organisms (5) (3 lecture, 4 laboratory) Prerequisite: BIO 102. Study structure, morphogenesis and phylogenetic relationships of algae, fungi, and bryophytes. Field trip fee required.

BOT 340 Plant Ecology (5) (3 lecture, 6 laboratory) Prerequisite: BIO 102. Learn the interrelationships of plants in the ecosystem and how they are affected by environmental factors. Field trips to plains and mountains; fee required.

BOT 350 General Plant Physiology (5) (4 lecture, 3 laboratory) Prerequisites: BIO 102, CHEM 130 or 332. Discover 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) Prerequisite: BIO 102. Carefully inspect the tissues of seed plants as to origin, development and structure in relation to their function and evolution.

BOT 422 Individual Studies (4 maximum) Prerequisite: Over GPA 2.5 or better. Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. For credit, file two copies of a paper, one with the instructor and one with department chair.

BOT 425 Mycology (5) (3 lecture, 6 laboratory) Prerequisite: BIO 102. Survey the groups of fungi, including taxonomy, phylogeny, physiology, reproductive patterns and cultural techniques. No credit for both BOT 425 and BOT 525.

h-BOT 475 Plant Propagation and Maintenance (3) (2 lecture, 3 laboratory) Propagate, maintain and understand plants valuable to society for economical, educational, aesthetic reasons. Purchase of some seeds, plants or planting materials required.

BOT 505 Special Topics in Botany (4, maximum 12) (2 lecture, 4 laboratory) Study taxonomy, physiology, ecology, vascular or nonvascular botany at an advanced level.

BOT 510 Taxonomy of Grasses (3) (2 lecture, 3 laboratory) Prerequisite: BOT 310. Identify major tribes of native and introduced grasses and the evolutionary development of important economic species.

BOT 524 Morphogenesis of Vascular Plants (5) (3 lecture, 4 laboratory) Prerequisite: BOT 421. Learn the structure, morphogenesis and phylogenetic relationships of ferns, gymnosperms and angiosperms.

BOT 525 Mycology (5) (3 lecture, 6 laboratory) Prerequisite: BIO 102. Survey the groups of fungi, including taxonomy, phylogeny, physiology, reproductive patterns and cultural techniques. Credit not allowed for both BOT 525 and BOT 425.

BOT 543 Physiological Plant Ecology (5) (3 lecture, 6 laboratory) Prerequisites: BOT 340 and BOT 350, or consent of instructor. Discover interrelations between individual plants and the environment, including soil, climatic and biotic factors, using controlled conditions in greenhouse and growth chambers.

BOT 545 Plant Geography (3) Prerequisite: BOT 310 or 340. Study floras of the past and present, and the factors that have affected their distribution.

BOT 556 Plant Growth and Development (4) (3 lecture, 3 laboratory) Learn how growth cycles of plants in laboratory and field may be affected by external and internal conditions. The effect of auxins is a principal feature of lab work.

BOT 561 Plant Pathology (5) (3 lecture, 6 laboratory) Prerequisites: BOT 323, 350; BOT 424 recommended) Recognize plant diseases, the physical and biochemical processes involved in the establishment of diseases and their prevention and control.

BOT 622 Individual Studies (4 maximum) Qualified graduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Credit given only when one copy of a paper is filed with the instructor and one with the department chair. Does not satisfy 500-level requirement unless student is in full-time residency at UNC during quarter the course is taken.

BOT 654 Mineral Nutrition of Plants (3) Learn about supply, uptake distribution, metabolism and recycling of essential and non-essential mineral nutrients of plants.

BOT 655 Plant-Water Relations (3) Discover the properties, uptake, distribution, metabolism and loss of water by plants.

BOT 699 Thesis (15 maximum)

Business

e-BUS 100 American Business System (3) Understand how the American business system operates and its place in the economy. Make more effective use of business services in personal affairs, and use as a future business course foundation.

e-BUS 101 Consumer Business Problems (3) Learn how business affects you personally, including use of credit, insurance needs, banking, buying guides, consumer protection and other individual problems.

c-BUS 205 Business Communications (4) Study and apply basic principles and practices for business letters, reports and oral communications.

BUS 231 Business Law I (4) Lay foundation for law study with the nature of law, aspects of criminal and constitutional law, and overviewing torts, civil procedure, administrative law, government regulations, consumer protection, bankruptcy, trusts and estates. Review contract law more completely.

BUS 232 Business Law II (4) Prerequisite: BUS 231 or consent of instructor. One of two advanced undergraduate business law courses. Study agency, partnership, corporations, employer-employee relations, Anti-Trust Law, and Federal Securities Law in detail.

BUS 307 Technical Business Reports (4) Prerequisite: ENG 102 or BUS 205. Learn organization, preparation and analysis of business and technical reports, with emphasis on techniques of collecting, interpreting and presenting information. Course should be taken concurrently with FIN 474, BUS 401, MGT 456. Substitute only with consent of BUS 307 instructor.

BUS 314 Records Management (3) Approach the creation, use, maintenance and disposition of information essential to organizations systematically. Examine forms creation and control, classification systems, retention schedules, and records management manual, including microforms, word and data processing.

BUS 400 Business, Government and Society (4) Study their interrelationships and their impacts on business environment and managerial considerations and actions. Emphasize changing value systems, ethical considerations, national and multinational business responsibilities, governmental policies and business's political role, economic impacts, current and future interrelationships.

BUS 401 Public Policy and Private Enterprise (4) Prerequisite: BUS Core. Survey current state and federal legislation affecting business, emphasizing recent rulings of various regulatory agencies, and current demands on business by consumers and society.

BUS 406 Internship in Business (12) Prerequisite: Consent of faculty coordinator. Get practical experience and opportunities to utilize theory of academic business administration courses. S/U grading.

BUS 408 Special Topics (1-4) Special workshops or short courses in various Business content areas offered as need and opportunity arises. Workshops stress specialized areas of various Business departments. May be graded S/U.

BUS 412 Administrative Office Systems (3) Emphasize office functions and systems, work in an office, study alternative layout, equipment, supplies and forms, personnel, costs and control of office systems.

BUS 418 Seminar: Women in Business (2) Assess opportunities for women in business at various levels of responsibility. Evaluate job market for women, learn interviewing skills, and to build visibility, including additional topics clarifying women's roles in business.

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 instructor and one with department chair. Not open to graduate students. No General Education credit.

BUS 433 Business Law III (4) Prerequisites: BUS 231, junior and senior Business majors only. Continue the study of business law, especially Accounting students. Concentrate on UCC Sales Article, Negotiable Instrument Articles, Secured Transaction Article, Accountant's Legal Liability, and the Corrupt Foreign Practices Act.

BUS 507 Seminar in Business Communications (3) Study business communications processes, analyze selected readings, and develop a research report, concentrating on organizational behavior, business ethics and applied human relations.

BUS 508 Special Topics (1-4) Special workshops or short courses in various Business content areas offered during summers and other quarters as need and opportunity arise. No more than 3 workshops applicable to any one degree. May be graded S/U.

BUS 512 Seminar in Office Systems (3) Examine organizational and environmental changes in the modern office as technology affects productivity and personnel with word processing, electronic mail systems, reprographics, records management and ergonomics.

BUS 530 Business Law (4) Designed to give students an understanding of the principles of business law and how to apply them to cases dealing with contracts, personal property, sales, security devices, commercial paper, agencies, corporations, partnerships, and real property and estates. Typical cases studied in detail. Course not open to students with previous major or minor in law.

BUS 602 Foundations of Business (3) Study major ideas sustaining business enterprise in the western world: philosophical, political, economic and social. Read and discuss as background for other business content courses.

BUS 603 Social Issues in Business (3) Briefly discuss historical development of social responsibility and the modern corporation, and then analyze problems of poverty, civil rights, ecology and consumerism and how they affect business today, using cases.

BUS 622 Business Individual Studies (1-4) Qualified graduate 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 instructor before credit is given.

BUS 630 Applied Business Law (5) Review, in depth with text and cases, topics selected from broad areas of business law, extending these to additional areas as time permits.

BUS 631 Seminar of Law in Professional Accounting (4) Study law applicable to various forms of business organizations, transactions conducted by these businesses and liability of accountants.

Chemistry

h-CHEM 100 Introductory Chemistry (3) Basic concepts to prepare those with no high school chemistry background for CHEM 104 or 108. No credit for Chemistry major or minor.

h-CHEM 101 Foundations of Chemistry I (3) Physical and chemical principles, illustrated by demonstrations, to understand current topics in Chemistry such as fuels, nuclear power, polymer and food. No previous Chemistry required.

h-CHEM 102 Foundations of Chemistry II (3) Prerequisite: B or better in CHEM 101, or consent of instructor. Continuation of CHEM 101. Topics include acid-base chemistry, radiochemistry and selected subjects from consumer chemistry.

h-CHEM 104 Principles of Chemistry I (5) (4 lecture, 3 laboratory) 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. Continuation of CHEM 104. Solutions, thermochemistry and chemical kinetics.

CHEM 106 Principles of Chemistry III (5) (3 lecture, 6 laboratory) Prerequisite: CHEM 105 or 115. Continuation of CHEM 105. Equilibrium, qualitative analysis, electrochemistry and descriptive inorganic chemistry.

h-CHEM 108 Fundamentals of General Chemistry (5) (4 lecture, 3 laboratory) High school chemistry strongly recommended. Principles of general and physical chemistry with applications mainly of interest to nursing, food and nutrition and health education majors.

h-CHEM 109 Fundamentals of Organic Chemistry (5) (4 lecture, 3 laboratory) Prerequisite: CHEM 105 or 108. Principles of organic chemistry and its relationship to an understanding of living systems. Credit not allowed for CHEM 109, 130 and/or 332.

h-CHEM 110 Current Topics About Chemistry (3) The scientific method applied to a study of current problems and topics in Chemistry. Topics announced each quarter. Credit not allowed for Chemistry major or minor.

CHEM 114 General Chemistry I (5) (4 lecture, 3 laboratory) Prerequisite: One year of high school chemistry and two years high school algebra or equivalent. 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. Continuation of CHEM 114. Enrichment course for the well-prepared student. Topics include solution chemistry, equilibrium, kinetics and thermochemistry.

CHEM 116 General Chemistry III (5) (3 lecture, 6 laboratory) Continuation of CHEM 115. Enrichment course for the well-prepared student. Topics include elementary analytical chemistry, electrochemistry, nuclear chemistry and descriptive inorganic chemistry.

h-CHEM 130 Introductory Organic Chemistry (5) (4 lecture, 3 laboratory) Prerequisite: CHEM 105, 115 or 108. Structure, nomenclature, reactions and uses of organic compounds. Provides an overview of the one-year sequence (CHEM 332, 333, 334). Credit not allowed for both CHEM 130 and 332.

CHEM 281 Fundamentals of Human Biochemistry (5) (4 lecture, 3 laboratory) Prerequisite: CHEM 109, 130 or 333. Biochemistry of the human system, including chemistry of cellular and body processes, foods and nutrition, and metabolic diseases.

c-CHEM 291 Scientific Writing in Chemistry (3) Prerequisite: ENG 101. Use of the literature in chemistry and medical technology. Techniques of problem identification, literature survey, data interpretation and scientific writing.

CHEM 320 Instrument Operation (I) (3 laboratory) Prerequisite: CHEM 333. Techniques of sample preparation, procurement of a useful spectrum or chromatogram and instrument care. Self-paced. S/U grade.

CHEM 321 Analytical Chemistry I (5) (3 lecture, 6 laboratory) Classical quantitative analysis and an introduction to modern instrumentation.

CHEM 322 Analytical Chemistry II (4) (2 lecture, 6 laboratory) Prerequisite: CHEM 321. Continuation of CHEM 321. Chromatography (ion exchange, gas-liquid, thin layer), electrophoresis, radiochemistry and more electrochemistry.

CHEM 323 Analytical Chemistry III (2) (6 laboratory) Prerequisite: CHEM 322. 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 both CHEM 130 and 332.

CHEM 333 Organic Chemistry II (5) (4 lecture, 3 laboratory) Prerequisite: CHEM 332. Continuation of CHEM 332. Structure determination using infrared and nmr spectroscopy.

CHEM 334 Organic Chemistry III (4 lecture, 3 laboratory) Prerequisite: CHEM 333. Continuation of CHEM 333. Syntheses, modern theories of reactions and chemistry of biological molecules.

CHEM 335 Advanced Laboratory in Organic Chemistry (1) (3 laboratory) Prerequisite: CHEM 334 or take concurrently. Advanced organic synthesis and structure determination, emphasizing examples from literature.

CHEM 350 Computer Programming in Chemistry (2) Prerequisites: MATH 125, CHEM 105 or 115. BASIC language programming and its applications to problems in chemistry.

CHEM 391 Demonstrations and Principles of Chemistry (3) Concepts of chemistry explained through demonstrations. Development and modification of demonstrations for introductory science courses. Not for graduate chemistry degree.

CHEM 393 Environmental Chemistry (4) (3 lecture, 3 laboratory) Prerequisite: CHEM 130 or 332. Chemistry of the environment, including pesticides, fossil and nuclear fuels, and air, water and soil pollution. Field trip fee is required.

CHEM 395 Food Chemistry (3) (2 lecture, 3 laboratory) Prerequisite: CHEM 281 or FND 251. Chemistry of foods, food products and additives, and analysis of foods.

CHEM 397 Introductory Geochemistry (3) (3 lecture) Prerequisite: CHEM 106 or GEOL 320. Basic chemical principles underlying geological phenomena, including equilibrium, introductory thermodynamics, phase diagrams, and oxidation-reduction. Also, carbonate sediments, chemical weathering, elemental distribution and isotope geochemistry.

CHEM 422 Individual Studies (1-4) Qualified undergraduate students outline and spend at least 25 clock hours per credit hour on a problem. Two copies of a well-written paper must be filed (with instructor and department chair) before credit is given. No General Education 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 involving 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 utilizes journal literature and integrates applications of various physical methods with theory and practice. This course: Structure and bonding.

CHEM 442 Inorganic Chemistry II (2) Prerequisite: CHEM 441. Continuation of CHEM 441. Descriptive main group coordination and organometallic chemistry, emphasizing interrelationships between reactions, energetics and dynamics.

CHEM 443 Inorganic Chemistry III (2) Prerequisite: CHEM 442. 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. The properties of matter, thermodynamics, thermochemistry and atomic and nuclear chemistry on advanced level.

CHEM 452 Physical Chemistry II (4) Prerequisite: CHEM 451; co-requisite, CHEM 454. Continuation of CHEM 451. Entropy, chemical bonding, molecular structure and chemical kinetics.

CHEM 453 Physical Chemistry III (4) Prerequisite: CHEM 452; corequisite CHEM 455. Continuation of CHEM 452. Liquid theory, phase equilibrium, solutions and electrochemistry.

CHEM 454 Physical Chemistry I Laboratory (1) (3 laboratory) Corequisite: CHEM 452. Hands-on collection and treatment of experimental data by manual and computer methods.

CHEM 455 Physical Chemistry II Laboratory (1) (3 laboratory) Corequisite: CHEM 453. Continuation of CHEM 454.

CHEM 457 Selected Topics in Physical Chemistry (2) Prerequisite: CHEM 453. An advanced course, with topics 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. Chemistry of organic compounds in living systems is stressed, but inorganic chemistry is included.

CHEM 483 General Biochemistry II -- Intermediary Metabolism (4) (3 lecture, 3 laboratory) Prerequisite: CHEM 482 or equivalent. The chemistry of living processes in detail, including regulation of intermediary metabolism.

CHEM 484 General Biochemistry III -- Intermediary Metabolism and Physical Biochemistry (3) Prerequisite: CHEM 483. Continuation of CHEM 483. Enzyme kinetics, the physical chemistry of macromolecules, and the molecular organization of the cell.

CHEM 491 Glass Blowing (1) (3 laboratory) Demonstration and practice in techniques of glass blowing and repair of laboratory glass equipment.

CHEM 493 Special Topics in Chemistry (3) Prerequisite: Permission of instructor. Current topics in chemistry, such as forensic, food and industrial chemistry.

CHEM 495 Seminar in Teaching Chemistry (2) Seniors, graduates and inexperienced teachers are prepared to set up, organize and run a high school chemistry laboratory and classroom.

CHEM 499 Seminar and Research in Chemistry (1-3) Introduction to chemical research and current chemical literature: initiate and pursue investigation of a specific topic in chemistry or chemical education. At least 25 clock hours per credit hour will be spent on investigation. Oral and written reports are required.

CHEM 501 Special Topics in Inorganic Chemistry (3, maximum 6) Prerequisite: CHEM 442. Critical review of current topics in inorganic chemistry.

CHEM 502 Advanced Inorganic Chemistry (3) Prerequisite: CHEM 442. Descriptive chemistry of typical inorganic elements and compounds, stressing relationships within periodic classification and correlation of chemistry of various substances related to theoretical concepts from CHEM 442.

CHEM 503 Organometallic Chemistry (3) Prerequisite: CHEM 441. Preparation, properties and practical utility of both main group and transition metal organometallic compounds.

CHEM 511 Special Topics in Analytical Chemistry (2, maximum 6) Prerequisites: CHEM 321, 451. Analytical chemistry in areas of quantitative organic chemistry, electro-chemistry and optical methods as research tools.

CHEM 531 Stereochemistry of Organic Compounds (3) Prerequisite: CHEM 334. Advanced study of the structure of organic compounds and the influence of structure on organic reactions.

CHEM 532 Theoretical Organic Chemistry (3) Prerequisites: CHEM 334, 452. Discussion of organic compounds with respect to resonance, transition-state theory, molecular-orbital theory and aromaticity.

CHEM 533 Reactions and Reaction Mechanisms in Organic Chemistry (3) Prerequisites: CHEM 334, 452. Advanced study of organic compounds and the inductive, resonance and steric effects that influence their reaction mechanisms.

CHEM 534 Special Topics in Organic Chemistry (2, maximum 6) Prerequisite: CHEM 334 or consent of instructor. Current advances selected areas of organic chemistry, such as in natural products, industrial chemistry, etc.

CHEM 535 Synthetic Organic Chemistry (3) Prerequisite: CHEM 334. Advanced study of synthetic organic chemistry covering recent developments, methods and reaction mechanisms.

CHEM 553 Chemical Thermodynamics I (2) Prerequisite: one year of physical chemistry. Advanced study of fundamental laws of closed system thermodynamics and calculation of thermodynamic quantities for these systems. Mathematical treatment stressed.

CHEM 554 Chemical Thermodynamics II (2) Prerequisite: CHEM 553. Continuation of CHEM 553. Laws of thermodynamics of open systems and calculation of thermodynamic quantities for these systems. Mathematical treatment stressed.

CHEM 555 Chemical Kinetics (3) Prerequisite: CHEM 453. Factors determining the rate of chemical reactions and their mechanisms.

CHEM 556 Chemical Spectroscopy (3) Prerequisites: CHEM 322, 453. Theory and application of IR, NMR, UV and MS.

CHEM 560 Introductory Physical Chemistry (3) Prerequisite: One year college chemistry or CHEM 391. Thermodynamics for the nonchemist, with application to the world around us. Not applicable to a graduate chemistry degree.

CHEM 562 Chemistry and the Environment (3) Prerequisite: One year college chemistry or CHEM 391. Natural chemical cycles, impact of human activities on those cycles, and limits and restrictions to their restoration. Not applicable to graduate chemistry degree.

CHEM 563 Chemical Evolution (3) Prerequisite: One year college chemistry or CHEM 391. Origin and evolution of the elements, formation of biochemical molecules and polymers, and possible mechanisms for primitive cell formation. Not applicable to graduate chemistry degree.

CHEM 564 Practical Organic Chemistry (3) Prerequisite: One year college chemistry or CHEM 391. Survey of organic chemistry as used by practicing chemists to prepare synthetic materials such as: explosives, insecticides, drugs, flavors and fragrances. Not applicable to a graduate chemistry degree.

CHEM 565 The Chemistry of Life (3) Prerequisite: One year college chemistry or CHEM 391. Chemistry of living systems including carbon and nitrogen cycles, bioenergetics and nutritional biochemistry. Not applicable to graduate chemistry degree.

CHEM 585 Current Biochemical Literature (1, May be repeated to a three-hour total) Prerequisite: Background in organic and bio-chemistry recommended. Discussion of current literature in biochemistry with respect to interpreting data and evaluating research reports.

CHEM 599 Seminar in Chemistry (1, maximum 6) Oral report and discussion on some topic of interest from current literature.

CHEM 622 Individual Studies (Maximum 4) Qualified graduate students outline and spend a minimum of 25 clock hours per credit hour on a problem. Two copies of a well-written paper must be submitted to the instructor before credit given. Not satisfactory for 500-level requirement unless course is taken during quarter student is in full-time residence.

CHEM 654 Statistical Thermodynamics (3) Prerequisite: CHEM 553. Mathematical probability, statistical mechanics, Boltzmann statistics, partition functions, and equilibrium constants in terms of partition functions, heat capacities of gases and solids, and Bose-Einstein and Fermi-Dirac statistics.

CHEM 657 Special Topics in Physical Chemistry (2, maximum 6) Prerequisite: CHEM 453 or 552. Advanced topics, including states of matter and changes in states; kinetic-molecular theory, electrochemistry, molecular structure, heterogeneous catalysis macromolecules, nuclear, radiation and photochemistry.

CHEM 658 Quantum Chemistry I (2) Prerequisite: One year of physical chemistry. Principles of quantum mechanics and their application to simple physical and atomic systems. Development of wave mechanics and its treatment of hydrogen-like atoms stressed.

CHEM 659 Quantum Chemistry II (2) Prerequisite: CHEM 658. Continuation of CHEM 658. Application of quantum mechanics to various atomic and molecular systems.

CHEM 699 Thesis (Maximum 15) Required of Master of Arts candidates in the Arts and Sciences Chemistry program.

CHEM 755 Supervised Practicum in College Teaching (Maximum 9) Observation of, and supervised practice in, college teaching for doctoral candidates who plan to teach on the college or university level, with observation used as a basis for analysis of learning experiences.

CHEM 797 Doctoral Proposal Research (1-6) Required of all doctoral students. Students may register for this course (1-6 hours) in any quarter, but must earn 6 hours of credit in partial fulfillment of requirements prior to admission to candidacy.

CHEM 799 Doctoral Dissertation (6-18) Required of all doctoral candidates. See Doctor of Arts -- Minimum requirements for the major in the Graduate School section of this Bulletin.

College Student Personnel Administration

I-CSPA 160 Career and Self-Exploration (3) Investigate the career development process and decision-making skills through self-exploration and occupational information.

CSPA 260 College Resident Assistant (1) Prerequisite: Consent of instructor. Through a comprehensive training experience, become acquainted with the responsibilities of the Resident Assistant. Emphasize student development and its application to the residence hall environment.

CSPA 508 Workshop (1-3) Special short courses on topics or issues in College Student Personnel Administration. Offered during summers and other quarters as need arises and resources are available.

CSPA 622 Individual Studies (Maximum 4 per quarter) Receive an individual learning experience in an area of student personnel or higher education not regularly covered in academic courses.

CSPA 650 The College and Student Development (4) Investigate various relationships of the student to the college, characteristics of students and non-class activities that contribute to the student's development.

CSPA 651 Philosophy and History of College Student Personnel Administration (3) Study and discuss in seminar the history, philosophy, principles and functions of student personnel work in higher education.

CSPA 652 Student Housing (3) Examine the organization, practices and problems of student housing services in colleges and university in this seminar.

CSPA 653 College Counseling and Health Services (3) Consider the problems, organization and practices of student counseling and student health services in higher education.

CSPA 654 Admissions and Records (3) Make a study of the organization, practices and problems of the services of admissions and records in colleges and universities.

CSPA 657 Financial Aids and Placement Services in Higher Education (4) Discover the philosophy, organization, and practices of the administration of student financial aids and placement services in institutions of higher education.

CSPA 658 Organization and Administration of College Student Personnel Administration (3) Learn about the organizational and administrative practices of systems for providing student personnel services in higher education.

CSPA 659 Practicum in College Student Personnel Administration -- Housing (2)

CSPA 660 Practicum in College Student Personnel Administration -- Health (2)

CSPA 661 Practicum in College Student Personnel Administration -- College Teaching (2)

CSPA 662 Practicum in College Student Personnel Administration -- Student Activities (2)

CSPA 663 Practicum in College Student Personnel Administration -- Counseling (2)

CSPA 664 Practicum in College Student Personnel Administration -- Placement (2)

CSPA 665 Practicum in College Student Personnel Administration -- Dean's Office (2)

CSPA 666 Practicum in College Student Personnel Administration -- Financial Aids (2)

CSPA 667 Practicum in College Student Personnel Administration -- Admissions and Records (2)

CSPA 668 Practicum in College Student Personnel Administration -- Community College Personnel Work (2)

CSPA 669 Practicum in College Student Personnel Administration -- International Education (2) Each practicum listed here consists of practical experience and training for a minimum of 6 hours per week for one quarter. Each provides an overview of the basic service which can be related to a general understanding of college student personnel work. All practicums require the instructor's consent.

CSPA 670 Internship in College Student Personnel Administration (6) Receive a part-time administrative assignment in a student service area or university office under supervision of professional or administrative staff. Spend 18 hours per week for 6 hours credit.

CSPA 671 Student Personnel Management (3) Learn effective practices through this seminar on management of student personnel services. Learn budgeting for services, management by objectives, communications and personnel management.

CSPA 700 Introduction to Doctoral Research (3) Receive indoctrination into research and advanced study in College Student Personnel Administration in this seminar.

CSPA 752 Current Issues in College Student Personnel Administration (3) Prerequisite: Permission of instructor. Analyze current problems and issues affecting student personnel work in higher education.

CSPA 753 Research and Evaluation in College Student Personnel Administration (3) Prerequisites: RES 504, 505 and instructor permission. Examine problems of evaluating student personnel services in higher education, particularly reported research and needed research.

CSPA 758 Seminar in College Student Personnel Administration (2) Majors in CSPA are required to register for this course their first quarter in residence and any two succeeding quarters. Students will meet for two hours each week with the faculty of the major.

CSPA 797 Doctoral Proposal Research (1-6) Required of all doctoral students. A student may register for 1-6 hours of this course in any quarter, must earn a minimum-maximum of 6 hours of credit for the course in partial fulfillment of requirements for any doctoral degree, prior to admission to candidacy.

CSPA 799 Doctoral Dissertation (1-18) Required of all doctoral candidates. Although a student may register for 1 to 18 hours of dissertation credit in any quarter, the student must earn a minimum maximum of 18 hours of credit for the dissertation as a partial fulfillment of the requirements for all doctoral degrees.

Communication Disorders

e-CMDS 160 Introduction to Speech-Language Disorders (3) Survey identifying characteristics, causes, diagnosis and treatment of common speech and language disorders.

CMDS 201 Undergraduate Practicum (1-4) Open only to sophomore majors in Communication Disorders. Supervised professional activity in major field. Approximately one hour of credit granted for every 20 practicum hours. Two copies of well-written paper must be filed with instructor before credit is given.

d-CMDS 260 Introduction to Phonetics (3) Investigate the formation and characteristics of American English speech sounds and phonetic symbols used to represent these. Applicable for students in communication, reading, linguistics and other majors.

CMDS 264 Introduction to Clinical Practicum I (2) Prerequisite: CMDS 160. Become familiar with the Speech-Language Pathology Clinic in terms of principles, procedures and forms. Clinical observations and participation arranged.

e-CMDS 265 Acoustics of Speech (3) Prerequisite: MATH 117 or equivalent. Study the physics of sound as it relates to speech and hearing.

d-CMDS 266 Speech and Language Development (3) Consider normal language and speech development and their relationship to other aspects of child development. Appropriate for those dealing with young children.

CMDS 267 Anatomy and Physiology of Speech and Hearing (5) Investigate the speech and hearing mechanism in terms of structure and physiology.

e-CMDS 270 Structure and Pathology of Auditory and Vestibular Systems (3) Concentrate on the structure, physiology and pathology of the auditory/ vestibular mechanism.

CMDS 274 Clinical Observation in Audiology (2) Overview by observation, the field of audiology. S/U final mark.

CMDS 301 Undergraduate Practicum (1-4) Open only to junior majors in Communication Disorders. Supervised professional activity in the major field. Approximately one hour of credit for every 20 hours of practicum. Two copies of a well-written paper must be filed with instructor before credit is given.

CMDS 360 Articulation Disorders I (3) Prerequisites: CMDS 160, 260. Examine causes, diagnosis and treatment of articulatory disorders.

CMDS 361 Voice Disorders I (3) Prerequisites: CMDS 160, 267. Study the causes, diagnosis and treatment of voice disorders.

CMDS 364 Introduction to Clinical Practicum II (1-4) Customarily 2 hours earned for each of 2 consecutive quarters. Prerequisite: CMDS 264. Take 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 arranged. Those completing this sequence will earn a minimum of 25 clock hours of observation.

CMDS 365 Language Disorders in Children I (3) Prerequisite: CMDS 266. Analyze aspects of language as they relate to various types of language problems in children, and treatment of language disorders. Begin procedures of language sampling used in evaluation.

c-CMDS 367 Research Writing in Communication Disorders (3) Research papers critiqued for writing style, format and content. Can satisfy General Education requirement for intermediate composition.

CMDS 370 Introduction to Audiology (3) Prerequisites: CMDS 265, 270 or equivalent. Begin to learn the area of audiology, including pure-tone testing, methods of speech audiometry, interpretation of results in terms of physical, social and education handicap. **No one may take this course unless prerequisites are met.**

CMDS 372 Advanced Audiology (5) Prerequisite: CMDS 370. Learn theory and practice of advanced audiometric assessment techniques.

CMDS 374 Advanced Observation in Audiology (2-12, maximum 12, 2 hours each quarter) Prerequisites: CMDS 274, 370. Make concentrated, guided observation of diagnosis and aural rehabilitation in Audiology Clinic. S/U final mark. Complete this sequence for a minimum of 25 clock hours of observation.

CMDS 401 Undergraduate Practicum (1-4) Open only to senior majors in Communication Disorders. Supervised professional activity in student's major field. Approximately 1 hour of credit granted for every 20 hours of practicum. Two copies of a well-written paper must be filed with instructor before credit is given.

CMDS 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 instructor and one with department chair. No General Education credit.

CMDS 462 Stuttering I (3) Prerequisite: CMDS 160. Investigate the causes, diagnosis and treatment of stuttering.

CMDS 464 Clinical Practicum in Speech-Language Pathology (2-10, with 2 hours per quarter customarily earned) Prerequisite: CMDS 364. Learn general principles relevant to entire clinical process. Students with minimum GPA of 3.00 and consent of clinical coordinator may provide supervised therapy to communicably impaired clients. Each student clinician is responsible for all information in current Clinic Handbook.

CMDS 466 Neuropathologies Related to Communication Disorders (3) Prerequisite: CMDS 468. Investigate common causes of brain damage, associated problems, sites of lesion related to symptoms, signs of damage and role of specialists concerned with brain damaged individuals with speech or language disorders.

CMDS 467 Diagnosis in Speech-Language Pathology (3) Prerequisites: CMDS 360, 365. Examine clinical diagnosis and evaluation of persons with speech and language disorders.

CMDS 468 Neurological Bases for Speech, Language and Hearing (5) Prerequisite: CMDS 267. Investigate functional neurology and neuroanatomy of the central nervous system as related to communication disorders.

CMDS 469 Introductory Laboratory in Diagnostics (2) Take concurrently with CMDS 467. Receive introductory laboratory experiences with diagnostic evaluation procedures for communicatively impaired persons.

e-CMDS 470 Introduction to Communication Disorders of the Aging (3) Investigate disorders of communication affecting aging persons, their psychosocial and communicative impact, how disorders are assessed, treatment, suggestions for recognizing these disorders and procedures for dealing efficiently with these persons within the health care facility and community.

CMDS 474 Clinical Practicum in Audiology (2) Prerequisite: CMDS 372 or appropriate background. Perform basic audiometric testing, emphasizing skills needed to conduct audiometric screening, routine hearing evaluation and impedance audiometry.

CMDS 475 Practicum in Rehabilitative Audiology: Pediatric (2) Appropriate background is essential for observation and performance of supervised therapy in the rehabilitation of acoustically handicapped children. S/U final grade.

CMDS 476 Practicum in Rehabilitative Audiology: Adult and Geriatric (2) Appropriate background is essential for observation and performance of supervised therapy in the rehabilitation of acoustically handicapped adults and aging clients. S/U final grade.

CMDS 508 Workshop in Communication Disorders (1-6) For clinicians: The workshops facilitate special areas, and each will be designated by topic subtitle when offered. Study current issues, problems, programs and topics of national and local interest.

CMDS 560 Public School Speech-Language Pathology (3) Prerequisite: CMDS 464. Learn organizational procedures, use of clinical materials and administrative policies relevant to speech and language programs in public school settings.

CMDS 561 Voice Disorders II (3) Consider the causes, diagnosis and treatment of voice disorders, emphasizing those occurring primarily in adults.

CMDS 562 Language Characteristics of Exceptional Children (3) As an educator, examine basic information on language characteristics of exceptional children, and implications in assessment and educational programming. Not for Speech-Language Pathology majors.

CMDS 563 Clinical Supervision (3) For advanced clinicians interested in clinical supervision, with focus on both theoretical and practical aspects.

CMDS 564 Graduate Practicum in Speech-Language Pathology (2-12) Prerequisite: CMDS 464. Perform supervised diagnosis and therapy. Student is responsible for all information in current Clinic Handbook. S/U final mark.

CMDS 565 Aphasia and Related Disorders of Adults (3) Consider the etiological factors, diagnosis, evaluation and remediation of adult language disorders.

CMDS 566 Clinical Writing (3) Take CMDS 464 or 564 concurrently. Improve ability to write clinical reports through lecture and practical writing experience. S/U final mark.

CMDS 567 Auditory Processing Disorders (3) Analyze auditory processing disorders and implications for therapeutic and educational intervention.

CMDS 568 Counseling in Communication Disorders (3) Prerequisite: CMDS 464 or 564 concurrently. Recognize theory and practice of interaction with parents, teachers and others involved with communicatively impaired.

CMDS 569 Advanced Laboratory in Diagnostics (3-6) Prerequisite: CMDS 564 taken concurrently. Perform screening and diagnostic evaluations under supervision.

CMDS 570 Adult/Geriatric Audiology and Aural Rehabilitation (3) Examine in depth the aging process as it affects auditory mechanism, emphasizing rehabilitation of hearing impaired adults and elderly, with psychological impact of presbycusis.

CMDS 571 Hearing Science (3) Learn information on peripheral routing of acoustic signal, psychoacoustic factors related to human perception of sound, and physiological basis for auditory processing in relation to integration system.

CMDS 572 Noise and Noise Control (3) Investigate noise, its effect on behavior and the auditory mechanism, noise measurement and attenuation methods, and hearing conservation program fundamentals.

CMDS 573 The Auditory Mechanism (3) Appropriate background essential. Make a detailed study of the human ear and its function.

CMDS 574 Advanced Clinical Practicum in Audiology (2-8) Prerequisite: CMDS 474 or appropriate background. Perform a full range of clinical audiology, including special testing, hearing aid evaluations and dispensing with infants through older adults.

CMDS 575 Pediatric Audiology: Etiology and Assessment (3) Appropriate background essential. Investigate diagnosis of hearing loss in infants and children with suspected auditory disorders.

CMDS 576 Electrophysiological Audiometry (3) Prerequisites: CMDS 372, 573. Learn electrophysiological techniques for measuring auditory and vestibular function, emphasizing Electronystagmography, Brain Stem Evoked Response Audiometry and Electrocochleography.

CMDS 577 Advanced Problems in Audiology (3) Relate problem-solving to current advancements and concepts in the diagnostic and rehabilitative aspects of the field of audiology.

CMDS 578 Pediatric Aural Rehabilitation (3) Appropriate background essential. Study habilitation and/or rehabilitation of infants and children with hearing handicap. Emphasize determination of appropriate remediation, language and speech therapy, auditory training and counseling parents for home programming.

CMDS 579 Administrative Aspects of Communication Disorders (3) Look in depth at administrative aspects of clinical management, including professional liability in a clinical setting, third party payment for services, federal health insurance, designing and budgeting service programs and others.

CMDS 580 Advanced Practicum in Rehabilitative Audiology: Pediatric (2-8, 2 hours each quarter) Prerequisite: CMDS 475. Perform supervised therapy in the rehabilitation of acoustically handicapped children.

CMDS 581 Advanced Practicum in Rehabilitative Audiology: Adult and Geriatrics (2-8, 2 hours each quarter) Prerequisite: CMDS 476. Perform supervised therapy in the rehabilitation of acoustically handicapped adults and geriatrics.

CMDS 582 School Audiology (5) Prerequisite: CMDS 370. Understand incidence and classification of hearing impaired in schools, educational and speech-language symptomatology, alternative assessment procedures and administration, inservice techniques, total management of hearing impaired in schools, due process for children, parents and schools.

CMDS 601 Practicum (1-4) Open only by invitation to resident graduate students. Supervised professional activity in student's major field, approximately 2 hours per day. Two copies of a well-written paper must be filed with instructor before credit is given.

CMDS 622 Individual Studies (1-4) Qualified graduate 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 instructor before credit is given. Does not satisfy 600-level requirement unless student is in full-time residence at UNC during quarter course is taken.

CMDS 660 Articulation Disorders II (3) Advanced study of articulation problems.

CMDS 661 Neurological Motor Speech Disorders (3) Prerequisite: CMDS 468. Consider the causation, diagnosis and treatment of speech and language disorders resulting from neurological dysfunction.

CMDS 662 Stuttering II (3) Study and evaluate major theories, therapies and current research on stuttering, with special emphasis on the adult who stutters.

CMDS 663 Language Disorders in Children II (3) Make an advanced study of causation, diagnosis and therapy for children with language disorders.

CMDS 664 Internship in Speech-Language Pathology (15) Prerequisites: 45 graduate academic hours in Speech-Language Pathology and Audiology; 6 hours in CMDS 564; minimum of 100 clinical clock hours and consent of advisor. Supervised clinical experience in diagnosis and therapy with speech and language handicapped individuals. S/U final mark.

CMDS 665 Public School Practicum in Speech-Language Pathology (15) Prerequisites: 45 graduate academic hours in Speech-Language Pathology and Audiology; 6 hours CMDS 564, minimum of 100 clinical clock hours, and consent of advisor. Supervised public school experience in diagnosis and therapy with speech and language handicapped children.

CMDS 666 Cleft Palate (3) Consider the causes, diagnosis and treatment of individuals with speech-language disorders arising from oro-facial deformities.

CMDS 668 Selected Topics in Communication Disorders (3-6) Know current research and information related to current issues in Communication Disorders. Scheduled sections chosen by instructor to meet needs of students in degree program. Other sections arranged to accommodate professionals wishing to pursue individual projects. May be repeated for credit. S/U final mark.

CMDS 669 Language, Learning and the Brain (3) Investigate basic neurophysiology relative to speech, language and learning.

CMDS 673 Practicum in School Audiology (2) Prerequisite: CMDS 574. Receive experience in skills necessary to work as an Audiologist K-12 in a school audiology environment supervised by certified school audiologist.

CMDS 674 Externship in Audiology (15) Full-time supervised clinical experience in assessment and treatment with auditorily handicapped persons.

CMDS 675 Differential Diagnosis of Auditory Problems (3) Prerequisite: CMDS 372. Learn differential diagnosis theory and procedures, emphasizing data synthesis.

CMDS 678 Hearing Aids and Uses of Amplification (3) Study effective use of hearing aids and auditory trainers, including component parts, hearing aid orientation and counseling, and approaches to hearing aid evaluation.

CMDS 694 Advanced Phonetics (3) Prerequisite: CMDS 260 or its equivalent. Advanced study of the American English phonetic system, with emphasis on predicting the occurrences of allophones by phonetic context and the implications for diagnosing and treating articulation disorders. S/U Final grade.

CMDS 695 Pragmatic Aspects of Language Functioning (3) Prerequisite: CMDS 365 or its equivalent. Introducing pragmatic aspects of language including implications to remediation of communication disorders.

CMDS 696 Emotionally Based Speech-Language Disorders (3) Study the causes, symptoms and treatments of emotionally based speech-language and related disorders.

CMDS 697 Advanced Diagnosis in Speech-Language Pathology (3) Investigate developmental, psychological and motor assessment tools used by speech/language pathologists and other educators.

Computer Science

f-CSCI 180 Computers and Their Impact on Society (3) Content will include the history of the computer, simple computer design, hardware and software principles, programming in the BASIC language, and issues concerning the impact of computers upon society.

h-CSCI 181 Beginning Computer Programming in BASIC (3) (2 lecture, 2 laboratory) Become familiar with fundamentals of flowcharting and writing computer programs in BASIC language. Programs will involve non-technical applications, and are general enough to familiarize non-math majors with fundamentals.

CSCI 281 Computer Programming in FORTRAN IV (4) (3 lecture, 3 laboratory) Prerequisite: MATH 124. Learn the FORTRAN computer language.

CSCI 282 Computer Programming in PASCAL (4) (3 lecture, 3 laboratory) Prerequisite: MATH 124. Structured programming introducing PASCAL language.

CSCI 285 Foundations of Computer Science I (3) Prerequisite: CSCI 281 or 282 or taken concurrently. Introduce the student to the fundamentals of logic design, the mechanics of information transfer and control, and the organization and structure of the major hardware components of computers.

CSCI 286 Foundations of Computer Science II (3) Prerequisite: CSCI 285. Continuation of CSCI 285.

CSCI 310 Applications of Computer Science (3) (2 lecture, 2 activity) Prerequisite: CSCI 282. Hands-on opportunities in a computer center setting to become familiar with operations of micro, mini, and maxi computers.

CSCI 311 Special Topics in Computer Science (3-4) Prerequisites: CSCI 280, 281, 282. Topics in computer science which reflect the specific interests of available instructors and the specific needs of the students.

CSCI 381 Data Structures (4) Prerequisite: CSCI 281 or 282. Study techniques used to store and manipulate data. Topics will include: arrays, strings, lists, queues, trees, graphs, storage management, allocation, pointers, recursion, searching and sorting.

CSCI 382 Programming Languages (4) Prerequisite: CSCI 281 or 282. Study syntax and semantics of programming languages. Topics will include design methodology and evaluation, computer architecture, semantics, data types, control structures, program correctness, and functional programming.

CSCI 383 Computer Organization (4) Prerequisite: CSCI 281 or 282. Study of computer operating systems. Topics will include: mainframes, minicomputers, job control languages, and Assembler languages.

CSCI 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.

CSCI 481 Analysis of Algorithms (3) Prerequisite: CSCI 381. An introduction to the theory and analysis of algorithms. Topics will include: efficiency, models, sorting, searching, graphs, matrix representation, fast fourier transform, pattern matching, bounds, completeness, and intractability.

CSCI 542 Computer Programming (3) Batch and conversational programming with FORTRAN and BASIC. Introduction to operating systems. Proprietary data management and statistical software.

CSCI 543 Computers and Information Processing (3) Introductory computer concepts: hardware, software, data codes, programming languages, data structures, systems and programming aids, operating systems, data communications, and data center organization.

CSCI 544 Statistical Software (3) An introduction to conversational and batch statistical software, including among others, SPSS and SAS. For each, data management, data transformation and statistical facilities are examined. Magnetic mediums and the JCL for System 370 are presented.

Directed Studies

DS 422 Directed Studies (Maximum 4) Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem, limited to a maximum of 4 credit hours per quarter. Obtain approved ID/DS registration form in Registrar's Office. Study must be approved by the advisor, director of the study, department chair and/or dean of the college or school. A critiqued and graded copy of the paper will be filed in the department office.

On the Graduate level, unless registered for at least 6 additional hours of on-campus classes, a student may not count DS or departmental prefix courses 601, 622, 691, 701, 797 and 799 to satisfy the residence requirement, or the requirement that at least half a student's credit must be in courses numbered 500 and above and taken in residence in Greeley.

DS 622 Directed Study (Maximum 4) Qualified graduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Three copies of a well-written paper must be filed with the instructor before credit is given.

DS 691 Creative Project (8-15) With approval of program advisor and Dean of the Graduate School, a creative project in Educational Media, Fine Arts, literature or Music may be prepared as the equivalent of a thesis.

DS 699 Thesis (8-15) Required of Master of Arts candidates in Arts and Sciences programs: Botany, Chemistry, Physics, Zoology. Optional for all other Master of Arts programs on recommendation of program advisor.

DS 701 Specialist Degree Practicum (8) Project or supervised professional activity required of all candidates for the Specialist in Education degree, except in those departments which have substitutes for this course. Written report of project or activity must be submitted.

DS 755 Supervised Practicum in College Teaching (Maximum 9) Observe and practice supervised teaching in college as a doctoral candidate planning to teach on college or university level, and analyze learning experience.

DS 756 Internship in Supervising College Teaching (3) Work with regular staff members engaged in supervision of college and university teaching experiences, stressing various aspects of teaching-learning process and analysis of self-growth.

DS 797 Doctoral Proposal Research (6) Required of all doctoral students. A student may register for 1-6 hours of this course in any quarter, but must earn a minimum-maximum of 6 hours of credit for the course in partial fulfillment of requirements for any doctoral degree prior to admission to candidacy.

DS 799 Doctoral Dissertation (1-18) See departmental requirements. Required of all doctoral candidates. A student may register for 1 to 18 hours of dissertation credit in any quarter, but must earn a minimum-maximum of 12-18 hours of credit for the dissertation in partial fulfillment of requirements for any doctoral degree.

Early Childhood Education

EDEC 136 Introduction to Preschool (2) Learn the philosophies, goals and purposes of the preschool, the role of the teacher, curriculum and physical facilities. Visit and compare a variety of program models.

f-EDEC 233 Child Within the Family (3) Cover topics concerning children within the family as it develops role behavior, personality, self-identity and stability. Discover how interaction focuses a child's defenses against change in family crises.

EDEC 308 Early Childhood Workshop (1-15) Study problems in early childhood education. Area covered in any one workshop determined by subtitle. No subtitle may be repeated for credit. S/U final mark.

f-EDEC 331 Development of Infants and Toddlers (3) Investigate growth patterns from conception through infancy and the third year. Include prenatal and postnatal factors influencing early development, guidance and care provision, and adults' responsibilities for providing favorable environment. Observe infants and toddlers.

f-EDEC 332 Sequences of Conceptual Learning (3) Study children's learning processes and patterns. Consider individual differences in examining how children learn and what teachers can do to help.

f-EDEC 333 Development and Guidance of Young Children (4) (3 hours lecture, 2 hours laboratory) Approach the physical, social and emotional growth of young children from developmental point of view. Discuss appropriate guidance, and stress theory and observations as primary child study approaches.

EDEC 334 Preschool Curriculum and Methods (3) PTE Prerequisite: EDEC 333 or instructor consent. Take prior to or in conjunction with EDEC 335. Study curriculum, including selecting art, literature, music and science for individual child's development. Plan curriculum programs and study specific methods and techniques of teaching preschool.

EDEC 335 Observation and Participation in Preschool (4) (1 seminar, 6 laboratory) Prerequisite: EDEC 333 or instructor consent. Take with EDEC 334. Observe specific methods and techniques related to the teaching of preschool, and receive practical laboratory observation and experience with preschool children.

EDEC 401 Internship in Early Childhood Studies (9-18) Prerequisite: Instructor consent. Receive practical, supervised experiences in a school, child care center or agency providing services to young children and families. Open to senior majors only.

EDEC 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. No General Education credit.

EDEC 437 Administration of Programs for Young Children (3) Learn the organization and management of various types of child care centers, emphasizing program planning, selecting and organizing equipment, and learning administrative procedures.

EDEC 438 Practicum in Preschool Teaching (4) (1 seminar, 6 laboratory) Prerequisites: EDEC 333, 334, 335 or consent of instructor. Learn student teaching through observation, demonstration and participation with preschool children under an experienced preschool teacher.

f-EDEC 439 Parent Education (3) Deal with relationships between parents, children and teachers, particularly stressing resources for meeting problems through cooperative interaction.

EDEC 444 Student Teaching in Preschool (18) PTE Prerequisites: EDEC 438 and instructor consent. Meet student teaching requirement for Preschool Education majors. Supervised by Early Childhood faculty and certified teacher. Experience significant and continuous involvement of cooperating teacher in evaluation of student teacher. S/U final mark.

EDEC 460 Nursery and Kindergarten Education (3) PTE Learn theories and practices for the education of nursery and kindergarten age children, emphasizing curriculum organization and scheduling. Required lab arranged.

EDEC 462 Classroom Management in Early Childhood (3) Consider management problems involved in working with young children, paraprofessionals and parents. Enrollment limited to juniors and seniors only. Required lab arranged.

EDEC 463 Diagnostic Teaching in Early Childhood (3) Discover the tools appropriate for measuring a young child's progress in learning and with techniques of individualizing instruction. Juniors and seniors only. Required lab arranged.

EDEC 464 Introduction to Early Childhood Education (3) Identify sound educational practices predicated on basic principles of child growth and development. Translate base learnings into implications for teaching, classroom management, curriculum organization and a positive learning environment. Juniors and seniors only.

EDEC 467 Compensatory Programs in Early Childhood (3) Examine the origin, purpose and nature of selected model programs designed for compensatory early childhood education. Focus on sociological and cultural elements influencing program design for educationally disadvantaged children.

EDEC 508 Early Childhood Workshop (1-15) Study problems in early childhood education. Area covered in any one workshop determined by subtitle; no subtitle may be repeated for credit. S/U final mark.

EDEC 533 Child Development (3) Learn the historical and contemporary theories in child development. Examine, analyze and integrate developmental sequences, physical, social, emotional and cognitive, from birth through age 8.

EDEC 534 Curriculum Development in Preschool Education (3) Prerequisite: EDEC 334 or instructor consent. Compare, evaluate and apply various preschool curricula in a laboratory situation. Examine research in preschool curricula and study developmental testing.

EDEC 536 Seminar in Child Development (3) Observe, discuss and interact with young children, parents and professionals involved in preschool education. Further interrelate curriculum research and child development with contemporary critical issues surrounding teachers and administrators of these programs today.

EDEC 538 Internship in Child Care Centers (3-6) Prerequisites: EDEC 333, 334, 335, or 533, or equivalent experience in preschool teaching. Apply child development principles to teaching preschool children; plan programs, prepare materials and assume all teaching responsibilities.

EDEC 539 Issues in Parent Education (3) Examine current problems facing parents and suggest solutions based on critical reading and discussion. Emphasize comparative techniques in child rearing.

EDEC 601 Practicum (1-4) Open only by invitation to resident graduate students. Supervised professional activity in early childhood education, approximately two hours per day. A well-written paper must be filed with instructor before credit is given.

EDEC 619 Practicum in Teaching Handicapped and High Risk Children in Early Childhood (3-15) Prerequisite: Consent of instructor. Supervised teaching experience with handicapped and high risk children within age range of 0-8 years. Take concurrently with EDSE 619. S/U final mark.

EDEC 622 Individual Studies (1-4) Qualified graduate 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 instructor before credit is given. Does not apply toward Graduate Division requirements in courses numbered 500 or above unless student is in full-time residence at UNC during quarter the course is taken.

EDEC 648 Psycholinguistics in Early Childhood (3) Learn language development of young children, including oral and written language, vocabulary development and listening skills.

EDEC 660 Critical Issues in Nursery-Kindergarten Education (3) Investigate trends and issues concerning the kindergarten child, stressing curriculum and sound kindergarten educational policies.

EDEC 662 Research in Early Childhood Education (3) Receive background in research concerning factors affecting the development of young children.

EDEC 663 Educational Assessment, Evaluation and Prescription for the Young Child (3) Focus on teacher evaluation of assessment information in planning programs with appropriate curricular content for individual children. Examine techniques, methods and purposes of assessment.

EDEC 664 Seminar in Early Childhood Education (3) Explore topics in early childhood education in planned sequence which includes research, field settings and discussions.

EDEC 667 Cultural Diversity in Early Childhood Education (3) Examine the broad range of cultural diversity in early childhood education, including language, ethnicity, socio-economic level, gender and exceptionalities. Focus on educational consideration for meeting needs based on diversity.

EDEC 699 Thesis (1-15) Optional for Master of Arts programs on recommendation of major advisor. S/U final mark.

EDEC 755 Supervised Practicum in College Teaching (3) Receive experiences in observation and supervised practice in college teaching to be used as basis for analysis of learning experiences. May be repeated for a maximum of 9 quarter hours.

EDEC 797 Doctoral Proposal Research (6) Required of all doctoral students, who must earn 6 hours of credit for the proposal in partial fulfillment of requirements for the doctoral degree prior to admission to candidacy. S/U final mark.

EDEC 799 Doctoral Dissertation (18) Required of all doctoral candidates, who must earn 18 hours of credit for the dissertation in partial fulfillment of requirements for the doctoral degree. S/U final mark.

Earth Science

h-ESCI 105 Earth Science (3) This course offers a basic understanding of Planet Earth and its place in the universe. Various topics, such as the Solar System, our weather, origins of landscapes, oceans, space travel, air pollution and continental drift are considered. Not for Earth Science majors or minors.

c-ESCI 291 Scientific Writing (3) Achieve clarity and precision in expository writing as it is used in the sciences.

ECSI 424 Gemology (4) Theory and practice of testing gemstones scientifically. Learn rapid recognition and evaluation of popular gemstones by 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 both within and outside U.S. Field work preceded by preparatory work on campus. See Directory of Classes for specific areas and topics to be investigated when course is offered.

ECSI 499 Seminar in Earth Science (2) Survey Earth Science curriculum materials, field experiences and teaching strategies to develop major concepts and principles in the secondary classroom.

ESCI 500 Earth Science Research (3) An introduction to the nature and methods of research in the earth sciences. The student will select a topic for intensive investigation.

ESCI 504 Minerals and Rocks (3) A practical course dealing with the origin, classification, recognition, and uses of minerals and rocks. Field trip and outside reading are required. No credit for Earth Sciences majors or minors.

Economics

f-ECON 100 Introductory Economics (5) Survey of the American economy. Consider resources, national income, money and banking, fiscal and monetary issues, structure and pricing in market places, international trade. No credit for ECON majors, minors.

ECON 102 Contemporary Economic Problems (3) Prerequisite: ECON 100. Investigate some principles of economic analysis in greater depth. Apply these principles to current economic problems and issues in our society. No credit for ECON majors, minors.

f-ECON 110 Principles of Economics: Microeconomics (4) Cover the supply-demand mechanism in goods and resource markets, the consumer, perfect and imperfect competition, income distribution and economic regulation.

f-ECON 120 Principles of Economics: Macroeconomics (4) Discuss and study macroeconomic issues and models of aggregate economic analysis, with emphasis on income, expenditures, fiscal and monetary policy, employment, inflation and growth.

ECON 202 Money and Banking (4) Prerequisites: ECON 110 and 120. Discover the origins and present roles of monetary theory, our monetary system, commercial banking and Federal Reserve System.

f-ECON 205 Labor Economics (3) Prerequisite: ECON 110 or 100. Examine the labor market, wages and employment, and then give major attention to collective bargaining goals, conflicts, and to public policy and labor legislation.

ECON 215 U.S. Agricultural Economics and Policy (3) Prerequisite: ECON 110. Apply economic concepts to U.S. agriculture, problems in this sector of our economy, and economic policies and institutions employed.

ECON 241 Public Finance (4) Prerequisite: ECON 110 or 120; ECON 300 recommended. Government financing at federal, state and local levels as reflected in expenditures, revenue sources such as taxes, and problems and solution of public debt.

f-ECON 245 Urban Economics (3) Prerequisites: ECON 110 and 120 or 100. Study the economic interrelationships of individuals, firms, and government within urban confines and analyze various urban markets, socio-economic problems, government policy and economic change.

ECON 250 Comparative Economic Systems (3) Prerequisites: ECON 110 and 120. Survey exemplar socio-economics systems — capitalist, socialist, communist — and examine the economic structures, characteristics and prospects for future development.

f-ECON 260 Radical Economics (3) Prerequisite: ECON 110 or 120. Explore economic concepts that have tended to threaten the status quo of established economic thought and theory and capitalistic institutions.

ECON 277 Industrial Organization (3) Prerequisite: ECON 110. Make a theoretical and empirical study of the effects of the structure, organization and conduct of sellers on economic performance and welfare.

ECON 300 The Price System (4) Prerequisites: ECON 110 and MATH 175. Learn the theory of the consumer and the firm as they relate to prices of goods, services and inputs in the context of resource allocation.

ECON 304 Women and the Economy (3) Explore the economic status of women and the institutions that have affected their economic decisions.

ECON 305 Labor-Management Relations (3) Look into the origins of the labor movement and examine the impact of trade unionism on contemporary industrial organization.

f-ECON 315 World Food Economics (3) Prerequisites: ECON 110 and 120. Emphasize first the functioning of the American agricultural sector and then consider world food production, demand and trade.

ECON 320 Russia's Soviet Economy (3) Prerequisites: ECON 110 and 120. Synthesize available knowledge regarding major sectors of the Soviet economy, emphasizing economic controls, planning and progress.

ECON 330 Economics of Crime and Punishment (3) Prerequisite: ECON 110. View economic causes and consequences of crime and punishment in this country during the 20th century considering models dealing with causes and effects of crime and punishment.

f-ECON 332 Planning Economics (3) Prerequisites: ECON 110 and 120. Delineate underlying economic factors of economic growth — spatial distribution changes of per capita income and locational shifts in American industry, as they apply to urban and regional economic growth problems.

ECON 345 International Trade (3) Prerequisites: ECON 110 and 120; ECON 300 recommended. Analyze conventional and new theories of international trade, noting trade impediments, trade policies and institutions which have evolved in a dynamic international system.

f-ECON 350 Income and Employment Analysis (4) Prerequisite: ECON 120 and MATH 175; ECON 202 recommended. Consider the essential theoretical tools, concepts and problems used in macroeconomic analysis at the undergraduate level.

f-ECON 355 International Finance (3) Prerequisites: ECON 110 and 120; ECON 345 recommended. Analyze theories and functions of the international financial system, stressing balance of payments and national income problems, adjustment mechanisms, exchange rates, capital flows and recent institutions affecting monetary movements.

ECON 360 Economics of Growth and Development(3) Prerequisite: ECON 300 or equivalent. Make an analysis of the theory, processes and history of economic growth and development, emphasizing resource use and productivity increases in less developed areas.

ECON 377 Government and Business (3) Prerequisites: ECON 110 and 120. Study American laws, government policies, agencies and institutions, and their relations to and impact upon major industrial and commercial sectors of the economy.

ECON 390 European Economic History (3) Prerequisite: ECON 110 or 120. Discover the historical origins of European economic institutions as related to the development of present European economic life.

ECON 400 Managerial Economics (3) Prerequisite: ECON 300. How do the economics of decision-making affect the manager. Learn certain "optimization techniques," cost and demand analysis, and capital budgeting.

ECON 401 Economics of Health and Health Care (3) Prerequisite: ECON 300. Rigorous introduction to the demand for and production of health and health care. Cover various outputs and inputs of the industry, physician pricing, hospital administration and health maintenance organizations.

ECON 403 Economics of the Environment (3) Prerequisite: ECON 110. Consider the relationship of population to land or natural resources. Understand how land utilization takes place within a physical, institutional economic framework.

ECON 451 Introduction to Quantitative Economics (3) Prerequisites: ECON 300 and MATH 175 or 131. Learn mathematical techniques in economics and apply them to problem solutions.

ECON 452 Introduction to Econometrics (4) Prerequisites: ECON 110, 120, 300 or 350, some mathematics/statistics background, RSM 203/MATH 131 or equivalent, or consent of instructor. Get an elementary but comprehensive introduction to econometrics. Analyze problems frequently encountered in economic research, and use computer packages.

ECON 453 Engineering Management and Economic Analysis (3) Prerequisites: ECON 300 and MATH 175 or 131. Learn techniques used for project evaluation and cost optimization, especially multiple project alternatives, annual cash flow, present-worth values, benefit-cost analysis, and replacement vs. repair analysis.

ECON 460 Economic Colonialism and Imperialism (3) Prerequisites: ECON 110 and 120, or consent of instructor. Study the part played by economic doctrines, theories and practices in expansionary drives to colonialism and imperialism, with primary emphasis on modern history.

ECON 462 Economic History of the United States (3) Review the historical changes in major American economic institutions, with emphasis on the post-Civil War period.

ECON 470 History of Economic Thought (3) Prerequisites: ECON 110 and 120. Trace the evolution of economic thinking from the Old Testament period to today. See roles played by certain "schools" of economic thinkers, the genesis of their ideas and their contributions.

ECON 500 Microeconomic Theory (3) Prerequisite: ECON 300. Investigate theories of the firm at an advanced level; analyze in detail the resource market and effects of public policy on resource allocation. Open to approved juniors, seniors and graduates.

ECON 502 Advanced Economics (5) Prerequisites: ECON 110 and 120; ECON 300, 350 recommended, or consent of instructor. Summary exposition of contemporary economic theory for those intending to take other graduate courses in economics. Emphasis is on value and distribution theory.

ECON 503 Monetary Theory (3) Prerequisites: ECON 202 and 350. Survey monetary, interest and income theories.

ECON 513 Professional Renewal (1-12) Understand various topics of interest in economics, depending on instructor. Each course is subtitled, and none may be repeated for credit.

ECON 541 Theory of Public Finance (3) Prerequisites: ECON 300 and 241. Investigate government revenue collection, services, shifting, effects of taxation, tax alternatives, and pricing of services.

ECON 550 Macroeconomic Theory (3) Prerequisite: ECON 350. Make an in-depth study of a theoretical framework for analysis of problems of unemployment, economic instability, inflation and economic growth.

ECON 565 Seminar in Labor Economics (3) Prerequisites: ECON 110 and 120 and either 205 or 305. Pursue advanced study in labor economics or labor-management relations, and research through selected readings, documents.

ECON 572 Seminar in Government and Business (3) Prerequisites: ECON 300, 377 or consent of instructor. Advanced study and research of government regulation of business in modern U.S. economy.

ECON 680 Seminar in Money and Banking (3) Prerequisites: ECON 202, 300, 350 or consent of instructor. Examine the possibilities of monetary regulation of an economy, with emphasis on modern controversy.

Educational Administration

EDAD 385 Law and the Classroom Teacher (2) Provides potential teachers with basic understanding of legal structure and administrative organization of the changing educational scene. Emphasis is on legal rights and responsibilities, due process, teacher certification, employment and tenure, collective bargaining, grievance procedures and the role and responsibilities of administrators, teachers, boards of education and the courts. No credit for this course if credit has already been obtained for EDF 385.

EDAD 508 Workshop in Administration (1-3) Concerned with instructional problems of participants, insofar as they pertain to one or more facets of educational administration. Each workshop has a subtitle, and no subtitle may be repeated for credit. S/U final mark.

EDAD 510 Special Resources for Financing Education (3) Investigate various special funding programs available to schools and colleges, and develop proficiency in proposal writing. Qualified seniors accepted with instructor permission.

EDAD 513 Professional Renewal Experience (1-3) To improve skills and knowledge of practicing administrators. Specific subject matter indicated by course title when offered. No subtitle may be repeated for credit. S/U final mark.

EDAD 520 Law and the Teacher (3) Examine the law as it affects classroom teachers and building principals, with special attention to liability for personal injury, discipline, and teacher rights and responsibilities.

EDAD 521 Introduction to Organizational and Administrative Theory (2) Delineate the basic theories, concepts and vocabulary of organization and administration as a framework from which to discuss and clarify organizational and administrative behavior.

EDAD 525 Introduction to Organization and Administration of Public Schools (3) Identify administrative problems and make an overview of our educational system at federal, state and local levels. Relate key issues at each level to roles of educational personnel.

EDAD 610 School Finance (3) Examine financing the public school system, including organization, management, tax theories, fiscal policies and state school finance plans.

EDAD 611 School Budgeting (3) Learn the process of allocating resources within the framework of program planning and evaluation. Examine the integral relationship between budget process and the financial recording and reporting system, as well as strategies for allocating resources at various administrative levels.

EDAD 613 Professional Renewal Experience (1-3) Emphasize improvement of skills and knowledge of practicing administrators, with variable content. Specific topics will be indicated in course title when offered. No subtitle may be repeated for credit. S/U final mark.

EDAD 614 Auxiliary Management Services (3) Investigate problems and procedures of school transportation, school lunch programs and other auxiliary services.

EDAD 620 Law and the Administrator (5) Relate statutory provisions and court decisions to legal problems affecting organization and administration of public and private school systems. Stress legal aspects of contract disputes, personnel problems, and school district management.

EDAD 621 Law and Higher Education (5) Relate common law principles to legal problems which affect higher education, especially rights and responsibilities of students, faculty and other employees; to contractual problems; and to problems of governance.

EDAD 622 Individual Studies in Educational Administration (1-4) Qualified graduate 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. Instructor, advisor and department chair/program director approval required.

EDAD 626 School Community Relations (3) Develop a public relations philosophy, learn how to establish a functional program involving citizens and educators, and enhance skills and techniques essential to school and community understanding.

EDAD 630 Methods of Comprehensive Educational Planning (3) Survey concepts and techniques of comprehensive planning as applied to education, and apply techniques to facility planning in public schools.

EDAD 632 Principal and Evaluation (3) Introduce, examine, develop and apply knowledge and strategies relating to personnel and program evaluation as functions of the building principal. Also develop the competencies to evaluate teachers, programs and students.

EDAD 641 Seminar in Decision Theory (3) Prerequisite: EDAD 521. Investigate research on decision-making in small groups, factors influencing group behavior and role of group leaders, emphasizing the nature of rational or "scientific" decision-making.

EDAD 642 Seminar in Communication Theory (3) Prerequisite: EDAD 521. Develop an improved and refined theory of communication, including relevant communication concepts, communication research, community power structure, communication in small groups, and theory.

EDAD 643 Seminar in Management Systems and Analysis (3) Prerequisite: EDAD 521. Study organizations using a systems model. Analyze relevant concepts in terms of their effect on an organization's functioning, being aware of numerous variables, their interrelationships and their effect on the system's processes.

EDAD 650 School Personnel Administration (3)

Focus on the functions of the chief school personnel officer in the public school setting, including manpower planning, transfers and promotions, staffing patterns, in-service training, compensation plans, and management by objectives.

EDAD 651 Collective Bargaining in Education (2)

Gain a basic understanding of collective bargaining in the school setting, with an opportunity to learn about strategies employed in collective bargaining through role-playing or simulation.

EDAD 652 History of Higher Education in the United States (3)

Trace origins of American higher education to medieval European university. Examine 18th century influence of German system, stress impact of socio-economic-political conditions in the evolution of contemporary American institutional practices.

EDAD 653 College and University Curriculum (3)

Enrich student's background of current higher education curriculum practices and historical, philosophical and political influences which account for both similarities and differences in curriculum in various institutional programs.

EDAD 654 Adult Education and Lifelong Learning (3)

Considers andragogy, client-oriented scheduling of subject matter, teaching/learning styles, and time frames of delivery; includes innovative, nontraditional programs and importance of lifelong learning with understanding of curricula, their evaluation, academic and fiscal management, and forces which enhance and impede client-centered delivery systems.

EDAD 655 Seminar on Initiating and Managing Change (3)

Focus on planned change as it relates to organizations, emphasizing change theory, research and organizational development. Participate in methods and strategies for implementing and coping with change. Instructor approval required.

EDAD 656 Practicum on Management of Change (1-5)

Actual experience in an organizational setting in determining the need for change, planning, initiating and implementing change, and evaluating effectiveness of change. Departmental approval required. S/U final mark.

EDAD 660 Management Research and Statistical Analysis (4)

Learn basic concepts of descriptive and inferential statistics and their application to management problems in education. Prepare management data for computer processing and analysis. EDAD majors only, or permission of program director.

EDAD 661 Management Research and Computer Utilization I (4)

Prerequisite: EDAD 660. Study design concepts and inferential statistics and their application to management problems in education. Prepare management data for computer processing and analysis.

EDAD 662 Management Research and Computer Utilization II (4)

Prerequisite: EDAD 661. Learn basic FORTRAN programming and data preparation for computer analysis of management data. Analyze a variety of problems via the computer.

EDAD 663 Seminar in Higher Education Data Systems (2)

Discuss the definition, rationale and interrelationships of higher education systems, with examples of sub-systems, their integration into a management model and its administrative uses. S/U final grade.

EDAD 670 Elementary School Organization, Administration and Supervision (3)

Prerequisite: EDAD 521 or 643; may be taken concurrently. Identify major leadership responsibilities in the elementary school, including organization and administrative relationships, and instructional supervision skills and techniques. Includes information regarding multi-cultural education in a pluralistic society.

EDAD 671 Secondary School Organization, Administration and Supervision (3)

Prerequisite: EDAD 521 or 643; may be taken concurrently. Receive information about acceptable solutions to some major problems in the secondary school, including duties and responsibilities of the principal. Includes information regarding multi-cultural education in a pluralistic society.

EDAD 673 Personnel Management in Higher Education (3)

Through a case study approach, examine current personnel policies and practices, federal and state regulations, and economic, political and academic trends, as well as current employment conditions as viewed by governance bodies.

EDAD 675 Finance and Resource Management in Higher Education (3)

Investigate current ways in which public and private education are financed. Primary emphasis on state and federal subsidization. Review alternatives of financing. Study resource management within institutions.

EDAD 680 Internship in Educational Administration (1-6)

Selected graduate students work on part- or full-time administrative assignments in school districts or colleges, under joint supervision of the college or administrative staff of agency involved. Advisor and department chair approval required. S/U final mark.

EDAD 699 Thesis in Administration (1-15)

Optional for M.A. students in educational administration on recommendation of major advisor.

EDAD 701 Specialist Degree Practicum in Administration (8)

Study a problem which has significance to the employing district or institution, culminating in a written report of the investigation. Required of all candidates for the Specialist in Education degree in educational administration.

EDAD 740 Special Program in School Administration (4)

Investigate communications, curriculum, finance organization and staffing, role perception and expectation, problem solving and decision making. Seminars include extended readings, class session and field investigations. Six consecutive seminars, designated as I, II, III, IV, V, and VI, will be offered for four hours credit each.

EDAD 744 Seminar in Administrative Theory and Research (3)

Required for all specialist and doctoral majors in educational administration, and available to other advanced graduate students. Compare various theories of organizational and administrative behavior, survey recent research into administration, and make an overview of research methodology as related to administration problems.

EDAD 745 Seminar in Executive Leadership (3)

Research effective styles of leadership behavior, especially in educational institutions, with particular attention to leadership for curriculum evaluation and instructional improvement.

EDAD 746 Cases in Educational Administration (Seminar) (3)

Organize and synthesize knowledge of behavioral sciences and philosophy and apply it to the solution of practical problems in educational administration.

EDAD 780 analysis of Organizational Management Systems: Practicum (4)

Assist a selected educational agency in solving problems of administrative structure and staffing, allocation of decision responsibility, internal information flow, policy development, and organizational function. Application of organization theory of problems of administrative structure. Permission of instructor.

EDAD 781 Development of Information Systems: Practicum (4)

Assist a selected educational agency and community in solution of communication problems through application of communication theory. Analyze communication networks, information flow, message content and public opinion structure. Permission of instructor.

EDAD 782 Development of Facility Plans: Practicum (4)

Assist a selected educational agency in projecting long-term facility needs, developing plans to meet those needs, and preparing educational specifications for particular construction projects. Permission of instructor.

EDAD 783 Long-Range Program Planning and Budgeting: Practicum (4)

Assist a selected educational agency in the development of long-range plans for program improvement, program budgeting, and cost analysis of an existing budget. Permission of instructor.

EDAD 784 Operations Analysis for Educational Agencies: Practicum (4)

Assist a selected educational agency in measuring total operational effectiveness, analyzing contribution of each component to the whole, and applying techniques of operations research to the management of the educational enterprise. Permission of instructor.

EDAD 797 Doctoral Proposal Research (1-6)

Required of all doctoral students. A student may register for 1-6 hours of this course in any quarter, but must earn a minimum-maximum of 6 hours of credit for the doctoral dissertation proposal research in partial fulfillment of requirements for all doctoral degrees prior to admission to candidacy.

EDAD 799 Doctoral Dissertation in Administration (1-18)

Required of all doctoral candidates in educational administration. A student may register for 1-18 hours of dissertation credit in any one quarter, but must earn a minimum-maximum of 12 to 18 hours of credit for the dissertation in partial fulfillment of requirements for all doctoral degrees.

Educational Field Experiences

EDFE 270 Teacher Aide (1-4) May be repeated.

Prerequisite: Instructor consent. Practical experience for those who definitely plan to teach. May request any public or private school, preschool through high school. Must be registered for EDFE 270 to receive credit for aiding. Placement application required each quarter. S/U final mark.

EDLS 360 Clinical Experience: Primary (2) PTE

Prerequisite: Instructor consent. For Early Childhood/Elementary Education majors who need to work with K-3 children. Continuously interact with children four hours per week. Weekly seminar at 3:20 p.m. Thursdays. All students video-taped.

EDLS 361 Clinical Experience: Intermediate (2) PTE

Prerequisite: Instructor consent. For Elementary Education majors. Be assigned to 4th, 5th or 6th grade class for continuous student and curricular interaction. Four hours per week in classroom; Tuesday seminars at 3:20 p.m. All students video-taped.

EDLS 362 Clinical Experience: Middle School (2) PTE

Prerequisite: Instructor consent. Receive assignment to a specific subject area as a middle school, secondary and/or elementary major, and work with 6th to 8th grade students five classes a week. Weekly arranged seminar with supervisory teacher. All students video-taped.

EDLS 363 Clinical Experience: Secondary (2) PTE

Prerequisite: Instructor consent. Take concurrently with special methods. Be assigned major subject area class and be continuously involved in planned classroom activities calling for applications of basic teaching skills. Five classroom days per week; one-two hours of seminar plus preparation time. All students video-taped.

EDLS 365 Advanced Clinical Experience (2-4) PTE

Prerequisites: Previous clinical experience and instructor consent. Further enhance teaching skills and techniques by working with pupils in classroom. Classroom hours depend on credit hours. Allow for preparation, supervisor conferences and pupil activity time.

EDFE 401 Practicum (1-4)

Open only by invitation to resident undergraduate students. Supervised professional activity in the major field. Two copies of a well-written paper must be filed before credit is given; one with instructor and one with department chair. S/U final mark.

EDFE 422 Individual Studies (1-4)

Qualified undergraduate students outline and spend a minimum of 25 clock hours per credit hour on a problem. Two copies of a well-written paper must be filed before credit is given; one with instructor and one with department chair. No General Education credit.

EDFE 444 Supervised Teaching (1-18) PTE

Meets student teaching requirement for certification. Supervision by college consultant and certified teacher whose endorsement is consistent with that of the student teacher. Experience includes significant and continuous involvement of the cooperating teacher in the evaluation of the student teacher. S/U final mark.

EDFE 445 Advanced Supervised Teaching (1-18) PTE

Prerequisite: EDFE 444. Available to students who have completed minimal supervised teaching requirement for certification but who need or wish to improve teaching techniques with additional field experience. May be repeated only with permission of instructor. S/U final mark.

EDFE 501 Educational Field Experiences Studies (1-4)

May be repeated. Arrange with instructor. Undertake educational field studies in school settings, either individual or team oriented, and focus on practical and relevant assessment of needs in teacher education. S/U final mark.

EDFE 601 Practicum (1-4) Open only by invitation to resident graduate students. Supervised professional activity in student's major field. Two copies of a well-written paper must be filed before credit is given; one with instructor and one with department chair. S/U final mark.

EDFE 610 Field Experience (1-15) Individually arranged field experiences under supervision of university and school or community staff. A variety of sites are available year round. S/U final mark.

EDFE 622 Individual Studies (1-4) Qualified graduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed before credit is given, one with instructor and one with department chair.

EDFE 640 Supervision of Educational Field Experience (3) Develop individual supervisory guidelines, particularly in the classroom, for use with student teachers and interns. S/U final mark.

Educational Media

e-EDEM 195 Library Resources, Organization and Usage (3) Learn efficient use of library resources in academic work and in current and on-going personal educational experiences. Cover library organization and services, and basics of planning and methodology of research.

EDEM 410 Introduction to Educational Media (2) After a brief background in communication and learning theory, receive help in selecting, obtaining and using non-print (A-V) materials appropriately. Learn to operate necessary equipment and produce simple teaching materials.

EDEM 420 Introduction to Media and Production (3) Investigate planning, scripting and production techniques for non-graphic teaching materials such as slide/tape, 8mm films, television, and audio-recording. Develop and write suitable scripts for each medium.

EDEM 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 instructor and one with department chair. No General Education credit.

e-EDEM 430 Problems in Organizing Classroom and Library Materials (3) Understand basic philosophy, terminology and practices used in preparation, storage and retrieval of materials important to the Media Center, and to classroom teachers using file cabinet materials to individualize instruction.

EDEM 433 Reference Materials: Basic School Reference Service (3) Discuss suitable reference materials for elementary and secondary school resource centers, covering selection principles and use of reference materials such as encyclopedias, dictionaries and atlases.

EDEM 502 Computer in Educational Media: Introduction (2) To help media specialists be aware of the potential of the computer for assisting instruction, information retrieval, materials management and processing of data. S/U final mark.

EDEM 504 A-V Equipment Maintenance (2) Learn basic maintenance of audio-visual equipment, including cleaning, lubricating, minor adjustments, and repairs to equipment most often used by teachers. S/U final mark.

EDEM 508 Workshop (1-4) Concerned with instructional problems encountered by participants. Content varies according to experts conducting workshop. Each has a subtitle, and no subtitle may be repeated for credit.

EDEM 513 Professional Renewal (1-3) Improve skills and knowledge of profession, with variable content. Specific subject indicated by subtitle.

EDEM 516 Utilization of Educational Resources (3) Prerequisite: EDEM 410. Investigate both print and non-print instructional materials. Help teachers select and utilize appropriate materials for individual, small group and large group instruction.

EDEM 520 Introduction to Media and Production (3) Investigate planning, scripting and production techniques for non-graphic teaching materials such as slide/tape, 8mm films, television and audio-recording. Develop and write suitable scripts for each medium.

EDEM 521 Design and Construction of Audio-Visual Materials (3) Additional experience in the production of graphic instructional materials, i.e., overhead transparencies, slide graphics and printed materials. Graphic arts skills are not required.

EDEM 530 Cataloging and Classification I (3) Study the purpose, theory and principles of classification and cataloging, including Dewey Decimal, Library of Congress and others, and fundamental concepts for administering a cataloging unit.

EDEM 531 Cataloging and Classification II (3) Continue fundamentals of systems, and construction of a catalog suitable for a school resource center, including audio-visual cataloging and processing material from acquisition to circulation.

EDEM 533 Reference Materials: Basic School Reference Service (3) Discuss suitable materials for elementary and secondary school resource centers, covering selection principles and use of reference materials, such as encyclopedias, dictionaries and atlases.

EDEM 534 Reference Materials: Specialized Subject Areas and Government Publications (3) Examine and evaluate specialized reference sources and government publications with special attention to the needs of the public school resource center.

EDEM 536 Evaluation and Selection of Educational Materials (3) Discuss selection principles and aids for media centers, including reading levels and interests of children and young people.

EDEM 575 Administering Educational Media I (3) Learn the essentials for organization and administration of a single school media program. Required for endorsement in Elementary School Media and Educational Media Specialist.

EDEM 601 Practicum (1-4) Open only by invitation to resident graduate students. Supervised professional activity in the major field, approximately two hours per day. One copy of a well-written paper must be filed with instructor before credit is given.

EDEM 610 Instructional Technology: Philosophy, Theory and Practice (3) Develop a philosophical and theoretical foundation of instructional technology and translate it into practice.

EDEM 622 Individual Studies (1-4) Qualified graduate 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. Does not satisfy 500 level course requirement unless student is in full-time residence at UNC during quarter course is taken.

EDEM 675 Administering Educational Media II (3) Prerequisite: EDEM 575. Advanced preparation in the organization and administration of school and district media programs. Special attention to problems generated by class members. Required for Educational Media Specialist endorsement.

EDEM 695 Trends and Issues in Educational Media (1-3) Identify and discuss recent developments in educational technology and methodology, and review studies in communication theory, media and information storage and retrieval.

Educational Psychology, Research and Evaluation

c-EPRE 300 Research Analysis and Report Writing (3) Receive orientation to research methods, with emphasis on developing skills in library usage, basic research methods, critical analysis and report writing.

EPRE 347 Developmental Psychology for Teachers (PTE) (2) Study human growth and development through school years; biological and environmental factors operating in affective, cognitive, physical, social and cultural domains; human similarities and differences with implications for teaching and learning.

EPRE 347-G Developmental Psychology for Teachers: Projects (1) To be taken concurrently with EPRE 347. Designed to provide in-depth coverage and experience in the application of developmental psychology to the educational process.

EPRE 348 Learning Processes in Education (PTE) (3) Prerequisite: PSY 347. Apply psychological concepts to teaching/learning process: motivation, classroom discipline, teaching strategies, evaluation and grading, and major theoretical approaches to human learning.

EPRE 349 Educational Psychology in Applied Settings (3) Prerequisites: EPRE 347, 347-G, 348. Provides students with applied experiences in principles of educational psychology to include evaluation, cognitive, social and affective developmental assessments, discipline and research techniques.

I-EPRE 350 Human Effectiveness in Education (3) Take a human relations perspective to enhance effectiveness as a teacher, with peers, supervisors and students. Learn skills for classroom management, explore and develop psychological skills to meet personal needs.

EPRE 400 Educational Research: Methods (3) Introduction to methods of educational research. Topics include the nature of scientific inquiry, hypothesis formulation, research designs, measurement, statistics and interpreting results.

EPRE 420 Microcomputers in the Classroom (3) An introduction to microcomputers and their applications in educational settings. Emphasis will be placed on understanding microcomputer functions and programming. Educational software will be reviewed.

EPRE 422 Individual Studies (1-4) Prerequisite: Permission of instructor and department chairperson required. Students define a problem or area of concern 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 instructor and one with department chair. No General Education credit.

EPRE 499 Special Topics in Educational Psychology (1-4) Scheduled on irregular basis. Explore special topics in Educational Psychology. An appropriate subtitle will explain each course.

EPRE 504 Descriptive Statistics (3) Study problems in organizing, summarizing and interpreting statistical information in behavioral sciences, including central tendency variation, transformed scores, normal distribution, bivariate correlation and regression, and introduction to hypothesis testing. Laboratory experiences provided. Taught every quarter.

EPRE 505 Statistical Inference (3) Prerequisite: EPRE 504 or equivalent. Learn the theory and nature of statistical inference, with sampling error and central limit theorem, theoretical frequency distributions, binomial, normal, t, F, chi-square, hypothesis testing and information.

EPRE 508 Workshop (1-4) Offers a variety of workshops on special topics. Each workshop has separate subtitle, and no subtitle may be repeated for credit.

EPRE 518 Microcomputer Applications in Psychology and Education (3) Solve problems in Psychology and Education using microcomputer technology; get working knowledge of reception, processing and storing, including remote sensing and switching demonstration. Learn BASIC elements through self-paced interactive lessons. Project completion required.

EPRE 530 Human Growth and Development (4) Overview human growth and development from conception through senescence, focusing on cognitive, affective, social and psychomotor development throughout the life span.

EPRE 540 Principles of Learning (4) Examine basic learning principles and concepts for the purpose of developing a working control of the learning process.

EPRE 541 Human Information Processing (4)

Study of perception, learning, memory, language and problem-solving from the viewpoint of cognitive psychology. Contemporary theories, research, and educational applications are emphasized.

EPRE 542 Learning Applied to Classroom Teaching (3) The focus of this course is on the innovation and application of classroom procedures based on the principles of operant conditioning, social learning and cognitive psychology.

EPRE 570 Tests and Measurement for Educators (4) Introduction to measurement for teachers and other education-related professionals. The purposes and limitations of educational evaluation, standardized test use and interpretation, educational objectives, and principles of test construction are explored.

EPRE 599 Special Topics in Educational Psychology (1-4) Scheduled on irregular basis to explore special areas in Educational Psychology, and carries a subtitle for each offering. No subtitle may be repeated for credit. Check department office for topics currently planned.

EPRE 600 Introduction to Graduate Study and Research (3) Receive orientation to graduate study in general and the nature and methods of research in particular. Read and critique research publications in individual research areas. Required of all first-year graduate students, except in those departments with substitutes. Taught every quarter.

EPRE 601 Practicum (1-15) Open by invitation to graduate students. Supervised professional activity in student's major field; approximately 25 clock hours of work per credit. Two copies of a well-written paper must be filed before credit is given, one with instructor and one with department chair.

EPRE 603 ANOVA and Other Methods of Analysis (3) Prerequisite: EPRE 505. Use ANOVA in experimental design, including one-way and two-way classifications: Factorial, random block; unweighted means, fixed, random and mixed models; two-factor designs with repeated measurements; post-test comparisons; Scheffe, Dunn, Newman-Keuls procedures; and simple analysis of covariance.

EPRE 610 Statistical Packages for Educational Research (3) Prerequisite: EPRE 504. An introduction to statistical software packages designed for processing batch data, including SPSS, SAS and others. For each system examined, there will be an orientation to data management procedures and statistical facilities available.

EPRE 622 Individual Studies (1-4) Prerequisite: Permission of instructor. Qualified graduate students outline and spend a minimum of 25 clock hours per quarter on a problem. Three copies of a well-written paper must be filed before credit is given; one with instructor, one with department chair and one with the Graduate School. Does not satisfy 500-level requirement unless student is in full-time residence at UNC during quarter course is taken.

EPRE 630 Child Psychology (3) Prerequisite: EPRE 530. Study the physical, mental, social and emotional development of children from conception to onset of puberty, stressing normal development and major development theories.

EPRE 631 Adolescent Psychology (3) Prerequisite: EPRE 530. Survey the onset of puberty through what is considered majority age, and the mental, physical, social and emotional growth of the adolescent.

EPRE 632 Adult Development and Aging (3) Prerequisite: EPRE 530. Learn about the physical, cognitive and social phenomena which affect people as they develop from early adulthood to senescence.

EPRE 635 Psychology of Individual Differences (3) Learn the nature and extent of differences among individuals and between groups, based on age, sex, class, race, nationality; factors related to these differences, and applications to educational, vocational, social and personnel work.

EPRE 639 Seminar: Special Topics (1-4) Select advanced topics in measurement, evaluation and research methods at instructor's discretion and students' needs.

EPRE 640 Topics in Educational Psychology (3) Analyze current educational issues and trends related to learning, development, and measurement, applied to topics such as discipline, instruction, grading, testing, creativity, and intelligence.

EPRE 641 Theories of Learning (4) Prerequisite: EPRE 540 or equivalent. Examine learning from its theoretical development, including major learning theorists from past to present.

EPRE 654 Seminar in College Teaching (3) Discuss issues and practices in college teaching, including course planning, instructional models and techniques, problems, ethical concerns, assessment and evaluation, and student/teacher interactions.

EPRE 661 Orientation to Educational Psychology (1) Majors only. Required for all Educational Psychology graduate students. Survey current trends in educational psychology, faculty and their interests, and program planning. Submit writing sample, develop professional growth plan, and complete a tentative study program. Selection of major advisor encouraged. S/U grading.

EPRE 663 Apprenticeship (1-3) Elective course for graduate students in Educational Psychology, Research and Evaluation. Serve as an apprentice to a chosen faculty member and work on professional endeavors such as course planning, writing and research. Requires approximately 3 hours per week for each credit. S/U grading.

EPRE 670 Evaluation: Theory and Procedures (3) Investigate nature and types of evaluation, planning, proposal writing, development and selection of data-gathering devices, questionnaire construction, survey procedures, sampling techniques, experimental designs, coding demographic data, biographical inventories, data analysis reporting results, and PERT.

EPRE 671 Evaluation: Techniques and Methods (3) Prerequisite: EPRE 670. Overview techniques and methods with special relevance for the evaluation of products, programs and projects in educational settings, emphasizing need for multi-level evaluation. Focus on key evaluation strategies at local, state and national levels.

EPRE 672 Seminar in Evaluation (3) Prerequisite: EPRE 670. Meet with experts in evaluation and related areas invited to discuss topics such as current issues, trends, systems analysis, cost benefit analysis, large-scale assessments of achievement, needs assessments, federal programs and management.

EPRE 674 Measurement I: Basic Principles (3) Prerequisite: EPRE 504 prior or concurrent. Survey measurement and test construction, including interpretation of scores, norms, reliability and validity estimation, item discrimination and difficulty.

EPRE 675 Measurement II: Questionnaires and Scaling (3) Prerequisite: EPRE 504 prior or concurrent. Learn questionnaire construction, scaling methods and related techniques, including rating scales, Likert and Thurstone scales, sociometry semantic differential, critical incident technique, Q-sort, and Delphi technique. Devise and test own measure.

EPRE 676 Measurement III: Advanced Theory (3) Prerequisites: EPRE 674, 675. Continuation and further development of topics in EPRE 674 and 675. Learn derivations of reliability and validity estimates, individual prediction, classification and selection, subscale and item grouping procedures, and corrections for guessing.

EPRE 689 Internship in Research and Evaluation (1-15) Observe and participate in a one quarter, full- or part-time assignment in a research or evaluation setting under supervision. Requires a minimum of 25 hours of student field experience for each credit given.

EPRE 699 Thesis (1-15) Optional for the Master of Arts program on recommendation of the major advisor.

EPRE 700 Introduction to Doctoral Research (3) Receive an introduction to advanced research concepts and methods. Required of all specialist and doctoral candidates, except those whose departments have substitutes for this course.

EPRE 702 Seminar: Planning Educational Research (3) Prerequisite: EPRE 700. A seminar designed to help the student identify, isolate and formally develop a topic suitable for research. This course is especially recommended for the doctoral student in the early stages of preparing the dissertation proposal.

EPRE 703 Seminar: Analysis of Research Data (3) Prerequisites: EPRE 505, 700. A seminar designed to help the student with all phases of the analysis of research data. This course also emphasizes interpretation of research findings based on the data analysis.

EPRE 704 Doctoral Practicum in Educational Psychology (5-15) For doctoral students who have completed a minimum of 36 hours toward a program of study. Supervised experiences may include work in public schools, research activities, program evaluation and consultation, developed in consultation with major advisor. Practicum's nature will correspond to student's area of emphasis, and students will spend three hours per week in the activity for each credit. S/U grading.

EPRE 730 Advanced Seminar in Growth and Development (3) Prerequisites: EPRE 530 and one of following: EPRE 630, 631, 632. For doctoral candidates wishing to develop advanced competency. Periodically, seminar may focus on topic reflecting instructor's interest area, or on developing a student's inquiry. May be repeated 3 times for a total of 9 credits.

EPRE 741 Advanced Seminar in Learning (3) Prerequisites: EPRE 540 or equivalent, and one of following: EPRE 541, 542 or 641. Study current theoretical issues and research evidence in learning. May focus on special topic reflecting instructor's interest area, or may encourage students to develop individual fields of inquiry. May be taken 3 times for a total of 9 credits.

EPRE 745 Doctoral Seminar in Educational Psychology (3) Study in-depth, current issues and research in Educational Psychology at the doctoral level. May include topics reflecting professor's area of interest, or students' fields of inquiry. May be taken 3 times for maximum of 9 hours of credit.

EPRE 755 Supervised Practicum in College Teaching (1-9) Prerequisite: Permission of instructor. Doctoral students receive experience in observation and supervised practice in college teaching.

EPRE 797 Doctoral Proposal Research (1-6) Required for all doctoral students. Student may register for 1-6 hours of this course in any quarter, but must earn a minimum-maximum of 6 hours of credit in this course in partial fulfillment of requirements for all doctoral degrees, prior to admission to candidacy. S/U grading.

EPRE 799 Doctoral Dissertation (1-18) Required of all doctoral candidates. A student may register for 1 to 18 hours of dissertation credit in any quarter, but must earn a minimum-maximum of 12-18 hours of credit for the dissertation in partial fulfillment of requirements for all doctoral degrees. S/U grading.

Educational Technology

ET 521 Technology and Its Impact on Society (3) Look into what technology holds for humans in the future, after a brief history of technology and study of today's capability. Emphasize psychological, physiological and natural impacts on society.

ET 522 Technical Drafting/Design (3) (2 lecture, 3 laboratory) Make isometric, oblique, one-point (parallel) and two-point perspective, primary and secondary and auxiliary working drawings.

ET 523 Technical Illustration (3) (2 lecture, 3 laboratory) Develop skill and understanding of technical illustration as a support service to education. Make drawings, designs and pictorial representations to explain internal working parts of technological devices, using machine drawings and air brush techniques.

ET 524 Construction Techniques for Simulators/Dynamic Demonstrations (3) (2 lecture, 3 laboratory) Construct and fabricate educational simulators and dynamic demonstration devices required for effective classroom instruction. Cover welding, sheet metal, wrought iron, metal spinning, woodworking and plastics fabrication techniques.

ET 531 Hardware Evaluation and Interfacing (3) Prerequisite: ET 586 or equivalent. Select and adapt microcomputer systems for educational applications such as video discs and tapes. Learn to judge quality/performance of existing systems, and discuss cost, availability and applications.

ET 532 Maintenance of Educational Technology Systems (3) Prerequisite: ET 586 or equivalent. Learn maintenance/servicing of educational technology equipment, including but not limited to: microcomputer/computer CPU systems, floppy disc drives, computer printers, projectors, TV video recorders, TV monitors, audio recording equipment, and overhead projectors.

ET 585 Digital and Microprocessor Basics (3) (2 lecture, 3 laboratory) Consider digital IC gates, families and numbering systems, flip flops and counters, shift registers, memory units (RAM-ROM), arithmetic logic units and microprocessor basics. Application techniques for microprocessor on lab trainer. May be repeated for credit.

ET 586 Analog Electronic Devices (3) (2 lecture, 3 laboratory) Learn electronic terminology, circuits and concepts of electro-mechanical electronic and solid state devices in educational technology equipment.

ET 601 Practicum in Educational Technology (Maximum 4) Open only by invitation to resident graduate students. Supervised professional activity requiring minimum of two hours per school day. Develop project, product or technological device unique to the field. Three copies of a well-written paper on theory and application of device must be filed with supervisor at end of quarter in which practicum is taken. S/U final mark.

ET 622 Directed Study in Educational Technology (Maximum 4) Open only by invitation to qualified graduate students. Extensively read, research and summarize existing information to draw conclusions about past and existing practices in Educational Technology. Student spends a minimum of 25 clock hours for each credit hour. Three copies of a well-written paper following APA guidelines must be filed with and approved by student's research advisor and program director before end of quarter in which credit is given. S/U final mark.

ET 623 Evaluation of CBE Software (3) Investigate commercial sources of computer-based education materials and quality of software packages available. Identify criteria for evaluation and critique available materials for specific disciplines.

ET 626 Orientation to Computer-Assisted Instruction (3) Utilize the computer as both instructional and management tool. Emphasize systems terminology, basic problem language for classroom teachers, and steps or procedure for converting traditional teacher-lecture materials to computer-managed instruction.

ET 627 Computer-Assisted Instruction (3) Deal with computer-assisted instruction and generation of tutorial programs and their validation for computer-based education. Emphasize both microcomputer and mainframe systems.

ET 628 Computer-Managed Instruction (3) Consider computer test generation, instructional management of tutorial programs and their validation for computer-based education. Emphasize both microcomputer and mainframe systems.

ET 630 Orientation to Educational Accountability (3) Cover terminology, historical development, professional and lay involvement, implications for state departments and planning accountable programs. Emphasize performance contracting, educational vouchers and program evaluation.

ET 637 Educational Analysis Techniques (3) Covers techniques of curriculum analysis for basic learning activities in the classroom, and computer based education applications.

ET 638 Individualized Learning Activity Packages (3) Develop and generate individualized learning experiences for students. Open to all academic disciplines; choose area of specialization and grade level of package.

ET 656 Educational Technology Internship (3) Prerequisite: Advisor's recommendation and permission of program director. Plan an individual field experience with advisor to meet needs. Complete written report of experience required. S/U final mark.

ET 690 Research Storage and Retrieval Systems (1) Cover characteristics of available data bases and research indices for Educational Technology. Identify descriptors and input commands for retrieval of abstracts from available data bases. S/U final mark.

ET 699 Master's Thesis (8) Optional for master of arts program on recommendation of major advisor when requested by student. S/U final mark.

ET 797 Doctoral Proposal Seminar (Maximum 6) Series of courses to: Study results of research in Educational Technology and its implications; identify and isolate major problems facing Educational Technology; discuss means of designing, interpreting and reporting research information in Educational Technology; and become familiar with storage and retrieval systems and data bases available to educators. One-hour seminar offered fall, winter and spring quarters. Sequence required of all doctoral students. S/U final mark.

ET 799 Doctoral Dissertation (18) Required of all doctoral candidates. Individual experience in planning, conducting and reporting a formal research effort. This study should be unique to the field and contribute to existing formal knowledge of the subject area in which it is performed. S/U final mark.

Elementary Education

EDEL 100 Orientation to Education (2) Visit and participate in classroom activities for pupils (pre-school-high school) to determine probable level of degree program emphasis. Engage in diagnostic writing and speaking activities for personalized evaluation.

I-EDEL 101 Introduction to Multiculturalism (3) Understand the theoretical concept of multiculturalism. Become aware of educational problems and study instruction models for non-English speaking children.

EDEL 308 Education Workshop (1-15) Study problems in Elementary Education. Workshop subtitle will specify content. No subtitle may be repeated for credit. S/U final mark.

EDEL 312 Introduction to Elementary School Curriculum (3) Learn about open and self-contained classrooms, team teaching, multicultural education, effects of educational change on curriculum and interrelationships of subject areas.

EDEL 320 Improvement of Instruction in Mathematics in the Elementary School (4) PTE Analyze learning theory and its application to developmental instructional methods, sequence instruction to accommodate wide range of educational needs and abilities in typical classrooms, consider various resources and physical materials, and diagnose and evaluate daily learning.

EDEL 330 Teaching Handwriting and Spelling in the Elementary School (2) PTE Consider content, methods, instructional materials and evaluation in handwriting and spelling, and demonstrate competency in spelling and in using manuscript and cursive handwriting.

EDEL 340 Improvement of Instruction in English in the Elementary School (4) PTE Examine the nature, functions and acquisition of language as basis for developing adequate instruction in English. Consider methods, materials, content selection, diagnosis and evaluation, and provide for wide range of pupil problems.

EDEL 345 Communication Arts I: The Language Arts (7) PTE Prerequisite: EDEL 100. Application and laboratory field experiences concerning receptive and expressive language, children's literature, and oral and written communication for developing and teaching an integrated instructional program in the language arts.

EDEL 350 Improvement in Social Studies Instruction in the Elementary School (4) PTE Investigate social studies essentials, learning and the child, curriculum, program planning and organization, functional instructional practices, and materials and resources. Focus on social studies for children with special needs in pluralistic society.

EDEL 412 Senior Seminar in Elementary Education (3) Prerequisites: EDFE 444 and instructor consent. Explore topics and issues in education which affect daily classroom work and professional career. S/U final mark.

EDEL 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 instructor and one with department chair. No General Education credit.

EDEL 508 Elementary Education Workshop (1-15) Study problems in Elementary Education. Area covered in any one workshop determined by subtitle. No subtitle may be repeated for credit. S/U final mark.

EDEL 601 Practicum (1-4) Open only by invitation to resident graduate students. Supervised professional activity in Elementary Education, approximately two hours per day. A well-written paper must be filed with instructor before credit is given.

EDEL 609 Practicum in Multiculturalism (1-4) Prerequisite: EDEL 619. Application of knowledge gained in EDEL 619. This field-based experience will culminate in a written report and a concluding seminar with the supervising instructor. S/U final mark.

EDEL 610 Research and Analysis Processes in Elementary Education, Early Childhood, Middle School and Reading (3) Introduction to basic concepts and basic tools of research in Elementary Education, Early Childhood, Middle School and Reading. Emphasis on statistical terminology, research design, reviewing, evaluating and utilizing educational research.

EDEL 612 The Elementary School Curriculum (3) Analysis of competing conceptualizations of elementary school curriculum. Designed to focus on design, development, implementation and evaluation of elementary school curriculum and related problems and issues.

EDEL 613 Practicum in Curricular Assessment (1-4) Prerequisite: EDEL 612 or 667. Application of knowledge gained in EDEL 612 or 667. This field-based experience will culminate in a written report and a concluding seminar with the supervising instructor. S/U final mark.

EDEL 615 Seminar in Elementary Education: Planning for Change (3) Series of seminar experiences: overview innovations, problem areas and trends in elementary education; and seriously study and research an individually relevant problem. S/U final mark.

EDEL 619 Pluralism in Education (3) Assists the student in recognizing the need for creating processes that enable children, educators and others to support and design a culturally and socially diverse curriculum.

EDEL 620 Mathematics in the Elementary School (3) Consider in detail the problems concerned with selection of what to teach, grade placement of content, methods and materials for teaching and means of evaluating achievement in mathematics.

EDEL 621 Practicum in Mathematics Curriculum (1-4) Prerequisite: EDEL 620. Application of knowledge gained in EDEL 620. This field-based experience will culminate in a written report and a concluding seminar with the supervising instructor. S/U final mark.

EDEL 622 Individual Studies (1-4) Qualified graduate 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 instructor before credit is given. Does not apply to Graduate Division requirements for 500 level or above courses unless student is in full-time residence at UNC when course is taken.

EDEL 625 Seminar in Elementary School Mathematics (3) Prerequisite: EDEL 320 or 620. Cover important problems in the teaching and supervision of mathematics in the elementary school. Content may vary from year to year according to needs of participants. S/U final mark.

EDEL 630 Handwriting and Spelling in the Elementary School (2) Examine comprehensively the methods, content, materials and evaluation in teaching handwriting and spelling, particularly focusing on review of research data.

EDEL 640 English in the Elementary School (3) Identify problems concerned with selection of what to teach, grade placement of content, methods and materials of teaching, and means of evaluating achievement in English.

EDEL 641 Practicum in English Curriculum (1-4) Prerequisite: EDEL 640. Application of knowledge gained in EDEL 640. This field-based experience will culminate in a written report and a concluding seminar with the supervising instructor. S/U final mark.

EDEL 645 Seminar in Elementary School English (3) Prerequisite: EDEL 340 or 640. Consider problems in the teaching and supervision of English. Varies slightly each year according to interests of students. S/U final mark.

EDEL 650 Social Studies in the Elementary School (3) Consider in detail what to teach, content grade placement, teaching methods and materials, evaluating social studies achievement, and special concerns in pluralistic society.

EDEL 651 Practicum in Social Studies (1-4) Prerequisite: EDEL 650. Application of knowledge gained in EDEL 650. This field-based experience will culminate in a written report and a concluding seminar with the supervising instructor. S/U final mark.

EDEL 655 Seminar in Elementary Education Social Studies (3) Prerequisite: EDEL 350 or 650. Cover important problems in teaching and supervising social studies, such as those in content, unit procedures, problem-solving activities, pupil-teacher planning and evaluation. S/U final mark.

EDEL 667 Assessment, Design and Evaluation of Elementary/Middle School Curriculum (3) Identification of content in the schooling process related to accreditation criteria. Learn about curriculum modeling, needs assessments, objectives, performance criteria, curriculum mapping, domain mapping, priority setting and action planning.

EDEL 678 Outcomes-Based Education (3) Intense study of Mastery Learning, Teaching/Learning Cycle, and BASICS in understanding similarities and differences among these.

EDEL 679 Appraisal and Evaluation of Teaching in Elementary and Middle Schools (3) Emphasis is placed on the development of knowledge, skills and sufficient comprehension to direct the development of instructional appraisal and evaluation behaviors, with special emphasis on self-improvement modalities.

EDEL 699 Thesis (1-15) Optional for Master of Arts programs on recommendation of major advisor. S/U final mark.

EDEL 710 Seminar I: Planning the Research Process (2) Prerequisite: EPRE 600 or equivalent. To be taken concurrently with EPRE 505. Identification of a problem worthy of study in a research project and preparation of a concept paper summarizing the research problem. S/U final mark.

EDEL 711 Seminar II: Planning the Research Process (2) Prerequisites: EDEL 710, EPRE 504 and 600. To be taken concurrently with EPRE 506. In-depth study of research techniques and methods, and guidance in planning and writing a proposal for research at and beyond the doctoral level. S/U final mark.

EDEL 755 Supervised Practicum in College Teaching (3) Experiences in observation and supervised practice of college teaching for doctoral candidates planning to teach at college or university levels. Observations and experiences used as basis for analysis of learning experiences. May be repeated for maximum of 9 quarter hours.

EDEL 797 Doctoral Proposal Research (6) Required of all doctoral students. Students must earn 6 hours of credit for dissertation research proposal in partial fulfillment of requirements for the doctoral degree prior to admission to candidacy. S/U final mark.

EDEL 799 Doctoral Dissertation (18) Required of all doctoral candidates. Students must earn 18 hours of credit for the dissertation in partial fulfillment of requirements for the doctoral degree. S/U final mark.

English

b-ENG 101 Elementary Composition (4) Introduction to basic expository writing, with emphasis on functional grammar, sentence structure, punctuation, paragraph organization, and the essay.

c-ENG 102 College Research Paper (4) 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. Analysis of sentence structure, order of presentation, and use of illustration in writing essential for the technician, engineer, and scientist, emphasis on arranging and stating information clearly.

c-ENG 105 Communications on a Theme (4) Prerequisite: ENG 101. Topics for writing chosen from ideas of historical influence and/or contemporary problems. Readings and class discussions will serve as background for writing essays.

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.

g-ENG 111 Introduction to Poetry (4) Critical approaches to poetry, including a study of technical poetic devices in order to enhance appreciation and understanding. Qualified students may be exempted by examination.

g-ENG 112 Introduction to Fiction (4) Critical approaches to short stories and novels, emphasizing themes, characterization and techniques. Qualified students may be exempted by examination.

g-ENG 113 Introduction to Drama (4) Selected plays, ancient and modern, to develop the student's skills in dealing with drama as literature.

d-ENG 114 Introduction to Language (4) The methods and conclusions of language study. Covers phonology, grammar, semantics; stylistic, cultural, and dialectal variations; spelling; and sociopolitical problems in language. Not a remedial course.

g-ENG 115 Introduction to Fiction and Drama (4) Critical approaches to these two types with emphasis on similarities and differences between them. Credit will not be given if a student has had either ENG 112 or ENG 113.

ENG 180 Expository Writing for Foreign Students (4) Designed for students of English as a second language. Intermediate and advanced levels of proficiency. Development of competence in expository writing.

c-ENG 202 Writing About Language (4) Prerequisites: ENG 101, 114. Introduces expository writing skills beyond freshman English, including reports, abstracts, summaries, and a brief research paper. Special emphasis on language in the context of society.

ENG 205 Linguistic Theory Basic to TESL (4) Designed to familiarize students with applications of linguistic theory to the problems of teaching English as a second language. Topics for investigation and application drawn from all areas of linguistics.

g-ENG 211 Medieval Literature (4) Works from the Old and Middle English periods. Selections such as anonymous Anglo-Saxon lyrics, *Beowulf*, Chaucer, *Sir Gawain and the Green Knight*, and *Morte D'Arthur*.

g-ENG 212 Renaissance Literature (4) English poetry and prose of the Renaissance. Selections from such authors as Spenser, Jonson, Marlowe, Bacon, the Metaphysical poets, Milton, and the chroniclers.

g-ENG 213 Restoration and Eighteenth Century (4) Selected authors (Dryden, Pope, Swift, Defoe, Fielding, Boswell, Johnson, Goldsmith, Sheridan) and genres (comic drama, satiric poetry, the novel, biography) representative of literature in England from 1660 to 1800.

g-ENG 214 The Romantic Movement (4) English Romanticism, its social and philosophical backgrounds. Authors such as Wordsworth, Coleridge, Byron, Shelley, and Keats, with some consideration of the essayists and minor poets.

g-ENG 215 Victorian Prose and Poetry (4) Victorian writers and their themes. 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) American writers during the formative years of the colonial period and early years of the republic, emphasizing the religious and political traditions from which their literature sprang.

g-ENG 217 American Literature: Civil War to 1914 (4) Selected readings from authors such as Howells, James, Crane, Dickinson, Dreiser, Sinclair and London.

g-ENG 220 English Literature: 1900 to 1939 (4) Selected readings from authors such as Lawrence, Wells, Woolf, Joyce, Auden, Eliot, Forster, Kipling, Shaw and Conrad.

g-ENG 221 English Literature: 1940 to the Present (4) Selected readings from authors such as Lessing, Beckett, Thomas, Pinter, Spark, Burgess and Fowles.

g-ENG 225 American Literature: 1914-1939 (4) Selected readings from authors such as Robinson, Frost, Hemingway, Fitzgerald, Cather, O'Neill, Steinbeck and Faulkner.

g-ENG 226 American Literature: 1940 to the Present (4) Selected readings from authors such as Lowell, Updike, Cheever, Bellow, Malamud, Albee, Be more Warren, O'Connor.

g-ENG 230 Lectures on Literary Themes (2, maximum 8) Several works of literature centered around a specific theme. Topics designated by subtitle. No subtitle may be taken 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 featured elsewhere. Subject of the course determined by subtitle. No subtitle may be taken more than once for credit.

g-ENG 232 Great Writers of the World (Maximum 12) An in-depth study of one writer other than English or American not featured elsewhere. Subject of the course determined by subtitle. No subtitle may be taken more than once for credit.

g-ENG 235 World in Literature (Maximum 12) Variable content course studying literature of countries predominantly other than England or America. Readings may be thematic, comparative, geographic, generic. No subtitle may be taken more than once for credit.

g-ENG 238 Introduction to Folklore (4) 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.

d-ENG 240 Creative Writing: Introduction to Poetry (4) The techniques involved in writing poetry.

d-ENG 241 Creative Writing: Introduction to Fiction (4) The techniques involved in writing fiction.

d-ENG 242 Creative Writing: Introduction to Theater, Film and Television (4) The techniques involved in writing for the theater, films and TV.

d-ENG 250 History of the English Language (4) 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) Evaluation of biography as a genre; 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) Some of the early plays of Shakespeare, with emphasis on themes, characterization, and philosophical changes of the comedies and histories.

g-Eng 311 Shakespeare: Later Plays (4) Some of the later plays of Shakespeare, with emphasis on themes, characterizations, and philosophical changes of the tragedies, problem plays, and romances.

d-Eng 318 Traditional Grammar for the Teacher (4) Standard English; its traditional classes of words, their functions and relations to each other. Treats grammatical concepts such as tense, voice, case, number, and coordination-subordination.

d-ENG 319 Advanced Expository Techniques (4) Prerequisite, ENG 101. Reading, writing, and formal analysis of various prose pieces; the study of logical fallacies in ancient and modern political writing.

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) The tension that exists between a writer's inner vision and his/her political-social responsibility. Major authors studied: Solshenitsyn, Wright, Kazantzakis, and Levortov.

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) The works of one or more science fiction writers in depth; authors such as Asimov, Heinlein, and Clarke. No subtitle may be repeated for credit. Only 4 credit hours toward the English major or minor.

g-ENG 327 Women and Sex in Science Fiction (4) 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 to the language and literature of Geoffrey Chaucer.

g-ENG 402 The Short Story (4) Analysis of modern short stories.

g-ENG 403 Techniques of the Novel (5) A study of seven or eight important English and American novels to show different techniques used to reveal the novelists' artistic insight.

g-ENG 404 Modern Literature About Childhood and Adolescence (4) The concept of childhood and adolescence in the writing of 20th 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) The developments in modern European and American drama since the time of Ibsen.

g-ENG 407 Advanced Studies in Poetry (4) Some of the formal aspects of poetry (prosody, stanzaic and "named" forms), 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 change 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 a number of significant themes in literature.

g-ENG 411 Biography and Autobiography (4) A selection of critical essays concerning the genre, 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) Greek myths as an important source of literary allusion and imagery and as a comparative vehicle to show what is common to all mythologies.

g-ENG 415 Literature of the Old Testament (4) 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 comparison of grammatical systems used to describe the English language. Equal time will be given to the theoretical formulations and assumptions underlying structural and traditional grammars.

g-ENG 420 Stylistics (4) Prerequisite: ENG 321. 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.

422 Individual Studies (Maximum 4) Qualified undergraduates spend a minimum of 25 clock hours per quarter hour on research and writing. The instructor and chairperson must receive copies of the paper. No General Education credit.

g-ENG 425 Literature By and About Women (4) 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) An investigation of a theme, form or problem that cuts across periods and nationalities. Topic by subtitle. No subtitle may be taken more than once for credit.

ENG 440 Creative Writing: Poetry and Publication (4) Prerequisites: ENG 240 and ENG 340. An advanced course for students to continue to improve their writing of poetry and to seek literary outlets for submissions of their work.

g-ENG 441 Colloquium in Literature (Maximum 12) One great work of literature or a small group of such masterpieces which are closely related either in form or idea. No subtitle may be taken more than once for credit.

g-ENG 450 Studies in Russian Literature (4) Selected Russian writers to acquaint students with Russia's unique culture and social milieu.

ENG 508 Workshop in English (3) A series of specialized English topics. Subject matter may deal with any area of English or English Education. The subtitle will indicate the course content.

ENG 513 Professional Renewal (1-12) Study of various topics which would be of particular interest to the English, or other, professional. The topic will depend upon the instructor.

ENG 600 Introduction to Graduate Study (3) An orientation to graduate study in general and the nature and methods of research in particular. Should be taken during the first quarter of graduate work.

ENG 622 Individual Studies (Maximum 4) For qualified, full-time, resident graduate students: a minimum of 25 clock-hours per quarter hour in research and study. Two copies of a well-written paper must be submitted to supervising instructor.

ENG 623 through ENG 639: Seminars whose subtitle will indicate course content. Although each course number can carry up to 16 hours credit, no subtitle may be taken twice.

ENG 623 Studies in Old English (Maximum 16) Seminars in Germanic and Christian lyrics, elegies, historic poetry; selected prose; linguistic studies, including grammar, phonology, vocabulary, especially for West Saxon dialect; backgrounds of Anglo-Saxon culture.

ENG 624 Studies in Middle English (Maximum 16) Seminars in Chaucer's works; non-Chaucerian drama, romance, ballads, lyrics, selected prose; linguistic studies, including grammar, phonology, emphasis on East Midland dialect; medieval culture.

ENG 625 Studies in the Renaissance (Maximum 16) Seminars in various ideas of the period. Genres (drama, prose, and poetry), and representative authors (e.g., Shakespeare, Milton, Spenser, Donne, Jonson, and Marlowe).

ENG 626 Studies in Restoration and 18th Century (Maximum 16) Seminars in various ideas of the period, genres (criticism, drama, fiction, and poetry), and representative authors (e.g., Dryden, Swift, Pope, Boswell, and Johnson).

ENG 627 Studies in the Romantic Period (Maximum 16) Seminars in the origin, purpose, nature of the Romantic Movement, focusing on two or more representative authors -- e.g., Blake, Wordsworth, Coleridge, Shelley, Keats, Byron, Lamb, Hazlitt, DeQuincey.

ENG 628 Studies in the Victorian Period (Maximum 16) Seminars in various genres (criticism, drama, fiction, and poetry), representative authors (e.g., Arnold, Tennyson, Hardy), and ideas of the Victorian Period.

ENG 629 Studies in 20th Century British Literature (Maximum 16) Seminars in various ideas of the period, genres (criticism, drama, fiction, and poetry), and representative authors (Yeats, Auden, Thomas, Hughes, Shaw, Pinter, Conrad, Joyce, Woolf, Greene, Durrell, and Burgess).

ENG 630 Studies in American Literature (Beginnings to Civil War) (Maximum 16) Seminars in various genres (criticism, drama, prose, and poetry), ideas, and representative authors, (e.g., Edwards, Emerson, and Melville) during the colonial, Federal, and early 19th century periods.

ENG 631 Studies in American Literature (Civil War to W.W. I) (Maximum 16) Seminars in various genres (criticism, drama, fiction, and poetry), ideas, and representative authors (e.g., Whitman, Twain, Robinson) during the late 19th century and early 20th century.

ENG 632 Studies in American Literature (W.W. I to the Present) (Maximum 16) Seminars in various genres (criticism, drama, fiction, and poetry), ideas, and representative authors (e.g., Pound, Eliot, Faulkner, and Bellow) during the mid-20th century.

ENG 633 Studies in the English Language (Maximum 16) Seminars in various topics concerned with the evolution of English from its beginnings in the Indo-European family of languages to the present.

ENG 634 Studies in Linguistics (Maximum 16) Seminars in dialectology, syntax, semantics, stylistics, grammatical analysis, sociolinguistics, psycholinguistics.

ENG 635 Studies in World Fiction (Maximum 16) Seminars in various short stories and novels in translation to illustrate a generic and ideological approach to fiction beyond Britain and the United States.

ENG 636 Studies in World Poetry (Maximum 16) Seminars in various poets and aspects of poetry in translation to illustrate a generic, ideological, and cultural approach to poetry beyond Britain and the United States.

ENG 637 Studies in World Drama (Maximum 16) Seminars in various plays in translation to illustrate a generic and ideological approach to drama beyond Britain and the United States.

ENG 638 Studies in Literary Criticism (Maximum 16) Seminars in various schools of criticism from the Greeks to the 20th century, combined with the practical application of the theories to works of literature.

ENG 639 Colloquium in Literature (Maximum 16) Seminars in various topics (e.g., the tragic hero, alienation, the experimental novel) related in form and/or idea and drawn from American, British, and world literature in translation.

ENG 691 Creative Project (Maximum 15) With the approval of the major advisor and the Dean of the Graduate School, a creative project may be prepared as the equivalent of the thesis.

ENG 797 Doctoral Proposal Research (1-6) Required of all doctoral students. The student must earn a minimum-maximum of six hours of credit for the research for a doctoral dissertation proposal prior to admission to candidacy.

ENG 799 Doctoral Dissertation (12-18) Required of all doctoral candidates.

English Education

EED 205 Oral English for the Teacher (4) To help prospective teachers interpret poetry, fiction and drama orally and promote group discussion and interpersonal communication in order to increase their students' comprehension.

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. Teaching techniques are a point of emphasis.

EED 402 Methods and Materials of Teaching Literature in Secondary Schools (PTE) (5) Prerequisite to student teaching. Selection of literature, use of media, curriculum and classroom organization, testing, evaluation, and materials in a secondary school program.

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 406 Literature for Adolescents (4) Reading material for a transition from children's literature to literature for adults. Attention concentrated on junior novels, junior biographies, their authors, and on trends and evaluative standards.

EED 502 The Teaching of Composition (PTE or certification at undergraduate level) (4) Methods of improving composition. The organization of paragraph and theme. The improvement of sentence structure.

EED 602 Seminar in Literature for Adolescents (PTE or certification at undergraduate level) (4) Books written for adolescents, with emphasis upon junior novels and biographies. Consideration of reading guidance based upon student interests and needs. Development of criteria for evaluating literature for adolescents.

EED 603 Reconstructing the English Curriculum (PTE or certification at undergraduate level) (4) The place of English in the curriculum of the secondary school, with a consideration of appropriate materials and their use.

EED 681 Seminar in the Teaching of Literature (3) A seminar in the study of methods of teaching literature at the college level. Theories of literature, explications and literary analysis.

EED 754 Supervised Teaching of English: Literature and Composition (3-9) Student will prepare and teach classes under the supervision of instructors chosen or designated in order to give practice in and to evaluate teaching.

Environmental Studies

g-ENST 110 Introduction to Environmental Studies (3) Explore the nature of the environment and environmental problems, and gain an overall understanding of the complexity of these problems, as well as a variety of possible solutions.

f-ENST 120 Human Attitudes Toward Physical and Social Environments (3) Prerequisite: ENST 110 recommended. What forms our attitudes and perceptions toward the environment? What alternatives do we have to change our behavioral strategy when we attempt to understand and solve current environmental problems?

g-ENST 130 History of the Environmental Movement (3) Focus on the evolution of the environmental movement through the preservationist, conservationist and environmentalist phases. Evaluate prospects for the future, particularly the creation of an environmental ethic in the American people.

h-ENST 209 Energy and the Environment (3) Study past, present and future methods of energy production and limitations imposed by the laws of physics. Discuss applications to transportation, home and industry. Taught by the Physics Department.

h-ENST 210 Reactors and Radiation (3) Study the basics of nuclear reactors and radiation. Examine the history of nuclear materials and uses: fission, fusion, energy, radio-isotopes, waste disposal, biological effects of radiation, and nuclear energy promise and problems. Taught by Physics Department.

h-ENST 211 Chemistry and the Environment (3) Analyze natural chemical cycles, impact of human activity on those cycles, and limits and restrictions to their restoration. Survey nuclear wastes, food additives, water and air pollution, pesticides and more.

h-ENST 220 Population Dynamics and Genetic Probabilities (3) Investigate animal population analysis with reference to human populations: Size regulation and factors influencing change; applicable statistical methods; genetic variations within and between different populations; and implications in gene pool alteration.

f-ENST 230 Economics of Natural Resources (3) Consider concepts, theories and institutions relating to public and private resource use and policy. Compare steady-state and growth-based economic models.

f-ENST 240 Politics and the Environment (3) Investigate local, state and national political processes and institutions and discuss their policies, laws, and consequences with regard to their effect on the environment.

h-ENST 250 Atmospheric Environment of Humans (3) Discuss the structure and nature of the atmosphere as it relates to various human activities: principles of air pollution; role of inversions on pollution concentrations; human impact on the ozone layer; acid rain; carbon dioxide and climatic change, etc.

h-ENST 260 Ecological Interpretations (3) Discuss the existence of functional and structural ecosystems, and interpret these in relation to human survival.

f-ENST 270 Social Implications of Ecology (3) Apply ecology to human groups, particularly in urban settings, and value systems associated with present ecological practices: consumerism, materialism, alienation, social balance and the tactics of community organization and change.

h-ENST 280 Natural Resources and Technology (3) Explore the development of agriculture, industrial, domestic, transportation and environmental technologies and their impacts on resources and the environment.

g-ENST 281 Politics of the Nuclear Age (3) View the nuclear issue in its broadest sense, focusing on nuclear energy world-wide, and national security measures. Proliferation and legacy considerations will be examined in the light of pending world problems.

h-ENST 300 General Systems Approach (4) (3 lecture, 2 laboratory) Become familiar with systems analysis as a problem-solving technique and analyze selected environmental problems with computer models.

f-ENST 304 Environment and the Law (3) Survey the major attempts to control environmental degradation by law. Emphasis on 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. Study basics of proven and proposed methods of supplying energy using direct solar, wind, geothermal and other sources. Cover construction, cost and efficiency of home heating and electrical generating systems. Taught by Physics Department.

ENST 340 Internship in Environmental Studies (5-18) Get practical, on-the-job, learning experience and training in professional areas related to the environment. Exact amount and applicability of credit hours and nature of experience arranged individually. Consult Environmental Studies Coordinator for information.

h-ENST 350 Environmental Health (3) Become acquainted with many of the current environmental problems and relate how these directly or indirectly affect the health of humans.

g-ENST 362 Literature and the Environment (4) Explore writing about nature or human relationships with nature from various periods and cultures. What economic, scientific, philosophic and religious attitudes emerge from attitudes about nature, and do these influence human treatment of natural things?

d-ENST 363 Art and the Environment (3) Investigate and participate in the process of art as it relates to the different environments of human existence.

ENST 400 Senior Seminar (3) Discuss current environmental issues in depth and in detail, on the basis of student background, library resources, interviews and guest speakers. Individuals and small interdisciplinary groups analyze and present problems.

ENST 422 Individual Studies (Maximum 4) Qualified undergraduate students outline and spend a minimum of 25 clock hours per credit hour on an environmental problem of particular interest. Two copies of a well-written paper must be filed before credit is given; one with instructor and one with ENST coordinator. No General Education credit. See the Environmental Studies Coordinator for further details.

ENST 510 Environment and Environmental Problems (3) Examine the structural patterns and functional relationships of the environment with emphasis on present and long-term problems. Previous experience or courses in natural and social sciences useful but not required.

Finance

FIN 333 Real Estate Law (2) Study basic terminology, concepts and relationships involving purchaser, seller, broker, builders, lending agencies, administrative groups and landlord/tenant. Learn practical aspects of title, building contracts, loans, deeds, liens, restrictions, zoning, eminent domain, escrow and statutory requirements.

FIN 334 Life Insurance Law and Company Operation (3) Apply law of contract and agency, life insurance contracts, policy provisions, contract in operation, settlement options and beneficiary designations. Study company organization, operation and investments. (CLU Course 2).

FIN 339 Property Insurance Law (3) Review business law principles and apply them specifically to property and casualty insurance practices and problems, stressing contract law as applied to insurance contracts, agency insurance, and liability law as resulting from negligence.

FIN 340 Introduction to Insurance (3) Discuss basic principles of insurance and risk, including various kinds of insurance and their purposes.

FIN 341 Life and Health Insurance (3) Prerequisite: FIN 340. Receive firm foundation in many life and health insurance details: individual life contracts, special and annuity contracts, disability income, medical expense insurance, life insurance probability, reserves, nonforfeiture values and dividends. (CLU Course 1).

FIN 342 Social and Group Insurance (3) Prerequisite: FIN 340. Receive background in large area of social insurance and group insurance. Discuss various group policies, including life, health, etc.

FIN 343 Pension Planning (3) Prerequisite: FIN 340. Discuss, as part of comprehensive insurance program in pension planning: basic features, tax and cost considerations, allocating funding instruments, profit sharing and tax sheltered annuities. (CLU Course 4).

FIN 344 Insurance and Taxation (3) Prerequisite: FIN 340. Discuss the effect of income, estate and gift taxation on an insurance program from individual and business enterprise standpoints.

FIN 370 Business Finance (4) Prerequisite: ACCT 221. Survey basic principles and techniques of business firm financial management, emphasizing financial analysis and forecasting, cash and capital budgeting, cost of capital and sources of financing.

FIN 371 Financial Markets and Institutions (3) Analyze characteristics and interrelations between money and capital markets, flow of funds, factors determining both supply of and demand for funds. Stress financial institutions' role as intermediaries and effect on economic activity.

e-FIN 372 Principles of Real Estate (3) Discover important concepts and principles of real estate, especially procedures for evaluating and appraising real estate investments, and legal, marketing and financing aspects of real estate.

FIN 406 Internship in Finance (12) Prerequisite: Consent of faculty coordinator. Get practical experience and opportunities to utilize theory of academic Finance courses. S/U grading.

FIN 440 Business Insurance (3) Prerequisite: FIN 340. Learn about kinds of insurance for the business firm, special needs of the individual proprietor, partnerships and corporations. Discuss special disability insurance, life insurance on key personnel, and split dollar plans. (CLU course 9).

FIN 441 Estate Planning and Life Insurance (3)
Prerequisite: FIN 340. Discuss property disposition in estates and trusts, administration of estates, federal estate taxation, federal gift taxation, planning through trusts and wills, and life insurance in estate planning. (CLU Course 10).

FIN 442 Analysis of Insurance Functions I (3)
Analyze in detail various insurance functions applicable to property and casualty insurance. Cover underwriting practices, loss prevention, rate making, regulation, insurer types, reserves necessary, human motivation, professional ethics and risk management.

FIN 444 Property and Casualty Insurance (3)
Prerequisite: FIN 340 or instructor's consent. Cover in detail an analysis of insurance principles and practices applicable to property insurance, including fire insurance, indirect loss insurance and modern multi-peril policies.

FIN 445 Risk Management (3) Prerequisite: FIN 340 or consent of instructor. Make a detailed analysis of insurance principles and practices applicable to casualty insurance, including general liability and malpractice insurance, and bonding.

FIN 470 Financial Management (3) Prerequisite: FIN 370. Apply and extend the concepts and techniques of business financial management, especially emphasizing the overall financial environment and decision making by financial managers.

FIN 471 Investments (4) Prerequisites: FIN 370 and ECON 120. Get necessary background to develop and implement investment policy, including analysis of the economy, industry and the firm, characteristics of different types of investments, handling risks, and timing investment decisions.

FIN 472 Real Estate Investment and Finance (3)
Prerequisites: FIN 370, 372. Learn techniques for evaluating different types of real estate investments, and methods for financing. Make practical applications of theoretical concepts.

FIN 473 Commercial Bank Policies and Management (3) Prerequisites: FIN 370 and ECON 202. Investigate internal operations of commercial banks, including managerial problems.

FIN 474 Case Problems in Financial Management (3) Prerequisite: FIN 470. Comprehensively study applied financial management, policy and theory. Integrate accounting, management, finance and other business skills in financial decision making process for the firm. Use case study-problem solving method.

FIN 476 Real Estate Investment and Appraisal (4) Prerequisite: FIN 370, 372. Investigate types and sources of real estate financing, with investment analysis and appraisal techniques. Learn about use of leverage and evaluation of real estate properties in an investment program.

FIN 479 Security Analysis (4) Prerequisite: FIN 471. Complete an in-depth research project of an industry and selected firms within the industry, considering near-term expected economic climate. Emphasize portfolio theory and recent changes in financial statement presentation.

FIN 540 Risk and Insurance Management (3)
Prerequisites: FIN 340 and consent of instructor. Understand the relationship between risk and insurance, with emphasis on proper selection of insurance types for coverage needed.

FIN 542 Seminar in Insurance for Accountants (4) Survey insurance problems accountants frequently encounter, including commercial property and liability coverages, life insurance, and risk management. Also study valuation methods and choice of coverage amounts.

FIN 570 Financial Management and Policy (4)
Cover the acquisition, allocation and management of funds within a business, including financial goals, funds, flows, capital budgeting, asset management and financing strategies. Not for previous Finance majors and minors.

FIN 579 Investment Analysis and Portfolio Management (4) Prerequisite: FIN 471 or 570. Analyze the capital markets, types of investments and portfolio theory.

FIN 670 Seminar in Financial Management (4)
Prerequisites: FIN 370, 570 or equivalent. Study advanced financial problems involved in the organization and conduct of business enterprise, including integration of financial operations with business unit operations, financial planning and control, capital budgeting and capital cost.

FIN 671 Seminar in Financial Management for Accountants (4) Prerequisites: Introductory course in Finance and one year intermediate Accounting. Study advanced financial problems involved in organization and conduct of business enterprise, including integration of financial operations with business unit operations, financial planning and control, capital budgeting and capital cost.

Food, Nutrition and Dietetics

FND 207 Think Metric (1) Learn the theory and application of the principles of the metric system.

FND 241 Principles of Food Preparation I (4) (2 lecture, 4 laboratory) Prerequisites: CHEM 109 or 130. Learn the selection, preparation, and storage, including the physical and chemical changes, of fruits, vegetables, breads, cereals, starch, eggs, milk.

FND 242 Principles of Food Preparation II (4) (2 lecture, 4 laboratory) Prerequisites: FND 241, 250 or 251. Continue study of the selection, preparation and storage, including physical and chemical changes of cakes, pastries, meats, fats, crystalline cookery and preservation of foods.

e-FND 249 Food Module (1) Each module explores a specific food topic or issue and carries a subtitle. No subtitle may be repeated for credit.

e-FND 250 Principles of Human Nutrition (3) Study contemporary nutrition issues influencing the well-being of humans.

FND 251 Nutrition I (3) Prerequisite: CHEM 130. Consider the essential nutrients and their metabolic function in promoting total well-being of the individual during different stages of the life cycle.

FND 259 Nutrition Module: Medical Terminology (1) Learn the terminology used in the medical sciences.

FND 308 Workshops in Food, Nutrition and Dietetics (1-4) Investigate various issues in Food, Nutrition and Dietetics and meet specific individual needs. Each workshop has a subtitle, and no subtitle may be repeated for credit.

FND 316 Consumer Protection (3) Gain 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.

e-FND 340 Contemporary Food Preparation (4) (2 lecture, 4 laboratory) As a non-major, study food selection and preparation principles in relationship to meal planning.

FND 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 subtitle may be repeated for credit.

f-FND 351 Nutrition for the Older Adult (3) Prerequisite: FND 250 or 251, or successful completion of self-study program. Consider nutrition principles applied to changed needs of the mature adult. Focus on bio-psycho-social factors.

FND 353 Clinical Nutrition (4) Prerequisites: FND 251, 259, 359 and ZOO 250. Study nutrition intervention for acute and chronic stressors.

FND 354 Community Nutrition (3) Prerequisites: FND 259, 359, 451, 456, STAT 313, 303. Investigate the delivery of nutritional services to the community.

e-FND 355 Nutrition and Physical Fitness (3) Prerequisite: FND 250 or 251. Evaluate the relationship between dietary practices and physical performance.

FND 357 Therapeutic Nutrition (3) Prerequisites: FND 251, ZOO 250. For Nursing majors. Study adaptive nutrition patterns for acute and chronic stressors throughout the life cycle.

FND 359 Nutrition Module: Interpreting Laboratory Data (1) Evaluate nutritional status based on laboratory data.

FND 362 Demonstration Techniques (2) (1 lecture, 3 laboratory) Prerequisite: FND 242. Learn the theory and practice of conducting educational and commercial demonstrations of equipment and principles used in all areas of Food and Nutrition.

f-FND 393 Field Experiences in Cultural Awareness (1-10) Develop an appreciation of cultural and historical backgrounds and contributions of various population groups in the USA or foreign countries.

FND 408 Seminar in Foods and Nutrition (1) Investigate current career opportunities and preparation for employment. Discuss today's issues for professional involvement. Seniors only.

FND 409 Food and Nutrition Internship (3-15) Departmental approval should be obtained one quarter in advance. Prerequisites: Majors only; minimum junior standing, 2.7 GPA; consent of faculty coordinator. Field experiences which integrate academic knowledge into a practical setting for career preparation.

FND 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 instructor and one with department chair. No General Education credit.

f-FND 444 Food for a Small Planet (3) (2 lecture, 2 laboratory) Study world food supply, ecological problems and nutritional effects of traditional American diets, emphasizing alternative diets and foods.

FND 445 Experimental Food Studies (4) (2 lecture, 4 laboratory) Prerequisites: FND 242, 250 or 251, CHEM 130 or permission of instructor. Research and assess chemical and physical changes in food due to various manipulations.

FND 446 Food Service Administration (3) Prerequisites: FND 242, 251. Learn the principles of operation of food systems, emphasizing financial and production controls, menu planning and evaluation, recipe standardization and technical operations.

FND 447 Quantity Food Purchasing and Preparation (4) (1 lecture, 6 laboratory) Prerequisite: FND 446. Apply the principles of meal planning, food purchasing, food preparation and food service through laboratory experiences at food service facilities on and off campus.

FND 448 Organization and Management of Food Service (3) Prerequisites: FND 447, BUS 180. Learn principles of organization, personnel management and financial control; layout; selection of design, equipment; use of work measurement and data processing.

FND 449 Food Module (1) Each module will explore a specific food topic or issue and carries a subtitle. No subtitle may be repeated for credit.

FND 451 Nutrition II (3) Prerequisites: FND 251, CHEM 281. Study nutrients and their integration at the cellular level in this advanced course.

FND 453 Nutritional Intervention Practicum (3) (1 lecture, 4 laboratory) Prerequisites: FND 353, 354. Apply the principles of clinical nutrition through laboratory and clinical experiences.

f-FND 456 Infant and Child Nutrition (3) Prerequisite: FND 250 or 251. Study changing nutritional needs to promote maternal, infant and child health.

FND 459 Foods: Facts and Fallacies (3) Investigate food superstitions, beliefs, attitudes, taboos and understandings about food. Discuss counter-culture beliefs in relation to food choices.

FND 507 Trends in Foods and Nutrition (1-3) Focus on current trends and issues relating to Foods and Nutrition. Each course has a subtitle, and no subtitle may be repeated for credit.

FND 508 Workshop in Foods and Nutrition (Credit varies 1-6) Each workshop has a subtitle and no subtitle may be repeated for credit. Subjects and teaching approaches vary according to needs of students and faculty conducting the workshop.

FND 516 Consumer Protection (3) Gain 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.

FND 543 Food Preservation (3) (2 lecture, 2 laboratory) Analyze current trends in the technology of food preservation and distribution and its relationship to commercial and home preservation.

FND 545 Food and Culture of Scandinavia (3) Gain a historical perspective of the customs and cuisine of the Scandinavian countries, including preparation of typical foods.

FND 549 Foods of the Southwest (2) Explore the influences of the history, cultures and geography on the foods of the Southwest.

FND 551 Nutrition for the Older Adult (3) Prerequisite: FND 250 or 251, or successful completion of self-study program. Apply nutrition principles to changed needs of the mature adult, focusing on bio-psycho-social factors.

FND 552 Nutrition Education (3) Learn methods of teaching nutrition in various educational environments.

FND 553 Community and Developmental Nutrition (3) Study principles of nutrition assessment, nutrition status and feeding therapy of handicapped children.

FND 555 Nutrition and Physical Fitness (3) Prerequisite: FND 250 or 251. Evaluate the relationship between dietary practices and physical performance.

FND 558 Who's Who and "Right" in Nutrition (2) Evaluate research findings and publications of past and present nutrition scientists and pseudo scientists.

FND 559 Foods: Facts and Fallacies (3) Investigate beliefs, attitudes and understandings about food, superstitions, food taboos and counter-culture beliefs in relation to food choices.

FND 593 Field Experiences in Cultural Awareness (1-10) Develop an appreciation of cultural and historical backgrounds, contributions of various populations groups in the USA or foreign countries in Food and Nutrition related areas.

FND 609 Food and Nutrition Internship (3-9) Prerequisites: Majors only. Minimum graduate standing, 3.0 GPA or above, and consent of faculty sponsor. Field experiences integrate academic knowledge with practical setting for career preparation.

FND 622 Individual Studies (Maximum 4) Qualified graduate 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 presented to the department before credit is given; one to the instructor and one to the department chair. Does not satisfy the 500-level requirement unless student is in full-time residence at UNC during the quarter the course is taken.

FND 642 Advanced Experimental Foods (4) (2 lecture, 4 laboratory) Prerequisite: FND 445, chemistry background or consent of instructor. Survey recent findings in food research and make individual investigations of food problems.

FND 655 Research in Foods (4) (2 lecture, 4 laboratory) Prerequisites: FND 445, CHEM 315 or consent of instructor. Investigate current food research and the application of advanced research techniques to the theory of food chemistry.

FND 656 Infant and Child Nutrition (3) Prerequisites: FND 250, 251, or consent of instructor. Study changing nutritional needs to promote maternal, infant and child health.

FND 657 World Food Problems (3) Discover the interrelationship between food supply, world conditions, problems of production, marketing, U.S. consumer practices and protection.

FND 659 Seminar in Nutrition (3) Discuss and interpret current literature and research in the field of Nutrition.

Foreign Languages

FL 131 Foreign Language House (1) Prerequisite: Permission of department. Speak the foreign language you are studying at all times, and enjoy many activities sponsored by the House, including opportunities to learn about other cultures. May be repeated for a total of 3 hours of credit. S-U grading.

FL 150 Europe on Five Languages a Day (5) Get an introduction to high-frequency expressions such as greetings, restaurant, hotel and transportation needs, as well as to cultural characteristics of France, Germany, Italy, Russia and Spain. S-U grading.

g-FL 310 Games in Literature (3) Study five major works in western literature whose central images and themes involve games. Readings done in English, except by those seeking major or minor credit in one of the five languages. They are required to read and write assignments in the original language.

FL 331 Teaching Foreign Language in the Middle School (2) Prerequisite: Intermediate teaching or permission. Cooperate in planning, creating and presenting foreign language materials in a clinical capacity at middle school levels. Emphasis is oral.

FL 341 Methods of Teaching in the Secondary School (PTE) (3) Prerequisite to student teaching. Take in department in which student teaching is done. Emphasize teaching techniques, curriculum and classroom organization, testing and evaluation, procedures and materials, relationship of subject area to entire secondary program.

FL 508 Workshop (Maximum 10) Language teachers or those planning to teach: Focus on specific, practical techniques for teaching French, German and Spanish, emphasizing performance objectives and individualized instruction. Intensive preparation in successful aural-oral and cognitive techniques provided.

FL 531 Teaching Foreign Languages (4) Prerequisite: Two years of foreign language. Study problems in teaching at secondary and elementary school levels, and develop content for course of study, organization of learning materials, teaching procedures, testing and evaluating.

FL 601 Practicum (Maximum 10) Open only by invitation to resident graduate students. Supervised professional activity in student's area of interest.

Foundations of Education

EDF 308 Workshop in Foundations of Education (1-6) For undergraduates to study problems in Foundations of Education. Area covered in any one workshop is indicated in subtitle. No subtitle may be repeated for credit.

I-EDF 345 Foundations of Human Interaction (3) Understand why people behave the way they do; basic assumptions, beliefs, attitudes and values upon which such behavior is predicated, and increase skills in communicating with and relating to others.

EDF 364 Foundations of Education (4) PTE Examine the historical, social, philosophical and pedagogical issues pertinent to understanding the organization and teaching/learning processes for education and the professional educator in a democratic society.

EDF 366 Foundations of Education (3) PTE Examine historical and current social, psychological and pedagogical issues pertinent to understanding organization and teaching/learning processes for education in a democratic society. Emphasize nature and growth of an effective teaching self.

EDF 367 Philosophy of Education (3) PTE Emphasize doing philosophy through consideration of schools of thought applied to specific problems of education.

EDF 385 Law and the Classroom Teacher (2) PTE Focus on the legal rights, roles, responsibilities and liabilities of classroom teachers, emphasizing their legal responsibilities to students, administrators, school boards and the public. No credit for this course if credit has already been obtained for EDAD 385.

g-EDF 388 Social and Cultural Diversity in Education and Society (3) Develop interpretive, normative and critical perspectives for understanding cultural pluralism in a democratic society and awareness of the characteristics of culturally effective multicultural education.

EDF 390 Advanced Topics in Foundations of Education (1-4) Topics may derive from need generated by other courses, or from those of a particular group of students. Area covered will be determined by 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 instructor and one with department chair.

EDF 508 Workshop in Foundations of Education (1-6) Area to be covered in any one workshop is determined by workshop subtitle. No subtitle may be repeated for credit.

EDF 545 Comparative Education (3) Compare the philosophy and practices of education in foreign countries, including Germany, France, Russia, Norway, Great Britain, China, Australia, Canada, Mexico and certain South American countries.

EDF 565 Social and Cultural Differences in Education (3) A multidisciplinary approach to educational problems arising from social and cultural differences in school populations. Investigate solutions in light of social philosophy, anthropology, psychology, history and economic formulations.

EDF 567 Strategies for Social Change (3) Examine education and other social institutions where change is appropriate and feasible to achieve legitimate goals of equality and freedom in America.

EDF 585 Philosophy of Education (3) Identify and critically examine aims and values of influential contemporary educational ideologies in America, noting how these philosophies relate to political, social, economic and religious goals and practices.

EDF 622 Individual Studies (1-4) Qualified graduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed before credit is given, one with instructor and one with department chair.

EDF 652 Anthropological Foundations of Education (3) Analyze contemporary American education using anthropological concepts and methods of research, emphasizing concepts of culture, subculture, enculturation and acculturation as they relate to educational problems and issues.

EDF 655 Evaluation Related to the Instruction Process (3) Understand the function between instruction and evaluation, particularly teacher-made instruments and basic statistical processes. Emphasize instruction improvement and selection of more appropriate learning experiences.

EDF 662 Development of Instructional Practice (3) Appraise the development of instructional practices through subsequent stages of American educational growth to the present, and analysis of outcomes in terms of particular instructional program theories.

EDF 666 Foundations for Curriculum Development (3) Analyze the theory and practices of curriculum development as determined by social and cultural change, learning theory and the nature of knowledge.

EDF 667 Modern Curricular Trends and Issues (3) Describes the emerging curricula in major areas of the school program, K-12, and appraises these programs against criteria drawn from foundation areas.

EDF 670 Curriculum Development and Evaluation (3) Examine various models of curriculum development and evaluation, through writings of Taba, Tyler, Stake, Stufflebeam and others.

EDF 690 Advanced Topics in Foundations of Education (3) These topics may derive from other advanced courses in Foundations of Education, or from the need of a particular student or group of students. Area covered in any one course is determined by a course subtitle. No subtitle may be repeated for credit.

EDF 740 Psychological Foundations of Education (3) Non-Psychology majors only. Examine basic concepts pertinent to understanding human behavior. Emphasize cognition, perception, maturation, motivation, learning, emotions, and personal and social adjustment.

EDF 765 Sociological Foundations of Education (3) Examine education in relation to the sociological realities of American and world societies, contemporary and primitive.

EDF 785 Philosophical Foundations of Education (3) Examine leading contemporary and classical philosophical systems and how they culminate in practical educational goals, systems of justification, and practices. Includes study of educational aims and values of various cultures.

EDF 786 Seminar in Existentialism and Education (3) Investigate existential thought and the conceptual and pedagogical problems it poses, including its role in the development of the behavioral sciences.

French

d-FR 101 Elementary French I (5) Summer Quarter: Must enroll in FR 102 and FR 103. Learn idiomatic spoken and written French through vocabulary and structure study. Grammar and cultural readings realistically limited to spoken and written French. Use audio and phonetic laboratory to perfect pronunciation and acquire fluency.

d-FR 102 Elementary French II (5) Summer Quarter students must enroll in FR 101 and 103.

d-FR 103 Elementary French III (5) Summer Quarter students must enroll in FR 101 and 102.

d-FR 201 Intermediate French I (4) Prerequisites: Two years of high school or one year of college French. Corequisite of FR 211. Continue analysis of language structure, stressing oral skills, complemented by increased reading and writing. Base conversational approach on literary and cultural materials, with continued grammar drill and use of language laboratory.

d-FR 202 Intermediate French II (4) Prerequisite: French 201 or equivalent. Further analyze structures, stress oral skills, and increase reading and writing.

d-FR 203 Intermediate French III (4) Prerequisite: FR 202 or equivalent. Corequisite of FR 211. Continue FR 202 at more advanced level.

g-FR 210 French Civilization and Culture (4) Investigate essential historical, political and artistic developments and accomplishments from early times to present. Stress events contributing most significantly to contemporary French life styles. For study abroad program participants only.

FR 211 Conversation and Culture Laboratory (1) Corequisite: FR 201, 202, 203. Augment language skills development and intensify exposure to culture through films, lectures, conferences and discussions in the language. May be taken up to 6 times. S-U grading.

g-FR 215 Explication de Textes (3) Prerequisite: 3 years of high school French or equivalent. Improve reading skills and learn literary analysis through study and discussion of selected genres, authors and periods of French literature. Conducted in French.

d-FR 235 Conversational French (4) Take this simultaneously with FR 103 or 203 in France. Get intensive listening and speaking training, with practice in idiomatic forms and involving current events. For study abroad program participants only.

FR 280 Seminar in French Drama (3, maximum 6) Prerequisite: 3 years of high school French or equivalent. May be taken twice for credit. Study various dramatic forms in French literature, and stage scenes from these works in class and in public evening performances.

d-FR 313 Intermediate French Conversation (3) Prerequisite: 3 years of high school French or equivalent. Increase individual ability to speak French in everyday situations, and improve pronunciation, speech patterns and vocabulary. Conducted in French.

d-FR 314 Intermediate French Composition (3) Prerequisite: 3 years of high school French or equivalent. Perfect ability for expression in French through translation passages, free compositions, and active review of grammatical problems. Conducted in French.

d-FR 315 Intermediate Review Grammar (3) Prerequisite: 3 years of high school French or equivalent. Review principal elements of French grammar within oral and written contexts. Undertake oral and written presentations, with some composition writing. Preparatory to conversation and composition courses and conducted in French.

g-FR 340 French Civilization I (3) Prerequisite: 3 years of high school French or equivalent. Recommend FR 215. Survey French civilization and culture from prehistoric times to classical period, including geographical, economic, political, artistic, historical and literary development. Conducted in French.

g-FR 341 French Civilization II (3) Prerequisite: 3 years of high school French or equivalent. Recommend FR 215. Study French civilization and culture from the classical period to the end of the Third Republic, including historical, economic, artistic, geographical, literary and political development. Conducted in French.

g-FR 342 Contemporary France (3) Prerequisite: 3 years of high school French or equivalent. Recommend FR 215. Study customs and institutions of modern France, including the social customs, educational, political and economic systems, literary and artistic development, and activities which make up the life style in contemporary France. Conducted in French.

d-FR 400 Problems in Oral French (3) Prerequisite: 3 years of high school French or equivalent. Reach a high level of accuracy and fluency through working on individual problems to correct and strengthen weaknesses in pronunciation. Study French phonetics.

FR 401 Study Abroad Program: Coursework (8) Prerequisite: 3 years of high school French or equivalent. Get practical experience in the use of French through formal instruction in conversation, composition and culture at the foreign study center. Take with FR 402.

FR 402 Study Abroad Program: Project (4) Prerequisite: 3 years of high school French or equivalent. Research the contemporary and historical cultural phenomena of France by completing an area study project in the study center region. Take with FR 401.

g-FR 418 Literature of the Middle Ages and Renaissance (3) Prerequisite: 2 years of college French or equivalent. Examine selected readings of the Middle Ages and the Renaissance within their historical and cultural contexts. Conducted in French.

g-FR 419 Literary Currents in Seventeenth and Eighteenth Centuries (3) Prerequisite: 2 years of college French or equivalent. View currents such as the classical theater of Racine, Corneille and Moliere, as well as major moralists. Discern important roles of writers like Diderot, Voltaire and Rousseau in light of the Age of Reason. Conducted in French.

d-FR 420 Advanced Conversation (3) Prerequisite: FR 313 or permission of instructor. Promote conversation fluency beyond everyday situations by discussing current topics and studying additional vocabulary and idioms. Conducted in French.

FR 421 Advanced Grammar (3) Prerequisite: FR 351 or permission of instructor. Understand more difficult grammatical structures and their use in common sentence patterns. Emphasize structures which present special difficulties in teaching the language. Conducted in French.

FR 422 Individual Studies (1-4) Qualified undergraduates outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed before credit is given; one with instructor and one with department chair. No General Education credit.

g-FR 425 The Romantic Movement (3) Prerequisite: 2 years of college French or equivalent. Survey this movement from its beginnings in the 18th century to its rise and fall in the 19th century. Conducted in French.

g-FR 450 Twentieth Century French Theater (3) Prerequisite: 3 years of high school French or equivalent. Trace the main currents of French theater, including the Avant Garde. Emphasize Cocteau, Giraudoux, Anouilh, Sartre, Camus, Ionesco, Genet and Beckett. Conducted in French.

g-FR 451 Twentieth Century French Prose (3) Prerequisite: 3 years of high school French or equivalent. Follow main currents of French prose, emphasizing Gide, Proust, Mauriac, Malraux, St. Exupery, Sartre, Camus, and "nouveau roman" novelists. Conducted in French.

g-FR 455 Nineteenth Century French Prose (3) Prerequisite: 3 years of high school French or equivalent. Trace the rise of French prose in the form of the novel, short story and theater from post-revolutionary times to the beginning of the 20th century. Conducted in French.

g-FR 459 Trends in French Poetry (3) Prerequisite: Permission of instructor. Study major poetic movements from the 16th to the 20th century, including the work of the Pleiade, Romantic Movement, symbolism and contemporary poetry. Conducted in French.

FR 500 Problems in Oral French (3) Prerequisite: 4 years of college French or consent of instructor. Receive advanced oral training, sharpen pronunciation, comprehension, and conversational fluency. Discuss individual problems and use drills and tapes in the language laboratory.

FR 508 Workshop (Maximum 10) Language teachers or those planning to teach, learn specific, practical techniques, with emphasis on performance objectives and individualization of instruction. Prepare aural-oral and cognitive techniques intensively.

FR 521 Advanced French Composition (3) Prerequisite: Very good knowledge, equivalent to 4 years of college French. Emphasize written expression, style and idiomatic usage.

FR 575 French Reading (1-4) Prerequisite: 2 years of college French. Discuss extensive outside reading assignments in class and in instructor conference. Research paper required.

FR 622 Individual Study in French (Maximum 4) Qualified graduate 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.

Geography

f-GEOG 100 World Geography (5) Survey the interrelationships of humans and their cultures to the climates, animal life, minerals, soils and surface features of the earth.

f-GEOG 120 Physical Geography I (3) Study the relationship between man/woman and their physical environment, with emphasis on climatic and edaphic qualities of the earth.

f-GEOG 121 Physical Geography II (3) Learn the relationship between man/woman and their physical environment by emphasizing landforms -- characteristics, distribution and effects upon human settlement.

f-GEOG 123 Cultural Geography (4) Learn how elements of culture and values of society give characteristic expression to an area, and examine human response to the physical environment and the resulting social and cultural modifications.

f-GEOG 125 Regional Cultural Geography (3) Investigate origin, distribution and influence of cultural elements giving characteristic expression to a region. Integrated with Humanities, History of Science and Sociology classes as a General Education module.

f-GEOG 148 Geography of the United States and Canada (5) Learn of these regions and their interdependence, emphasizing land use and social and economic problems.

f-GEOG 200 Location and Human Behavior (4) Study the role of location and locational questions in human behavior including how locational factors influence behavior and resulting geographic patterns.

f-GEOG 312 Economic Geography (5) Discern how geographic and economic conditions affect the products, industries, commerce and resources of the world, particularly the United States.

f-GEOG 315 Resource Management (3) Explore the theoretical nature of human-environment systems from a geographical viewpoint and examine locational factors which influence behavior and resulting geographic patterns.

f-GEOG 318 Australia and the Pacific (2) Consider 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) Trace relationships between the physical and cultural patterns, including land use, resource development, social and political problems.

f-GEOG 336 Geography of Mexico and the Caribbean (3) Compare Mestizo-Mexico and the highly varied islands of the Caribbean with their strong European-American heritage, emphasizing social and economic problems of Mexico and its role as a Latin American leader.

f-GEOG 337 Geography of Central America (3) Investigate physical and cultural conditions of the Central American countries, including economic and social problems facing these populations.

f-GEOG 338 South America (3) Analyze physical features and patterns, placing major emphasis on land utilization, agriculture, resource development, settlement and migration patterns and processes of industrialization.

f-GEOG 342 Georography of the Mediterranean (2) Examine economic and political problems, physical and cultural characteristics identified with Spain, southern France, Italy and Greece, with significant reference to Israel, Egypt and northwest Africa.

f-GEOG 343 Western Europe (3) Study the relationships between the physical and cultural environments, including land use, resources, economics and political problems.

f-GEOG 344 Asia (3) Study the regions of Asia by examining the patterns of physical features, cultural landscapes, social organization, and economic activities.

f-GEOG 348 Physical Geography of the United States (4) Prerequisites: GEOG 120 and 121, or permission of instructor. Discover major climatic, edaphic, vegetational and landform patterns of this country, emphasizing Colorado. Weekend field trip.

f-GEOG 350 Geography of Colorado (3) Study the geographical and human resources of Colorado, including physical features, climate, landform regions and natural resources and their utilization and conservation.

f-GEOG 353 Geography of the Great Plains (2) Survey the physical and cultural landscapes of the Great Plains, particularly the unifying character of the physical environment and aspects of culture that make this a distinct geographic region.

f-GEOG 355 Population Geography (3) Investigate the distribution of world population through related topics of migration, settlement, urbanization and utilization of natural resources.

f-GEOG 356 Agricultural Geography (2) Analyze numerous agricultural systems, including subsistence and commercial, tropical and mid-latitude examples, to understand the relationship of agricultural systems and cultural conditions.

f-GEOG 357 Transportation Geography (3) Study the mechanism of areal exchange, especially modes and networks of transportation and their effect on spatial distribution of human activities.

f-GEOG 360 Political Geography (3) Learn about political phenomena as it relates to a particular geographic setting. Topics of study include 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) Learn effective use of maps and globes, and develop skill in reading and interpreting maps.

f-GEOG 365 The Soviet Union (5) A regional analysis of 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 Urban Geography (4) Analysis of the origins, distribution, growth functions, transportation and land use patterns of cities, emphasizing the North American city.

f-GEOG 372 Urban-Social Geography (4) Survey social, behavioral, political and demographic factors which influence spatial arrangements and environmental patterns of the contemporary North American city.

f-GEOG 392 Field Course in Geography (3-15) (Undergraduate and Graduate) Study and apply the techniques used in solving geographic problems in the field, and effectively present the results of such studies.

GEOG 402 Cartography (4) Study the fundamentals, 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 instructor and one with department chair. No General Education credit.

GEOG 470 Urban and Regional Planning (3) Prerequisites: Consent of instructor or any two of the following: GEOG 370, GEOG 371, GEOG 372; Urban Ethnology, Urban Economics, Urban Politics, or Urban Sociology. Learn how principles and practices employed in urban and regional planning are affected by public policy and private interests.

GEOG 475 Quantitative Techniques in Geography (3) Prerequisite: MATH 151 or consent of instructor. Examine elementary statistical techniques useful to the analysis of geographical data. Some background in mathematics useful.

GEOG 490 Problems in Geography (Maximum 9) A series of three advanced undergraduate research seminars, each conducted by an instructor specializing in regional or systematic study on which seminar is based, e.g. Latin America, Africa, Urban, Economic.

GEOG 505 Evolution of Geographic Thought (3) Discuss comparative development of philosophies and operative thought of geographers past and contemporary, in different countries, by analyzing and appraising available literature, particularly themes and topics significant to modern American geographic philosophy.

These are problems courses to organize, conduct, present and defend research relating to selected topics. Considerable discussion and analysis of geographic theory and methodology as it applies to particular problems.

GEOG 570 Seminar in Political Geography (3)

GEOG 571 Seminar in Urban Geography (3)

GEOG 572 Seminar in Physical Geography (3)

GEOG 573 Seminar in Economic Geography (3)

GEOG 575 Seminar in Quantitative Geography (3)

GEOG 576 Seminar in Settlement Geography (3)

GEOG 577 Seminar in Agricultural Geography (3)

GEOG 578 Seminar in Research Methodology (3)

GEOG 580 Seminar in Latin America (3)

GEOG 581 Seminar in Africa (3)

GEOG 582 Seminar in the Soviet Union (3)

GEOG 583 Seminar in Europe (3)

GEOG 585 Seminar in Anglo-America (3)

GEOG 592 Field Courses in Geography (3-15) Study and apply techniques used, solve geographic problems in the field and effectively present results of such studies.

GEOG 600 Introduction to Graduate Study (3) Required of all first-year graduate students in geography. Take during first quarter of graduate work. An orientation to graduate study in general and the nature and methods of research in particular.

GEOG 601 Practicum (Maximum 4) Open by invitation only to resident graduate students. Supervised professional activity in geography approximately two hours per day. Two copies of well-written paper must be filed with instructor before credit is given.

GEOG 622 Individual Studies (Maximum 4) Qualified graduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of well-written paper must be filed with instructor before credit is given. Does not satisfy 500 level requirement unless student is in full-time residence at UNC during quarter course is taken.

GEOG 681 Seminar in Teaching College Geography (3) Appraise and become familiar with various tools, techniques and methodologies applicable to teaching college geography.

GEOG 755 Supervised Teaching Internship in Geography (3, maximum 9) Work under special guidance of a particular professor to prepare lectures, organize class discussions, utilize teaching techniques and show instructional competency in the classroom.

GEOG 797 Doctoral Proposal Research (1-6) Required of all doctoral students. Although a student may register for 1-6 hours of this course in any quarter, a student must earn a minimum-maximum of six hours of credit for the course as partial fulfillment of requirements for all doctoral degrees prior to admission to candidacy.

GEOG 799 Doctoral Dissertation (Maximum 18) Required of all doctoral candidates.

Geology

Courses in Geology are administered by the Department of Earth Sciences.

h-GEOL 100 General Geology (4) (3 lecture, 3 laboratory) A general survey for non-science majors. Origins and classification of rocks and minerals, origins of landscapes, mountains, earthquakes, interior of the earth and earth history. Field trips required. No credit for both GEOL 100 and GEOL 201.

h-GEOL 201 Physical Geology (5) (4 lecture, 3 laboratory) For geology and other science majors. Introduction to earth materials and physical processes operative on and beneath the earth's surface. Laboratory activities include rock and mineral identification and map interpretation. Field trips required. No credit for both GEOL 100 and 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. Geologic time, history of earth's physical features, origin of atmosphere and hydrosphere, origin and evolution of life, fossils, and local geologic history are investigated. Field trips required.

GEOL 320 Mineralogy (5) (3 lecture, 6 laboratory) Prerequisites: GEOL 201, MATH 125, CHEM 105. Introduction to crystallography, crystal chemistry, descriptive and determinative mineralogy, and study of mineral occurrences and associations. Identify minerals by physical and x-ray techniques in laboratory. Field trips required.

h-GEOL 330 Earth Materials (4) (2 lecture, 4 laboratory) Prerequisite: GEOL 100 or 201. Crystals, minerals and igneous, sedimentary and metamorphic rocks -- their origins, descriptions and classifications.

GEOL 340 Paleontology (5) (3 lecture, 6 laboratory) Prerequisite: GEOL 202. Fossil animals and plants -- their morphologies, classifications, life histories, trends of evolution, paleoecologies and uses as stratigraphic tools.

GEOL 350 Sedimentology (4) (3 lecture, 3 laboratory) Prerequisite: GEOL 202. Processes of sedimentation; environments of deposition; classification, structures and analysis of sedimentary rocks. Several field trips required.

GEOL 370 Structural Geology (5) (4 lecture, 3 laboratory) Prerequisites: GEOL 201, PHYS 260, MATH 125. Description and classification of geologic structures; mechanics of deformation, and theories concerning origins of geologic structures. 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. No credit for Geology majors.

GEOL 420 Optical Crystallography and Petrography (5) (3 lecture, 6 laboratory) Prerequisite: GEOL 320. Investigate theories and techniques of optical mineralogy and crystallography and the optical properties of minerals.

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. No General Education credit.

GEOL 425 Economic Geology (3) Prerequisite: GEOL 320. Investigate origins, geologic occurrences, and uses of metallic and nonmetallic deposits.

GEOL 455 Stratigraphy (4) (3 lecture, 3 laboratory) Prerequisite: GEOL 350. Principles and techniques of analyzing and interpreting sedimentary rock strata to determine the earth's geologic story. Regional stratigraphy of northeastern Colorado is 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 characteristics of streams; morphology of drainage basins; landscape evolution by stream sculpture and deposition; lithographic, climatic and structural controls.

GEOL 464 Glacial and Quaternary Geology (3) Prerequisite: GEOL 100 or 201. A survey of geological phenomena that characterized the Quaternary Period, with emphasis on the behavior of glaciers, glacial landforms and sediment, and climatic implications. Two Saturday field trips required.

GEOL 468 Introduction to Soils (4) (3 lecture, 3 laboratory) Prerequisites: GEOL 100 or 201, 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.

GEOL 480 Geologic Field Methods (5) (3 lecture, 6 laboratory) Prerequisites: GEOL 202, 370 and consent of instructor. An introduction to techniques employed by field geologists to obtain and record information from rocks in the field. Standard geologic field equipment used to investigate an area of moderately complex structure and to prepare a geologic map.

GEOL 490 Rocky Mountain Geology Seminar (3) Prerequisite: Consent of instructor. Focus of course is a 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 OCN 301. Study marine geologic processes and forms, including continental margin and oceanic basic structure and geomorphology, marine sedimentation, nearshore processes and coastal landforms.

GEOL 530 Igneous and Metamorphic Petrology (4) (3 lecture, 3 laboratory) Prerequisite: GEOL 420. Description and classification of igneous and metamorphic rocks, phase relation of minerals, origin of igneous rocks, processes of metamorphism, and tectonic relationships of plutonism, volcanism and metamorphism.

GEOL 550 Sedimentary Petrology (4) (2 lecture, 6 laboratory) Advanced study of sedimentary rocks. Various techniques, including the use of the petrographic microscope will be employed to analyze these rocks and to interpret their histories.

GEOL 564 Quaternary Stratigraphy (3) Prerequisite: GEOL 464. History of climatic changes during the Quaternary Period as revealed by the geologic record. Regional and global synthesis of Quaternary events. Special attention is given to methods of dating and correlating Quaternary sediments.

GEOL 567 Volcanic Geology (4) (3 lecture, 3 laboratory) Prerequisite: GEOL 420 or consent of instructor. A study of volcanoes and volcanic processes and products. Emphasis on the origin, classification and interpretation of volcanic rocks and ejecta, and volcanic structures and landforms.

GEOL 570 Geotectonics (3) The development, mechanisms and significance of plate tectonics -- continental drift, paleomagnetism, sea-floor spreading, plate motions, tectonism, volcanism and eugeosynclines.

GEOL 597 Geology of Iceland (10) Prerequisite: One introductory geology course. Study-tour of Iceland to view and investigate features of exceptional geological interest and significance. Classic areas of glaciation, volcanism and rifting are examined in this country astride the Mid-Atlantic Ridge. Course includes field studies, classroom lectures and seminar discussions before and after the tour.

GEOL 599 Special Topics In Geology (1-4) An opportunity to explore areas of geology beyond the scope of existing departmental offerings. Specific topics determined by interests of students and instructor.

GEOL 622 Individual Studies (Maximum 4) Qualified graduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Three copies of a well-written paper must be filed with instructor before credit is given. Does not satisfy 500-level requirement unless student is in full-time residence at UNC during quarter course is taken.

German

d-GER 101 Elementary German I (5) Develop lingual skills of listening, speaking, reading and writing, especially accurate pronunciation and ability to use German actively. Use controlled drills, dialogues and free conversation, and cover structure inductively. Laboratory required.

d-GER 102 Elementary German II (5) Continuation of GER 101.

d-GER 103 Elementary German III (5) Continuation of GER 102.

GER 105 Tirolean Folk Dance (1) Gain proficiency in the language and learn to teach the dances to public school students.

d-GER 106 Contemporary German Drama (2) (1 lecture, 2 activity) Prerequisite: Two years high school German or equivalent. Study a representative contemporary German play or several skits, and perform scenes in public and in class. Conducted in German.

d-GER 107 German Choir (1) Open to all students who enjoy singing. Stress correct German pronunciation. Perform for local community and university events.

GER 201 Intermediate German I (4) Prerequisite: Two years high school German or equivalent. GER 103 continued. GER 211 corequisite. Analyze language structure in detail and stress oral skills. Increase reading and writing proficiency, and drill in laboratory.

d-GER 202 Intermediate German II (4) Prerequisite: GER 201; GER 211 corequisite. Continuation of GER 201.

d-GER 203 Intermediate German III (4) Prerequisite: GER 202. GER 211 corequisite. Continuation of GER 202.

g-GER 210 German Civilization and Culture (4) Survey essential historical, political and artistic developments and accomplishments from early times to present. Stress events most significant to contemporary German life style. For study abroad program participants only.

GER 211 Conversation and Culture Laboratory (1) Corequisites: GER 201, 202, 203. Augment development of language skills and get more exposure to culture through films, lectures, conferences and discussions in German. May be taken up to six times. S/U grading.

d-GER 235 Conversational German (4) Take simultaneously with GER 103 or 203. Intensively train listening and speaking, as well as practicing structural and idiomatic forms and studying current events. For study abroad program participants only.

g-GER 318 Eighteenth Century German Literature (3) Prerequisite: 3 years of high school German or equivalent. Consider major intellectual currents and literary movements, such as Enlightenment, Empfindsamkeit and Storm and Stress. Readings, lectures and discussions in German.

g-GER 319 Nineteenth Century German Literature (3) Prerequisite: 3 years of high school German or equivalent. Discover Romanticism, Classicism, concept of Biedermeier, poetic and regional realism and naturalism, as well as major German-speaking writers of the period.

g-GER 320 Twentieth Century German Literature (3) Prerequisite: 3 years of high school German or equivalent. Study the most important aspects of neo-romanticism, symbolism, expressionism and other movements. Reading and lectures in German.

g-GER 325 Post War Literature Since 1945 (3) Prerequisite: 3 years of high school German or equivalent. Observe the re-emergence of the short story and the "Horspiel," two predominant forms of this era. Deal with legacy of Hitler and the Third Reich. Conducted in German.

GER 326 Literature of the German Democratic Republic (3) Prerequisite: 2 years of college German or departmental permission. Analyze literature of the East German Republic in its social, historical and political context, through drama, prose and poetry by major figures, including those living in exile. Conducted in German.

d-GER 335 Intermediate German Conversation (4) Prerequisite: 3 years of high school German or equivalent. Increase ability to use spoken German in practical, everyday situations. Conducted in German.

GER 336 Advanced German Composition (4) Prerequisite: 3 years of high school German or equivalent. Become familiar with a large number of idioms and acquire flexibility of expression in written composition.

GER 337 Advanced German Grammar (4) Prerequisite: 3 years of high school German or equivalent. After mastering elements of grammar and passing at least one full grammar review, study more complex elements of syntax and common difficulties in sentence structure.

GER 340 German Drama (3) Prerequisite: 2 years of college German or equivalent. Analyze representative plays in German drama history, including 20th century radio drama. Conducted in German.

GER 345 Phonetics of German Language (3) Prerequisite: 4 years of high school German or equivalent. Analytically survey the language, and examine regional and historical variations and the high German sound shift. Correct and perfect pronunciation.

g-GER 355 German Literary Masterpieces In Translation (4) Introduction to great works and major figures, including Goethe, Kafka and Grass. Conducted in English for majors and non-majors; no knowledge of German required. Majors will read works in German.

GER 400 Problems in Oral German (3) Prerequisite: 4 years of high school German or equivalent. Receive advanced oral training to sharpen pronunciation, comprehension and conversational ability. Get individual help through drills, tape work and outside. May be taken twice with departmental consent.

GER 401 Study Abroad Program: Coursework (8) Prerequisite: 2 years of college German or permission of department. Get practical experience in using German through formal instruction in conversation, composition and culture at the foreign study center. Take with GER 402.

GER 402 Study Abroad Program: Project (4) Prerequisite: 2 years of college German or permission of department. Research contemporary and historical cultural phenomena of Germany through an area studies project in the study center region. Take with GER 401.

g-GER 410 German Civilization (3) Prerequisite: 3 years high school German or equivalent. Study German civilization and culture, including historical, economic, political and artistic development from prehistoric times to present. Conducted in German.

g-GER 411 Contemporary Germany (3) Prerequisite: 2 years of college German or equivalent. Investigate modern institutions and customs, including social, political, educational and economic structures. Focus on facets which most heavily influence life style and Weltanschauung of today. 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 problem. Two copies of well-written report must be filed before credit given; one with instructor and one with department chair. No General Education credit.

g-GER 430 German Poetry (3) Prerequisite: 4 years high school German or equivalent. Survey German lyrical poetry from the Minnesang to present, including samplings from 17th through 20th centuries. Analyze by form, style and content.

g-GER 431 Die Novelle (3) Prerequisite: 3 years high school German or equivalent. Deal with Novelle genre from Kleist to contemporary authors, primarily as an art form. Conducted in German.

g-GER 440 Medieval Literature (3) Prerequisite: 3 years high school German or equivalent. Emphasize writings produced during humanistic and reformation periods, and also folk and courtly epics and courtly lyrics of 12th and 13th centuries. Conducted in German.

g-GER 441 Goethe (3) Prerequisite: 3 years high school German or equivalent. Understand the life and work of Germany's greatest classic writer, his Weltanschauung and contributions to Sturm und Drang, Classicism and Romanticism. Conducted in German.

GER 500 Problems in Oral German (3) Prerequisite: 4 years college German or consent of instructor. Sharpen pronunciation, comprehension and conversational fluency. Discuss and aid individual problems with drills and tapes in laboratory and outside.

GER 508 Workshop (Maximum 10) Specific, practical techniques for teaching German, with special emphasis on performance objectives and individualization of instruction. Prepare intensively in several successful aural-oral and cognitive techniques.

GER 622 Individual Study in German (Maximum 4) Qualified graduate 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 instructor before credit is given.

Gerontology

GERO 201 Undergraduate Practicum (1-4) Open only to sophomore majors in Gerontology. Engage in supervised professional activity in major field. Approximately one hour of credit granted for every 20 hours of practicum. Two copies of a well-written paper must be filed with instructor before credit is given.

e-GERO 205 Introduction to Gerontology (3) Survey characteristics and concerns of older persons, and learn the social, psychological and cultural factors associated with age. Emphasize services, programs and careers in Gerontology. Work with an older adult.

GERO 301 Undergraduate Practicum (1-4) Open to students in the Gerontology Program. Supervised professional activity in the student's major field, approximately one hour of credit granted for every 20 hours of practicum. Two copies of a well-written paper must be filed with professor before credit is received.

GERO 308 Workshop in Gerontology (1-4) Topics such as programming for the elderly and community relations will be introduced. Materials prescribed by specific workshop as offered.

GERO 397 Direct Practice with Older Persons (3-4) Practice direct strategies with older adults, and give major consideration to the Gerontology knowledge base related to communication skills, interviewing, counseling and group work with older persons and their families. Majors required to take 2 hour lab with 4 credit hour course.

GERO 401 Undergraduate Practicum (1-4) Open only to senior Gerontology majors. Supervised professional activity. Approximately one hour of credit granted for every 20 hours of practicum. Two copies of a well-written paper must be filed before credit is given; one with the instructor and one with the department chair. Not for General Education credit.

GERO 410 Community Resources for the Elderly (5) Lab required. Discover the service needs of older persons and existing community resources. Evaluate both public and private community resources in relation to service gaps and defined areas of the elderly.

GERO 415 Biology of Aging (3) Investigate biological changes which take place during the normal process of aging in the human, including the ten organ systems.

GERO 422 Individual Studies in Gerontological Services (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 instructor and one with department chair. No General Education credit.

GERO 434 Management and Administration in the Aging Network (3) Make an entry level management/administration survey of the aging network, including settings, funding, demography, gerontological work force economics, organizations/agencies' relationships with aging programs. Analyze these from perspective of a mid-manager/administrator of aging programs.

GERO 435 Middle Age and Aging (3) A life span approach to the psychological, sociological and biological changes within the middle aged adult will be taken. The effects of middle age lifestyle and changes on the older adult and on one's own aging will also be explored.

GERO 485 Senior Seminar (3) In preparation for internship, integrate knowledge of aging with beginning professional goals and objectives. Work on specific project under supervision, and make final presentation. Take prior to internship.

GERO 495 Internship in Gerontology (18) Prerequisites: GERO 205, 397, 410, 434, 485, HS 236, REC 251, SOC 341, PSY 430. An educational experience to relate theories and skills in Gerontology to practice situation. Function as a professional in agency serving older persons under competent supervision. Select field learning context in consultation.

GERO 496 Long Term Care Administration (3) Cover comprehensively: administration, labor relations, personnel policy development and implementation, nursing home technology, medical records, housekeeping, public relations, licensing, financial management, and other essentials of long term institutional care facility administrators.

GERO 507 Seminar: Current Issues in Gerontology (2) Survey rapid and current development in the field of the aging, including recent legislation, funding prospects, job opportunities, and state/national developments encompassing university activities and research efforts.

GERO 508 Workshop in Gerontology (1-3) Substantive content of special significance on topics within the field of Gerontology. Emphasis varies according to content; each workshop has a subtitle, and no subtitle may be repeated for credit.

GERO 510 Community Resources for the Elderly (3) Identify and conceptualize ordering services for older persons, with attention to gaps in existing service structures and possible solutions. Examine an agency in depth and develop a community resource directory for professionals. Lab required.

GERO 515 Biology of Aging (3) Study biological changes that take place during the normal human aging process, including the ten organ systems.

GERO 525 Issues and Concepts in Gerontology (4) Take developmental approach to theories of aging -- physiological, psychological, psychosocial and environmental. Emphasize current issues and research on adult life span developmental tasks and transitions, age-related changes, socio-cultural influences and socialization processes.

GERO 534 Management/Administration of Aging Programs (3) Examine concepts of management and administration of organizations, emphasizing principles and practices currently used in aging programs.

GERO 540 Professional Intervention with the Elderly (3) Cover human service perspectives, treatment modalities, environmental design and intervention strategies supportive to holistic health. Explore social action and change theory, and emphasize professional gerontologist as team member and leader.

GERO 541 Urban/Regional Planning for Aging Programs (3) Survey principles and practices employed in urban and regional planning and how they are affected by public policy and private interests.

GERO 543 Grant Development and Administration (3) Examine the process and procedures for obtaining grant funds, including sources of funding, development of the proposal and administration of the grant.

GERO 544 Evaluation of Aging Programs (3) Examine the design and implementation of technical assistance provision, quality assurance, monitoring and evaluation of aging programs. Cover major models in current use, accountability for public and private funding, and internal and external evaluation models.

GERO 546 Needs Assessment for Aging Programs (3) Develop skills needed for conducting needs assessment. Emphasis is placed on methodologies and data currently used within the aging network.

GERO 586 Social Policies of Aging (3) Evaluate selected policies in aging, including relationships and dynamics of national state, county and city government as they influence policy development and implementation.

GERO 594 Budget Principles for Managers of Aging Programs (3) Examine and acquire specific skills for use in accounting and budgeting aging programs, particularly profit and non-profit procedures.

GERO 595 Personnel Policies and Administration in Aging Programs (3) Emphasize personnel management as it affects employee productivity and satisfaction, including managerial functions, structures and guiding principles.

GERO 596 Long Term Care Administration (3) Review skills specific to nursing home management and administration, especially managing departments, third party payments, staff development, inspections and legal aspects.

GERO 600 Special Topics in Gerontology (1-3) Course varies according to topical interest of instructor. Provides an in-depth look a specific aspect of aging in which instructor has conducted research.

GERO 601 Practicum (1-4) Open only by invitation to resident graduate students. Supervised professional activity in student's major field, approximately two hours per day. Two copies of a well-written paper must be filed with instructor before credit is given. Make application to the department before registration.

GERO 622 Individual Study (1-4) Qualified graduate 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 instructor before credit is given. Make application to the department before registration.

GERO 652 Graduate Internship in Gerontology (4-16) Integrate theory with practice in the field of Gerontology with an internship allowing for skill rehearsal and refinement of professional attitudes and knowledge. Agency setting selected in consultation with student.

GERO 699 Thesis (8-15) Optional for Master of Arts programs on recommendation of major advisor.

GERO 701 Specialist Degree Practicum (8) Project or supervised professional activity. The purpose of this project or professional activity is to further the student's background in his/her area of specialization within Gerontology. A written report of the project or activity must be submitted.

Health and Safety Education

General Education Courses

1-HS 191 Personal and Family Health (3) Discuss and receive very practical, usable information about college student health problems or concerns. Investigate such topics as health aspects of pollution, drug usage, sexuality, family planning, venereal disease and consumer health.

Professional Courses for Departmental Majors and Minors

HS 200 Introduction to Health Education (3) Receive orientation in the breadth, scope and nature of the professional programs in Health Education.

e-HS 205 Issues in Health (3) Analyze the variety of forces which currently affect the well-being of human population groups on a national and international level.

f-HS 236 Introduction to Health Aspects of Gerontology (3) Investigate current basic health factors which influence aging, and current theories and scientific research on the aging process.

f-HS 238 Contemporary Issues in Drug Abuse (3) Survey current information on physiological, psychological and sociological aspects of drug use, misuse and abuse. Study drug abuse program availability and function, prevention and rehabilitation agencies, and current research and effective teaching methods and materials.

f-HS 299 Community Health (3) Discuss major health problems and various community health programs, agencies and services which relate to their solutions, including methods used to control today's community health problems.

HS 303 Health Education in the Elementary School (2) PTE Prospective elementary teachers are given a foundation in school health programs, and opportunities to develop skills in organizing and presenting learning experiences in a comprehensive and sequential health curriculum.

f-HS 336 Human Sexuality (3) Survey the psychosocial and biophysical dimensions of human growth and development toward optimal expression of sexual being.

HS 342 Modern Concepts of Health and Disease (3) Discuss in depth, the mechanism of disease and its effect on the human body. Include current theories of and defenses against disease, and analyze major diseases affecting various bodily systems.

HS 343 Methods and Observation of Health Education (5) PTE Effectively present health information by using various educational media, community resources, exhibits, experiments and presentations, including observation and supervised teaching experience.

f-HS 350 Introduction to Environmental Health (3) For undergraduates in all disciplines. Take interdisciplinary approach to relationships of environmental pollution to the ecosystem and health of humans. Analyze major areas of environmental pollution: water, air, solid waste, pesticides, radioactive wastes and population.

HS 406 Topics in Birth Control and Contraception (3) Study basic biological, medical and guidance principles used in birth control and abortion counseling, emphasizing family planning.

HS 408 Workshop in Health and Safety Education (1-3) Investigate individuals' problem areas, varying according to experts conducting workshops. Each workshop has a subtitle, and no subtitle may be repeated for credit.

HS 422 Individual Studies (Maximum 4) Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Typed copies of a well-written paper must be filed with the instructor and the department chair. No General Education credit.

HS 454 Internship in Health (9-18) Non-teaching Health majors have opportunity to work with official or voluntary health agencies. Specific assignments and responsibilities required under guidance and supervision of Department of Health and Safety Education faculty. Submit written evaluation at conclusion of internship for purposes of evaluation and recording.

HS 471 Safety Education (3) Prepares teachers and administrators comprehensively to assume responsibility for safety education and accident prevention programming in school and public service.

HS 474 Driver and Traffic Safety Education I (3) Learn fundamental principles, practices and content of high school driver education and safety programs, primarily the classroom phase of driver and traffic safety education.

HS 475 Driver and Traffic Safety Education II (3) Study problems in administration, instruction, evaluation and research in driver and traffic safety education programs. Get directed laboratory experience in teaching off-street driving through simulation and multi-vehicle driving range and on-street driving through dual control automobiles.

HS 503 Drug Abuse Education (4) Analyze pharmacological, psychological, sociological and legal implications of drug and alcohol use, misuse and abuse, emphasizing current research and effective teaching methods and materials.

HS 505 Chronic and Degenerative Disease and Disability (3) Investigate current scientific findings and research regarding degenerative chronic disease and disability. Make an in-depth study of some facet of chronic and degenerative disease.

HS 506 Contemporary Issues in Sex Education (4) Synthesize current theories and trends within the sciences of human sexuality and education to prepare to promote sexual well-being as a professional.

HS 508 Workshop in Health and Safety Education (1-3) Opportunities for study in individual's problem areas, varying according to experts conducting workshops. Each workshop has a subtitle, and no subtitle may be repeated for credit.

HS 509 Seminar in Health Behavior (4) Review research literature on personal health behavior and analyze various recent models explaining health behavior to assist in planning and development of effective health education and health promotion programs.

HS 531 Health Aspects of Gerontology (3) Discover current scientific findings and present theories regarding the aging process. Requires individual in-depth study of some facet of aging.

HS 550 Environmental Health (4) Learn the relationships of environmental health problems to human health and welfare. Include sources of these problems, their recognition and control, and current research studies.

HS 603 Scientific Foundations of Health Education (4) Increase awareness of important health facts and principles as they apply to quantitative and qualitative improvement of individual, family, community and world health.

HS 604 School Health Administration (4) Consider planning and organizational aspects of total school health program, especially administrative and supervisory problems in health and safety instruction, health services and guidance, and healthful school environment.

HS 605 Public Health Problems (4) (3 lecture, 2 field experience) Delineate basic facts and principles of public health at local, state, national and international levels, including relationships between public health departments, voluntary agencies and school health programs.

HS 622 Individual Studies (Maximum 4) Qualified graduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of the paper must be filed with the instructor and the department chair. Does not satisfy 500-level requirement unless student is in full-time residence at UNC during quarter course is taken.

HS 650 Seminar in Health and Safety Education (2-4) Present contemporary topics under guidance of qualified graduate faculty and consultants. Each area will have a subtitle, but no subtitle may be repeated for credit.

HS 652 Graduate Internship in Health and Safety Education (4-16) Put into practice knowledge and skills learned in classroom. Assume responsibilities in administration, supervision and evaluation and conduct various activities. One full quarter of full-time placement is required in a health care setting.

HS 699 Thesis (8-15) Optional for Master of Arts candidates in Health Education.

Hispanic Studies

g-HISP 101 Introduction to Mexican American Studies (4) A general course designed to provide the student with an understanding of Mexican American Studies. Taught in English.

HISP 220 History of Mexico (4) A study of Mexican history from 1500 to present. Emphasis given to the Conquest, the Colonial period, the War of Independence, the growth of the Mexican Republic, the Mexican Revolution. Taught in English.

g-HISP 225 History of the Chicano in the Southwest (3) This course examines the history and heritage of the contemporary Chicano or Mexican American. Deals with the contributions of the Spaniard, the Indian and the Mestizo. Taught in English.

g-HISP 250 Mexican Civilization and Culture (3) A study of Mexican civilization and culture. Surveys historical, political and artistic developments from early times to present. Emphasis on life style of the contemporary Mexican. Taught in English.

HISP 255 Music of the Hispanic World (3) Prerequisite: Two years of high school Spanish, or one year of college Spanish. An introduction to Hispanic culture through music. Music, songs and instruments will be studied in their cultural perspectives. Course helps to develop Spanish language, vocabulary and pronunciation. Taught in Spanish.

g-HISP 260 Hispanic Folklore (2) An introduction to the folklore of the Hispanic world. Studies the popular, informed knowledge, arts and skills as distinguished from formally acquired knowledge and practice. Emphasis on Spain, Mexico, and the Southwest.

f-HISP 300 Social Stratification in the Mexican American Community (3) Course examines the variables affecting the social status of the Mexican-American in Anglo-American society, social class differences in Mexican-American communities, and Mexican American social mobility. Taught in English.

I-HISP 302 Bicultural Systems (3) A course designed to examine the dynamics of cultural contact as it applies to the Mexican American and the Anglo-American. Taught in English.

g-HISP 350 Contemporary Chicano Literature (3) An introduction to the literary genres of Chicano literature: poetry, novel, theater, short story. Examines universal and regional themes. Presents literature in its socio-historical context. Taught in English.

g-HISP 355 Contemporary Latin American Writers (2) An introduction to the most prominent Latin American writers. To include the works of Miguel Angel Asturias, Gabriel Garcia Marquez, Juan Rulfo, Mario Vargas Llosa, Carlos Fuentes. Taught in English.

g-HISP 360 Hispanic Drama (3) A study of Hispanic drama masterpieces from Spain's Golden Age to the post-Civil War period; Latin America's Contemporary Theater of Social Protest; and the United States' Hispanic Theater Movement. Taught in English.

HISP 361 Hispanic Theater Production (3) Prerequisite: Oral facility in Spanish. Study the major periods of Hispanic theater. Representative dramatists will be studied, and scenes or works will be staged in class and public performance. Taught in Spanish.

g-HISP 365 Mexican American Art (3) A study of Mexican American artistic expression in architecture, sculpture and mural painting. Examines the influences of the Spanish missions, Santero art and Mexican muralists. Taught in English.

f-HISP 370 Chicano Psychology (3) The course is designed to examine the behavior of Mexican Americans in an Anglo-American cross-cultural setting.

g-HISP 375 Women in Hispanic Society (3) A study of women in Hispanic society from 1500 through the present. Special emphasis will be placed on the Hispanic women in Anglo-American society. Taught in English.

g-HISP 380 Hispanic Cultures in the United States (4) A study of the development of cultural patterns among the three largest Hispanic communities in this country: Chicanos, Puerto Ricans and Cubans -- their differences and commonalities. Taught in English.

g-HISP 385 Mexican American Thought (3) A study of non-formal philosophical views on problems and ethics affecting the contemporary Mexican American community. Taught in English.

HISP 395 History and Philosophy of Bilingual Education (3) Designed to examine the basic linguistic and political assumptions underlying American public education. Special emphasis is given to bilingualism as a viable educational alternative. Taught in English.

HISP 400 First and Second Language Skills in Bilingual Bicultural Settings (3) Designed to prepare bilingual and bicultural teachers to teach reading, writing, speaking, listening and other skills in Spanish as a Second Language and English as a Second Language.

HISP 405 Assessment Theory and Techniques in the Bilingual Bicultural Classroom (4) This course will familiarize teachers in the bilingual setting with theories and techniques of assessing first and second language proficiency, language dominance, and literacy skills by using standardized instruments and informal assessment procedures.

HISP 422 Individual Studies (1-4) Undergraduate students spend a minimum of 25 hours per quarter on a problem. Two copies of a well-written paper must be filed before credit is given. No General Education credit.

g-HISP 430 Cervantes: Don Quixote (3) A detailed study of the masterpiece by Cervantes. Examines *Don Quixote* in its multiple perspectives with respect to the aesthetic currents of the time. Taught in English.

g-HISP 435 Latin American Short Story (3) A study of the 20th century Latin American short story. To include the works of Horacio Quiroga, Jorge Luis Borges, Juan Rulfo, Julio Cortazar and Gabriel Garcia Marquez. Taught in English.

g-HISP 440 Mexican Literature (3) A study of the most outstanding works of Mexican literature. Examines works from the Mexican Revolution, Criolismo, Magical Realism, and contemporary Social-Realism. Taught in English.

g-HISP 445 Cuban and Puerto Rican Literature (3) A study of the literary movements in Cuban and Puerto Rican literature. Emphasis on literature oriented to social concerns. Taught in English.

HISP 508 Workshop (Maximum 10) A study of topics relating to Hispanic Studies. Will be designed according to the interest of the student and the expertise of the instructor.

HISP 513 Professional Renewal (1-10) A study of topics relating to Hispanic Studies. Will be designed according to the interest of the student and the expertise of the instructor.

HISP 622 Individual Studies (1-4) Graduate students spend a minimum of 25 hours per quarter hour on a problem. Two copies of a paper must be filed with the instructor before credit is given.

History

HIST 100 The American Past, 1492-1800 (4) Chronologically surveys American history in two lectures and two research seminars weekly, beginning with the Columbian discovery and ending with the Jefferson inauguration. For History majors and minors, and Social Science majors only.

HIST 101 The American Past, 1800-1900 (4) Surveys the 19th century in two lectures and two hours of seminar research weekly beginning with Jefferson's inauguration and ending with the McKinley assassination. For History majors and minors, and Social Science majors only.

HIST 102 The American Past, 1900-Present (4) Chronologically surveys the period between McKinley's assassination and Nixon's departure in two lectures and two research seminars weekly. For History majors and minors, and Social Science majors only.

g-HIST 110 African Civilization I (4) Traces the development of African civilization to the European conquest, emphasizing social, political and cultural change, through lectures, discussions, slide presentations and films.

g-HIST 111 African Civilization II (4) Surveys African civilization from the scramble for Africa to the present, stressing social, political and cultural change, with lectures, discussions, slides and films.

g-HIST 115 Asian Civilization (4) Investigates the historical and cultural transformations occurring within the great traditions of East and Southeast Asia, including the Asian response to the West.

g-HIST 130 Western Civilization I (5) Focuses on the development of the Near East, the Aegean World and Rome and its successor kingdoms, through Charlemagne.

g-HIST 131 Western Civilization II (5) Surveys Western civilization, emphasizing development of medieval monarchies, rise of the state, and assertion of the Christian commonwealth from Charlemagne to 1789.

g-HIST 132 Western Civilization III (5) Traces the interaction of world politics from the French Revolution to the present, highlighting nationalism, romanticism and totalitarianism.

g-HIST 135 History and Technology (5) Explores the history of western peoples through technological development, based on materials by James Burke for his BBC television series, "Connections."

g-HIST 170 United States History, 1607-1815 (5) Investigates the European background of American history, the age of discovery and colonization, imperial rivalries, the Revolution and the New Nation.

g-HIST 171 United States History, 1816-1899 (5) Investigates nationalism and sectionalism, the War Between the States, reconstruction, and the emergence of the United States as a world power.

g-HIST 172 United States History, 1900 to Present (5) Investigates the new Freedom, World War I, prosperity and depression, the New Deal, World War II, and post-war problems since 1945.

g-HIST 175 Themes in American History (5) Takes a topical approach to American history, concentrating on specific themes which have shaped America's past and continue to influence its destiny. Not for History majors and minors.

g-HIST 180 Imperial America, 1945-1980 (5) Traces the history of the United States from the end of World War II to the election of Ronald Reagan.

g-HIST 218 History of Mexico (4) Traces Mexican history from pre-Colombian times to present, emphasizing 19th and 20th century events leading to 1910 Revolution and its aftermath. Covers social, cultural and economic changes.

g-HIST 222 History of the Early West (4) Traces the westward movements from the Jamestown settlement in 1607 and includes colonial developments, the Northwest Territory, land laws, Indian wars, trappers' frontier, steamboat-canal era, and early Texas settlement.

g-HIST 224 History of Colorado (3) Examines Indian influence, Spanish, French and American explorations, early settlements, gold and silver rushes, territorial problems, through the economic, social and political problems of today.

g-HIST 226 Hispano in the American Southwest (4) Examine the historical heritage of New Mexico, Arizona, California, Texas and southern Colorado from 1540 to present, stressing Hispano contributions during Spanish, Mexican, territorial and modern periods.

g-HIST 232 U.S. Military History, 1775 to Present (3) Traces the development of American military and naval policy from its inception before the Revolution to rise of the modern military-industrial complex.

g-HIST 236 A History of World War I (4) A course designed to study World War I in depth regarding diplomatic, military, economic, social, political and intellectual factors, with some attention to its causes and consequences.

g-HIST 238 The Second World War (4) Investigates the causes and consequences of the war, along with the crucial military and diplomatic decisions and events which determined its outcome.

g-HIST 240 The Vietnam Legacy in America (4) Analyze the Vietnam War's impact on American society and institutions, concentrating on the experience of veterans, anti-war movement, media and power elite. Seeks to answer, "What have we learned?"

g-HIST 260 Intellectual and Cultural History of Medieval Europe, 4th-16th Centuries (3) Surveys Medieval Europe from the end of ancient times to the beginnings of Modern Europe.

g-HIST 261 Intellectual and Cultural History of Early Modern Europe, 1600-1800 (3) Emphasizes European intellectual and cultural history from the 17th century scientific revolution through the Enlightenment.

g-HIST 264 History of Greece (4) Places Ancient Greece in its historical context, emphasizing Hellenistic and Hellenic life and culture.

g-HIST 266 History of the Renaissance (4) A study of the political, social, economic, religious and cultural development in Renaissance Europe, 1300-1500.

g-HIST 290 American Immigration (4) Examines immigration to the U.S., emphasizing 19th and 20th centuries, with comparative reference to migrations to other countries. Includes Irish, English, German, Italian, Scandinavian, Jewish, Chinese and Japanese immigration.

g-HIST 302 Modern Africa (4) A study of the impact of imperialism, colonialism, nationalism, and independence movements on modern African states.

g-HIST 307 History of China to 1840 (4) Consider the history of pre-modern China from the point of view of political and cultural development.

g-HIST 308 History of Modern China (4) Historically analyzes modern China, beginning with impact of western powers in the mid-19th century. Emphasizes internal changes in China's political, social, economic and cultural institutions.

g-HIST 309 Modern Southeast Asia (4) Analyzes historically those areas of southeast Asia which have been recently thrust into collision with the modern world, including Burma, Thailand, Indonesia, Vietnam and the Philippines.

g-HIST 311 History of Modern Japan (4) An historical analysis of the late Tokugawa period to the present. Emphasizes internal changes in political, social, economic and cultural institutions.

g-HIST 312 United States and Asia (4) Surveys the American role in Asia, concentrating in particular on American impulses towards China, Japan, Vietnam and the Philippines, and America's impact on these societies since 1890.

g-HIST 313 History of India and Pakistan (4) Briefly surveys the history of these peoples, including rise and decline of cultures, and the contributions of the English to nationalism and the organization of India and Pakistan as independent states.

g-HIST 314 History of Latin America: Colonial Period (4) Surveys Spanish America and Brazil from discovery through the Bourbon and Braganza reforms.

g-HIST 315 History of Latin America: National Period (4) Studies Latin American countries from their wars of independence through the Cuban Revolution.

g-HIST 320 Early Colonial Period: 1492-1689 (4) Investigates in depth the European colonization of America, the Age of Discovery and Exploration, the founding of first British Colonial Empire, and the history of that empire to 1689.

g-HIST 321 Eighteenth Century America: 1689-1763 (4) Surveys in depth the development of the North American British colonies in the 18th century, stressing the origin of the Empire and colonial economy, political structure and society.

g-HIST 322 Emergence of the New Nation: 1763-1789 (4) Examines the background of the American Revolution, Declaration of Independence, Articles of Confederation and framing the U.S. Constitution, as well as the changing social, economic and political patterns discernible in the Revolutionary generation.

g-HIST 328 Jacksonian America, 1815-1848 (3) Surveys in detail post-1815 nationalism, the political trends of Jacksonian Era, along with the development of sectionalism, religion and reform, expansion through the Mexican War.

g-HIST 330 History of the Trans-Mississippi West, 1821-1890 (4) Examines the westward movement from the settlement of Texas to end of the frontier, including monetary problems, Mormons, land acts, the gold rushes, transcontinental railroads, and the range-cattle industry.

g-HIST 332 American Foreign Policy to Lincoln (4) Surveys American diplomatic history from the War for Independence to 1865, emphasizing problems of expansion and relations with major European, Latin American and Far Eastern countries.

g-HIST 333 American Foreign Policy: Lincoln to FDR (4) Emphasizes the problems of peace and war, and the internationalist-isolationist conflict in the first half of the 20th century.

g-HIST 334 Recent American Foreign Policy (4) Analyzes the theory and practice of American foreign policy since World War II and the significance of the Cold War.

g-HIST 340 Constitutional History of the U.S. to 1865 (4) Analyzes the origins of the Constitution, its political philosophy, drafting, ratification, and subsequent molding by executive, legislative and judicial pressure to 1865.

g-HIST 341 Constitutional History of U.S. Since 1865 (4) Surveys the development of Constitutional interpretation from the post Civil War era to the present.

g-HIST 348 Great People in American History (3) Takes a biographical approach to American history, focusing on lives and contributions of such great American men as Franklin, Washington, Hamilton, Jefferson, Marshall, Jackson, Lincoln, Holmes, Theodore Roosevelt, Wilson and Franklin Roosevelt.

g-HIST 349 History of American Labor (4) Traces the organized labor movement in the U.S. from colonial times to the present, emphasizing the post-Civil War period.

HIST 351 Era of the French Revolution, 1786-1799 (4) Studies the causes and consequences of the French Revolution, and its significance in French, European, and World History.

HIST 352 Age of Napoleon I, 1799-1815 (4) Surveys the political, social and cultural history of Napoleonic Europe, particularly the development of the modern state, nationalism and romanticism.

g-HIST 360 Ancient History (4) Surveys the life, institutions, and history of the ancient Near East and Greece based on recent archaeological discoveries.

g-HIST 361 Roman History (4) Studies Roman civilization on an advanced level from the founding of the Republic to the decline of the Empire, stressing Roman life, institutions and cultural heritage.

g-HIST 363 History of Medieval Thought (4) Studies medieval life and civilization from the beginning of the Middle Ages to 1300. Emphasizes medieval philosophy, theology, literature, art and culture from Augustine to Dante.

g-HIST 364 Constitutional History of Medieval England (4) Describes the development of English legal, constitutional and administrative institutions from Anglo-Saxon period to 1485. Recommended for pre-law students.

g-HIST 367 History of the Reformation (4) Discusses the basic political, religious, social, and economic aspects of the Protestant Reformation from 1517 to 1648.

g-HIST 368 History of England, 1471-1660 (4) Emphasizes the political and constitutional stability reached in England during reigns of the Tudor and Stuart monarchs.

g-HIST 369 History of England, 1660-1832 (4) Traces the developments in English constitutional, political, economic and social life from the Restoration to the Great Reform Bill.

g-HIST 370 History of England, 1832 to Present (4) Studies the development of political liberalism in England and the role she has played in the modern world, including the rise and fall of the British Empire.

g-HIST 371 The Old Regime: 1648-1789 (4) Investigates Western European political, economic, intellectual and cultural developments, beginning with Peace of Westphalia and ending with outbreak of the French Revolution.

g-HIST 372 History of Spain and Portugal, 1469-Present (4) Surveys the Reconquista through the colonization of New World, the decline of Hapsburg monarchy through the loss of empire, the fall of the monarchy through democracy failure, Civil War, and Fascism.

g-HIST 382 Bismarck's Germany (4) Surveys German history from the foundations of the second Reich to outbreak of World War I, emphasizing Bismarck, his diplomacy, Germany's social and economic developments, and the German role in the coming of World War I.

g-HIST 384 Adolf Hitler and the 3rd Reich (4) Emphasizes the psycho-historical approach in examining the mind and personality of 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 Present (4) Studies significant political and constitutional issues in French history from fall of Napoleon I to present, focusing on Restoration regimes, Second Empire, and Third, Fourth and Fifth Republics.

g-HIST 389 Communist Russia Under Lenin and Stalin, 1917-1953 (4) Surveys the political, social, economic and cultural history of the Soviet Union from 1917 to present, emphasizing both continuity and change with pre-Soviet Russia.

g-HIST 397 Field Courses in History (3-15) Involves tours to the actual areas under study, visiting historic sites, museums and public buildings as well as the study of written history. These courses cover diverse themes, each has a subtitle, and none may be repeated for credit.

c-HIST 399 Introduction to Historical Research (3) Involves the student in the methodology of the professional historian with emphasis on the location and use of sources and the writing of papers.

g-HIST 418 History of Argentina, Brazil and Chile, 1500 to Present (4) Studies the ABC countries in depth from the discovery of Brazil through the justalismo of Peron, the Estado Novo of Vargas and Chile's flirtations with socialism. Offered every other year.

g-HIST 419 History of the Andean Republics, 1532 to Present (4) Studies the Andean Republics in depth from the Incan conquest through contemporary movements for social reform. Offered every other year.

HIST 422 Individual Studies (Maximum 4) Qualified undergraduate students investigate an historical topic under the direction of a faculty member. A well-written paper must be filed with instructor and department chairman before credit is given. No General Education credit.

g-HIST 470 History of Modern Germany (4) Surveys German history from World War I through the use of original sources and documents.

g-HIST 486 Contemporary European History (4) Investigates, at an advanced level, European developments from 1900 to present. Discusses war, socialism, communism, fascism and democracy in their European setting.

HIST 499 Interdisciplinary Readings in History (Maximum 12) History majors and minors here deal with the contributions the social and behavioral sciences made to the reconstruction of the past.

A research component is required in each History course numbered at the 500 and 600 levels.

HIST 500 Seminar in Japanese History (3) Investigates intellectual, social and institutional trends in Japanese history up to and including the modern period.

HIST 502 Seminar in Chinese History (3) Investigates current trends, as well as social, intellectual and institutional structures in Chinese history.

HIST 504 Seminar in Modern African History (3) Focuses primarily on the colonial and post-colonial periods in sub-Saharan Africa.

HIST 506 Seminar in Latin American History (3) Investigates the historiography and state of research on Latin American history. May be taken twice for credit: colonial period in one year, and the national period in the second year.

HIST 508 Workshop in History (3) Stresses practical aspects of either teaching or field work in specialized areas of History. Subject determined by subtitle. No subtitle may be repeated for credit.

HIST 513 Professional Renewal (1-12) Investigates various topics in History, depending on instructor. Each course subtitled, and none may be repeated for credit.

HIST 520 Seminar in American Colonial History (3) Investigates the history of colonial America through direct research and/or readings.

HIST 524 Seminar in the American Civil War (3) Investigates selected topics during the Civil War era through research and/or readings.

HIST 526 Seminar in the Populist-Progressive Age: 1887-1920 (3) Investigates the Populist-Progressive Era, with particular attention to the Rocky Mountain West, through research and/or readings.

HIST 528 Seminar in the Emergence of Industrial America (3) Investigates the emergence of industrial America through research and/or readings.

HIST 530 Seminar in Recent American History (3) Investigates topics in recent American History through research and/or readings

HIST 532 Seminar on Franklin D. Roosevelt and the New Deal (3) Investigates the history of the United States from 1932 to 1945 through research and/or readings.

HIST 560 Seminar in Ancient History (3) Investigates selected topics from the history of the Ancient World through research and/or readings.

HIST 562 Seminar in Medieval History (3) Investigates topics in European medieval history through research and/or readings.

HIST 564 Seminar in Renaissance and Reformation History (3) Investigates topics in the Renaissance and Reformation periods through research and/or readings.

HIST 566 Seminar in the French Revolution and Napoleon (3) Investigates topics during the Revolutionary and Napoleonic Eras through research and/or readings.

HIST 568 Seminar in Modern British History (3) Investigates selected themes in British History since the onset of the Industrial Revolution through research and/or readings.

HIST 570 Seminar in Modern German History (3) Investigates topics in 20th century German History through research and/or readings.

HIST 590 Seminar in United States Diplomatic History (3) Investigates selected issues in American foreign policy through research and/or readings.

HIST 592 Seminar in Southwest History (3) Investigates topics in the history of the American Southwest through research and/or readings.

HIST 594 Seminar in American Intellectual History (3) Investigates topics in the history of American thought through research and/or readings.

HIST 596 Seminar in Modern European Intellectual History (3) Investigates themes in modern European thought through research and/or readings.

HIST 622 Individual Studies (Maximum 3) Qualified graduate students investigate an historical topic under the direction of a faculty member. A well-written paper must be filed with instructor and department chair before credit given. Does not satisfy 30-hour requirement unless student is in full-time residence at UNC during quarter course is taken.

HIST 690 Seminar in Teaching Community College or College History (3) Investigates new materials, methods and trends in teaching history at community and senior college levels. Required of all Doctor of Arts candidates.

HIST 699 Thesis (Maximum 15) Optional for Master of Arts programs on recommendation of the major advisor.

HIST 755 Supervised Teaching in History (3-9) Gives the student the opportunity to teach college-level classes under the supervision of the graduate faculty in history. Required of all Doctor of Arts candidates.

HIST 797 Doctoral Proposal Research (1-6) Required of all doctoral students prior to admission to candidacy. Students may register for 1-6 hours in any quarter, and may earn a maximum of 6 hours of credit in partial fulfillment of requirements for the Doctor of Arts degree.

HIST 799 Doctoral Dissertation (18) Required of all doctoral candidates.

Human Rehabilitative Services

HRS 201 Undergraduate Practicum (1-4) Open only to sophomore majors in Human Rehabilitative Services. Engage in supervised professional activity in major field. Approximately 1 hour of credit granted for every 20 hours of practicum. Two copies of a well-written paper must be filed with instructor before credit is given.

f-HRS 290 Introduction to Human Rehabilitative Services (3) Learn basics of rehabilitation, social welfare, employment service, corrections etc. Receive orientation to field experience and current position of Rehabilitative Service major. Study impact of past, current and pending legislation on profession.

HRS 301 Undergraduate Practicum (1-4) Open only to junior Human Rehabilitative Service majors. Supervised professional activity in student's major field. Approximately 1 hour of credit granted for every 20 hours of practicum. Two copies of a well-written paper must be filed with instructor before credit is given.

HRS 308 Workshop in Human Rehabilitative Services (1-4) Topics such as observation techniques, programming for the handicapped, and community relations will be introduced. Materials prescribed by specific workshop as offered.

HRS 370 Habilitation of the Developmentally Disabled (3) Orientation to legislation, history, mandate and structure of Developmental Disabilities Program. Case management system model and goals of employment, as pertinent to developmentally disabled, are discussed.

HRS 371 Rehabilitation of the Severely Physically Disabled (3) Focuses upon rehabilitation problems associated with severely physically disabled clients. Disabilities to be discussed (but not limited to) traumatic spinal cord injured, cerebral palsy, multiple sclerosis, muscular dystrophy, cardiac involved client.

HRS 380 Alcohol and Drug Rehabilitation: Basic Counseling Skills (4) Gain information and develop skills to work effectively with substance abusers. Learn about substance abuse patterns, counseling skills, values clarification, crisis intervention. Be involved in experiential activities to facilitate skill acquisition.

HRS 381 Alcohol and Drug Rehabilitation: Client Treatment Planning and Record Management (4) Gain knowledge and abilities to effectively develop treatment plans and manage client case records. Cover confidentiality regulations, drug laws, psychophysical effects of chemicals, treatment planning and client record management.

HRS 390 Introduction to Social Rehabilitative Services (3) Prerequisite: HRS 290. Begin study of rehabilitation process, including history, principles, philosophy and legal aspects of rehabilitation and related fields. Stress rehabilitation as integrated services, and understand objectives and organizational basis of rehabilitation programs.

HRS 391 Special Client Concerns (1-5) Explore and analyze current issues and concerns as they relate to rehabilitating clients. Five distinct areas of coverage are required.

HRS 392 Psychological Aspects of the Handicapped (3) Develop awareness of the handicapping nature of specific disabilities and the relation between disability and the psychological aspects of successful adjustment. Discuss specific disabilities and models of normalcy and deviancy.

HRS 393 Client Management Techniques (3) Learn principles of behavior management as they relate to clients with physical, mental or emotional disabilities. Develop skills in behavior management in vocational adjustment, independent living and other rehabilitation settings.

HRS 394 Practicum in Human Rehabilitative Services (2-8) Individual observation and supervised experience in working with clients of service agencies. Open to juniors and seniors only. One copy of a well-written paper and an agency supervisor's evaluation must be filed with instructor before credit is given. S/U grade.

I-HRS 395 Working with Families of the Handicapped (3) Better understand the families of the handicapped by exploring both theoretical and practical components of family relationships, exceptional demands placed on them, and role of the professional.

HRS 397 Rehabilitation of the Substance Abuser (3) Interact openly and freely in a lecture-seminar on drug and alcohol abuse, treatment modalities, available treatment facilities, and rehabilitation and educational techniques. Emphasize abuse as a concomitant to other disabilities.

HRS 401 Undergraduate Practicum (1-4) Open only to senior Human Rehabilitative Services majors. Supervised professional activity. Approximately 1 hour of credit granted for every 20 hours of practicum. Two copies of a well-written paper must be filed with instructor before credit is given.

HRS 422 Individual Studies in Human Rehabilitative Services (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 instructor and one with department chair. No General Education credit.

HRS 450 Independent Living for Rehabilitative Services (3) An introduction to independent living, including concepts as applied to severely handicapped population. Exposure and understanding of common independent living concepts, skills, devices and aids.

HRS 480 Juvenile Offender Rehabilitation (3) Gain knowledge and skills to work with juvenile delinquents. Cover Juvenile Justice System and corresponding diversionary programs. Learn approaches to understanding and working with juvenile delinquents.

HRS 481 Adult Offender Rehabilitation (3) Gain knowledge and skills necessary to work with adult offenders. Cover criminal justice systems, corresponding diversionary programs, and understanding and working with adult offenders.

HRS 491 Interviewing, Client Program Planning and Casework Techniques (5) Explore and discuss the theory and practice of interviewing to elicit accurate information, program planning for clients, and casework techniques and processing by demonstration and practice.

HRS 492 Medical Information for Human Rehabilitative Services (4) Understand how the practitioner collects, analyzes and synthesizes medical data. Learn the concept of vocational factors and how they combine with individual physical and mental restrictions.

HRS 494 Supervised Field Practice (8-15) Prerequisite: Core courses complete. This course demands a 400 clock hour minimum lasting at least one full 10-week term. Become totally involved in providing services in one of several various agencies. Submit written application to Human Services department at least one quarter prior to registration for this course.

HRS 495 Vocational Development and Job Placement (3) Learn skills necessary to develop and implement vocational planning, career ladder alternatives, vocational exploration and sources of occupations used in Human Rehabilitative Services. Cover occupational information sources, career theories, evaluation instruments and techniques.

HRS 496 Client Assessment (3) Discuss the unique interpretation necessary for handicapping conditions, and special adaptations of assessment tools for the disabled.

HRS 497 Rehabilitation/Counseling of Acoustically Handicapped (3) Understand needs and problems confronting deaf and hard of hearing adults in rehabilitative settings. Investigate psychosocial, occupational and educational impact of hearing impairment, case studies, hearing assessment, and audiological results evaluation and interpretation.

HRS 508 Workshop in Rehabilitation Counseling (1-4) Facilitate specific disability areas as designated by each workshop title, including current issues, problems, programs and topics of local and national interest.

HRS 510 Rehabilitation Case Management (3) Review various case recording methods and present management model framework from which to view work activities.

HRS 550 Independent Living in Rehabilitation (3) Explore independent living concepts, demonstration and research as applied to the severely handicapped. Receive exposure and understanding of common independent living skills, devices and aids.

HRS 580 Alcohol and Drug Rehabilitation: Basic Counseling Skills (4) Gain information and skills necessary to work effectively with substance abusers. Cover substance abuse patterns, counseling skills, values clarification, crisis intervention. Be involved in experiential activities to facilitate skill acquisition.

HRS 581 Alcohol and Drug Rehabilitation: Client Treatment Planning and Record Management (4) Gain knowledge and abilities to effectively develop treatment plans and manage client case records. Cover confidentiality regulations, drug laws, psycho-physical effects of chemicals, treatment planning and client record management.

HRS 589 First Line Supervision in Vocational Rehabilitation (3) Learn duties, responsibilities and philosophies of first line supervision. Develop competencies and skills in first line management, budgeting and quality assurance.

HRS 590 Introduction to Rehabilitation Counseling (3) Survey history, principles, philosophy and legal aspects of rehabilitation and related fields, stressing concept of integrated service. Understand objectives and organizational basis of rehabilitation programs.

HRS 591 Community Resources for Rehabilitation (3) Understand needs for community resources, evaluate available resource effectiveness, acquire skills and knowledge to develop community resources needed for implementation of rehabilitation, guidance and counseling services. S/U final grade.

HRS 592 Psycho-Social Aspects of Disability (3) Develop sensitive awareness of handicapping nature of specific disabilities and relationship between disability and psychological, social and vocational aspects of successful adjustment. Specific disabilities discussed vary according to students' needs and interests.

HRS 593 Medical Aspects of Disabilities (3) Discover medical implications, including anatomy, physiology and pathology of human systems, physical reconstruction, restoration and adaptation. Emphasize social and occupational aspects of injury, somatic and psychogenic disability and acquire basic medical terminology facility.

HRS 595 Vocational Placement and Adjustment (3) Consider such basic knowledge as theories of vocational choice, labor market and job analysis, and psychology and sociology of work in relation to vocational placement problems.

HRS 596 Job Development, Analysis and Placement in Rehabilitation (3) Learn skills necessary to develop and implement job development, analysis and placement strategies with agencies working with mentally and physically handicapped persons.

HRS 601 Practicum (1-4) Open only by invitation to resident graduate students. Supervised professional activity in student's major field, approximately two hours per day. Two copies of a well-written paper must be filed with instructor before credit is given. Make application to this department before registration.

HRS 610 Interpretation and Evaluation of Behavioral Research (3) Provides graduate students with necessary skills for interpretation and evaluation of research in social services. Emphasizes basic concepts, design and utilization of behavioral research.

HRS 611 Seminar in Rehabilitation Counseling (3) Gain a thorough understanding and awareness of need for continuous professional growth and development. Discuss rehabilitation research, ethical problems and professional issues of current concern.

HRS 620 Assessment and Evaluation of the Handicapped (3) Learn a variety of unique techniques for handicapped adult client appraisal, limitations imposed by standardized tests when making inferences about the handicapped and skills in vocational analysis.

HRS 621 Principles of Vocational Evaluation (3) Identify and demonstrate the principle methods, processes and skills needed by vocational evaluators.

HRS 622 Individual Study (1-4) Qualified graduate 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 instructor before credit is given. Make application to the department before registration.

HRS 630 Human Services Counseling: Theories and Techniques (3) Study counseling and counseling theories as applied to the handicapped population. Analyze these theories and how they are utilized in the counseling interview.

HRS 631 Practicum in Rehabilitation Counseling (6) Meets 15-20 hours per week. Prerequisite: HRS 630. Qualified Human Services majors engage in counseling interviews and activities under supervision of one or more University staff members. S/U grading.

HRS 650 Seminar: Administration of Rehabilitation Programs (3) Learn basic principles and practices related to rehabilitation program administration, college training programs and state-federal agencies. Include such special areas as program development, emphasizing grant preparation.

HRS 651 Advanced Seminar: Rehabilitation Research (3) Survey current rehabilitation research, examine nature and methods of research and learn procedures for analyzing and evaluating recent research in vocational rehabilitation.

HRS 660 Seminar: Psychiatric Rehabilitation (3) Understand the roles and activities of a rehabilitation counselor working with the psychiatric client. Explore the nature of psychiatric clients and their interaction with employers and society.

HRS 661 Seminar: Rehabilitation of the Substance Abuser (3) Discuss basic types and effects of commonly abused chemicals, treatment modalities, available treatment facilities, and rehabilitation techniques. Emphasize drug and alcohol abuse as primary handicaps, but consider abuse as a concomitant to other disabilities.

HRS 662 Sexuality and Disability (3) Establish a working familiarity with current trends and theories involving issues of sexuality and the disabled.

HRS 672 Advanced Seminar: Individual Assessment for Vocational Evaluation (3) Prerequisites: HRS 620, 621 or equivalents. Address in depth problems of individual assessment in vocational evaluation, particularly vocational implications of assessment techniques and the application of information in client programming.

HRS 673 McCarron-Dial Work Evaluation System (3) For specialist/doctoral students in rehabilitation and related disciplines interested in neuropsychological aspects of human assessment. The NDWES test battery identifies aptitudes and traits required of mentally disabled adults to perform successfully in the world of work.

HRS 694 Supervised Clinical Practice in Rehabilitation Counseling (15-30) Prerequisite: HRS 631 May be taken for a 30-hour total, with maximum of 15 in any given quarter. Open to Rehabilitation Counseling majors only. Supervised practice in counseling, case studies, contacts with community social agencies and employers, and practicum in specific rehabilitation processes. Maximum of 800 hours of field work for 2 full quarters of approximately 10 weeks each. S/U final grade.

HRS 699 Thesis (8-15) Optional for M.A. programs on recommendation of major advisor.

HRS 701 Specialist Degree Practicum (8) Project or supervised professional activity required of all candidates for Specialist in Education degree. Further background in specialization area. Written report of project of activity required.

HRS 755 Supervised Practicum in College Teaching (3-9) Experiences in observation and supervised practice in college teaching for doctoral candidates planning to teach on college or university level. Observations and experience used as basis for learning experiences analysis.

HRS 756 Internship in Supervising College Teaching (3) For doctoral candidates preparing for college teaching. Experience working with regular staff members supervising college and university teaching experiences. Stress various teaching-learning process aspects and self-growth analysis.

HRS 758 Advanced Practicum in Rehabilitation Research (3-9) Students will receive supervised experience in administration of Rehabilitation Programs. Experience includes program planning, evaluation and grant writing. Registration is for 3 credits. Course may be repeated for maximum of 9 credits. Approximately 100 clock hours per quarter are required for 3 credits.

HRS 759 Advanced Practicum in Rehabilitation Counseling Supervision (3-9) May be repeated. Doctoral students receive supervised experience in study of problems involved in training rehabilitation counselors. Participate through instruction and supervisory practice in training rehabilitation counselors. Register for 3 credits; repeat for maximum of 9 credits. Approximately 100 clock hours per quarter required for 3 credits.

HRS 794 Advanced Clinical Internship (4-16) Doctoral students only. This supervised rehabilitation counseling internship constitutes an integral portion of the total education and training program. Structured to special philosophy, functions and clientele of agency, and interest, background and capabilities of individual student.

HRS 797 Doctoral Proposal Research (1-6) Required of all doctoral students. Students may register for 1-6 hours of this course in any quarter, but must earn a minimum-maximum of 6 hours of credit in partial fulfillment of requirements for all doctoral degrees prior to admission to candidacy.

HRS 799 Doctoral Dissertation (1-18) Required of all doctoral candidates. Students may register for 1-18 hours of dissertation credit in any quarter, but must earn a minimum-maximum of 18 hours of credit for the dissertation in partial fulfillment of doctoral requirements.

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 Renaissance (4) Selected studies in Western culture from the decline of Rome to the 17th century.

g-HUM 113 Age of Reason to Age of Romanticism: 17th through 19th Century (4) Selected studies in Western culture from the 17th through the 19th centuries.

g-HUM 114 The Twentieth Century (4) Selected studies of Western culture during the 20th century.

g-HUM 115 Literature and Arts of the Orient (4) An introduction to the literature, arts and thought of the Orient.

d-HUM 120 Literature and Film (4) Comparative study of literary and film-making techniques; focuses on significant works appearing in both media, problems of translation from one media to another, mutual influence, dimensions of perception.

d-HUM 121 Popular Film (4 - maximum 12) The history and role of cinematic genres, e.g., westerns, musicals, spy/detective thrillers, police/gangster, horror, science fiction, war/violence, comedy, romance, social consciousness, documentaries. No subtitle may be taken more than once for credit.

g-HUM 140 Mythology and the Arts (4) Comparative study of Greek and other world myths as important sources of inspiration and allusion in literature, music and visual arts.

g-HUM 210 Themes or Problems in the Humanities (Maximum 12) Interdisciplinary study of one or more of civilization's recurring themes; or of a great philosophical, esthetic, social or political problem as reflected in visual art, music, literature and 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.

g-HUM 241 Psychological Origins of Myth (4) Psychological, as well as biological or organic, explanations for myth. Students will apply theories to primary sources, including literature, painting and sculpture.

g-HUM 250 The Wisdom of India and China (4) The literature and other arts of India and China. Emphasis will be placed on the concept of man as revealed in these arts.

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) Interdisciplinary introductions to modern Chinese culture; study of literature in translation, 1917-1952; emphasis on the historical development, and religious, political and philosophical traditions.

HUM 260 Three Sons of Florence (4) The Italian Renaissance during the 15th and 16th centuries, as centered around three important Florentines: Lorenzo Medici, Machiavelli, and Michelangelo.

d-HUM 320 The Art of the Film (4) An introduction to the major creative filmmakers, Griffith, Welles, Bergman, Antonini, etc., and to their characteristic technical and thematic concerns.

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.

g-HUM 410 Advanced Course in the Humanities (Maximum 12) One or more great literary or artistic works in relation to history, philosophy and other arts.

HUM 508 Workshop in the Humanities (Maximum 12) Multidisciplinary studies of human culture, for example, of literature, philosophy, history, visual arts and music. The approach may be thematic, historical, stylistically analytic or other.

HUM 512 Studies in World Humanities (Maximum 12) Seminars in the interrelationships among predominating art forms and modes of thought at certain crucial historical times, and their influence on artists and writers of differing times or countries.

Individualized Education

IE 201 Individual Tutorial (Maximum 15) Study with a faculty tutor on an individual project which may involve library, laboratory or independent field work. Determine nature and duration of project with tutor. Ungraded credit.

IE 401 Individual Tutorial (Maximum 15) Study with a faculty tutor on an individual project which may involve library, laboratory or independent field work. Determine nature and duration of project with tutor. Ungraded credit.

Interdisciplinary Studies

d-ID 102 Composition Skills I (4) Practice all stages of the composing process, review conventions of standard edited English, and learn several rhetorical patterns important for college writing. Consent of instructor.

f-ID 105 Seminar on Human Values (3) Identify and critique personal values to learn to cope with value commitments and expressions of others. S-U final mark.

d-ID 106 Composition Skills II (3) Continue practicing essential writing skills, learn new rhetorical patterns, and study concepts of language change as a means toward spelling and vocabulary improvement. Consent of instructor.

e-ID 107 Introduction to Technical Writing (2) Learn to organize and compose business letters, abstracts, analytic essays, and research reports while practicing principles of sound critical thinking and correct scholarly documentation. Consent of instructor.

g-ID 176 The Idea of America (5) Analyze how the development of art, architecture, music, literature and thought influenced and reflected American experience, and trace the significance of past experience to present concerns.

ID 208 Liberation: Myth to Ms (5) Discuss feminist movement and utilize an interdisciplinary feminist perspective to analyze how myth affects identity and attitudes of the "male world" and of women in relation to themselves and society.

f-ID 210 Death and Dying (3) Examine current American view of death and dying from perspectives of psychology, religion, medicine and sociology. Explore attitudes toward death, grief, mourning and reactions to imminent death.

ID 213 Theatre: A Place to be Somebody -- Else (3) Define Theatre through the use of one's own inner resources, experience and dramatic instinct.

ID 290 IMplode I Twentieth Century Dimensions Seminar (4) Explore the idea of change to help understand oneself as a product of a changing world and as an initiator and manipulator of change, and examine the issue of control.

ID 291 IMplode II Search for Meaning (9) In a 9-hour block, address a series of human themes or questions. Discuss, following study, selected writings of Socrates, Lao Tzu, St. Francis of Assisi, Leonardo da Vinci.

I-ID 304 American Nightmare: Protest Against the Dream (4) Discuss components of the American Dream and determine what areas of protest against the Dream and what areas of protest against lack of realizations of the Dream should be analyzed.

g-ID 305 POP! Went the Dream (4) The nature of popular culture and the extent to which its development is related to the American Dream via art, film, radio, television, music, reading matter, and sports.

ID 308 Workshop (1-15) Study problems in education, with area covered in any one workshop determined by title. May not repeat any subtitle for credit.

I-ID 310 Effective Parenting (2) A study of parenting techniques, with comparative theories of emotional needs of children and information about effective parenting messages and techniques.

ID 320 The Question of Love (3) Discover the diverse expressions and imitations of love in the lyrics of Dante, Petrarch and Boccaccio as they relate to 20th century questions of love.

h-ID 325 Human Sexuality (3) Study physiological, psychological and sociological aspects of sexuality, understanding differences, institutional structures and sociological processes from biological foundations.

ID 326 Court of Louis XIV (3) Examine art, music and literature of this court, and social and moral values they reflect. Discuss role-playing, trend toward ceremonial, class distinction and ethic as seen through Moliere, Racine and Pascal.

I-ID 330 Freeing Curricula of Sex-Race Bias (4) Designed to give K-12 educators background to recognize and correct sexism and racism in texts, classrooms, and curricula. Covers cultural and educational experiences of Blacks, Hispanics, Native Americans, Asians, and women, and aids in the development of appropriate teaching strategies.

ID 332 Who Rules America (4) Analyze the nature of power and the means of attaining it in contemporary society. Stress theoretical and real conflict between participatory democracy and elitist and special interest government.

f-ID 334 Seminar on Awakening Creativity (3) Awakens and activates creative powers that are in every individual. A focus on creative potential involved in all areas of living. Class participation and contributions of thoughts and ideas required for success. S-U grading.

ID 337 Job Readiness Skills (3) Interact with disabled and able-bodied students concerning the world of employment to mutually discover equalizing factors which determine job-seeking success.

f-ID 342 Ethno-Gormandistics (3) Prepare and sample typical foods of various cultures after studying their histories, customs and cuisine.

ID 343 Current Issues in American Law (3) Learn to understand and cope with our legal procedure, tort and criminal law, taxes, consumer protection, environmental protection, employment law, anti-trust law, and family law.

f-ID 347 Contemporary Dissident Movements in U.S.S.R. (3) Investigate causes, goals and possible effects of different dissident movements in the U.S.S.R., and analyze literary, publicistic, and artistic works and religious activities that are targets of Soviet persecution.

f-ID 400 Sociology of Sport in American Society (3) Utilize basic sociological concepts and theories to analyze American sports in society.

ID 422 Directed Studies (3-4) For Interdisciplinary Studies majors. Students demonstrate, through a research project or senior thesis, their ability to integrate the major components of the interdisciplinary program.

ID 426 Orientation to Computer Assisted/Managed Instruction (3) Use computers as both instructional and management tools. Emphasis on systems terminology, basic problem language for teachers, and procedural steps to convert teacher/lecture materials to computer managed instruction.

ID 480 Interdisciplinary Field Research & Study (3-15) Engage in extensive or intensive field work or hold an internship in area relevant to an interdisciplinary program. Supervised by principal advisor or faculty member approved by advisor.

ID 502 Theory Evaluation/Analysis (3) An in-depth examination of concepts, relationships, boundaries and hypotheses of behavioral theories using the Dubin method of theory of analysis.

ID 508 Workshop (1-10) Problems discussed vary according to the instructors of the course. Each workshop has a subtitle, and no subtitle may be repeated for credit.

ID 513 Professional Renewal (1-12) Problems discussed vary according to the instructors of the course. Each course has a subtitle, and no subtitle may be repeated for credit.

ID 600 Introduction to Graduate Study (3) Orientation to graduate study in general, and to the nature and methods of research in particular. Required for first year graduate students (except those whose departments have substitutes). Should be taken during the first quarter of graduate work.

ID 626 Orientation to Computer Assisted/Managed Instruction (3) Use computers as both instructional and management tools. Emphasis on systems terminology, basic problem language for teachers, and procedural steps to convert teacher/lecture materials to computer managed instruction.

ID 700 Introduction to Doctoral Research (3) Required of all specialist and doctoral candidates, except those whose departments have substitutes for this course.

ID 702 Teacher in the College Community (3) Survey current issues in higher education, role of faculty members in collegiate settings, psychology of learning and typical instructional problems. Required of all Doctor of Arts candidates; take during first year of graduate study.

Italian

d-ITAL 101 Elementary Italian I (5) Learn vocabulary and study the structure of Italian as an introduction to idiomatic and spoken language. Speak and write Italian in class, and use laboratory to benefit pronunciation and accurate fluency.

d-ITAL 102 Elementary Italian II (5) Continuation of ITAL 101.

ITAL 103 Elementary Italian III (5) 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, one with instructor and one with department chair, before credit is given.

Journalism and Mass Communications

All Journalism and Mass Communications courses are numbered according to the system outlined here:

- 0-9 Survey courses and Internships
- 10-19 Reporting and Writing
- 20-29 Individualized Study & Research
- 30-39 Teaching
- 40-49 Broadcasting
- 50-59 Editing & Design
- 60-69 Media Management, Community Journalism
- 70-79 Photocommunications, Graphic Communications
- 80-89 Advertising, Public Relations
- 90-99 Media Criticism, History, Law

d-JMC 100 Introduction to Journalism and Mass Communications (3) Describes and analyzes news, information and entertainment media from the point of view of both consumers and professional mass communicators. Recommended for freshmen and sophomores.

c-JMC 110 Newswriting (4) Prerequisite: Functional typewriting skill and English proficiency. Sharpens skills and judgment in framing questions, interviewing, reporting and writing for broadcast and non-broadcast mass media.

JMC 115 Advanced Newswriting (4) Prerequisite: JMC 110. Reporting and writing about public affairs outside classroom environment. Assignments keyed to current issues, emphasizing in-depth coverage of political, social and economic news.

JMC 171 Introduction to Graphic Communications (3) (2 lecture, 3 laboratory) Learn about basic typesetting, block printing and silk screen printing.

JMC 172 Drawing Fundamentals for Graphic Communications (3) (2 lecture, 3 laboratory) Learn to use drafting tools and materials for graphic arts. Study lettering, orthographic projections, sections, auxiliaries and dimensioning.

JMC 210 Feature Writing for News Media (3) Prerequisites: JMC 110, 115. Researching and writing trenchant feature stories about ideas, trends, personalities and events which are usable by all forms of mass media.

JMC 240 Professional Broadcast Announcing (3) Study the mechanism of speech production and the skills of proper enunciation and diction necessary for non-dramatic broadcast announcing.

JMC 241 Radio Production (3) Learn the basic skills and hardware behind radio production through hands-on operation of microphones, turntables, reel-to-reel and cartridge recorders.

JMC 250 News Editing (3) Prerequisite: JMC 110. Editing copy and writing headlines that audiences for news stories will read, view or hear. Refining skills in selecting, judging and weighing fact, interpretation and opinion in news.

JMC 255 Publications Layout (3) Visualizing and applying graphics concepts to produce readability and attractiveness in copy and illustrations for print media.

JMC 284 Techniques of Advertising (3) Approaching advertising from the copywriter standpoint. Creating copy for broadcast and print advertising, and handling layout and illustration concepts.

JMC 310 Analytical Reporting (4) Prerequisites: JMC 110, 115. Reporting and writing in-depth "think pieces" resulting from investigation, analysis, and critical thought. Assignments include editorials, columns, news stories, and reviews of literary/artistic performances.

JMC 330 Teaching Secondary School Journalism (PTE) (3) Apply methods of teaching, use of teaching materials and communications theory to journalism teaching.

JMC 340 Broadcast Newswriting (3) Prerequisites: JMC 110, 241. Writing news for the ear and for the television camera eye. Preparing newscasts for radio, television and cable.

JMC 341 Advanced Radio Production (3) Prerequisite: JMC 241. Become acquainted with the creating, writing, and execution of broadcast-quality audio productions. Focus is on the hardware and the software used in radio broadcasting.

JMC 342 Television Production (3) Prerequisites: JMC 241, 376. Learn the basic vocabulary, procedures, and production skills necessary for television production. Students apply their knowledge to the actual development and production of short programs.

JMC 345 Radio-Television Advertising and Promotion (3) Develop skills and techniques necessary in the preparation and production of broadcast advertising through practical training in the writing of various types of commercials.

JMC 346 Radio Drama (3) Prerequisite: JMC 241. Write and adapt materials especially designed for the radio medium; study classic radio dramas; write and produce for radio an original script according to the conventions and special capabilities of the medium.

JMC 360 Community Newspaper (3) Prerequisites: JMC 110, 115, 250. Look realistically at prospects and problems of weekly and small daily newspapers and the environments that shape them, from suburbs to mountain resorts. Students meet community journalists, study cases, get practical experience.

JMC 370 Photojournalism (3) Prerequisites: JMC 110, 376 or equivalent. Reporting news and information with a camera, designing photo pages, writing and illustrating photo-essays and photo-features, and writing cutlines. Students supply their own adjustable lens cameras.

JMC 375 Publication Production (3) (2 lecture, 3 laboratory) Investigate printing as related to publishing. Make practical application in layout, design, photography and finishing techniques.

JMC 376 Basic Photography (3) (2 lecture, 3 laboratory) Prerequisite: Instructor consent. Learn the fundamentals of black and white photography, including tools, materials, processing, printing and finishing.

JMC 380 Public Relations (3) Surveying concepts, procedures and theories behind public relations work. Examining current practices in business, governmental and other settings.

JMC 384 Direct Mail Advertising (1) Creating the mailing piece and securing a productive mailing list.

JMC 385 Media Planning (1) Planning the media mix used in advertising campaigns, and studying the use of advertising in the print media and in broadcasting.

JMC 386 Advertising Regulation (1) Examining how controls by professional codes, postal laws and federal and state regulatory agencies influence the conduct of the advertising business.

JMC 390 The Impact of Mass Communications on Society (3) Prerequisite: JMC 100. Study the effects of media content and media industries on contemporary society; read and evaluate current media criticism and examine the role of media in society.

d-JMC 397 Outstanding Journalists and Their Times (3) Seeing American journalism history through the writings, professional standards and social contributions of leading men and women in the mass media.

d-JMC 399 Press Criticism and Current Affairs (3) Monitoring the flow of current news and the performance of the mass communications system in reporting and interpreting it. Evaluating the role of ombudsmen, journalism reviews, press councils and other proposals for improving the news media.

JMC 401 Journalism and Mass Communication Intern (2-4) Prerequisites: Junior or senior status and permission of Journalism advisor. Journalism and Mass Communication majors only. One quarter of full-time work off-campus in news, public relations, advertising or related organizations.

JMC 408 Special Topics (1-4) Concentrating on a current issue or problem in journalism and mass communications through a workshop or short-course format. (Course may be graded S or U).

JMC 422 Journalism and Mass Communications 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-researched and written paper are required. One copy each is submitted to the instructor and to the department chair. Not for graduate student credit. No General Education credit.

JMC 430 Scholastic Publications (PTE) (3) Analyze the purpose and problems of school newspapers and yearbooks. Learn techniques for advising newspapers, yearbooks and magazines.

JMC 442 Advanced Television Production (3) Prerequisite: JMC 342. Learn the skills necessary for multi-camera studio production, the use of special effects, and studio direction of dramatic and non-dramatic programs.

JMC 443 Electronic Field Production (3) Learn the techniques of remote video production and post-production editing. Produce broadcast-quality programs, including news and documentary, with a final project designed by the student in cooperation with a faculty supervisor.

JMC 444 Cable Television Production (3) Prerequisite: JMC 442 or 443. Learn the skills and techniques necessary as part of a production unit for a regularly scheduled cable television program.

JMC 460 Newspaper Management (3) Prerequisites: JMC 110, 115, 250, 284. Learn about newspapers from a manager's perspective. Examine the newspaper industry, then focus on production, circulation and advertising in small dailies and weeklies, as well as trends in publishing technology.

JMC 465 Broadcast Management (3) Learn usual procedures, responsibilities and problems encountered by management personnel of radio and television stations.

JMC 474 Photography for Education (3) (2 lecture, 3 laboratory) Produce black and white and color photographs for classroom use.

e-JMC 475 Color Photography Transparencies (3) (2 lecture, 3 laboratory) Plan, expose, process and finish color reversal films and materials for effective multi-projector visual presentations.

e-JMC 476 Black and White Photography (3) (2 lecture, 3 laboratory) Prerequisite: JMC 376. Learn experimental, interpretive and communicative photographic techniques and learn advanced camera and printing techniques.

e-JMC 477 Photographic Illustration (3) (2 lecture, 3 laboratory) Review still life photography in black and white and color. Study studio techniques for architectural, industrial-technical and commercial applications.

JMC 478 Portrait Photography (3) (2 lecture, 3 laboratory) Learn about posing, lighting, printing and finishing portraits in black and white and color.

JMC 479 Color Photography: The Print (3) (2 lecture, 3 laboratory) Discover current methods and techniques of color printing from negatives and transparencies.

JMC 490 International Mass Communications (3) Prerequisite: JMC 390. Study the ways in which nations communicate with other nations and with their own people through various mass media; compare and contrast the media structures of different countries, concluding with an in-depth examination of one particular country of the student's choosing.

d-JMC 492 Mass Communications Law (3) Prerequisite: Junior or senior status. Studying current or perennial ethical and legal issues in journalism and mass communications media as they affect journalists, media management, advertisers and the public.

JMC 495 Television Criticism (4) Prerequisite: JMC 390. Study the effect of television as an informative, persuasive, entertaining, and culturally indoctrinating medium.

d-JMC 496 Profiles of 20th Century Journalists (3) Intensively examine lives and careers of ten or fewer distinguished journalists, as revealed by biographies and autobiographies. For example: Edward R. Murrow, Dorothy Thompson, Theodore H. White and Heywood Brown.

JMC 501 Seminar in Photojournalism (3) Develop advanced camera skills, communicate with pictures. Learn composition and enlarging techniques, and produce a portfolio of various picture situations.

JMC 505 Seminar for School Publications Sponsors (PTE) (3) For beginning and experienced advisors. Learn about organization of newspaper staff, management techniques and freedom of high school press. Get new ideas and procedures, with materials to help motivate and organize student newspaper staffs.

JMC 534 Photography for Education (3) (2 lecture, 3 laboratory) Produce and evaluate black and white and color photographs for classroom use.

JMC 575 Color Photography: Transparencies (3) (2 lecture, 3 laboratory) Plan, expose, process and finish color reversal films and materials for effective multi-projector visual presentations.

JMC 576 Black and White Photography (3) (2 lecture, 3 laboratory) Investigate experimental, interpretive and communicative photography through advanced camera and printing techniques.

JMC 577 Photographic Illustration (3) (2 lecture, 3 laboratory) Study still life photography in black and white and color. Learn studio techniques for architectural, industrial-technical and commercial applications.

JMC 578 Portrait Photography (3) (2 lecture, 3 laboratory) Pose, light, print and finish portraits in black and white and color.

JMC 579 Advanced Color Photography (3) (2 lecture, 3 laboratory) Prerequisite: JMC 575 or instructor consent. Learn advanced techniques in the use of color reversal materials for effective multi-projector visual presentation.

JMC 591 Newswriting Methods (3) Prerequisite: Basic college level newswriting course or permission of instructor. For graduate students who wish to update writing and reporting skills, and for those interested in specialized areas of journalism.

JMC 595 Philosophy & Procedures of Public Relations (3) Take a case study approach to advanced study of the public relations process and its application to a variety of institutions from business to education.

JMC 597 Public Relations Techniques (3) Studying and developing effective tools and techniques used by the professional public relations practitioner.

JMC 601 Practicum (3-12) Open only by invitation to resident graduate students in journalism and mass communications. Supervised professional activity in student's area of emphasis. Two copies of a well-researched and written paper are required.

JMC 622 Journalism and Mass Communications Individual Studies (1-4) Qualified graduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-researched and well-written paper are required.

Management

MGT 350 Principles of Management (4) Study concepts, principles, theories and operational problems of organization and management. Examine functional areas of management — planning, controlling, organizing, decision making, as well as contribution to management of other disciplines.

MGT 354 Human and Organizational Behavior (4) Investigate the human aspects of business and how they influence efficiency, morale and management in the organization. Learn the psychological and sociological approaches to human behavior.

MGT 357 Managing New Business Ventures (4) Prerequisites: ACCT 220, 221; MGT 350; MKT 360; FIN 370. Business majors only. Emphasize the problems and opportunities of starting new businesses, including new enterprise creation, planning, management, control and growth.

MGT 406 Internship in Management (12) Prerequisite: Faculty coordinator's consent. Get practical experience and opportunities to utilize theory of academic Management courses. S/U grading.

MGT 407 Small Business Counseling (3) Prerequisite: Senior standing and consent of faculty coordinator. Apply theories learned in all business majors to actual small businesses through this cooperative program with Small Business Administration. S/U grading.

MGT 453 Human Resources Management (4) Prerequisite: MGT 350. Study principles and techniques of personnel management with attention to their psychological foundations.

MGT 454 Human Resources Development (4) Prerequisite: MGT 350. Determine human resource needs and their acquisition and utilization in an organization, including methods and theories of training and development. Simulated training and development exercises included.

MGT 455 Collective Bargaining (4) Prerequisite: MGT 350. Trace the labor movement, basic philosophies of different labor unions, legislation, and decisions of courts and labor boards affecting management-employee relations. Discuss current labor topics, contract negotiations and administration, grievances and disputes.

MGT 456 Business Policies and Management (4) Prerequisites: ACCT 220, 221; FIN 231, 370; MGT 350, and senior standing. Integrate various functional areas of business in terms of policy-level decision making. Emphasize cases.

MGT 457 Organizational Development and Conflict Resolution (3) Prerequisite: MGT 354. Examine sources of conflict in the business organization setting, recognizing conflict as a force which cannot be ignored in the pursuit of effectiveness.

MGT 458 Seminar in Entrepreneurship (3) Prerequisites: MGT 357 and senior status. Make an integrative study of problems in Small Business Management through case studies and preparation of a proposal for the creation of a new business.

MGT 550 Concepts in Personnel Management (4) In-depth understanding of major functional areas of personnel management, including organization and evaluation of personnel departments; motivation, recruitment, selection, placement, compensation and career development. New developments and issues affecting personnel function explored, including, but not limited to recent legislation, agency rulings, minority employment, labor relations and difficult employees.

MGT 650 Administrative Theory (4) Prerequisite: MGT 350 or equivalent. Consider management approaches to large-unit relationships, power and influence concepts, and analysis and evaluation of conflicts relating these aspects of behavior to coordination and control, with motivation.

MGT 652 Seminar in Organizational Behavior (4) Prerequisite: MGT 350 or equivalent. Study small work groups and their impact on organizational behavior, from development through membership roles and satisfactions to influence in motivation and performance, comparing group and individual behavior.

MGT 653 Seminar in Personnel Management (4) Prerequisite: MGT 350 or equivalent. Examine managerial policies, practices and organizational behavior, highlighting concepts of work, work environment and technology. Emphasize individual behavior in organizations, including understanding developmental background provided by communication and motivation theory.

MGT 654 Seminar in Human Behavior in Organizations (4) Prerequisite: MGT 350 or equivalent. Study circumstances surrounding management of organizational behavior, highlighting concepts of work, work environment and especially technology. Emphasis on individual behavior in organizations, including understanding developmental background provided by communication and motivation theory. Included is introductory consideration of informal organizations and small work groups.

MGT 656 Seminar in Business Policy (4) Prerequisites: Undergraduate courses in functional areas of Business or their equivalents. Using a comprehensive-case method, integrate functional areas of business in terms of policy level decision making. Does not fulfill graduate Business requirement for Master of science degree in Business Administration as a graduate-level course in management.

Management Information Systems

MIS 180 Information Systems (4) (Laboratory arranged) Become familiar with basic concepts and procedures of data processing and information systems, emphasizing hardware, software and applications. Survey flowcharting, computer-based data processing, BASIC language programming, systems analysis and design, and briefly, Management Information Systems.

MIS 281 FORTRAN Programming (4) (Laboratory arranged) Prerequisite: MIS 180 or equivalent. This course includes an introduction to electronic computer operation and to FORTRAN programming. Students develop and analyze programs for business applications and use existing programs for general applications.

MIS 380 Interactive Languages and Techniques (4) (Laboratory arranged) Prerequisite: MIS 180 with minimum grade of "C" or by consent of instructor. Investigate interactive programming techniques, including Operating System commands and activities within Time Sharing Systems, building indirect and direct access external data files, sequential and random access, Text Creation, Editing, system library and utilities.

MIS 381 PASCAL Programming (4) (Laboratory arranged) Prerequisites: MIS 180 and either MIS 281 or 363, with minimum grades of "C," or by instructor consent. Begin PASCAL programming language and concept and techniques of structured programming. Develop and analyze programs in PASCAL for typical business and scientific applications.

e-MIS 383 COBOL Programming (4) (Laboratory arranged) Prerequisite: MIS 180 with minimum grade of "C" or by instructor consent. Begin electronic computer operation and COBOL programming. Develop and analyze programs for business applications, and use existing programs for general applications.

MIS 385 Advanced Structured COBOL (4) (Laboratory arranged) Prerequisite: MIS 383 with a minimum grade of "C" or consent of instructor. Learn advanced structured computer programming techniques, with special reference to COBOL for business applications. Study sequential and random access processing with various secondary storage devices and data management techniques.

MIS 406 Internship in Management Information Systems (12) Prerequisite: Consent of faculty coordinator. Get practical experience and opportunities to utilize theory of academic Management Information Systems courses. S/U grading.

MIS 482 Computer Simulation Techniques (4) (Laboratory arranged) Prerequisites: QA 291 and course in high level computer programming language with minimum grade of "C," or consent of instructor. Learn systems analysis methodology by using models and computer simulation, especially decision making and problem solution and the GPSS programming language.

MIS 485 Data Base Management (4) (Laboratory arranged) Prerequisites: MIS 383 with minimum grade of "C" or by consent of instructor. Investigate the theory and techniques of data base management, examining various data base structures from the point of view of efficiency and utility.

MIS 486 Advanced Data Base Management (4) (Laboratory arranged) Prerequisite: MIS 485. Expand coverage of data base management to include development of data base applications.

MIS 487 Systems Analysis and Design (4) Prerequisites: MIS 383 and consent of instructor. Examine relationship of systems and procedures to policies and needs of management, job characteristics, management audit and flow charting. Analyze operations by work simplification, measurement and sampling study to include current developments in human engineering, job design, forms control, records management and company manuals.

MIS 488 Advanced Systems Analysis and Design (4) Prerequisite: MIS 487 or equivalent. Integrate systems for all major functional modules of an organization, including management systems, information requirements, determining system economics, current issues, case studies, and application of management information systems.

MIS 489 Special Topics in Management Information Systems (4) (Laboratory arranged) Prerequisites: QA 390, recent course in computer programming and instructor's consent. Make an in-depth study of topics in individual field of interest, relating to information systems. Learn the use of such software packages as SPSS, SAS and BIOMED.

MIS 580 Information Processing (4) Investigate basic concepts of information retrieval and processing, including terminology, hardware, documentation, computer languages and applications. Not for previous data processing majors or minors.

MIS 582 Computer Applications in Accounting (4) Overview computer systems applications in accounting, including systems analysis and design, hardware and software controls, data base management, management information systems and an introduction to COBOL.

MIS 682 Seminar in Management Information Systems (4) Prerequisites: MIS 180, 580 or equivalent. Learn about macro information systems, including problems, opportunities and techniques for identifying an organization's requirements for facilitating management and decision-making, and designing and evaluating systems.

MIS 685 Seminar in Systems Analysis and Design (4) Prerequisites: MIS 180, 580 or equivalent. Study micro information systems, their general processes and methodology involved in analysis and design. Blend theory and practice to understand techniques tools, skills and aptitudes needed.

Marketing

MKT 360 Marketing (4) Prerequisite: ECON 110. Study basic concepts of marketing goods and services by taking a marketing approach to product planning, distribution channels, pricing and promotional efforts. Emphasize both customer satisfaction and achievement of business objectives.

MKT 361 Retailing (4) Prerequisite: MKT 360. Study the basic principles and techniques of merchandising and operations for stores of all types. Emphasize management perspective.

MKT 362 Advertising (4) Prerequisite: MKT 360. Survey of advertising principles, including advertising terminology, communication process, advertising agencies, media and ad copy and layout elements. Look at advertising from business viewpoint, but demonstrate value to consumer, business and economy.

MKT 363 Promotion Management (4) Prerequisite: MKT 360, 366. Learn skills to manage promotion area in a firm, emphasizing interrelationships existing between personal selling, advertising and sales promotion, with special attention to sales promotion aspects.

MKT 364 Personal Selling (4) Prerequisite: MKT 360. Integrate personal selling into the total marketing concept, emphasizing the solution of customer needs in the industrial, retail and consumer markets. Learn methodologies for detection of present and future problem areas and appropriate solutions.

MKT 365 Marketing Strategy (4) Prerequisites: ACCT 220, MKT 360. Become familiar with marketing organization operations, and the strategies used by marketing managers in making marketing decisions.

MKT 366 Consumer Behavior (4) Prerequisite: MKT 360. Explore consumers and their behavior as it affects the marketing function. Synthesize empirical findings on consumer behavior and models for analyzing it. Apply theoretical generalizations to practical marketing problems.

MKT 367 Public Policy Issues in Marketing (4) Prerequisite: MKT 360. Discuss public policy and legal aspects of marketing activities, and recognize arguments, pro and con, to develop opinions on current issues. Analyze alternatives available to business firms, government and consumers to handle these issues.

MKT 406 Internship in Marketing (12) Prerequisite: Consent of faculty coordinator. Get practical experience and opportunities to apply theory from academic Marketing courses. S/U grading.

MKT 408 Special Topics (1-4) Special workshops or short courses in various Marketing content areas offered as need and opportunity arises. May be graded S/U.

MKT 460 Market Analysis and Research I (4) Prerequisites: QA 291, MKT 360. Consider typical marketing problems on which research is effective, analyzing basic research designs and methods of collecting data. Emphasize motivational, product, advertising, marketing, consumer-demand and sales control research.

MKT 461 Advertising Campaigns (4) Prerequisite: MKT 360, 460. For seniors. Receive realistic experience in campaign planning. Assume advertising agency identity and responsibility for complete advertising program, including background analysis, market definition, objectives, media selection, scheduling, budgeting, creative elements and evaluation criteria.

MKT 462 Marketing Problems (4) Prerequisites: MKT 365, 460; FIN 370, and senior standing or consent of instructor. Capstone course in Marketing requirement sequence. Course deals with problems of marketing managers and acquaints students with contemporary marketing problems. Case studies and readings used.

MKT 463 Sales Management (4) Prerequisite: MKT 360, 364. Study the major problems involved in sales management, and the relationship of sales management to the total business operation. Identify organizational product/service priorities, appropriate training, motivation to accomplish objectives stressed.

MKT 464 International Marketing (4) Prerequisite: MKT 360. Consider, in seminar, global or multinational aspects of business enterprise and their effect on marketing problems and management. Find functional international marketing areas in marketing systems of various countries and multinational market groups.

MKT 465 Seminar in Retailing (4) Prerequisite: MKT 361. Make direct applications of retailing skills and problem solving in retail management through use of cases, discussion and special projects.

MKT 466 Market Analysis and Research II (4) Prerequisite: MKT 460. Continuation of MKT 460. Conduct an actual research project and study case problems in market research.

MKT 468 Industrial Marketing (4) Prerequisite: MKT 360. Point out peculiarities of marketing industrial goods, emphasizing characteristics of industrial market, industrial buyer behavior, industrial goods classification systems. Develop marketing mixes for industrial products. Use case studies and or projects.

MKT 469 Distribution Management (4) Prerequisite: MKT 360. Take a systems approach to marketer's distribution problems, including inventories, transportation, warehousing, packaging, order processing and managing conflicts within the channel. Study marketing channels emphasizing industrial and consumer product distribution.

MKT 505 Consumer Behavior (4) Prerequisite: MKT 360 or 560. A study of the theoretical and practical application of consumer behavior principles and concepts as they influence the marketing mix. Such topics as perception, learning, information processing, and models of consumer behavior considered.

MKT 560 Marketing Management (4) Not open to undergraduate marketing majors or minors. Survey marketing-related problems in business, developing ability to define, analyze and recommend solutions for typical business problems by cases and major project assignments.

MKT 661 Seminar in Marketing and Public Policy (4) Prerequisites: MKT 360, 560 or consent of instructor. Learn the effect of government on marketing policy, discussing and analyzing governmental controls as well as marketing policies. Class determines special discussion topics.

MKT 662 Seminar in Marketing Communications (4) Prerequisite: MKT 362 or instructor's consent. Learn the means and media a marketing manager utilizes to communicate with a target market, emphasizing the function of the promotional mix in the marketing plan.

MKT 663 Seminar in Retail Management (4) Prerequisite: MKT 361 or consent of instructor. Study the buying function in retail stores, including the buyer's job, demand determination and vendor relations.

MKT 665 Seminar in Marketing (4) Prerequisite: MKT 360 or 560. Examine the techniques available to solve marketing management problems.

Mathematics

a-MATH 101 Fundamental Mathematical Skills (3) Consider operations with real numbers, linear equations and inequalities, operations on polynomials, factoring, solution of two simultaneous equations, 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 Liberal Arts (3) Learn about several topics in mathematics through intuitive presentation to help those who want to know more about mathematics. Not open to mathematics majors and minors.

MATH 113 Professional Renewal (1-12) Concentrate on various topics in mathematics, depending on instructor conducting course. Each course has a subtitle, and no subtitle may be repeated for credit.

a-MATH 123 Intermediate Algebra (5) Prerequisites: 1 year high school algebra and 1 year high school geometry. Cover elementary concepts of algebra through quadratic equations, emphasizing the function concept, and consider systems of linear equations.

h-MATH 124 College Algebra (5) Prerequisite: MATH 123 or full year of modern, second year high school algebra. Treat quadratic, exponential and logarithmic functions, including systems of integers, rational numbers, real numbers and complex numbers. Also consider some topics from matrices and the theory of equations.

h-MATH 125 Plane Trigonometry (5) Prerequisite: MATH 124. Study circular functions and their applications, inverse trigonometric functions and identities, and cover complex numbers through DeMoivre's Theorem.

h-MATH 127 Elementary Functions (5) For students with good background in high school mathematics. Review development of those skills required in calculus, including 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. Cover Cartesian coordinates, distances, locus of an equation, line forms including normal form, conic section including general quadratic forms in two variables, polar coordinates and selected topics.

h-MATH 131 Calculus I (5) Prerequisite: MATH 130. First course in 3-course sequence in beginning calculus. Consider elementary phases of both differential and integral calculus, with various applications of these subjects.

MATH 132 Calculus II (5) Prerequisite: MATH 131. Continuation of MATH 131.

MATH 133 Calculus III (4) Prerequisite: MATH 132. Continuation of MATH 132.

h-MATH 175 Mathematics for Business Decisions I (4) Prerequisite: MATH 123 or 2 years high school algebra or equivalent. Cover standard topics from finite mathematics useful in business, social science and other fields. Not open to mathematics majors and minors.

h-MATH 176 Mathematics for Business Decisions II (4) Prerequisite: MATH 175. Survey topics from differential and integral calculus useful in business, social science and other fields. Not open to mathematics majors and minors.

MATH 191 Mathematics for Elementary School Teachers I (3) First of a 3-course sequence particularly pertinent to prospective arithmetic teacher, presenting arithmetic and algebra from modern approach. Understand mathematical structures, including natural numbers, integers, rational numbers, relations, functions and equations.

MATH 192 Mathematics for Elementary School Teachers II (3) Prerequisite: MATH 191. Continuation of MATH 191.

h-MATH 193 Informal Geometry (3) Study informal Euclidean geometry suitable for the K-8 curriculum, employing laboratory techniques where applicable.

MATH 203 Basic Mathematical Logic (3) Prerequisite: MATH 193 or 131. Learn tools and techniques of logic applied to mathematics through terminology and basic forms with concepts of true value. Discuss statement calculus and treatment of proof, and analyze and apply restricted predicate calculus to mathematics.

h-MATH 305 Mathematics of Finance (4) Prerequisites: Ability to solve algebraic equations and use logarithms. Study simple and compound interest, bank discount, annuities, amortization, stocks and bonds. Scientific or business calculator required.

MATH 321 Elementary Linear Algebra (4) Prerequisite: MATH 131. Study vector spaces, bases, determinants, linear transformations, matrices, eigenvalues and eigenvectors, with applications.

MATH 322 Introduction to Abstract Algebra (4) Prerequisite: MATH 321. Study concepts of abstract algebra including groups, rings, integral domains, and fields.

MATH 327 Elementary Functions from an Advanced Viewpoint (4) Prerequisite: MATH 133. For prospective high school teachers. Survey standard analysis concepts including a careful treatment of elementary functions.

MATH 335 Differential Equations I (4) Prerequisite: MATH 133. Study the theory and solutions of differential equations including applications.

MATH 336 Differential Equations II (4) Prerequisite: MATH 335. Continuation of MATH 335. Cover series solutions of differential equations, systems of equations, partial differential equations, Fourier series and boundary value problems.

MATH 341 Introduction to Modern Geometry I (4) Prerequisite: High school geometry. First of three broad background courses. Build on high school background in Euclidean constructions, expanding to Mascheroni and inversive techniques, and prove classical as well as modern Euclidean theorems.

MATH 342 Introduction to Modern Geometry II (4) Prerequisites: High school geometry and MATH 130. Study Euclidean geometry concepts of congruence and similarity using transformational geometry, and the analytic approach to transformational geometry using the Cartesian coordinate system.

MATH 343 Introduction to Modern Geometry III (3) Prerequisite: MATH 341 or 342. Study the structure of geometric ideas, as well as finite geometries, projective geometry, affine geometry and non-Euclidean geometries.

MATH 375 Elementary Numerical Analysis (3) Prerequisite: MATH 131 and ability to program in BASIC, FORTRAN, or PASCAL. Numerical solutions of equations and systems of equations; interpolation and approximation; numerical differentiation and integration; numerical solutions of differential equations.

h-MATH 381 Problem Solving with Calculating Devices (2) Prerequisite: MATH 124. Solve problems with hand-held and desk calculators, both programmable and nonprogrammable. Study computing and algorithmic processes.

MATH 395 Activities in Elementary Mathematics (2) Prerequisites: MATH 191, 192. Explore topics in elementary mathematics in informal laboratory/discussion, and develop materials packet and equipment suitable for use in elementary, middle or early junior high schools. S/U grading.

MATH 402 Foundations of Arithmetic (3) Elementary and junior high teachers and supervisors learn to understand arithmetic essential for effective teaching, including our number system, operations in it and special numbers.

MATH 403 Structure of Numbers (3) Prerequisite: MATH 132. Begin with Peano's axioms for natural numbers and develop integers by extension; obtain rational and real numbers as successive extensions. Structure complex numbers from real number pairs, and stress isomorphism.

MATH 409 Foundations of Mathematics (3) Prerequisite: Senior status, mathematics major or minor. Study the foundations of Mathematics and the concepts basic to mathematical knowledge, including formal axiomatics, sets, logic and philosophy.

MATH 411 Topics in Mathematics (1-3, maximum 12) Prerequisite: Instructor approval. Survey topics not in existing courses, which reflect specific interests of instructors and students. For example, topics from geometry, analysis, algebra, statistics, numerical analysis, topology and number theory.

MATH 422 Individual Studies (Maximum 4) Qualified undergraduates outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed before credit is given; one with instructor and one with department chair. No General Education credit.

MATH 432 Basic Analysis I (4) Prerequisite: MATH 133. Sequence of 3 courses to extend studies of calculus and analysis into mathematical rigor and logic of analysis. This course includes: real numbers developed through Dedekind cut definition, introductory topological topics, limits, continuity, differentiability and Riemann integral.

MATH 433 Basic Analysis II (4) Prerequisite: MATH 432. Study sequences and series, functions of several real variables and integrals of functions of several variables.

MATH 434 Basic Analysis III (4) Prerequisite: MATH 433. From background of two previous courses, consider special applications, including: implicit functions, applications to geometry, gamma and beta functions, line, surface and space integrals, vector notation, Bessel functions, and elliptic integrals.

MATH 464 Introduction to History of Mathematics (3) Prerequisite: MATH 133. Survey the history of mathematics from antiquity to the present, emphasizing both development of mathematical concepts and the people involved.

MATH 491 Theory of Equations (4) Study properties of polynomials and methods of finding roots of polynomial equations.

MATH 510 Seminar in Mathematics (1, maximum 6) Study and discuss topics from mathematics. S/U grading.

MATH 513 Professional Renewal (1-12) Topics of interest in mathematics will depend on instructor and each course will have a subtitle. No subtitle may be repeated for credit.

MATH 521 Modern Algebra I (4) Prerequisite: MATH 322 or equivalent. Study abstract algebra, emphasizing group theory, ring theory, polynomial rings, principal ideal rings, vector spaces, modules and other selected topics.

MATH 522 Modern Algebra II (4) Prerequisite: MATH 521 or equivalent. Continuation of MATH 521.

MATH 525 Linear Algebra I (3) First in two-quarter course sequence. Investigate vector spaces, linear transformations and matrices, eigenvalues, canonical forms, quadratic forms, and selected applications in other mathematical areas such as differential equations.

MATH 526 Linear Algebra II (3) Prerequisite: MATH 525. Continuation of MATH 525.

MATH 535 Introductory Analysis I (4) Prerequisite: MATH 133. First in 2-course sequence to study topics of modern analysis including sequences, series, continuity, sequences and series of functions, differentiation, partial differentiation, integration and the theory of functions of several variables.

MATH 536 Introductory Analysis II (4) Prerequisite: MATH 535. Continuation of MATH 535.

MATH 540 Introduction to Topology (4) Prerequisite: MATH 133. Elementary point-set topology and general topological spaces, emphasizing metric spaces.

MATH 543 Modern Geometry I (4) Prerequisite: Graduate standing in Mathematics. First in 2-course sequence studying new topics in present-day geometry. Emphasis will be placed on the foundations of both Euclidean and non-Euclidean geometry. Topics will include types of geometry, transformations, and selected Euclidean topics.

MATH 544 Modern Geometry II (4) Prerequisite: MATH 543. Continuation of MATH 543, emphasizing types of geometry with special attention to non-Euclidean topics. Cover absolute, parabolic, elliptic and differential geometries.

MATH 560 Introductory Complex Variables (3) Prerequisite: MATH 434 or equivalent. First course in complex variables, especially for potential calculus teachers. After preliminaries, proceed directly to power series, Laurent's series, contour integration, residue theory, polynomials and rational functions.

MATH 564 Topics in History of Mathematics (3) Prerequisite: Consent of instructor. Explore a period of time, an area of mathematics, and/or a group of mathematicians. Consult instructor for emphasis.

MATH 565 Differential Equations I (3) Prerequisite: MATH 433 or equivalent. Study basic methods, theory and applications of differential equations. Stress the intimate connection between differential equations and linear algebra.

MATH 566 Differential Equations II (3) Prerequisite: MATH 565. Continuation of MATH 565, and including orthonormal bases, least squares, Fourier series, scalar and vector fields, and partial differential equations.

MATH 585 Numerical Analysis I (3) Prerequisite: MATH 133. Cover three areas of numerical analysis: solutions of non-linear equations, interpolation, and approximation theory. Error analysis will also be studied.

MATH 586 Numerical Analysis II (3) Prerequisite: MATH 133. MATH 585 is not a prerequisite. Topics include numerical integration, numerical solutions to differential equations, eigenvalues, and systems of equations.

MATH 591 Theory of Numbers (4) Prerequisite: MATH 322. Foundations of arithmetic and algebra, including fundamental laws, the linear Diophantine equation, properties of integers, and properties of linear and quadratic congruences.

MATH 611 Special Topics (3, maximum 18) Prerequisite: Approval of instructor. Investigate advanced topics in analysis, algebra, topology and statistics. Specific topics chosen at instructor's discretion and students' current needs.

MATH 620 Theory of Fields (3) Prerequisite: MATH 522 or equivalent. Adjunction; separable and inseparable extensions; modular fields; Galois theory; transcendental extensions; and topics selected from ordered fields, fields with valuation and theory of elimination.

MATH 622 Individual Studies (Maximum 4) Qualified graduate 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 instructor before credit is given. Does not satisfy 500 level requirement unless student is in full-time residence at UNC during quarter course is taken.

MATH 626 Theory of Rings (3) Prerequisite: MATH 522 or equivalent. This graduate course complements graduate courses in modern algebra and extends the development of the ring theory in ideals, endomorphism, the Jacobson radical and other topics.

MATH 628 Theory of Groups (3) Prerequisite: MATH 522 or equivalent. Extend the study of group theory begun in modern algebra into selected elementary areas, including permutation groups, abelian groups, and Sylow theorems.

MATH 632 Complex Variable I (3) Prerequisite: MATH 433 or 536. First in a sequence of 2 courses covering basic theory of functions of a complex variable. This covers complex numbers and their algebra, analytic functions, Cauchy-Riemann equations, and differential calculus of analytic functions.

MATH 633 Complex Variable II (3) Prerequisite: MATH 632. Topics include elementary functions of a complex variable and their inverses, residues and poles of a function of a complex variable and their application to evaluating real integrals.

MATH 635 Real Analysis I (3) Prerequisite: MATH 433 or 536. Study elements of set theory and its application to classical integration theory and classical Banach spaces.

MATH 636 Real Analysis II (3) Prerequisite: MATH 635. Topological linear spaces and the theory of general Banach spaces.

MATH 637 Real Analysis III (3) Prerequisite: MATH 636. Treat general measure and integration theory.

MATH 646 General Topology I (3) Prerequisite: MATH 433 or 536. Study of point-set and algebraic topology.

MATH 647 General Topology II (3) Prerequisite: MATH 646. Continuation of MATH 646.

MATH 754 Intern Teaching in Mathematics (2, maximum 6) Primarily for Doctor of Arts candidates preparing to teach in colleges or community colleges. Experience and supervised practice, with attention to various aspects of teaching-learning process and analysis of self-growth.

MATH 797 Doctoral Proposal Research (1-6) Required of all doctoral students. A student may register for 1-6 hours of this class, but must earn a minimum-maximum of 6 hours of credit for doctoral dissertation proposal research in partial fulfillment of requirements prior to admission to candidacy.

MATH 799 Doctoral Dissertation (1-12) Required of all doctoral candidates.

Mathematics Education

MED 272 Mathematics Tutoring (2) Prerequisites: Sophomore standing and consent of instructor. Following 4 hours of instruction on how to tutor in mathematics, 40 clock hours of tutoring experience will be provided. May be repeated twice. S-U grading.

MED 341 Methods of Teaching Mathematics (3) For prospective teachers of middle school, junior and senior high school mathematics. Gain skill in constructing teaching strategies, understanding problems, and applying basic theories in teaching and learning mathematics. Early field experience desirable. Must enroll in EDLS 363 simultaneously.

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 instructor and one with department chair. No General Education credit.

MED 471 Instructional Materials in Secondary School Mathematics (3) (2 lecture, 3 laboratory) Prerequisite: MATH 131. Discover rich sources of instructional materials. Study aesthetic values of mathematics, instructional models, historical materials, classroom equipment, recreational materials, and calculating devices.

MED 577 Mathematics Teachers Workshop (1-3, maximum 18) Work on problems related to elementary, junior high, senior high or junior college mathematics. No more than 9 hours may be applied on any one graduate degree. S/U grading.

MED 622 Individual Studies (Maximum 4) Qualified graduate 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 instructor before credit is given. Does not satisfy 500 level requirement unless student is in full-time residence at UNC during quarter course is taken.

MED 670 Diagnostic Teaching of Mathematics (4) Prerequisite: Undergraduate course in methods of teaching elementary or secondary mathematics. Learn diagnostic-prescriptive models with emphasis on teacher-constructed, diagnostic tests and on individually prescribed learning activities which are suitable for the level of the child's cognitive development. Active learning models will be emphasized. After completing this course, you will be able to teach mathematics in the spirit of PL 94-142.

MED 672 Curriculum in Secondary School Mathematics (4) Survey Mathematics curriculum in grades 7-14, and research in Mathematics Education. Study reports and recommendations of several commissions, and learn about curriculum development, behavioral objectives and evaluation.

MED 673 Problems in Teaching Junior High (4) Prerequisites: MATH 322, MED 672. Possible topics include: detailed considerations of behavioral objectives and evaluation, working with slow learners, content for grades 7-9, and individualization.

MED 674 Problems in Teaching Senior High Mathematics (4) Prerequisites: MATH 341, MED 672. Possible topics include: behavioral objectives and evaluation, future of geometry, teaching advanced algebra, mathematics curriculum for Grade 12, advanced placement programs, approaches to teaching trigonometry, and working with the non-college-bound.

MED 675 Seminar in Literature for Mathematics Education (2, maximum 6) Make a concentrated study of recent literature in the field of mathematics education, and identify, read, and critically discuss with other participants. S-U grading.

MED 678 Special Topics (3, maximum 18) Prerequisites and topics announced in Schedule of Classes. No more than 9 hours may be applied to any one graduate degree.

MED 681 Seminar in Teaching Community College and College Mathematics (3) Read in mathematics education, emphasizing higher education, practice various teaching techniques, discuss professional responsibilities, and engage in other activities helpful to prospective college mathematics teachers. S/U grading.

Medical Technology

Administered by the Department of Chemistry. Courses are open to Medical Technology majors only. In each MTEC laboratory course, students will perform tests on patient specimens under supervision.

MTEC 410 Clinical Chemistry (5) Basic principles and methods utilized in instrumentation, quality control, automation, blood gases and electrolyte interpretation, liver function, enzymology, renal function and tests utilizing isotopes, interpretation of normal and abnormal test results.

MTEC 411 Chemistry Laboratory I (3) Theoretical and technical aspects of automated, semi-automated and manual chemistry procedures, quality control requirements and test data flow in the clinical chemistry laboratory.

MTEC 412 Chemistry Laboratory II (3) Additional testing procedures, with emphasis on gaining proficiency in performance of tests utilizing skills learned in MTEC 411.

MTEC 413 Chemistry Laboratory III (2) New testing procedures, methods development, and more about applying quality control methods to verification of test procedures.

MTEC 430 Immunology-Immunochemistry (4) Basics of immunology and serologic techniques utilized in the clinical laboratory covering blood banking principles and methods, and uses of blood transfusions and component therapy in medicine.

MTEC 431 Immunohematology Laboratory I (3) Principles and procedures of blood banking, selection and drawing of blood donors and the processing, pre-testing and cross-matching of recipient's blood for transfusions.

MTEC 432 Immunohematology Laboratory II (1) Advanced principles of blood banking, including autoimmune disorders, component usage and preparation, syphilis serology, and case studies.

MTEC 440 Medical Microbiology (4) Identification of human pathogenic bacteria, fungi and parasites, the role of viruses, rickettsia, bacteria and fungi in disease, antibiotic therapy and susceptibility testing and quality control.

MTEC 441 Medical Microbiology Laboratory I (3) Clinically significant bacteria, specimen collection, initial inoculation, organism isolation and identification, staining methods, biochemical and serological testing methods, susceptibility testing and quality control.

MTEC 442 Medical Microbiology Laboratory II (4) Less frequently isolated and clinically significant bacteria, and parasites and fungi causing disease in humans; review of MTEC 441.

MTEC 460 Urinalysis and Clinical Microscopy (1) Basic principles, interpretation and clinical significance of various tests performed on urine specimens and other body fluids.

MTEC 490 Hematology (4) Basic principles of hematology methods, blood dyscrasias and other hematologic abnormalities like anemias, leukemias, changes in hematology tests associated with multiple other diseases, the coagulation system and clinical coagulation testing applications.

MTEC 491 Hematology-Coagulation-Urinalysis Laboratory I (3) Basic theory, techniques and skills required to perform routine analysis of patient specimens in hematology, coagulation and urinalysis.

MTEC 492 Hematology-Coagulation-Urinalysis Laboratory II (3) Continuation of MTEC 491, emphasizing proficiency gained in performing routine analysis, and additional procedures in hematology, coagulation and urinalysis.

MTEC 493 Hematology-Serology-Electrophoresis Laboratory III (2) Theory, techniques and skills required to perform serologic and immunologic assays, including electrophoresis and other special procedures.

Meteorology

Courses in Meteorology are administered by the Department of Earth Sciences.

h-MET 110 Climate and Man (3) A general education course that explores the interrelationships between people and climate. Climatic factors, impact of humans on climate, and influence of climate on historical events.

h-MET 200 General Meteorology (4) (3 lecture, 2 laboratory) The basic course in meteorology, required for most subsequent courses. Atmospheric composition and thermal structure; radiation, temperature, pressure, wind, humidity, precipitation and their measurement; clouds; air masses and fronts; simple map analysis.

h-MET 301 Elements of Meteorology (4) (3 lecture, 2 laboratory) Prerequisite: MET 200. In-depth treatment of radiation, gas laws, atmospheric thermodynamics and stability, atmospheric thermodynamics and stability, adiabatic diagrams and their use.

MET 302 Dynamic Meteorology (4) (3 lecture, 2 laboratory) Prerequisite: MET 301. Continues principles developed in MET 301. Atmospheric motion and laws governing it. Planetary and secondary circulations, vorticity, jet streams, air masses, cyclogenesis, frontogenesis.

h-MET 315 Meteorological Instruments, Observations and Codes (3) (2 lecture, 2 laboratory) Prerequisite: MET 200 or 301. Design of meteorological instruments and their operations, weather observations and codes, data transmission and plotting weather data on charts.

h-MET 320 Climatology (3) Factors of climate; analytical methods of climatology; climatic classification. Regional distribution of climates around the world. Relationship of climate to agriculture, housing, industry and human activities.

MET 330 Physical Meteorology (3) Prerequisite: MET 301 or 500. Rainbows, halos, mirages; growth of cloud and precipitation particles; atmospheric electricity; basics of weather modification; elementary radar concepts.

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. No General Education credit.

MET 440 Synoptic Meteorology (4) (2 lecture, 4 laboratory) Prerequisite: MET 302 or 500. Development, behavior and movement of air masses, fronts and associated storm/weather systems. Long and short waves in the upper troposphere. Analysis and forecasting exercises in the laboratory will apply these topics to current weather situations.

MET 450 Severe Weather Phenomena (3) Prerequisite: MET 301 or 500. Atmospheric stability. Development and physical nature of thunderstorms, tornadoes, hurricanes and associated phenomena.

MET 500 Survey of Meteorology (5) (4 lecture, 3 laboratory) Considers the basic principles of atmospheric science with a limited mathematical approach. Radiation and earth-atmosphere energy budget; pressure, temperature, humidity, wind, condensation and precipitation processes, clouds, atmospheric stability. Meteorological instruments, maps and charts. Offered summers only.

MET 536 Biometeorology (3) Prerequisite: MET 200, 301 or 500. Relationship between living organisms and atmospheric environment. Radiation and energy budgets; effect of soil and air temperature, moisture and wind on plants; frost prevention; weather effects on human health and domestic animals.

MET 599 Special Topics in Meteorology (1-4) Explore areas of Meteorology beyond existing departmental offerings. Specific topics determined by student interests and instructor.

MET 622 Individual Studies (Maximum 4) Qualified graduate 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 instructor before credit is given. Does not satisfy 500-level requirement unless student is in full-time residence at UNC during quarter course is taken.

Middle School Education

EDMS 302 Orientation to Middle Schools (3) Investigate the history, philosophy and current curriculum of middle schools. Emphasize organizational plans, skills required of teachers, nature of the curriculum and problems of articulation with other schools in a system.

EDMS 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 instructor and one with department chair. No General Education credit.

EDMS 508 Workshop (1-15) Concentrate on instructional problems of participants, with problems attacked varying with experts conducting workshops. Each workshop has a subtitle, and no subtitle may be repeated for credit. S/U final mark.

EDMS 513 Professional Renewal Experiences (1-6) Discover skills, knowledge and problems of educators, with area to be covered in any one course determined by subtitle. No subtitle may be repeated for credit.

EDMS 601 Practicum (3) Open only by invitation to resident graduate students. Supervised professional activity in participant's interest area. Two copies of a well-written paper must be filed with instructor before credit is given.

EDMS 622 Individual Studies (1-4) Qualified graduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed before credit is given, one with instructor and one with program director. Does not apply to Graduate Division requirements for 500-level or above courses, unless student is in full-time residence at UNC when course is taken.

EDMS 663 Middle School/Junior High Curriculum (3) Study traditional and current curriculum design for middle schools/junior high schools with reference to the needs of young adolescents.

EDMS 664 Seminar in Middle School/Junior High School Instruction (3) Deal with unique characteristics of pre- and early-adolescent learners and learning strategies that effectively meet their needs.

Music

MUS 100 Recitals, Concerts and Productions (No credit) All undergraduate Music majors are required to attend all weekly departmental recitals in their major areas, plus a minimum of 8 major recitals, concerts and productions each quarter in residence. S/U grading.

MUS 101 Sight-Singing and Theory I (4) Sight-reading of standard music materials, pitch and rhythmic dictation, music notation symbols, staff, clefs, scale construction in major and minor keys and intervals. Class meets 4 days, with 5th day for keyboard lab. Not for beginners in Music; student must have prior musical training.

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 4 days; 5th day for 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 4 days; 5th day for keyboard lab.

d-MUS 140 Introduction to Music (3) A non-technical course aiming to increase the enjoyment and appreciation of music 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) An introduction to analysis and description of music, its elements and vocabulary. A survey of music in America.

d-MUS 142 Music Literature and Styles II (2) An introduction to music literature of the Classic, Romantic and Contemporary periods.

d-MUS 143 Music Literature and Styles III (2) An introduction to music literature of the 17th and 18th centuries.

MUS 151 Jazz Theory (2) Prerequisite: MUS 103 or permission of instructor. Cover chords, symbols and scales as they relate to chords, major, minor and dorian tonality and scales used with each. Investigate chord progressions and substitutions, and gain basic jazz piano technique.

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 unique to these areas.

d-MUS 160 Beginning Class Piano I (1) For Music and non-Music majors without background in piano. Includes reading skills, technique and style necessary to play simple accompaniments, community songs and other piano music.

d-MUS 161 Beginning Class Piano II (1) Fits the needs of Music and non-Music majors without background in piano. Includes reading skills, technique and style necessary for playing simple accompaniments, community songs and other piano music.

MUS 162 Beginning Class Piano III (1) For the Music or non-Music major without background in piano. Includes reading skills, technique and style necessary to play simple accompaniments, community songs and other piano music.

MUS 163 Beginning String Instruction I (1) Study, through performance, problems of string playing and available literature for teaching in heterogeneous and homogenous groups in preparation for establishing string classes upon graduation.

MUS 164 Beginning String Instruction II (1) Through performance, study string playing problems and literature for teaching heterogeneous and homogenous groups, and to be prepared after graduation to establish string classes with full knowledge of string playing problems and their solution.

MUS 165 Beginning String Instruction III (1) Advanced continuation of MUS 163 and 164.

MUS 201 Advanced Sight-Singing and Theory I (3) Prerequisite: MUS 103. Continuation of MUS 103. Written work will include cadences, inversions, diatonic modulations and all non-harmonic tones. Keyboard labs, harmonic dictation and written theory correlated. Class meets 3 days per 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 3 days a week, plus a 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 3 days per week, plus one-half hour keyboard lab.

d-MUS 204 Music Fundamentals (2) For non-Music majors with little or no musical background. Develop and/or enhance basic music skills through group singing, rhythmic experiences, listening, and other performance opportunities. Class may be challenged. Offered each quarter.

d-MUS 205 Experiencing Music (1) Prerequisite: MUS 101 or 204. Develop song repertoire and performance confidence through singing, conducting small ensembles and playing autoharp, recorder, bells and rhythm instruments. Required for Elementary Education majors; must take MUS 204 and 205 in sequence. Offered each quarter.

MUS 206 Music Methods and Materials for Elementary Teachers (2) Prerequisites: MUS 101 or 204 and 205. Cover the teaching of musical concepts through singing, rhythmic activities, listening and playing instruments, including integration of handicapped children in the music class. Elementary Education majors must take MUS 204, 205 and 206 in sequence. Offered each quarter.

MUS 210 Introduction to Music Education (2) Prerequisite: MUS 103. For prospective teachers of music. Cover the history and present status of music and qualifications of music teachers, and consider beginning instructional problems. Two hours per week observation and aiding required. Music majors only.

MUS 221 Small Jazz Ensembles (1) Open to any student by audition. Groups consist of rhythm section plus 3 or 4 horns. Groups are listed in Music degree section of this Bulletin.

MUS 224 Vocal Jazz Ensemble (1) Audition required. Ensemble limited to 20 voices: 4 sopranos, 4 altos, 4 tenors, 4 baritones, 4 basses, plus rhythm section and horns. Sing standard jazz literature; sing scat and deal with contemporary jazz notation. Perform on and off campus. Open to any UNC student.

d-MUS 230 String Ensemble (1) Small chamber groups which rehearse regularly and are coached by a faculty member.

d-MUS 231 Brass Ensemble (1)

d-MUS 232 Woodwind Ensemble (1) Groups of 3 to 8 woodwind instruments meet regularly under faculty supervision. May be repeated for credit.

d-MUS 233 Percussion Ensemble (1)

d-MUS 234 Piano Ensemble (1) Prerequisite: Performance ability on the piano. Piano chamber and ensemble literature and performance problems of this literature are explored in performances by students in the class.

d-MUS 235 Classical Guitar Ensemble (1) Audition required. Perform in an ensemble in which melodic playing is stressed, and deal with reading, notation problems and interpretation of all styles of music.

MUS 236 Reading Jazz Band (1) Band open to all students without audition. Band will meet twice a week to sight-read new Jazz Band literature.

d-MUS 243 History of Music I (3) The historical change in music from earliest times to the end of the 16th 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 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, Impressionist and contemporary periods from 1800 to the present.

d-MUS 246 Music in American History and Culture (3) An examination of selected areas of American music in a historical and cultural framework. Musical traditions of various ethnic groups, and 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 methods of ethnomusicology.

MUS 260 Intermediate Class Piano I (1) Functional piano for Music and non-Music majors with slight background in piano. Learn reading skills, techniques and style necessary to play simple accompaniments, community songs and other piano music.

MUS 261 Intermediate Class Piano II (1) Continuation of MUS 260, with further reading skills, techniques and styles necessary to play simple accompaniments.

MUS 262 Intermediate Class Piano III (1) MUS 261 continued, with further instruction in reading, techniques and styles for simple accompaniment.

MUS 266 Madrigal Singers (1) Prerequisite: Membership in the Concert Choir or by special permission. The UNC Madrigal Singers is a highly select group of 16 which performs the annual Christmas Madrigal Feast. In addition, they perform a wide variety of choral chamber works in concerts throughout the year.

MUS 267 Sinfonia (1) Explore literature appropriate for junior high and high school orchestras. Ensemble experience for string players not in the University Symphony Orchestra, and for those wishing experience on a secondary instrument.

d-MUS 268 Summer Festival Orchestra (1-6) Audition required. Selected from among the finest collegiate players in the country, this group is the nucleus of the summer music festival, presenting two concerts and accompanying the opera.

MUS 269 Individual Performance in Voice for Those With Non-Voice Emphasis (2-4) Prerequisite: Consent of instructor. Instruction concentrates on fundamental principles of voice production such as proper breathing, diction, resonance, etc. Development of rhythmic and melodic accuracy receives primary consideration. Work on the fundamentals of good singing 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) Develop performance techniques, style and repertoire of daily studies, etudes and solo literature. Minimum proficiencies are required, depending on the student's degree program and grade level.

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) Limited to approximately 50 singers and is open to all students by audition. The Choir performs a wide range of literature, from the classics to contemporary works. Widely recognized for its excellence, the Concert Choir performs quarterly concerts on campus, and tours annually.

d-MUS 281 University Chorus (1) Membership in this mixed group of 60 singers is open to all UNC students by audition. Performs quarterly concerts, and in the spring joins the Concert Choir in large works for chorus and orchestra.

d-MUS 282 University Singers (1) Prerequisite: Membership in Concert Choir or special audition. This select group of 25 singers performs an extremely varied repertoire, from Renaissance motets to contemporary songs works.

d-MUS 283 Women's Concert Choir (1) Open to all women who enjoy singing literature for women's voices. In addition to quarterly concerts, the Women's Concert Choir performs for local community and University events. No audition is required and Elementary Education majors are encouraged to join.

d-MUS 284 Varsity Men's Glee Club (1) Open to all University men who love to sing. No audition is required. Join the great tradition of men's ensemble singing and perform a wide range of literature for UNC and community audiences.

d-MUS 285 Opera Workshop (1-3) 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 are offered.

d-MUS 287 Summer Symphonic Band (1) Open to all students interested in performing the highest quality literature available. The Summer Season consists of four concerts.

d-MUS 288 Opera Orchestra (1) Rehearse with this group as the pit orchestra for performances of opera and musical comedy.

d-MUS 290 Wind Ensemble (1) Comprised of the most outstanding wind and percussion majors in the School of Music. The ensemble performs a repertoire ranging from works requiring as few as 10 players to as many as 70.

d-MUS 291 Symphony Band (1) Audition required. Selected from the finest performers on campus. Although most members are music majors, students specializing in other fields often qualify for this ensemble. Literature is drawn from the finest contemporary and traditional repertoire.

d-MUS 292 Marching Band (1) Open to all students with high school band experience. Required Fall Quarter for all freshmen, sophomore and junior wind and percussion majors on campus pursuing instrumental music education degrees. Transfer students check with advisors for requirements.

d-MUS 293 Concert Band (1) Made up of music majors and students from other disciplines. Members perform a wide variety of interesting literature selected from standard and current repertoire.

d-MUS 294 Jazz Ensemble (1) For brass, woodwind and rhythm players. Concentrate on jazz idiom music: show, dance and concert. Get thorough preparation for teaching at both secondary and college levels. Music major Jazz Ensemble members must be enrolled in a major ensemble.

d-MUS 295 University Brass Choir (1) Select performing ensemble of 21 brass and percussion students. Concentrate on literature for brass instrumental media, development of musical sensitivity, phrasing, style and intonation. Present many concerts during the year.

d-MUS 296 University Symphony Orchestra (1) Open to all students by audition. Perform and read standard repertoire of the modern symphony orchestra. Give quarterly concerts on campus, and take an annual tour. Participate in Spring Quarter chorus and orchestra event.

d-MUS 297 Chamber Orchestra (1) Audition to join this select group of 20 string members of the Symphony Orchestra. Perform and read literature from the Baroque to the present, specializing in material specifically designed for chamber orchestras.

MUS 301 18th Century Counterpoint (3) Prerequisite: MUS 203. A study of two and three voice counterpoint as found in the invention, canon, fugue and chorale prelude.

MUS 302 Form and Analysis (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 (3) PTE Prerequisite: MUS 210 or instructor consent. Make a comprehensive study of the teaching of music to students in elementary and middle school general music classes.

MUS 311 Teaching General Music in Junior-Senior High Schools (3) PTE Prerequisite: MUS 310. Study the role and nature of required and elective general music courses in junior and senior high schools.

MUS 312 Teaching Instrumental Music in Elementary Schools (2) PTE Prerequisite: MUS 210. Examine materials, methods and procedures for teaching instrumental music in elementary schools. Clinical experience required.

MUS 313 Teaching Instrumental Music in Secondary Schools (2) PTE Investigate factors relating to the teaching of instrumental music in secondary schools.

MUS 314 Guitar in the Classroom (1) Prerequisite: Music majors only. Learn to play guitar, including basic folk and classical techniques, from a pedagogical and conceptual standpoint leading to the development and establishment of a guitar program in public school music curriculum.

MUS 315 Music and Recreation (2) Sing and learn skills to enable student to lead community songs; lead community performance groups; learn to play simple social instruments including in-depth study of guitar, and become proficient in helping others listen to music. For non-Music majors.

MUS 316 Teaching Music Listening (3) Music major prerequisites: MUS 210, 310; other majors, MUS 206, 310. Explore teaching methodology and materials within structured school music listening programs.

MUS 317 Choral Literature for Elementary Through High School Students (2) Prerequisite: MUS 321, 324 or instructor permission. Examine choral literature for use with elementary through high school choral organizations.

MUS 318 Music in Early Childhood (3) Prerequisite: MUS 203 or 206. Explore a broad range of teaching ideas which nurture musicality in children.

MUS 320 Instrumental Techniques and Conducting I (1) Prerequisites: MUS 101, 102, 103. Develop effective hand and baton technique; learn drill and various meter patterns, tempo, style, dynamics, musical terms; study and perform musical scores. Extensive interpreting of materials for laboratory band and orchestra.

MUS 321 Instrumental Techniques and Conducting II (1) Prerequisite: MUS 320. Continue and refine skills learned in MUS 320.

MUS 322 Instrumental Techniques and Conducting III (1) Prerequisite: MUS 321. Advanced techniques and practices of instrumental conducting.

MUS 323 Choral Techniques and Conducting I (1) Prerequisites: MUS 101, 102, 103, 141, 142, 143. Develop basic conducting technique as a choral musician. Study and apply meter patterns, preparatory beats, cueing and releases. Discuss tone production, diction, blend, score preparation and rehearsal techniques.

MUS 324 Choral Techniques and Conducting II (1) Prerequisite: MUS 323. Continue work begun in MUS 323, stressing mastery of some larger, more complex scores. Study and solve irregular beat patterns, up-beat pickups and other advanced problems.

MUS 325 Conducting and Teaching Choral Music in Junior and Senior High School (2) Prerequisite: MUS 321 or 324. Continue conducting experiences initiated in vocal and instrumental conducting sequence, and examine materials, methods and procedures relevant to teaching vocal music in junior and senior high schools.

d-MUS 340 Survey of History and Literature of Jazz (3) Discover the history and literature of jazz from its beginnings to the present. Open to all students.

d-MUS 341 Introduction to the Arts (2) Make an interpretive examination of music, visual arts, theatre and dance. Emphasis will be placed upon interpreting encounters as a means towards a heightened understanding of the Arts.

d-MUS 344 Women in Music (2) Explore lives, achievements and problems of past and present female musicians through recordings, interviews, reports and extensive discussion of articles, interdisciplinary approaches to study problems and accomplishments to relate women in music to those in other creative and artistic areas.

d-MUS 345 Bach and Handel (3) The purpose of this course is to increase 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. Discover the art and science of piano teaching, with discussions of works by Maslow, Piaget, Montessori, Kodaly, Ortmann, Koussevitsky, Dooley, Whitehead, etc. Observe private and group lessons.

MUS 351 Principles of Piano Teaching II (2) Prerequisite: MUS 350. Compare current piano methods. Study technical and musical problems with a beginning student. Supervised teaching internship required.

MUS 352 Principles of Piano Teaching III (2) Prerequisite: MUS 351. Develop musicianship and pianistic skills. Observe private and group lessons. Supervised teaching internship required.

MUS 356 Marching Band Techniques I (1) To familiarize future music educators with the concepts, methods and techniques involved in creating and maintaining an effective marching band in the public school or college/university music program. S/U grading.

MUS 357 Marching Band Techniques II (1) To teach future music educators the concepts, methods and techniques involved in creating and maintaining an effective marching band in the public school or college/university music program.

MUS 358 Marching Band Techniques III (1) To familiarize future music educators with the concepts, methods and techniques involved in creating and maintaining an effective marching band in the public school or college/university music program. S/U grading.

MUS 359 Woodwind Class (1) Required of all Music majors with vocal, piano and general emphasis. Cover the fundamentals of woodwind instruments and training literature for woodwinds.

MUS 360 Voice Class (1) Beginning instruction in singing. 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) Develop a teaching knowledge of flute and saxophone, their problems, functions and possibilities. As a prospective teacher, learn pedagogic and concert literature to understand tone production problems and acquire sufficient skill to demonstrate the instruments.

MUS 362 Clarinet Class (1) Develop a teaching knowledge of members of the clarinet family, their specific problems, functions and possibilities. As a prospective teacher, learn pedagogic and concert literature and sufficient skills to demonstrate the instruments.

MUS 363 Double Reed Class (1) Develop a teaching knowledge of the oboe and bassoon, their individual problems, and reed adjustment. Develop sufficient skill to demonstrate these instruments, and be acquainted with pedagogic and concert literature as a prospective teacher.

MUS 364 Trumpet and Horn Class (1) Concentrate on trumpet and horn to develop a teaching knowledge of the instruments and develop basic playing skills to demonstrate good tone, technique and breath control.

MUS 365 Low Brass Class (1) Develop teaching knowledge of trombone, euphonium, and tuba, and acquire sufficient skills for purposes of demonstration.

MUS 366 Percussion Class (1) Cultivate a teaching knowledge of percussion instruments, their possibilities, functions and difficulties, and how best to overcome them. Acquire sufficient skill for purposes of demonstration.

MUS 367 Brass and Percussion Class (1) Required of all Music majors with vocal, piano and general music emphasis (BME). Cover the teaching fundamentals of brass and percussion instruments.

MUS 368 String Class (1) Develop a teaching knowledge of the characteristics of the strings, their resources, difficulties and how best to overcome them. Study the basic principles of string performance and acquire some technical facility by daily practice.

MUS 400 Pedagogy of Music Theory (3) Prerequisites: MUS 203, 301, 302, 303. As a potential theory teacher, become familiar with methods and materials available for teaching theory on all levels, and receive practical experience in theory teaching under guidance of qualified instructors. Required observation and practice teaching arranged at convenience of teacher and student.

MUS 401 Improvisation (2) Begin with simple vocal and rhythmical improvisations and proceed to group improvisation, using prepared charts to indicate mood, tempo, form and the structural role, leading or accompanying, of each instrument.

d-MUS 403 Acoustics of Music (3) Compare physical properties of sound and musical instruments: frequency, amplitude, waveforms, wave motion, resonance, harmonic series, tuning and temperament, with psycho-acoustical properties of timbre, pitch, loudness, masking. Make practical applications.

MUS 404 Beginning Jazz Improvisation (3) Prerequisites: MUS 101, 102. Learn basic skills to create and perform jazz solos involving simple chord progressions, harmonic structures and rhythmic frameworks. Cover effective techniques and materials for teaching these skills to secondary level students.

- MUS 405 Intermediate Jazz Improvisation (3)** Prerequisites: MUS 101, 102, 103, and beginning jazz improvisation or demonstrated knowledge and proficiency. Further develop ability to create and perform jazz solos involving more complex chord progressions and rhythmic and formal frameworks. Cover effective techniques and materials for teaching these skills at secondary levels.
- MUS 406 Jazz Arranging I (2)** Prerequisite: MUS 203 or instructor's consent. Learn the art of calligraphy in first class meetings, followed by the basics for arranging for small jazz ensembles.
- MUS 407 Individual Coaching in Musical Theatre Repertory I (2)** Prerequisites: 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 with training and practice in integrating music and theatre techniques. Emphasis placed on technical and aesthetic tasks of professional music/theatre performance. Class meets 4 hours per week.
- 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)** An introduction to the science of singing and the teaching of singing. Emphasis is placed upon the study of the skeletal system and the muscles involved in breathing and phonation, vocal acoustics and learning theories, past and present.
- MUS 411 Individual Coaching in Musical Theatre Repertory III (2)** Prerequisites: MUS 407, 409. Interpretation and development of musical theatre roles, integrating vocal, dance and character development. Course focuses on advanced stage presence in solo and ensemble roles for musical comedy and opera. Emphasis is on enhancing repertoire. Class meets 4 hours per week.
- MUS 412 Instrument Repair and Care (1)** Learn the care and repair of band and orchestral instruments, with practical experience in instrument repairs that require minimum equipment, skill and time.
- MUS 413 UNC String Project Pedagogy and Supervised Teaching Practicum (1-2)** Prerequisite: Consent of Director, UNC String Project. Qualified students are assigned to specific, supervised string teaching assignments. Students are continuously involved in planning/teaching process on a weekly basis, including pedagogical class sessions. Credit hours, not to exceed two per quarter, dependent upon classroom/clinical experience hours assigned. May be repeated for credit.
- MUS 414 Music for Students with Special Needs (3)** Prerequisite: MUS 206, non-Music majors; MUS 310, Music majors. Help integrate students with special needs into elementary and secondary school music programs.
- MUS 415 Piano Literature I (2)** Prerequisite: Piano performance Level II or above. Study keyboard music from its earliest beginnings through the English virginalists and French, Italian and German schools, to Couperin, Scarlatti and Handel. Offered Fall Quarter every fourth year.
- MUS 416 Piano Literature II (2)** Prerequisite: Piano performance at Level II or above. Concentrate on keyboard works of Bach, Bach's sons, Haydn and Mozart, with special attention to Mozart's piano concertos. Offered Winter Quarter every fourth year.
- MUS 417 Piano Literature III (2)** Prerequisite: Piano performance at Level II or above. Deal with the piano works of Beethoven and Schubert, thoroughly reviewing Beethoven's sonatas and their relation to Schubert's works in that form. Offered Spring Quarter every fourth year.
- MUS 418 Piano Literature IV (2)** Prerequisite: Piano performance at Level II or above. Study beginnings of Romanticism evidenced in Weber's work, and consider leading composers of the German Romantic School: Mendelssohn, Schumann and Brahms. Offered Fall Quarter every fourth year.
- MUS 419 Piano Literature V (2)** Prerequisite: Piano performance at Level II or above. Study in detail the contributions of Chopin and Liszt, and consider the significance of Debussy as representative of the Impressionist School. Offered Winter Quarter every fourth year.
- MUS 420 Piano Literature VI (2)** Prerequisite: Piano performance at Level II or above. Focus on the literature of the modern period, examining the works of Ravel, Bartok, Stravinsky, Schoenberg and Prokofieff. Offered Spring Quarter every fourth year.
- MUS 421 Small Jazz Ensembles (1)** Open to any student by audition. Groups consist of a rhythm section plus 3 or 4 horns. Groups are listed in Music degree section of this Bulletin.
- MUS 422 Individual Studies in Music (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 instructor and one with department chair. No General Education credit.
- MUS 424 Vocal Jazz Ensemble (1)** Audition required. Limited to 20 voices: 4 sopranos, 4 altos, 4 tenors, 4 baritones, 4 basses, plus rhythm section and horns. Sing standard jazz literature and scat and deal with contemporary jazz notation. Perform on and off campus. Open to any UNC student.
- MUS 427 Orchestral Excerpts: Strings (1)** Intensively study passages which usually trouble string players, and generally survey literature. Separate classes in violin, viola, cello and bass, depending on need.
- MUS 428 Orchestral Excerpts: Brass (1)** Prerequisite: Only on recommendation of student's applied teacher. Emphasis is on professional level performance of standard orchestral literature. Separate brass excerpts classes in trumpet, horn and low offered. May be repeated for credit to increase student's repertoire.
- MUS 429 Orchestral Excerpts: Woodwind (1)** Prerequisite: Only on recommendation of student's applied teacher. Depending on need, separate excerpt classes in bassoon, clarinet, flute and oboe are offered. May be repeated for credit.
- MUS 430 String Ensemble (1)** Small chamber groups which rehearse regularly and are coached by a faculty member.
- MUS 431 Brass Ensemble (1)**
- MUS 432 Woodwind Ensemble (1)** Groups of three to eight woodwind instruments meeting regularly under faculty supervision. May be repeated for credit.
- MUS 433 Percussion Ensemble (1)**
- MUS 434 Piano Ensemble (1)** Prerequisite: Performance ability on the piano. Piano chamber and ensemble literature and the performance problems of this literature are explored in performances by students of the class.
- MUS 435 Classical Guitar Ensemble (1)** Audition required. Perform in an ensemble in which melodic playing is stressed, and deal with reading and notation problems and the interpretation of all styles of music.
- MUS 436 Reading Jazz Band (1)** Band open to all students without audition. Band will meet twice a week to sight read new Jazz Band literature.
- MUS 440 Advanced Conducting (1)** The study of advanced problems in instrumental conducting, designed for the student who has completed Instrumental Conducting MUS 320 I, II, III and wishes to expand upon the fundamentals learned in those courses. Skills will be refined by conducting small ensembles made up of members of the class.
- MUS 443 Instrumental Literature (3)** Designed to familiarize future band and orchestra conductors with techniques and philosophies for selecting appropriate literature. Discussion concerning educational and performance philosophies, teaching techniques, historical background, programming and score analysis are included.
- MUS 445 German for Singers (2)** A course in performance of 19th and 20th century German art song, with particular emphasis upon style and diction.
- MUS 446 French for Singers (2)** A course in performance of 19th and 20th century French art song, with particular emphasis upon style and diction.
- MUS 447 Italian for Singers (2)** A course in performance of songs and airs before the 19th 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 approval of 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 451 Kodaly -- His Impact on American Music Education (1)** Take a workshop approach to the music teaching of the Hungarian composer-music educator and discuss ways of adapting his methods to the American classroom.
- MUS 452 Orff Schulwerk in American Schools (1)** Study the Orff approach to teaching music, including philosophy, instructional principles, activities and current materials.
- MUS 454 Pedagogical Approaches to Keyboard Literature I (2)** Open to undergraduate and graduate piano majors and others with consent of instructor. Evaluate various approaches to keyboard literature through student participation in teaching and performing. Concentrate on early Baroque through early Classic periods.
- MUS 455 Pedagogical Approaches to Keyboard Literature II (2)** Open to all undergraduate and graduate piano majors, and others with consent of instructor. Concentrate on Classical and Romantic periods in this study of various approaches to keyboard literature.
- MUS 456 Pedagogical Approaches to Keyboard Literature III (2)** Open to all undergraduate and graduate students, and others with instructor's consent. Evaluate various pedagogical approaches to keyboard literature through student participation in teaching and performing. Concentrate on Impressionism and 20th century music.
- MUS 457 Public Relations in School Music (1)** Prerequisite: MUS 210. Consider how to work effectively with faculty, staff, parents, merchants, news media, fellow professionals and the general public.
- MUS 459 Art Song (2)** Prerequisites: MUS 445, 446, 447. Outline of the art song from the late 18th century to the 20th century, with emphasis on French and German literature.
- MUS 460 Principles of Violin and Viola Teaching (2)** Observe, participate and receive group and individual instruction in violin and viola in this laboratory course.
- MUS 464 Jazz Arranging II (2)** Prerequisite: MUS 406 or instructor consent. Continue Jazz Arranging I, with some emphasis on small jazz ensemble arranging, an introduction to large jazz ensemble and vocal jazz ensemble arranging.
- MUS 465 Principles of Ensemble Intonation (2)** Examine various tuning temperaments, emphasizing concepts of "just intonation" and its application to all flexible pitched ensembles. Employ electronic tuning devices with practical experience gained through small ensemble participation.
- MUS 466 Madrigal Singers (1)** Prerequisite: Membership in the Concert Choir or by special permission. The UNC Madrigal Singers is a highly select group of 16 which performs the annual Christmas Madrigal Feast. In addition, they perform a wide variety of choral chamber works in concerts throughout the year.
- MUS 467 Sinfonia (1)** Explore the literature appropriate for junior and senior high school orchestras. Ensemble experience for string players not in University Symphony Orchestra, and for string majors wishing experience on secondary instrument.
- d-MUS 468 Summer Festival Orchestra (1-6)** Prerequisite: Audition. Selected from among the finest collegiate players in the country, this group is the nucleus of the summer music festival presenting two concerts and accompanying the opera.
- d-MUS 469 Individual Performance in Voice for Those With Non-Voice Emphasis (2-4)** Consent of instructor. Instruction concentrates on fundamental principles of voice production -- proper breathing, diction, resonance, etc. Development of rhythmic and melodic accuracy receives primary consideration. Work on fundamentals of good singing carried through 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) Develop performance techniques, style and repertoire of daily studies, etudes and solo literature. Minimum proficiencies are required, depending on the student's degree program and grade level.

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) The Concert Choir is limited to approximately 50 singers, and is open to all students by audition. The Choir performs a wide range of literature from the classics to contemporary works. Widely recognized for its excellence, the Concert Choir performs quarterly concerts and tours annually.

d-MUS 481 University Chorus (1) Membership in this mixed group of 60 singers is open to all UNC students by audition. Performs quarterly concerts, and in the spring joins the Concert Choir in large works for chorus and orchestra.

d-MUS 482 University Singers (1) Prerequisite: Membership in Concert Choir or special permission. This select group of approximately 25 singers performs an extremely varied repertoire, from Renaissance motets to contemporary works.

d-MUS 483 Women's Concert Choir (1) Open to all women who enjoy singing literature for women's voices. In addition to quarterly concerts, the Women's Concert Choir performs for local community and University events. No audition is required, and Elementary Education majors are encouraged to join.

d-MUS 484 Varsity Men's Glee Club (1) Open to all University men who love to sing. No audition is required. Join the great tradition of men's ensemble singing and perform a wide range of literature for UNC and community audiences.

d-MUS 485 Opera Workshop (1-3) Practical experience in the 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 487 Summer Symphonic Band (1) Open to all students interested in performing the highest quality literature available. The Summer Season consists of four concerts.

d-MUS 488 Opera Orchestra (1) Rehearse as a pit orchestra for performances of opera and musical comedy.

d-MUS 490 Wind Ensemble (1) Prerequisite: Audition. Comprised of the most outstanding wind and percussion majors in the School of Music. The ensemble performs a repertoire ranging from works requiring as few as 10 players to as many as 70.

d-MUS 491 Symphony Band (1) Audition required. Selected from the finest performers on campus. Although most members are music majors, students specializing in other fields often qualify for this ensemble. Literature is drawn from the finest contemporary and traditional repertoire.

d-MUS 492 Marching Band (1) Open to all students with high school band experience. Required Fall Quarter for all freshman, sophomore and junior wind and percussion majors on campus. Transfer students check with advisors for requirements.

d-MUS 493 Concert Band (1) Made up of music majors and students from other disciplines. Members perform a wide variety of interesting literature selected from standard and current repertoire.

d-MUS 494 Jazz Ensemble (1) Brass, woodwind and rhythm players concentrate on idiom music: show and dance music and concert jazz. Receive thorough training to teach at both secondary and college levels. Music majors must be enrolled in major ensemble.

d-MUS 495 University Brass Choir (1) Select performing ensemble of 21 brass and percussion students. Concentrate on literature for brass instrumental media, development of musical sensitivity, phrasing, style and intonation. Present many concerts during year.

d-MUS 496 University Symphony Orchestra (1) Open to all students by audition. Perform and read standard repertoire of the modern symphony orchestra. Give quarterly concerts, take annual tour and participate in spring chorus and orchestra event.

d-MUS 497 Chamber Orchestra (1) Select group of approximately 20 string students chosen by audition from Symphony Orchestra membership. Perform and read literature from the Baroque to present day, specializing in material specifically designed for chamber orchestra.

MUS 502 Eighteenth Century Harmony and Forms (3) Study 18th century harmonic practice and tonality concepts, including binary, ternary, variations, rondo and sonata principles in historic perspective of Classic Period music.

MUS 503 Nineteenth Century Harmony and Forms (3) Review secondary and diminished sevenths, continue with augmented and ninth chords, modulation, sequence and whole tone scale. Study simple part forms, including song form with trio, rondo forms, variations and sonata allegro, and analyze all major forms and original compositions in shorter forms.

MUS 504 Twentieth Century Harmony and Forms (3) Concentrate on compositional techniques used in 20th century music as revealed in new concepts of melody, harmony, rhythm and form. Take concurrently with MUS 648 if possible.

MUS 505 Sixteenth Century Counterpoint (3) Study the style of 16th century polyphonic music, emphasizing actual music of the period rather than arbitrary theoretical concepts. Compose 2-, 3-, and 4-voice motets.

MUS 507 Performance Practices (3) A study of musical performance from the Renaissance Era (c. 1450) through the Classical Era, (c. 1825). Discussion of musical instruments and thorough bass practices. Interpretation of ornamentation.

MUS 508 Music Workshop (1-4) Receive information about current important ideas in many fields of knowledge from authorities nationally known in their fields of specialization.

MUS 509 Electronic Music (3) Describe materials used in electronic music and the techniques and equipment employed to transform and organize these into compositions. Learn to use the synthesizer.

MUS 511 History of the Wind Band and Its Literature (3) A survey of the origins, development and historical significance of the wind band, including an overview of its literature, instrumentation and growth in Europe and the United States from the 15th century to the present.

MUS 519 Foundations of Music Education (3) Study the philosophical principles and other bases from humanities for music education in today's schools.

MUS 525 Twentieth Century Wind Literature and Conducting Techniques (3) The study of contemporary techniques as revealed in the music of the 20th century for Wind Ensemble. Addressing specific conducting problems in realizing performances of new music is an integral part of the course.

MUS 533 Trends in Music Education (3) Investigate existing, new and developing trends in music education.

MUS 542 Jazz Pedagogy (2) Take a pedagogical approach to the analysis of jazz ensemble scores, rehearsal techniques and rhythm sections, and look at concert planning and audience building. Open to graduate and qualified senior Music majors only.

MUS 543 Jazz Program Planning and Development (2) Deal with public relations, promotion, programming, recruiting and other aspects of the development of a Jazz Studies Program. Learn planning and follow-through of an annual Vocal Jazz Festival. Open only to graduate and qualified senior Music majors.

MUS 544 Jazz Administration (2) Write local, state and national grant proposals, plan yearly schedules, and address the administration of the annual Greeley Jazz Festival. Open to graduate and qualified senior Music majors only.

MUS 550 Score Reading and Analysis (2) A continuing course dealing with analysis of wind literature. Emphasis is placed on relating analysis techniques to preparation and performance of compositions for wind ensemble. Literature studied will vary from quarter to quarter.

MUS 551 Individual Performance in Conducting (2) Continuing study of advanced problems in instrumental conducting. Emphasis is placed on physical and mental aspects of the art. Regular conducting experience with University ensembles is an integral part of the course.

MUS 559 Art Song (2) Prerequisite: MUS 445, 446, 447. Outline of the art song from the late 18th century to the 20th century, with emphasis on French and German literature.

MUS 564 Problems in Teaching Voice (2) Prerequisite: MUS 410. Prerequisite: Voice study in undergraduate applied music emphasis. Survey development of singing through the centuries, classifying known theories and teaching concepts. Advanced studies in vocal acoustics and anatomy are included.

MUS 600 Introduction to Musical Scholarship (3) An introduction to writing and scholarly research problems in Music. Attitudes and aims of the music scholar, studies in bibliography, reference materials, sources, editions, oral and written reports, reviews, outline procedures and various types of research included. Required of all M.M. and M.M.E. candidates in Music. Must be taken in first quarter of graduate work.

MUS 601 Practicum in Music (1-4) Open only by invitation to resident graduate students. Supervised professional activity in the major field, approximately two hours per day. Two copies of a well-written paper must be filed with instructor before credit is given.

MUS 603 Analytical Studies I (3) Prerequisite: Mastery of traditional harmony. Analyze the structure of music to 1700.

MUS 606 Jazz Arranging I (2) Prerequisite: MUS 203 or instructor consent. Learn the art of calligraphy in the first class meetings, and go on to basics of arranging for small jazz ensembles.

MUS 607 Graduate Seminar in Junior and Senior High School Instrumental Music (3) Address problems encountered by instrumental music teachers in public schools. Participate as a contributor or lecturer on topics chosen by class.

MUS 608 Graduate Seminar in Elementary School Music (3) Prerequisite: Graduate standing and previous school music teaching experience. Broaden individual perspectives regarding content, materials, methodology and philosophy of teaching and learning general music in elementary schools.

MUS 609 Graduate Seminar in Middle and Junior High Music (3) Prerequisite: Graduate standing and school music teaching experience. Discover materials, methodologies, philosophies and trends in teaching choral and general music at these levels. Odd years only.

MUS 610 Principles of Music Learning (3) Investigation of the behaviorist studies/learning theories, experimental and descriptive research, standardized music tests, statistics, research writing style and cognitive-affective-psychomotor test writing in the learning/teaching of music.

MUS 611 Comprehensive Musicianship in High School Choral Performing Groups (3) Make a comprehensive study of choral literature for high school performing groups, emphasizing the style, history, analysis, conducting, rehearsal techniques, and performance of literature. Offered even years.

MUS 614 Seminar in Administration and Coordination of the School Music Program (3) Prerequisite: Graduate standing and school music teaching experience. Overview problems of organizing, administering and coordinating K-12 music programs, including curriculum, teacher growth, scheduling, budget and public relations.

MUS 615 Historical Foundations of Music Education (2) Receive orientation to graduate study in Music Education, and a historical overview of the role of music in education.

MUS 617 Psychology of Conducting (3) A study of artistic and humanistic values in interpreting and recreating music. The exploration of psychological and philosophical approaches to making music in rehearsals and performance is an integral part of this course.

MUS 618 Aesthetics and the Arts (3) Prerequisite: MUS 519 for Music majors. Examine procedures for increasing aesthetic sensitivity toward the Arts.

MUS 621 Small Jazz Ensembles (1) Open to any student by audition. Groups consist of rhythm section plus 3 or 4 horns. Groups are listed in Music degree section of this Bulletin.

MUS 622 Individual Studies in Music (1-4) Qualified graduate students outline and spend minimum of 25 clock hours per quarter hour on a problem. Two copies of well-written paper must be filed with instructor before credit is given. Does not satisfy 500 level requirement unless student is full-time resident at UNC during quarter course is taken.

MUS 623 Individual Studies in Effective Teaching (3) Designed according to candidate's primary emphasis, and satisfies the Seminar in Teaching (discipline) required of all D.A. candidates in Music.

MUS 624 Vocal Jazz Ensemble (1) Audition required. Limited to 20 voices: 4 sopranos, 4 altos, 4 tenors, 4 baritones, 4 basses, plus rhythm section and horns. Sing standard jazz literature, scat sing and deal with contemporary jazz notation. Perform on and off campus. Open to any UNC student.

MUS 630 String Ensemble (1) Small chamber groups which rehearse regularly and are coached by a faculty member.

MUS 631 Brass Ensemble (1)

MUS 632 Woodwind Ensemble (1) Groups of 3 to 8 woodwind instruments meeting regularly under faculty supervision. May be repeated for credit.

MUS 633 Percussion Ensemble (1)

MUS 634 Piano Ensemble (1) Prerequisite: Performance ability on the piano. Piano chamber and ensemble literature and the performance problems of this literature are explored in performances by students of the class.

MUS 635 Classical Guitar Ensemble (1) Audition required. Perform in an ensemble in which melodic playing is stresses, and deal with reading and notation problems and the interpretation of all styles of music.

MUS 636 Reading Jazz Band (1) Band open to all students without audition. Band will meet twice a week to sight read new Jazz Band literature.

MUS 643 Seminar: Medieval Music (3) A study of musical style in its historical, theoretical and practical aspects during the Middle Ages.

MUS 644 Seminar: Renaissance Music (3) A study of musical style in its historical, theoretical and practical aspects during the Renaissance.

MUS 645 Seminar: The Baroque Period (3) Music from 1600 to 1750. Investigate opera from Florentine beginnings in 1600, through Venetian, Neapolitan and French styles to 1750; growth of chamber, orchestral and solo instrumental music, religious vocal music and principle forms. Emphasis on compositions by Handel and J.S. Bach.

MUS 646 Seminar: The Classic Period (3) Historical and cultural influences bearing upon emergence of 18th century classicism in music. The composers, representative works, forms, styles and media of the Classic Era by Haydn, Mozart and Beethoven and their treatment of the sonata principle.

MUS 647 Seminar: The Romantic Period (3) Representative composers, musical styles, works, related literary movements, aesthetic theories and musical criticism of the period will be researched and discussed.

MUS 648 Seminar: New Music (3) This course is primarily concerned with new content and media as revealed in music of the 20th century. Literature and biography will be stressed, with actual technical practices of modern composers more thoroughly investigated in the companion course, MUS 504.

MUS 650 Seminar: Choral Music (3) A seminar to allow discussion of a variety of subjects related to choral literature. Individual projects will be assigned, calling for creative research.

MUS 653 History of Opera (3) A survey of the history of opera from 1600 to the present. This includes a study of the aesthetic climate, stylistic, musical and dramatic development and methods of character delineation within the various periods of music history.

MUS 656 Choral Literature (3) Make an historical study of the stylistic trends, musical characteristics and performance practices of choral music from Dufay to present day composers.

MUS 657 Symphonic Literature (3) A study of literature for the symphony orchestra from the time of Haydn and Mozart to the writings of present day composers, leading to an understanding and appreciation of the larger works in music.

MUS 658 Instrumental Techniques and Materials: Trumpet and Horn (2) Prerequisite: MUS 364. Study in depth, teaching and performing techniques for horn and trumpet to gain additional playing proficiency, find teaching materials suitable to individual and group instruction, and review standard solo and general ensemble literature.

MUS 659 Instrumental Techniques and Materials: Low Brass (3) Prerequisite: MUS 365. Study performing and teaching techniques for tenor and bass trombone, euphonium and tuba. Gain additional playing proficiency, find research materials for individual and group instruction, and review solo and ensemble literature for these instruments.

MUS 661 Instrumental Techniques and Materials: Percussion (3) Explore advanced techniques, methods and materials related to all the percussion instruments.

MUS 662 Instrumental Techniques and Materials: Woodwinds (5) Prerequisites: MUS 361, 362, 363. Investigate techniques for woodwind family instruments, gain additional playing proficiency, study teaching materials for individual and group instruction, and become familiar with standard solo and small ensemble literature.

MUS 664 Jazz Arranging II (2) Prerequisite: MUS 606 or instructor consent. Emphasize small jazz ensemble arranging, and receive an introduction to large jazz ensemble and vocal jazz ensemble arranging.

MUS 666 Madrigal Singers (1) Prerequisite: Membership in the Concert Choir or by special permission. The UNC Madrigal Singers is a highly select group of 16 which performs the annual Christmas Madrigal Feast. In addition, they perform a wide variety of choral chamber works in concerts throughout the year.

MUS 667 Sinfonia (1) Explore literature appropriate to junior and senior high school orchestras. Receive ensemble experience as a string player not in the University Symphony Orchestra or as a string major wishing experience on a secondary instrument.

MUS 668 Summer Festival Orchestra (1-6) Audition required. Selected from among the finest collegiate players in the country. Nucleus of the Summer Music Festival, presents two concerts and accompanies the opera.

MUS 669 Individual Performance in Voice for those with Non-Voice Emphasis (2-4) Prerequisite: Consent of instructor. Instruction concentrates on fundamental principles of voice production -- proper breathing, diction, resonance, etc. Development of rhythmic and melodic accuracy receives primary consideration. Work on fundamentals of good singing carried through entire program.

MUS 670 Individual Performance in Voice (2-4) Consent of instructor.

MUS 671 Individual Performance in Piano (2-4)

MUS 672 Individual Performance in Organ (2-4) Consent of instructor.

MUS 673 Individual Performance in Strings (2-4)

MUS 674 Individual Performance in Woodwinds (2-4) Develop performance techniques, style and repertoire of daily studies, etudes and solo literature. Minimum proficiencies are required, depending on the student's degree program and grade level.

MUS 675 Individual Performance in Brass (2-4)

MUS 676 Individual Performance in Percussion (2-4)

MUS 677 Individual Instruction in Composition (2-4) Consent of instructor.

MUS 678 Individual Performance in Harp (2-4) Consent of instructor.

MUS 679 Individual Performance in Guitar (2-4) Consent of instructor.

MUS 680 Mixed Concert Choir (1) Limited to approximately 50 and open to all students by audition. The Choir performs a wide range of literature from the classics to contemporary works. Widely recognized for its excellence, the Concert Choir performs quarterly concerts on campus, and tours annually.

MUS 681 University Chorus (1) Membership in this mixed group of 60 singers is open to all UNC students by audition. The University Chorus performs quarterly concerts, and in spring joins the Concert Choir in large works for chorus and orchestra.

MUS 682 University Singers (1) Prerequisite: Membership in Concert Choir or by special audition. This select group of 25 singers performs an extremely varied repertoire from Renaissance motets to contemporary works.

MUS 683 Women's Concert Choir (1) Open to all women students who enjoy singing literature for women's voices. In addition to quarterly concerts, this Choir performs for local community and University events. No audition required; Elementary Education majors encouraged to join.

MUS 684 Varsity Men's Glee Club (1) Open to all University men who love to sing. No audition is required. Join the great tradition of men's ensemble singing and perform a wide range of literature for UNC and community audiences.

MUS 685 Opera Workshop (1-3) Practical experiences in the production of a musico-dramatic show. Techniques of acting, singing, directing and other facets necessary for preparation of a show for public performance will be offered.

MUS 687 Summer Symphonic Band (1) Open to all students interested in performing the highest quality literature available. The Summer Season consists of four concerts.

MUS 688 Opera Orchestra (1) Rehearse with a pit orchestra for performances of opera and musical comedy.

MUS 690 Wind Ensemble (1) Audition required. Comprised of the most outstanding wind and percussion majors in the School of Music. The ensemble performs a repertoire ranging from works requiring as few as 10 players to as many as 70.

MUS 691 Symphony Band (1) Audition required. Selected from the finest performers on campus. Although most members are Music majors, students specializing in other fields often qualify for this ensemble. Literature is drawn from the finest contemporary and traditional repertoire.

MUS 693 University Band (1) An ensemble made up of Music majors and students from other disciplines. Members perform a wide variety of interesting literature selected from standard and current repertoire. Non-Music majors are not required to audition for this ensemble.

MUS 694 Jazz Ensemble (1) Instrumentation is brass, woodwind and rhythm. Concentrate on jazz idiom music: show and dance music and concert jazz. Receive thorough preparation for teaching at both secondary and college levels. Music major members must enroll in major ensemble.

MUS 695 University Brass Choir (1) Select performing ensemble of 21 brass and percussion students. Concentrate on literature for brass instrumental media. Develop musical sensitivity, phrasing, style and intonation. Present many concerts.

MUS 696 University Symphony Orchestra (1) Open to all students by audition. Perform and read standard repertoire of modern symphony orchestra, give quarterly concerts on campus, take an annual tour, and participate in Spring Quarter chorus and orchestra event.

MUS 697 Chamber Orchestra (1) Select group of approximately 20 string students chosen by audition from Symphony Orchestra membership. Perform and read literature from Baroque to present, specializing in materials specifically designed for chamber orchestra.

MUS 699 Thesis (8-12) Required of all Master of Music Education students pursuing Track IV, and all Master of Music students majoring in Theory and Composition. Consult respective department for specific requirements.

MUS 700 Introduction to Doctoral Research (3) Analyze studies in music writing and research techniques for dissertation and field studies; survey critical problems in music; prepare research outlines.

MUS 702 Criteria for Music Analysis and Comparison (2) Be acquainted with the subtleties of analytical and comparative music problems.

MUS 755 Supervised Practicum in College Teaching (Maximum 9) Observe and practice college teaching under supervision, and as a basis for analysis of learning experiences.

MUS 797 Doctoral Proposal Research (1-6) Required of all doctoral students.

MUS 799 Doctoral Dissertation (18) Required of all doctoral candidates.

Nursing

e-NURS 100 Introduction to Health Careers (3) For undeclared majors or preclinical health related students. A study of the goals, services, competencies, and education of various health professions for effective career choice and health team membership.

e-NURS 200 Women's Health Care (3) Oriented to women of any major. An examination of natural changes and common deviations that occur in women's bodies including psychological implications over the adult life span. Prepares educated consumers of women's health care delivery services.

e-NURS 210 Wellness Issues -- A Focus on Health Behaviors and Life Styles (3) Assessment of the health status, habits, behaviors and life styles related to illness risks. Change strategies are experienced. Motivational issues and health provider responsibilities are explored.

NURS 300 Conceptual Foundation of Nursing Practice: Nursing Process/Adaptation Nursing (4) Prerequisite: Admission to clinical level III. A study of Roy's model of adaptation nursing as an introduction to professional nursing practice; explores common positive behavioral responses throughout the life span.

NURS 302 Conceptual Foundation of Nursing Practice: Beginning Nursing Intervention Methodology (4) Prerequisite: Admission to clinical level III status. An overview of the professional nurse's role in patient care, emphasizing communication, teaching-learning, management, physical care and environmental manipulation.

NURS 303 Techniques and Skills in Nursing Practice I (6) (12 laboratory) Prerequisites: Admission to clinical level III. Provides simulation and living laboratory experiences in assisting patients in activities of daily living and therapeutic nursing measures. S/U final mark.

NURS 305 Nursing Theory: Adaptation Model (3) For registered nurses only. An examination of the School of Nursing's philosophy of professional nursing with emphasis on the nursing process using Roy's adaptation model as a framework.

NURS 307 Parent-Infant Nursing (4) Prerequisites: NURS 300, 302, 303 and Clinical Level III status. A study of the theoretical basis for nursing care of the childbearing family and newborn infant, and of women experiencing reproductive system disorders. Taken concurrently with NURS 370.

NURS 308 Mental Health Nursing (4) Prerequisites: NURS 300, 302, 303 and Clinical Level III status. In-depth examination of psychosocial adaptive modes in relation to mental health maintenance and restoration. Emphasizes psychosocial development theories and principles of communication and interpersonal relations, and explores group processes and basic skills of leadership. Taken concurrently with NURS 380.

NURS 309 Nursing Care of the Hospitalized Adult (4) Prerequisites: NURS 300, 302, 303 and Clinical Level III status. Emphasis on effective nursing care of adults requiring medical or surgical intervention. Considers hospitalized patient's physiological and psychosocial adaptation needs, and influencing factors. Taken concurrently with NURS 390 and 395.

NURS 310 Professional Practices Issues (3) Prerequisites: NURS 300, 302, 303 and Clinical Level III status. A study of current issues challenging the professional practice of nursing.

e-NURS 315 Introduction to Occupational Health (3) Open to non-nursing majors and health professionals. Study of the effect of the work environment on the health of workers. Emphasis on current trends/issues, control of workplace health hazards and disease, and the health professional's role.

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 III status. An in-depth examination of the techniques and knowledge necessary for history and physical examination of clients of all age groups; includes analysis of data for nursing diagnosis determination.

NURS 321 Clinical Practicum in Physical Assessment (1) (2 laboratory hours) Taken concurrently with NURS 320. Simulated and clinical laboratory experience in history and physical examination.

NURS 328 Physical Assessment for R.N.'s (3) A current R.N. license is required. Emphasis on the technical and intellectual skills in the area of problem oriented recording, history taking and physical examination.

NURS 370 Clinical Practicum in Parent-Infant Nursing (6) (2 seminar, 8 laboratory) Prerequisites: NURS 300, 302, 303 and Clinical Level III status. Clinical application of the 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) (2 seminar, 8 laboratory) Prerequisites: NURS 300, 302, 303 and Clinical Level III status. Clinical application of the nursing process with individuals and families, principally in psychosocial adaptive modes.

NURS 390 Clinical Practicum in Nursing Care of Hospitalized Adult (8) (2 seminar, 12 laboratory) Prerequisites: NURS 300, 302, 303 and Clinical Level III status. Clinical application of the nursing process with acutely ill adults.

NURS 395 Techniques and Skills of Nursing Practice II (2) (4 laboratory) Prerequisite: NURS 300, 302, 303 and clinical level III status. Emphasizes mastery of therapeutic skills used in the hospital setting through simulation experiences in the laboratory. Taken concurrently with NURS 390. S/U final mark.

NURS 402 Community Health Nursing (4) Prerequisite: Clinical Level IV status. A study of family community adaptive modes in relation to maintenance and promotion of health and prevention of disease. Emphasizes holistic care, and influencing factors such as developmental levels and cultural variations. Taken concurrently with NURS 420.

NURS 403 Nursing Care of Children in a Variety of Settings (4) Prerequisite: Clinical Level IV status. Investigates concepts essential to nursing care of children in illness and wellness in a variety of settings. Emphasizes interaction of multiple physiological, psychosocial and developmental adaptation needs and influencing factors. Taken concurrently with NURS 430.

NURS 404 Advanced Nursing Care of the Adult (4) Prerequisites: NURS 309, 390. A study of advanced concepts essential for nursing care of adults requiring medical or surgical intervention because of illness or injury. Emphasizes interaction among multiple physiological and psychosocial adaptation needs and influencing factors.

c-NURS 405 Nursing Theory and Research (3) Explores scientific inquiry at an introductory level, including research critique and identification of researchable problems in nursing practice. Views nursing theory in relation to clinical nursing research.

NURS 408 Nursing Workshop (1-5) Offers registered nurses an opportunity to increase nursing knowledge and skills. Subtitle will indicate area covered by any one workshop, but no subtitle may be repeated for credit.

NURS 410 Leadership in Nursing (3) Prerequisite: Clinical Level IV status. Examines aspects of the leader's role in planned change, emphasizing analysis of situational variables influencing both leader behavior and the change process.

NURS 420 Clinical Practicum in Community Health Nursing (6) (2 seminar, 8 laboratory) Prerequisite: Clinical Level IV status. Clinical application of the nursing process in family and community health care with emphasis on promotion of adaptation 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 instructor and one with the Director. No General Education credit.

NURS 430 Clinical Practicum in Nursing Care of Children in a Variety of Settings (6) (7 weeks laboratory, 3 weeks seminar/observation) Prerequisite: Clinical Level IV status. Clinical application of the nursing process with well, acute and chronically ill children.

NURS 440 Clinical Practicum in Advanced Nursing (5) (4-week laboratory) Prerequisites: Clinical Level IV status and NURS 404. Advanced clinical application of nursing process with chronically and acutely ill adults, emphasizing deriving multiple alternatives in the immediate and long term care plan and patient care organization. S/U final mark.

NURS 450 Selected Professional Nursing Roles (7) (6-week laboratory) Prerequisites: NURS 404 and Clinical Level IV status. A clinical preceptorship, stressing development of professional behaviors, including synthesis and application of major nursing concepts. S/U final mark.

Oceanography

Courses in Oceanography are administered by the Department of Earth Sciences.

h-OCN 110 Man and the Sea (3) Consider various aspects of humans and technology concerning the oceans, including foods and minerals, underwater habitats, submersibles, diving, recent technological developments, pollution and international political implications.

h-OCN 200 General Oceanography (4) (3 lecture, 2 laboratory) Geological, physical, chemical and biological aspects of oceans and ocean basins. For non-science majors only.

h-OCN 301 Principles of Oceanography I (4) (3 lecture, 2 laboratory) Treat descriptively the historical, geological and technological aspects of oceanography, including oceanographic tools and techniques, exploration and exploitation, origins of 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 (4) (3 lecture, 2 laboratory) Prerequisite: OCN 301. Physical and biological aspects of the ocean, including general character of water masses, ocean circulation and currents, waves, tides, distribution and ecology of marine organisms and general productivity of the ocean.

OCN 310 Coral Reefs (2) Learn various geological and biological aspects of coral reefs, studying reef types from the Pacific Ocean and Caribbean Sea 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. No General Education credit.

OCN 500 Survey of Oceanography (5) Arranged primarily for teachers and graduate students. Considers principles of oceanology from a non-mathematical approach. Study physical features of water, currents, geological features of sea floors, life, food and mineral resources, recent technological developments, and international political implications. Offered on campus summers only.

OCN 599 Special Topics in Oceanography (1-4) Explore areas beyond the scope of existing departmental offerings. Specific topics determined by student and instructor interest.

OCN 622 Individual Studies (Maximum 4) Qualified graduate 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 instructor before credit is given. Does not satisfy 500 level requirement unless student is in full-time residence at UNC during quarter course is taken.

Philosophy

g-PHIL 100 Introduction to Philosophy (4) Offerings under this heading will provide an introduction to principles of textual analysis and methods of philosophical inquiry. May be elected more than once.

g-PHIL 105 Philosophical Perspectives on Current Issues (4) Offerings under this heading will examine specific issues of lively current interest. May be elected more than once.

c-PHIL 120 Art of Philosophical Writing (4) Prerequisite: ENG 101. Introduction to methods of philosophical writing and research. Fulfills the prerequisite for many upper-level courses in philosophy.

g-PHIL 140 Basic Symbolic Skills (4) Introduction to the logistic method and to its applications in logic, mathematics, the sciences, and philosophy.

g-PHIL 200 Textual Analysis (4) Prerequisite: PHIL 100 or consent of instructor. Introduction to specific techniques of textual analysis by means of detailed analysis of one or more philosophical texts.

g-PHIL 205 Movements in the History of Philosophy (4) Prerequisite: PHIL 120 or consent of instructor. Offerings under this heading will focus on particular philosophical movements (e.g. positivism, existentialism, phenomenology). May be elected more than once.

g-PHIL 215 Periods in the History of Philosophy (4) Prerequisite: PHIL 120 or consent of instructor. Offerings under this heading will focus on particular periods (e.g. ancient, medieval, modern). May be elected more than once.

g-PHIL 225 Figures in the History of Philosophy (4) Prerequisite: PHIL 120 or consent of instructor. Offerings under this heading will focus on particular figures (e.g. Plato, Descartes, Kant). May be elected more than once.

g-PHIL 235 Issues in the History of Philosophy (4) Prerequisite: PHIL 120 or consent of instructor. Offerings under this heading will focus on particular issues (e.g. the problem of universals, the free will controversy, the relation of reason to faith). May be elected more than once.

PHIL 240 Formal Logic (4) Prerequisite: PHIL 140 or consent of instructor. An intensive introduction to the basic principles and methods of formal logic.

g-PHIL 300 Topics in Philosophy (4) Prerequisite: PHIL 120 or consent of instructor. Offerings under this heading will focus on areas of philosophical interest not regularly covered at the 300 level (e.g. Philosophy of Mind). May be elected more than once.

g-PHIL 310 Philosophy of Feminism (4) In-depth examination of issues related to traditional and contemporary ways of thinking about women.

g-PHIL 330 Aesthetics (4) Prerequisite: PHIL 120 or consent of instructor. In-depth examination of selected topics in philosophy of art (e.g. the nature 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 or consent of instructor. In-depth examination of philosophical themes as expressed in selected classics of prose and poetry.

g-PHIL 350 Ethics (4) Prerequisite: PHIL 120 or consent of instructor. In-depth examination of selected topics in ethics (e.g. ethical relativism and subjectivism, the possibility of moral knowledge, the structure of moral reasoning, freedom and responsibility).

PHIL 351 Ethics and the Medical Profession (1) In-depth examination of a specific ethical problem encountered by professionals in the field of medicine. Enrollment restricted. May be elected more than once.

g-PHIL 352 Business Ethics (4) In-depth examination of selected topics in business ethics (e.g. reverse discrimination in hiring, the social responsibilities of business, conflict of employee obligations, ethical issues in advertising).

g-PHIL 355 Social and Political Philosophy (4) Prerequisite: PHIL 120 or consent of instructor. In-depth examination of selected topics in social and political philosophy (e.g. the concept of political obligation, freedom and dissent, equality and justice, human rights).

g-PHIL 370 Philosophy of Religion (4) Prerequisite: PHIL 120 or consent of instructor. In-depth examination of selected topics in philosophy of religion (e.g. the nature and justification of religious belief, freedom and sin, arguments for and against God's existence).

PHIL 375 Philosophy of Science (4) Prerequisite: PHIL 240 or its equivalent. In-depth examination of selected topics in philosophy of science (e.g. scientific method and its development, theory and observation, the role of experiment, the limitations and value of scientific knowledge).

PHIL 385 Epistemology (4) Prerequisite: PHIL 120 or consent of instructor. In-depth examination of selected topics in theory of knowledge (e.g. the nature and limits of human knowledge, knowledge and belief, doubt and certainty, perception and intuition, faith and justification).

PHIL 390 Metaphysics (4) Prerequisite: PHIL 120 or consent of instructor. In-depth examination of selected topics in metaphysics (e.g. the nature of space and time, particulars and universals, the different senses of 'being,' substance, causality, identity and difference).

PHIL 395 Seminar (4) Prerequisite: Consent of instructor. In-depth study of a specific philosophical issue. Independent research and at least one oral presentation required. Limited enrollment.

PHIL 400 Advanced Studies in History of Philosophy (4) Prerequisite: Junior or senior standing and consent of instructor. Offerings under this heading will be devoted to detailed study of such topics as classical social contract theory, dialectical theories of history, philosophical cosmologies. May be elected more than once.

PHIL 410 Advanced Studies in Selected Areas of Philosophy (4) Prerequisite: Junior or senior standing and consent of instructor. Offerings under this heading will be devoted to detailed study of such topics as theories of meaning and truth, the problem of other minds. May be elected more than once.

PHIL 420 Advanced Studies in Contemporary Philosophical Issues (4) Prerequisite: Junior or senior standing and consent of instructor. Offerings under this heading will be devoted to detailed study of such topics as the relation of language to thought, adverbial theories of sensing. May be elected 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 instructor and one with department chair. No General Education credit.

PHIL 495 Advanced Seminar (4) Prerequisite: Junior or senior standing and consent of instructor. Detailed investigation of a specific philosophical issue. Substantial independent research and at least one oral presentation required. Limited enrollment.

PHIL 497 Student Internship (2-4) Prerequisite: Consent of instructor. Practical training in one or more areas of the profession. May be elected more than once to maximum of 12 credits, no more than 8 of which may be counted for major or minor. S/U grading.

PHIL 622 Individual Studies (Maximum 4) Qualified graduate 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 instructor before credit is given. Does not satisfy 500 level requirement unless student is in full-time residence at UNC during quarter course is taken.

Physical Education

General Education Courses

These courses are numbered from 101-190 inclusive, with these courses counting toward the completion of electives in the General Education Program. These activity courses are graded on an individual basis, and students have a choice between Satisfactory/Unsatisfactory or a letter grade on a non-revocable basis. These courses may be repeated for credit on recommendation of a PE instructor. When an activity is offered at more than one level of skills, it will be noted in the class schedule.

- e-PE 102 Billiards (1)
- e-PE 103 Badminton (1)
- e-PE 105 Self Defense (1)
- e-PE 108 Gymnastics (1-2)
- e-PE 109 Physical Fitness & Conditioning (1-2)
- e-PE 110 Orienteering (1)
- e-PE 111 Softball (1)
- e-PE 112 Tennis (1-2)
- e-PE 113 Soccer (1)
- e-PE 115 Volleyball (1)
- e-PE 116 Golf (1-2)
- e-PE 118 Basketball (1)
- e-PE 119 Rugby Football (1)
- e-PE 120 Bowling (1)
- PE 121 Racquetball (1)
- e-PE 122 Fencing (1-2)
- e-PE 125 Swimming (1-2)
- e-PE 126 Skating (1-2)
- e-PE 127 Ice Skating (1)
- e-PE 128 Roller Skating (1)
- e-PE 129 Back Packing & Hiking (1)
- e-PE 130 Modern Dance (1-2)
- e-PE 132 Jazz Dance (1-2)
- e-PE 133 Social Dance (1)
- e-PE 134 Folk Dance (1)
- e-PE 135 American Square & Couple Dance (1)
- e-PE 136 Ballet (1-2)
- e-PE 137 Tap Dance (1-2)
- e-PE 138 Ethnic Dance (2)
- e-PE 139 Aerobic Dance (1)
- e-PE 141 Varsity Football (2)
- e-PE 143 Varsity Basketball (2)
- e-PE 145 Varsity Wrestling (2)
- e-PE 147 Varsity Gymnastics (2)
- e-PE 149 Varsity Swimming (2)
- e-PE 150 Freshman Baseball (2)
- e-PE 151 Varsity Baseball (2)
- e-PE 153 Varsity Track (2)
- e-PE 155 Varsity Tennis (2)
- e-PE 157 Varsity Golf (2)
- e-PE 166 Varsity Volleyball (Women) (2)
- e-PE 168 Varsity Softball (Women) (2)

Special Certification Courses

PE 192 Advanced Life Saving and Aquatic Instruction (4) Prerequisite: Advanced swimming skills and adequate physical fitness. Learn advanced life saving techniques and swimming instruction methods, emphasizing stroke mechanics and skills analysis. Earn American Red Cross certification in advanced life saving and water safety instruction on successful completion.

First Aid: PE 262, 263, 264, 269.

Professional Courses for Departmental Majors and Minors

Courses numbered 200 or higher are intended primarily for professional preparation of degree candidates completing a major or minor in the department.

PE 202 Introduction to Physical Education (2) For freshmen majors. Receive orientation in the breadth, scope and nature of the professional program in Physical Education.

h-PE 220 Anatomical Kinesiology (3) (1 hour laboratory arranged) Study the structural components of human movement with special attention to analysis of movement problems.

h-PE 221 Mechanical Kinesiology (3) (1 hour laboratory arranged) Learn the mechanical components of human movements, analyzing movement problems.

h-PE 222 Physiological Kinesiology (3) (1 hour laboratory arranged) Investigate the physiological components of human movement, particularly analyzing movement problems.

h-PE 223 Psychological Kinesiology (3) (1 hour laboratory arranged) Study the neuropsychological components of human movement, especially analyzing movement problems.

PE 224 Maturation Kinesiology (3) (1 hour laboratory arranged) Prerequisites: PE 222, 223. Analyze movement problems in a study of the maturational components of human movement.

e-PE 231 Women in Sport (2) Investigate the potential benefits and contributions derived from participation of women in sports.

PE 235 Teaching Experiences Seminar (1) Early teaching experience, with opportunity for discussion and group reaction to problems. Provides experienced leadership to assist in solving teaching problems.

PE 255 Modern Dance Techniques and Composition (3) Prerequisites: PE 256, 295, 297. Learn basic techniques, movement analysis and composition as an advanced dance student.

e-PE 256 Improvisation and Composition Forms (3) Prerequisites: PE 295, 297. Receive instruction in the improvisational approach to creative dance and sequential and contrapuntal composition form. Emphasize form and structure of composition.

e-PE 262 Standard First Aid and Personal Safety (2)

e-PE 263 Advanced First Aid and Emergency Care (3) Prerequisite: PE 262.

PE 264 Instructor's Course in Standard First Aid and Personal Safety (1) Prerequisites: PE 262, 263.

PE 268 Analysis and Movements of Flag Football (1) Learn movement, skills, rules and strategies.

PE 269 Instructor's Course in Advanced First Aid and Emergency Care (1)

PE 270 Analysis and Movements of Weight Training and Conditioning (2) Study principles, methods and techniques of weight training for athletics.

PE 271 Analysis and Movements of Soccer (2) Learn movement skills, rules and strategies.

PE 272 Analysis and Movements of Field Hockey (2) Movement skills, rules and strategies.

PE 273 Analysis and Movements of Basketball (2) Movement skills, rules and strategies.

PE 274 Analysis and Movements of Volleyball (2) Movement skills, rules and strategies.

PE 275 Analysis and Movements of Wrestling (2) Movement skills, rules and strategies.

PE 276 Analysis and Movements of Football (2) Movement skills, rules and strategies.

PE 277 Analysis and Movements of Track (2) Movement skills, rules and strategies.

PE 278 Analysis and Movements of Softball (2) Movement skills, rules and strategies.

PE 279 Analysis and Movements of Self Defense (1) Learn the necessary skills to protect oneself in all situations.

PE 280 Analysis and Movements of Badminton(1) Movement skills, rules and strategies.

PE 281 Analysis and Movements of Fencing (2) Movement skills, rules and strategies.

PE 282 Analysis and Movements of Bowling (1) Movement skills, rules and strategies.

PE 283 Analysis and Movements of Swimming (2) Movement skills, rules and strategies.

PE 284 Analysis and Movements of Tennis (2) Movement skills, rules and strategies.

PE 285 Analysis and Movements of Beginning Tumbling and Gymnastics (2) Movement skills, rules and strategies.

PE 287 Analysis and Movements of Golf (2) Movement skills, rules and strategies.

PE 288 Physical Education Activities for the Elementary School (2) Required for and restricted to Elementary Education majors and minors. Deals with basic principles and activities included in a well-rounded program of physical education in the elementary school.

PE 289 Mechanical Analysis and Spotting of Advanced Gymnastic Skills (2) Prerequisite: PE 285 or equivalent. Prepares students to teach, spot and analyze more advanced gymnastic skills.

PE 290 Analysis and Movements of Square Dance (2) Practice fundamental and advanced skills of folk and square dance.

PE 291 Rhythmic Education in the Elementary School (2) Discover methods and materials of creative dance, singing games and folk dances, including the movement exploration approach.

PE 292 Analysis and Movements of Baseball (2) Movements skills, rules and strategies.

PE 293 Analysis and Movements of Modern Dance (2) Analyze the techniques of movement in relation to the aspects of time, space and force.

PE 294 Problems in Dance Composition (2) Prerequisite: PE 293. Include rhythmic analysis and accompaniment for dance in study of problems in dance composition.

e-PE 295 Modern Dance Theory and Technique (2) Discuss the body's structure and movement potential in studying the basic principles and theories of dance movement.

PE 296 Rhythmic Analysis and Dance Accompaniment (2) Prerequisites: PE 295, 297. Present the fundamental principles of rhythm and dance accompaniment through practical dance application.

d-297 Dance Composition (2) Prerequisite: PE 295 Investigate basic principles of modern dance composition, movement manipulation and phrasing, spatial design and choreographic form.

PE 326 Teaching of Dance (2) PTE Prerequisites: PE 290, 292, 293, 294. Learn teaching procedures for dance activities.

PE 344 Methods and Observation of Teaching Physical Education in the Elementary School (3) PTE Learn mental, emotional, physical and special needs of elementary school children, and the planning of a program, selection of materials and methods of teaching physical education at these levels.

PE 345 Methods and Observation of Teaching Physical Education in the Secondary School (2) PTE Study 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.

PE 346 Assistant Teaching (1) Take concurrently with PE 235. Teach under close supervision with immediate feedback and discussion with the supervising teacher.

c-PE 348 Writing and Research in Physical Education (3) Develop scholarly and technical writing skills through writing papers based on analysis of scientific and philosophical literature of the field. Also, learn skills in library usage, literature survey and problem delineation. Required research papers are critiqued for writing style, format and content.

PE 354 Dance Performance (1-2) Study and practice basic theories of performing and/or choreography.

PE 355 Coaching Gymnastics (2) Prerequisite: PE 285. Be prepared in the techniques and strategies of coaching competitive gymnastics.

PE 356 Coaching Field Sports (2) Prerequisites: PE 271, 272. Learn techniques and strategies of coaching competitive field sports.

PE 357 Coaching Volleyball (2) Prerequisite: PE 274. Receive preparation in the strategies and techniques of coaching competitive volleyball.

PE 358 Coaching Tennis (2) Prerequisite: PE 284. Study techniques and strategies of coaching competitive tennis.

PE 359 Coaching Swimming (2) Prerequisite: PE 192 or current WSI. Be prepared for coaching competitive swimming with techniques and strategies.

PE 360 Coaching Softball (2) Prerequisite: PE 278. Learn techniques and strategies of coaching competitive softball.

PE 361 Coaching Football (2) Prerequisite: PE 276. Receive preparation in the techniques and strategies of coaching competitive football.

PE 362 Coaching Basketball (2) Prerequisite: PE 273. Be prepared to coach competitive basketball with techniques and strategies.

PE 363 Coaching Track and Field (2) Prerequisite: PE 277. Study techniques and strategies to coach competitive track and field events.

PE 364 Coaching Baseball (2) Prerequisite: PE 292. Receive preparation in the techniques and strategies of coaching competitive baseball.

PE 365 Coaching Wrestling (2) Prerequisite: PE 275. Learn strategies and techniques for coaching competitive wrestling.

PE 366 Sports Officiating (1) Course number may be repeated, but NOT sport designation. Gain background and understanding of rules and techniques of officiating in various sports as indicated in the Schedule of Classes. Practical experience when possible.

PE 367 Adapted Aquatics (2) Study methods of teaching swimming to students with disabilities: orthopedic, learning disabilities, mentally retarded, emotionally disturbed, sight and hearing difficulties, etc. Course leads to Red Cross Instructor of Adapted Aquatics.

PE 380 Prevention and Care of Sports Injuries (2) Prerequisites: PE 220, 221. Devote time to each specific injury in this intensive course in care and treatment of athletic injuries. Major injuries information includes: etiology, pathology, signs and symptoms, treatment and adapted activities.

PE 381 Practical Experiences in Care of Athletic Injuries (2) May be repeated for total of 12 hours credit with consent of instructor. Prerequisite: PE 380. Make practical application and get experience in the prevention, management and rehabilitation of injuries occurring in school athletic programs.

PE 408 Workshop in Physical Education (1-3) Study in the problem areas of participants, with problems varying with experts conducting workshop. Each workshop has a subtitle, and no subtitle may be repeated for credit.

PE 422 Individual Studies (Maximum 4) Qualified undergraduates students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed before credit is given, one with instructor and one with department chair. No General Education credit.

PE 426 Tests and Measurements in Physical Education (3) PTE Receive a foundation in techniques of evaluation, including elementary statistical procedures, preparation and administration of skill and written tests, and use of other evaluative materials in the field.

- PE 432 Adapted Physical Education (3) PTE** Prerequisites: PE 220, 221. Consider developmental, remedial and corrective programs in Physical Education, emphasizing adaptation designed to meet needs of individuals requiring special attention beyond the regular physical education program.
- PE 436 Sociological Interpretations in Physical Education and Sport (3) PTE** Examine basic sociological concepts and issues, group dynamics theories and attitudes and value information as they apply to sports and Physical Education.
- PE 438 Physical Education for the Mentally Impaired (3)** Develop, implement and evaluate Physical Education programs for the mentally retarded, emotionally disturbed and learning disabled. Emphasize program development according to federal regulations.
- PE 439 Physical Education for the Physically Handicapped (3)** Learn skills required to develop and implement a physical education program for the physically handicapped, especially student placement in the least restrictive alternative.
- PE 440 Perceptual-Motor Learning Theories (3)** Understand the background of the perceptual-motor movement and plan a program of perceptual-motor activities.
- PE 450 Administration of Physical Education (3) PTE** Study administrative problems in Physical Education for men and women: Budget and finance, legal aspects, purchase and care of equipment and supplies, programs, public relations, intramural activities and class organization.
- PE 456 Workshop in Modern Dance (3)** Prerequisites: PE 255, 256, 295, 297. Investigate dance technique, theory, composition and problems connected with staging a dance performance.
- g-PE 457 Dance History and Philosophy (4)** Consider the history and development of dance as it is culturally determined, and the philosophy influencing dance.
- PE 459 Dance Production in High School and College (2)** Prerequisites: PE 295, 297, 456. Make practical application of principles which serve the presentation of dance. Deal with a choreographic problem, invention, manipulation, direction and production involving theater application of set, costume and light design.
- PE 470 Administration of Athletics (3)** Consider administrative problems confronting the coach: Management of athletic events, schedules, budgets, finances, facilities and equipment, awards, public relations and insurance.
- PE 480 Adult Fitness Principles (3)** Become familiar with special exercise needs of adults, including the use of exercises as a preventive measure in degenerative aging.
- PE 495 Senior Seminar (2-4)** Develop a personal and professional philosophy through research, observation, participation, presentation and discussion of current events in the chosen profession.
- PE 508 Workshop in Health, Physical Education and Recreation (1-3)** Study in the problem areas of participants, varying according to experts conducting the workshop. Each workshop will have a subtitle, and no subtitle may be repeated for credit.
- PE 538 Physical Education for the Mentally Impaired (3)** Learn skills to develop, implement and evaluate Physical Education programs for the mentally retarded, emotionally disturbed and learning disabled. Emphasize program development according to federal regulations.
- PE 539 Physical Education for the Physically Handicapped (3)** Develop, implement and evaluate Physical Education programs for the physically handicapped. Course content addresses student placement in least restrictive alternative.
- PE 540 Perceptual-Motor Learning Theories (3)** Understand the background of the perceptual-motor movement and plan a program of perceptual-motor activities.
- PE 541 Motor Assessment and Prescription (3)** Acquire knowledge about valid and reliable tests of motor assessment and learn to prescribe Physical Education activities based on the results of the assessment instruments.
- PE 549 Advanced Techniques of Teaching (2)** Course number may be repeated, but area/activity designation may not. Assists the school/college teacher to teach various activities or sports.
- PE 550 Administration of Physical Education (3)** Study administrative problems in Physical Education for men and women, including budget and finance, legal aspects, purchase and care of equipment and supplies, programs, public relations, intramural activities and class organization.
- PE 556 Workshop in Modern Dance (3)** Prerequisites: PE 255, 256, 295, 297. Deal with problems connected with staging dance performances.
- PE 557 Dance History and Philosophy (4)** Look into the history and development of dance as it is culturally determined and the philosophy influencing dance.
- PE 559 Dance Production in High School and College (2)** Prerequisites: PE 295, 297, 456. Apply practical principles which serve the presentation of dance. Deal with a choreographic problem: Invention, manipulation, direction and production involving theater application of set, costume and light design.
- PE 565 Advanced Coaching Procedures (2)** In-service teachers of sports for men and women receive help with special problems, including organization, strategy and personnel.
- PE 570 Administration of Athletics (3)** Learn to deal with administrative problems confronting the coach: Management of athletic events, schedules, budgets, finances, athletic facilities and equipment, awards, public relations and insurance.
- PE 579 Prevention and Care of Sports Injuries (2)** Prerequisites: PE 220, 221. Devote intensive time to care and treatment of each specific athletic injury. Learn etiology, pathology, signs and symptoms, treatment and adapted activities for major injuries.
- PE 580 Advanced Prevention, Care and Rehabilitation of Athletic Injuries (3)** Prerequisite: PE 380 or equivalent. Analyze, evaluate and apply current techniques and practices in relation to injuries in the school athletic program.
- PE 581 Practical Experiences in Care of Athletic Injuries (2)** May be repeated for total of 12 hours of credit, with consent of instructor. Prerequisite: PE 380. Make practical application and gain experience in the prevention, management and rehabilitation of injuries occurring in the school athletic program.
- PE 602 Introduction to Research in Health Education, Physical Education and Recreation (3-4)** Required of all HPER majors at Master of Arts level. Receive an introduction and some application of strategy and methods of research to problem solving in health education, physical education and recreation.
- PE 612 Evaluation in Health, Physical Education and Recreation (4)** Prerequisite: PE 426. Receive sound background in tools, techniques and methods of evaluation. Emphasize construction of both written and activity tests, and use of other evaluative tools.
- PE 614 Analysis of Teaching in Physical Education (4)** Present and analyze systems used in evaluating student behavior, teacher behavior and student-teacher interaction. Learn strategies for planning and implementing effective teaching and supervising in Physical Education.
- PE 620 Advanced Anatomical Kinesiology (4)** Prerequisite: PE 220 or equivalent. Make an advanced study of structural components of human movement, with special attention to analysis of movement problems.
- PE 621 Advanced Mechanical Kinesiology (4)** Prerequisite: PE 221 or equivalent. Make an advanced study of the mechanical components of human movement, stressing the analysis of movement problems.
- PE 622 Individual Studies (Maximum 4)** Qualified graduate 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 instructor before credit is given. Does not satisfy 500-level requirement unless student is in full-time residence at UNC during quarter course is taken.
- PE 623 Advanced Psychological Kinesiology (4)** Prerequisite: PE 223 or equivalent. Study on an advanced level the neuropsychological components of human movement, emphasizing analysis of movement problems.
- PE 624 Advanced Maturational Kinesiology (4)** Study the maturational components of human movement on an advanced level, and stress the analysis of movement problems.
- PE 625 Laboratory Techniques in Kinesiological Research (1-4)** Prerequisite: Consent of instructor. May be repeated for a maximum of 4 hours credit per enrollment with no area duplication. Provides separate experiences in:
Mechanical -- The Computer Analysis of Sports and Dance Skills; Electronic Analysis of Sports and Dance Skills; Cinematographic Analysis of Sports and Dance Skills; Anthropometric Analysis of Sports and Dance Skills.
Physiological -- Physiological Analysis of Physical Working Capacity; Biochemical Analysis of Human Performance.
Psychological -- Biofeedback Analysis Systems; Perceptual and Motor Analysis Systems.
- PE 626 Advanced Physiological Kinesiology (4)** Prerequisite: PE 222 or equivalent. Make an advanced study of the physiological components of human movement, giving special attention to the analysis of movement problems.
- PE 629 Concepts in Kinesiology (1-4)** Prerequisite: Consent of instructor. May be repeated for a maximum of 4 hours of credit per enrollment with no duplication of areas. Provides separate experiences in:
Mechanical -- Mechanical Analysis of Manipulation Skills; Mechanical Analysis of Locomotion Skills; Mechanical Analysis of Projection Skills.
Physiological -- Physiology of Muscle; Physiology of Physical Conditioning; Neuromotor Mechanisms in the Control of Movement; Cardiopulmonary Physiology.
Psychological -- Perception; Motivation.
- PE 635 Seminar in Sports Psychology (3)** Apply psychological facts and principles to learning, performance and associated human behavior to the field of sports.
- PE 636 Seminar in Sports Mechanics (2)** Study the applications of mechanical kinesiology on an advanced level, in the analysis of specific sports skills.
- PE 637 Seminar in Sports Physiology (2)** Make an advanced study of the physiological effects of acute and chronic participation and conditioning for effectiveness and safety in various sports and physical activities, including factors influencing performance in sports and physical activity.
- PE 640 Curriculum in Health and Physical Education (3-4)** Consider the principles underlying curriculum instruction, various curriculum composition elements, and build a curriculum in either the field of health or physical education.
- PE 641 Advanced Elementary Physical Education (3)** Further knowledge for teachers in elementary physical education, including current program planning, methods, learning activities and organization for teaching.
- PE 650 Seminar in Physical Education (2-4)** Each 2 hours requires 1 additional scheduled laboratory hour. Make an in-depth study of contemporary topics under guidance of qualified graduate faculty and consultants. Seminars will be subtitled, and no subtitle may be repeated for credit.
- PE 652 Graduate Internship in Physical Education (4-16)** Put into practice the knowledge and skills learned in the classroom. Assume responsibilities in administration, supervision and evaluation, and conduct various activities. One full quarter of full-time placement required.
- PE 660 Administrative Interrelationships in Health, Physical Education and Recreation (3-4)** Develop a better understanding and skill in the administrative process as applied to various interrelationships involved in the operation of programs of Health, Physical Education and Recreation.
- PE 666 Administrative Theory of Athletics (3)** In-depth study of administrative theories and their applications to athletic programs, with emphasis on personnel selection and development and budgeting.
- PE 670 Sociology of Sports and Physical Education (3)** Investigate the interrelatedness of sports, society and physical education.

PE 680 Perspectives in Physical Education (4) Draw together basic issues and trends in Physical Education under a philosophical approach to contemporary American education. Incorporate sub-group specialization areas for personal problem-solving.

PE 681 Current Issues in Athletics (3) Examine contemporary issues in athletics, with a focus on such topics as Title IX, the minority athlete, part-time, coaches, club sports and others relevant to the interests of students in the class.

PE 690 Issues and Trends in Physical Education (4) Make a detailed examination of the forces affecting the field of Physical Education. In-depth study of problems in individual areas of specialization expected.

PE 702 History of Physical Education and Sport (4) Study the changing concepts of Sport and Physical Education throughout its history, identify and analyze forces which have influenced the program, and determine the role Sport and Physical Education play in America today.

PE 703 Research Seminar in Physical Education (4) For doctoral candidates planning to conduct research in Physical Education or allied areas. Learn techniques and procedures of research and receive aids in development of required research outline for doctoral degrees.

PE 704 Problems in Human Movement (4) Prerequisite: Possession of knowledge related to advanced principles of structural, mechanical, physiological, psychological and maturational kinesiology. See descriptions for PE 620, 621, 623, 624, 626. Individual and group study of problems related to scientific variables of human movement.

PE 797 Doctoral Proposal Research (1-6) Required of all doctoral students. Students may register for 1-6 hours of this course in any quarter, but must earn a minimum-maximum of 6 hours of credit for the doctoral dissertation proposal research in partial fulfillment of all doctoral degrees prior to admission to candidacy.

PE 799 Doctoral Dissertation (1-18) Required of all doctoral candidates. Students may register for 1-18 hours of dissertation credit in any quarter, but must earn a minimum-maximum of 12-18 hours of credit for the dissertation as partial fulfillment of the requirements for all doctoral programs.

Physics

PHYS 100 Conceptual Physics (3) (2 lecture, 3 laboratory) A descriptive approach to basic physics for non-science students, including the history and philosophy of physics, and the relationship of physical concepts to the environment.

h-PHYS 150 Principles of Physics (5) (4 lecture, 3 laboratory) Study the basic concepts of physics, including mechanics, thermodynamics, wave motion, electricity and magnetism, and atomic and nuclear physics. Not for Physics majors and minors.

h-PHYS 160 Principles of Motion in Sports and Dance (3) Translatory and rotational motion, including concepts of forces, momentum and energy. A descriptive presentation with an emphasis upon applications.

PHYS 255 Applications of FORTRAN Programming (4) (3 lecture, 3 laboratory) Prerequisite: MATH 124 concurrent. Introduction to computers, programming and computer applications in science, mathematics and engineering. Beginning applied computer programming using FORTRAN.

h-PHYS 260 Introductory Physics -- Mechanics (5) (4 lecture, 3 laboratory) Prerequisite: MATH 123. First quarter of algebra based introductory physics. Classical mechanics.

h-PHYS 261 Introductory Physics -- Heat, Sound and Light (5) (4 lecture, 3 laboratory) Prerequisite: PHYS 260. Second quarter of algebra-based introductory physics. Heat, sound and light.

PHYS 262 Introductory Physics -- Electricity and Magnetism (5) (4 lecture, 3 laboratory) Prerequisite: PHYS 260. Third quarter of algebra-based introductory physics. Electricity and magnetism and modern physics.

PHYS 265 General Physics -- Mechanics (5) (4 lecture, 3 laboratory) Prerequisite: concurrent with MATH 131. First quarter of calculus-based general physics sequence for science, engineering and math students. Kinematics, dynamics momentum, work, energy, gravity, oscillatory systems.

PHYS 266 General Physics -- Sound, Light and Heat (5) (4 lecture, 3 laboratory) Prerequisites: PHYS 265 and MATH 132 concurrently. Second quarter of calculus-based sequence for science, engineering, and math students. Sound, geometric optics, wave motion, heat and thermodynamics.

PHYS 267 General Physics -- Electricity (5) (4 lecture, 3 laboratory) Prerequisites: PHYS 266 and MATH 133 concurrently. Third quarter of calculus-based sequence for science, engineering and math students. Electricity, magnetism, electromagnetic radiation.

PHYS 268 Modern Physics (4) (3 lecture, 3 laboratory) Prerequisite: PHYS 262 or concurrent PHYS 267. Fourth quarter for science, engineering and math students. Modern physics since 1900, including atomic, nuclear, and quantum concepts.

PHYS 310 Mathematical Applications in Physics (3) Prerequisites: One year of physics or consent of instructor. Survey of mathematical applications in advanced physical sciences, including 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) Prerequisite: PHYS 262 and MATH 132 or PHYS 267. Alternating circuits and instruments, electrical measurements, transistor operation and analysis, feedback, operational amplifiers, power supplies.

PHYS 365 Mechanics I (4) Prerequisites: PHYS 266 and MATH 133. First of two courses and will include Newton's Laws, particle and rigid body statics, 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 of a sequence of two courses. Intermediate study of electric fields, electric potential, magnetic fields and induced electromotive force.

PHYS 367 Optics I (4) (3 lecture, 3 laboratory) Prerequisites: PHYS 266 and MATH 133. Investigate 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. Modern physics concepts, including introduction to quantum mechanics, quantization, x-rays, wave properties of matter, Heisenberg's uncertainty principle, probability, Schrodinger equation, and the simple atom.

PHYS 369 Condensed Matter (4) Prerequisite: PHYS 368. Molecular bonding, stimulated emission, electron statistics, properties of solids, junction theory and superconductivity.

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 submitted before credit is given.

PHYS 455 Applications of Computers in Science and Engineering (3) Prerequisite: PHYS 267 and 255 or equivalent. Programming of advanced problems in science and engineering. Interfacing of micro and minicomputers with experimental apparatus.

PHYS 462 Electronics II (4) (3 lecture, 3 laboratory) Prerequisites: PHYS 361, MATH 133. Filters, oscillators, FETS, digital electronics, D/A and A/D converters, microprocessor and microcomputer construction.

PHYS 464 Thermodynamics (4) Prerequisites: PHYS 267, MATH 133. Introduction to kinetic theory and statistical mechanics, covering thermodynamic systems, equations of state, and first and second laws of thermodynamics.

PHYS 465 Mechanics II (3) Prerequisites: PHYS 365, MATH 133. Second course in two course sequence. Motion of systems of particles, rigid body motion in a plane and in three dimensions, central field motion, and accelerated reference systems.

PHYS 466 Electricity and Magnetism II (4) Prerequisite: PHYS 366. Second in a two-course sequence. Theory of dielectrics, magnetic properties of matter, electromagnetic theory.

PHYS 467 Applied Solar Energy (3) Prerequisite: PHYS 262 or 267. Practical uses of solar energy, including resource availability, home and industrial heating systems, collector system types, commercial transfer and storage, and applications of special interest. Counts for ENST minor.

PHYS 468 Nuclear Physics I (5) (4 lecture, 3 laboratory) Prerequisite: PHYS 368. Nuclear reactions, decay schemes, nuclear models, fusion and fission, fundamental particles, and the detection and evaluation of nuclear radiation.

PHYS 490 Senior Research (2-4, repeatable up to 12 hours) Prerequisite: 2 years of Physics courses which apply to major. Independent experimental or theoretical research project in Physics. Weekly conferences with research advisor. A well-written paper or oral presentation is required.

PHYS 495 Seminar in Teaching (2) For prospective physics and physical sciences teachers at the secondary school level. Curricula and problems teachers may encounter in classrooms.

PHYS 562 Advanced Electronics (3) (2 lecture 3 laboratory) Prerequisite: PHYS 361. This is a continuation of PHYS 361. Further topics in microprocessors and microcomputers including interconnections. High frequency and pulse techniques.

PHYS 563 Nuclear Measurements (2) Prerequisite: PHYS 468. Advanced topics in nuclear measurement.

PHYS 567 Optics II (4) (3 lecture, 3 laboratory) Prerequisites: PHYS 267, MATH 234. Advanced study of light, including geometric optics, reflections, thin and thick lenses, optical instruments, wave theory of light, interference, diffraction, and light's electromagnetic nature.

PHYS 575 Mechanics III (3) Prerequisites: PHYS 465, MATH 234. Advanced classical mechanics.

PHYS 576 Electricity and Magnetism III (3) Prerequisites: PHYS 466, MATH 234. Advanced techniques for analysis of problems in Electricity and Magnetism.

PHYS 578 Wave Mechanics I (4) Prerequisites: PHYS 365, 368. Intermediate quantum mechanics using the Schrodinger representation.

PHYS 601 Practicum (Maximum 4) Open only by invitation to resident graduate students. Supervised professional activity in student's major field, approximately two hours per day. Two copies of a well-written paper must be filed with instructor before credit is given.

PHYS 622 Individual Studies (Maximum 4) Qualified graduate 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 instructor and one with department chair.

PHYS 661 Graduate Research in Physics (2, maximum 6) Introduction to research in Physics through investigation of journals, study of Physics research problems, and research in subproblems, culminating in an oral and written report.

PHYS 699 Thesis (Maximum 15) Required of Master of Arts candidates in Physics who elect the thesis option in the degree.

Political Science

f-PSCI 100 American National Government (5) Learn about the origin and adoption of the Constitution, the basic principles, structures and processes of the American governmental system. Required for all PSCI majors and minors.

f-PSCI 104 Contemporary Political Issues (3) Examine several contemporary political issues of domestic or international significance. Content varies, but representative issues include social welfare, environment, political participation, national interest, racial and ethnic concerns, and institutional reform.

f-PSCI 105 Introduction to Political Science (3) Take an overview of historic philosophical concerns of political science in comparative analytic context of contemporary political institutions, behavior and processes. Consider national, subnational and international aspects of politics and government. Required for all PSCI majors and minors.

PSCI 150 Introduction to Research in Political Science (3) Acquire familiarity with the information sources of political science and learn to write research papers. A bibliography 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. Learn about the organization of state, county and municipal governments.

PSCI 202 Legislative Processes II (3-15) Prerequisites: PSCI 100, 200. Take a unique opportunity to combine substantial self-directed research under instructor's supervision, with actual field experiences as observer and assistant to elected member of the Colorado State Legislature or U.S. Congress.

f-PSCI 206 Politics and the Consumer (3) Analyze political action, past and present, aimed at protecting consumers. Discuss legislative and administrative consumer law, and analyze political tactics of consumer advocacy through case studies and actual field projects.

f-PSCI 207 Women and Politics (3) Study roles of women in American politics and analyze issues of concern to women, including economic, legal and political inequality, and strategies and tactics available to deal with them.

f-PSCI 208 Introduction to Public Administration (3) Consider historical background and theory of public administration, interrelationships of public policy formulation and administrative execution, and technological and environmental pressures on administrators. Emphasize bureaucratic decision-making, planning, budgeting and public personnel administration.

f-PSCI 210 European Political Systems (4) Analyze comparatively the political systems of European nations, with special emphasis on Great Britain, France and West Germany.

f-PSCI 220 International Relations (4) Learn the basic principles, processes, and problems of the international political system.

f-PSCI 225 Great Decisions I (2) Analyze contemporary issues of international politics, utilizing the "Great Decisions" materials published annually by the Foreign Policy Association. Topics change yearly. Small group discussion under student leadership. S/U grading.

f-PSCI 226 Great Decisions II (1) Serve as student leader for small group discussion of current topic in analysis of contemporary issue of international politics, utilizing the "Great Decisions" materials, with new materials annually.

f-PSCI 300 Public Opinion and Pressure Groups (4) Penetrate the nature and role of these groups in American politics, particularly their techniques in forming, manipulating and measuring public opinion, and how they use and compete with public opinion in public policy formation.

f-PSCI 302 The President and the Bureaucracy (3) Examine intensively Presidential and federal bureaucratic roles in national politics. Emphasize concepts and techniques of presidential leadership and executive branch's relationship with Congress, the judiciary and the public.

f-PSCI 303 Administration of Justice (3) Make a comprehensive analysis of the judicial process including appellate and jurisdictional aspects of the U.S. legal system. Focus on administration of criminal justice, including arrest, trial and rights of prisoners.

f-PSCI 304 Citizen Politics (3) A study of how citizens acting alone, in groups, or in political parties can influence public policy and motivate government to serve their needs. Case studies and actual involvement will be emphasized. No prerequisites.

f-PSCI 306 Constitutional Law I: Civil Liberties (3) Analyze judicial, executive and legislative actions which have threatened, violated and promoted civil liberties, particularly free speech, press and assembly, church-state relations, due process and nationalization of the Bill of Rights.

f-PSCI 307 Constitutional Law II: Governmental Powers (3) Survey organization of the U.S. government, particularly relationship between governmental branches and levels. Examine court cases to understand how Supreme Court interpreted Constitutional provisions regarding exercise of governmental power related to federalism and separation of powers.

f-PSCI 310 East European Government & Politics (4) Study governments and political systems of East Germany, Poland, Czechoslovakia, Hungary, Bulgaria, Romania, Yugoslavia and Albania, particularly internal politics, external relationships with each other and with Soviet Union.

f-PSCI 320 American Foreign Policy (4) Prerequisite: Not open to freshmen. Analyze the development of American foreign policy in the twentieth century and investigate how foreign policy decisions are made.

f-PSCI 321 Prospects of War and Peace (3) Study the various causes of war and investigate the possibilities of war prevention and conflict resolution.

f-PSCI 325 Politics and Conflict in the Middle East (4) Focus on the structure, development and policies of major Middle Eastern political systems, and discuss domestic and international conflicts and relations to the major powers.

f-PSCI 330 Classical and Medieval Political Philosophy (4) The themes of natural law, divine law and human virtue among others will be addressed as they appear in the works of Plato, Aristotle, Augustine and Aquinas.

f-PSCI 331 Early Modern Political Philosophy (4) The themes of consent, freedom and political obligation among others will be addressed as they appear in the works of Machiavelli, Hobbes, Locke, Rousseau and Tocqueville.

f-PSCI 332 Modern Political Philosophy (4) The themes of equality, democracy and revolution among others will be addressed as they appear in the works of Paine, Mazzini, Saint-Simon, Marx, Lenin and J.S. Mill.

f-PSCI 335 American Political Philosophy (4) No prerequisites. The analysis of significant texts written by Americans will be undertaken. Close attention will be given to the thought of Madison, Jefferson, Calhoun and Dewey among others.

f-PSCI 340 Field Research and Study in Political Science. (3-15) Combine a substantial amount of supervised but self-directed research 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. Explicate and criticize major recent contributions to study of politics in periodic papers. Reading assigned according to interests and needs of individual student.

f-PSCI 350 Comparative Public Policy (3) Prerequisite: PSCI 100 or 105. Cross-nationally compare public policy in such areas as education, transportation, taxation, population and income maintenance. Identify and explain differences and similarities across policy areas within one country and cross-nationally.

f-PSCI 351 Politics of Food, Hunger and Population (4) Survey problems of food production and utilization, hunger and malnutrition, and of increasing world population, focusing mainly on policies the U.S. and other nations use (or could use) to solve these problems.

f-PSCI 400 Political Parties (3) Prerequisite: PSCI 100. Consider the organization and techniques of political parties in the U.S., voting behavior of the electorate and problems relating to the machinery of representative democracy.

f-PSCI 401 Minority Politics (3) Study the political techniques and strategies by which ethnic, racial, religious and economic minority groups have achieved economic goals through the political system. Evaluate electoral and non-electoral politics.

f-PSCI 402 Urban Politics (4) Analyze city government and politics, including structure, reorganization and finance, especially political forces and strategies operating within U.S. metropolitan areas. Cover problems of urban disorganization, mass transit, housing and minority representation.

f-PSCI 403 Problems in United States Government (3) Prerequisite: PSCI 100. Identify Constitutional and extra-Constitutional factors affecting the legislative process, conduct of administration, budgetary and fiscal policies of the government, and control of foreign relations.

f-PSCI 410 Government and Politics of Asia (4) Not open to freshmen. Compare major political systems of Asia, with special emphasis on China, Japan, and India.

f-PSCI 411 Government and Politics of Latin America (4) Compare the political systems of Latin America, emphasizing development modernization, nation-building and international affairs affecting the region.

f-PSCI 412 Politics of the Developing Areas (4) Study the politics of developing areas, emphasizing Latin America, Africa, Asia and the Middle East, concepts of development, modernization and nation-building.

f-PSCI 413 Political Systems of Sub-Saharan Africa (4) Analyze major types of political systems in Sub-Saharan Africa, with case studies of selected countries exemplifying each type. Study special problems of multi-racial and multicultural societies.

f-PSCI 414 Government and Politics of the Soviet Union (4) Make an intensive inquiry into the historical and theoretical background of the Soviet government and study modern institutions and processes of governing.

PSCI 422 Directed 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 instructor and one with department chair. No General Education credit.

f-PSCI 425 Soviet Foreign Policy (4) Not open to freshmen or sophomores. Analyze 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) Not open to freshmen or sophomores. Examine foreign policies of China, Japan and India, with special reference to superpower rivalry between the U.S. and the USSR 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. Select problems or philosophies for close and lengthy attention. Requires familiarity with considerable literature, and substantial paper required.

PSCI 520 Seminar in International Politics (3) Focus upon causes of war and possible strategies of conflict resolution. Read widely in literature in field, deliver oral reports and prepare seminar papers.

PSCI 622 Individual Studies (Maximum 4) Qualified graduate 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 with instructor before credit is given. Does not satisfy 500 level requirement unless student is in full-time residence at UNC during quarter course is taken.

Professional Psychology

f-PPSY 202 Principles and Philosophies of Guidance (3) Examine guidance activities and their use in industry, business, the classroom and the professions.

PPSY 422 Individual Studies (1-4) Permission of instructor and department chair required. Students define a problem or area of concern 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 instructor and one with department chair. No General Education credit.

f-PPSY 488 Psychology of Women (3) Prerequisite: Junior standing and above. Learn theoretical bases and issues regarding and influencing traditional concepts of "Female Personalities;" psychoanalytical theory and neurotic behavior definitions, motivation, achievement needs, identity, ego strength and self-esteem and interdependent influences on female development.

PPSY 508 Workshop (1-5) Offers a variety of workshops on special topics. Each has a subtitle and no subtitle may be repeated for credit.

PPSY 513 Professional Renewal (1-6) Update skills and knowledge as a professional in the discipline. Variable in content, specific subject matter will be indicated in course subtitle when offered. No subtitle may be repeated for credit.

PPSY 525 Biofeedback and Stress Management (3) Survey concepts of biofeedback and its applications to clinical practice. Consider theoretical bases, biofeedback modalities, therapeutic relationship, treatment programs, follow-up procedures and placebo effects.

PPSY 558 Abnormal Psychology (3) Prerequisites: PPSY 651, 655 or PSY 255. Study abnormal behavior, causes, symptoms, characteristics, classifications, prevention and treatment.

PPSY 559 Introduction to Clinical Hypnosis (3) Prerequisites: PSY 358 or PPSY 558 and permission of instructor. Introduction to techniques and applications of hypnosis in academic and mental health settings. Achievement of competence with basic hypnotic techniques and their appropriate utilization in psychotherapeutic process. S/U grading.

PPSY 565 Psychology of Prejudice (3) Discover the causes of prejudice and the learning of prejudicial behavior. Increase understanding of people and processes for diminishing prejudice.

PPSY 568 Violence Against Women (3) Primarily for people who are or will be working with women. Explore causes of violence against women, societal conditions supporting this violence, intervention methodologies and support systems for victims.

PPSY 599 Special Topics in Professional Psychology (1-4) Scheduled on an irregular basis to explore special areas in Professional Psychology, and carries a subtitle for each offering. No subtitle may be repeated for credit. Check department office for topics currently planned.

PPSY 601 Practicum (1-15) Open by invitation to graduate students. Supervised professional activity in student's major field; approximately 25 clock hours of work per credit. Two copies of a well-written paper must be filed before credit is given; one with instructor and one with department chair.

PPSY 602 Foundations of Guidance (3) Counselors, administrators and education personnel: Study the individual/societal needs for guidance and develop a guidance point of view, including purposes and scope of guidance services, concepts, principles and personnel. Focus on secondary and postsecondary school guidance.

PPSY 603 Guidance in the Elementary School (3) Survey principles of guidance, its application, and functions of counselors, administrators, teachers and parents in meeting elementary school children's needs.

PPSY 604 Occupational Information and Analysis in Vocational Guidance (3) Analyze vocational development theories, society and changing values, career development, world of work classification, labor force and employment trends, educational-vocational planning principles; use, review and evaluation of occupational information; and techniques for educational-vocational decision-making.

PPSY 605 Employment/Career Counseling Utilizing G.A.T.B. (2) Administer, score, process and interpret the U.S. Employment Service General Aptitude Test Battery.

PPSY 606 Theories and Practices in Group Guidance (3) Prerequisite: PPSY 202, 602 or 603. Study information and methods used by guidance personnel working with groups of students in educational planning, career decisions and interpersonal relations.

PPSY 607 Principles and Practices of Counseling Theories (5) Analyze theoretical approaches used in conducting counseling interviews, practice application of interpersonal communication skills as used in counseling in school and agency programs.

PPSY 608 Organization and Administration of Guidance Services (3) Study types of organization, records, in-service training of personnel, program evaluation, budgeting and community resources, particularly for guidance services in public schools.

PPSY 610 Guidance Institute (1-15) A response to specific needs of counselors and other professional personnel who wish to upgrade proficiencies.

PPSY 611 Externship in Guidance Services (3)

Prerequisites: PPSY 612 and permission of instructor obtained by end of fifth week of preceding quarter. PPSY majors engage in guidance activities under supervision of one or more staff members.

PPSY 612 Introductory Supervised Practice in Counseling (5)

Prerequisites: PPSY 607 or 707 and permission of counseling practicum coordinator. Receive supervised experience in counseling and interview analysis, including use of typescripts, audio and video tapes, client and supervisor feedback and weekly seminars. Requires 18 hours per week minimum.

PPSY 613 Externship in Counseling with Children (3)

Prerequisites: PPSY 612 and permission of instructor obtained prior to end of fifth week of preceding quarter. Counsel elementary school children under supervision.

PPSY 614 Externship in Counseling with Youth and/or Adults (3)

Prerequisites: PPSY 612 and permission of instructor obtained prior to end of fifth week of preceding quarter. Counsel junior and senior high school students and adults under supervision.

PPSY 615 Career Development Theories (3)

Analyze present and emerging theories of career development, including relationship of factors influencing career decisions and general human growth and development, and design of career development models.

PPSY 616 Career Guidance, Counseling and Placement (4)

Study methods and techniques in career guidance, counseling and placement, relationship of theoretical constructs to counselor behavior and delivery of guidance, counseling and placement services. Experience in conducting career counseling under supervision.

PPSY 617 Play Therapy (4)

Prerequisites: PPSY 612 and permission of instructor. For Professional Psychology majors. Study theoretical basis for play therapy and conduct play therapy under staff supervision.

PPSY 618 Behavior Modification (4)

Prerequisites: EPRE 641 and permission of instructor. Survey and supervised application of major approaches to behavior modification.

PPSY 619 Systems Approach to Career Guidance (3)

Seminar focuses on development of career guidance services for school and community. Define systems approaches to career guidance, identify major career guidance system sub-components, and design specific delivery systems.

PPSY 620 Foundations of Existential Psychology (3)

For Psychology majors. Investigate fundamental assumptions of existential thought as they translate into psychological theory, and implications regarding human nature, motivation, values and purpose relevant to American culture.

PPSY 622 Individual Studies (1-4)

Prerequisite: Permission of instructor. Qualified graduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed before credit is given; one with instructor and one with department chair. Does not satisfy 500-level requirement unless student is in full-time residence at UNC during quarter course is taken.

PPSY 623 Understanding and Counseling Minorities (3)

Develop an understanding of various minority groups. Study appropriate counseling skills and strategies for use with minorities.

PPSY 625 Career Guidance for Students with Special Needs (3)

For teachers, counselors, vocational educators and special education personnel. Study career guidance materials, counseling techniques, and problems in career exploration for special needs students.

PPSY 627 Counseling Interventions and Techniques for Talented and Gifted Students (3)

Prerequisite: EDSE 580. Study counseling interventions and techniques appropriate for talented and gifted students, their parents, siblings, peers, teachers and other school personnel. Emphasize application to an educational setting.

PPSY 628 Behavioral Counseling (3)

Prerequisites: PPSY 607, EPRE 641. PPSY 618 recommended. Study behavioral techniques in a therapeutic setting, emphasizing direct intervention. Practice under staff supervision.

PPSY 634 Death and Dying (3) Study views of death from early childhood through older adults, emphasizing research dealing with effects of death on young and old. Develop a personal understanding of death.

PPSY 647 Psychological Aspects of Learning Disabilities (3)

Prerequisite: EPRE 540 or equivalent. Learn theoretical and evaluative strategies for remediation of central processing dysfunction, emphasizing perceptive, integrative and expressive dysfunctions.

PPSY 650 Psychology of the Healthy Personality (3)

Investigate humanistic and existentially-oriented research and commentary regarding positive mental health and development of healthy personality. Study self-actualization, realization, fulfillment, fully-functioning self, personal adequacy, becoming, and potential for freedom and growth.

PPSY 651 Theories of Personality (3)

An overview of the psychological factors underlying personality development and adjustment, and theories explaining personality structure.

PPSY 655 Community Mental Health (3)

Examine psychological principles, theories and practices as applied to individual, school, family and community mental health problems.

PPSY 657 Legal/Ethical Aspects of Psychology (4)

An overview of the interrelationships of law and ethics in the fields of psychology and education. The impact of litigation, legislation, and ethical standards regulating psychology is discussed and the role of the psychologist in the legal system is examined.

PPSY 660 Systems Analysis and Consultation Theory (3)

Recommended prerequisites: PPSY 655, PSY 664, or SOC 610. Overview systems and strategies for systems change, stressing consultation theory and social action strategies, and including mental health, behavioral consultation and organization development.

PPSY 662 Group Dynamics and Facilitation (3)

Prerequisite: PPSY 612 or concurrent registration in 612. Study theories and facilitation in various types of communication and counseling groups through didactic presentation, demonstrations, participation in groups and supervised student facilitation.

PPSY 663 Professional Psychology Research Apprenticeship (1-3)

Elective course for graduate students in Professional Psychology. Serve as an apprentice to a chosen faculty member and work on professional endeavors such as course planning, writing and research. Requires approximately 3 hours per week for each credit. S/U grading.

PPSY 665 Marriage and Family Therapy (3)

Prerequisites: PPSY 612 and 662, permission of instructor. Explore the intricacies of dealing with family constellations, including marriage and family counseling history, conjoint family therapy, family in focus, behavioral stages, sex therapy and divorce adjustment.

PPSY 667 Human Sexuality for Counselors (3)

For counselors and helping professionals: Increase effectiveness in dealing with sexuality issues. Emphasize exploration and understanding of counselor attitudes toward human sexuality, and those influencing counseling process.

PPSY 670 Psychological Testing and Measurements (4)

Prerequisite: EPRE 504. Understand psychological testing in depth through: 1) an understanding of descriptive statistics and the measurement process; 2) an understanding of the principles of test construction; 3) familiarity of available instruments; and 4) an overview of the interpretation and application of test results.

PPSY 671 Testing: Analysis and Interpretation (3)

Prerequisite: PPSY 670 or PSY 271. Investigate standardized and non-standardized psychological instruments, including aptitude, achievement, interest, intelligence and personality tests, and analyze them in terms of use, interpretation, ethics, testing programs and case studies.

PPSY 673 Individual Tests of Intelligence (3)

A survey course to provide an understanding of the measurement properties of intelligence and factors which must be considered in test interpretation. Directed toward professionals who work closely with psychologists and participate in staffings. Test administration skills will not be taught.

PPSY 675 Intelligence Assessment (4) Prerequisites: PPSY 670 and permission of instructor. Historical and theoretical bases of intelligence measurement; extensive supervised practice in administration and interpretation of Stanford-Binet Intelligence Scale and the Wechsler scales, and integration of test data with other assessment techniques.

PPSY 676 Personality Assessment (4) Prerequisites: PPSY 675 and permission of instructor. Learn nonprojective and projective techniques of assessing personality, including conceptual bases, administration and interpretation. Under supervision, integrate personality test results with other data to form a comprehensive diagnostic and descriptive profile.

PPSY 677 Educational-Academic Assessment (4) Prerequisites: PPSY 675, 676 and permission of instructor. Theoretical bases for individually administered psychoeducational tests, practice selection, administration and interpretation under supervision. Alternative assessment procedures explored. Integration of intelligence, personality and psychoeducational factors.

PPSY 679 Diagnostic Practicum (4) Prerequisites: PPSY 675, 676 and permission of instructor. Development of integrative skill in synthesis of variety of assessment data. Case studies of subjects of varying ages and referral types are developed.

PPSY 680 Special Populations Practicum (2-4) Prerequisites: PPSY 679 and permission of instructor. School psychology students explore in depth a special population not included in PPSY 679. May include those with handicaps that interfere with learning. Research and specific involvement arranged by instructor.

PPSY 681 Systems Intervention Practicum (4) Prerequisite: PPSY 660. Supervised field experience with professional seminar. Apply strategies from PPSY 660 in schools, mental health centers or criminal justice agencies. Consultation as primary intervention strategy.

PPSY 685 Seminar: Ethics and the Helping Professions (3) Explore ethical theory and methodology as they relate to psychology and various helping professions. Emphasize the role and function of fact and value in development of ethical systems, as well as development of ethical persons.

PPSY 692 Externship (1-16) Field experience for qualified graduate students in areas of specialty. Permission of instructor must be obtained by the end of the fifth week of the preceding quarter.

PPSY 699 Thesis (1-15) Optional requirement for Master of Arts programs on recommendation of the major advisor.

PPSY 701 Specialist Degree Practicum (8) Project or supervised professional activity required of all candidates for the Specialist in Education degree, except in those departments which have substitutes for this course. S/U grading.

PPSY 707 Seminar on Counseling Theories (3) Prerequisites: PPSY 607 and permission of instructor. Provides doctoral students in Professional Psychology with in-depth study of counseling theories.

PPSY 712 Advanced Supervised Practicum in Individual Counseling (4) Prerequisites: PPSY 612 and 707, and permission of counseling practicum coordinator. For the student with prior counseling experience, this course offers opportunity to develop counseling skills and philosophy in depth with clients in an individual counseling situation.

PPSY 713 Practicum in Supervision of Guidance Services (1-12) Prerequisites: PPSY 612 and permission of instructor obtained prior to the end of the fifth week of the preceding quarter. Gain experience working with staff involved in administration and supervision of guidance services at all education levels.

PPSY 714 Practicum in Supervision of Counseling (1-12) Prerequisites: PPSY 612 and permission of instructor, obtained prior to the end of the fifth week of the preceding quarter. Doctoral candidates preparing for college teaching gain experience with a faculty member in supervising counseling practice.

PPSY 715 Seminar in Counselor Supervision and Theory (3) Prerequisites: PPSY 692, 707 and permission of instructor. Study problems involved in training individuals to engage in the therapeutic process. Take concurrently with PPSY 714.

PPSY 716 Practicum in Counseling Minorities (4) Prerequisites: PPSY 607, 612, 623 and permission of instructor. Gain skills, under supervision, in counseling strategies with persons from minority populations. Focus on intrapersonal, interpersonal and impersonal systems, using typescripts, tapes, videotapes, feedback and weekly seminars for analysis and evaluation. Requires minimum of 12 hours per week.

PPSY 717 Practicum in Psychotherapy with Children (4) Prerequisites: PPSY 617, 665 and permission of instructor. Gain skill in assessment and psychotherapeutic interventions with pre-adolescent children, 8-12, through individual, group and parental involvement. Relate interventions to psychological, social and educational concerns of age group.

PPSY 718 Supervised Practicum in Group Facilitation (4) Prerequisites: PPSY 662 and permission of counseling practicum coordinator. Receive supervised experience in the role of group facilitator, including feedback on group process, leadership and intervention skills, and problem areas. Requires a minimum of 12 hours per week.

PPSY 721 Development and Philosophy of Ideas in Psychology (5) Prerequisite: Permission of instructor. Study the origin, evolution and philosophical implications of issues and ideas in Professional Psychology. S/U grading.

PPSY 722 Trends in Psychology, Counseling and Guidance (3) Discuss current trends and research in human growth and development, learning, mental hygiene, guidance and counseling, and study methods of identifying trends and recognizing implications. S/U grading.

PPSY 723 Seminar: Issues in Psychology, Counseling and Guidance (3) Identify, state, analyze, discuss, evaluate and de-polarize current issues in Professional Psychology. Review pertinent research and implications for professional action. S/U grading.

PPSY 745 Doctoral Seminar in Professional Psychology (3) Study in depth, current issues and research in Professional Psychology at the doctoral level. May include topics reflecting professor's areas of interest, or students' field of inquiry. May be taken 3 times for maximum of 9 hours of credit.

PPSY 751 Seminar in Personality Theories (3) Prerequisites: PPSY 651 and permission of instructor. Investigate psychological factors underlying personality development and adjustment in depth, and the theories explaining personality structure.

PPSY 755 Supervised Practicum in College Teaching (1-9) Prerequisite: Permission of instructor. Doctoral students receive experience in observation and supervised practice in college teaching.

PPSY 758 Advanced Psychopathology: Child and Adolescent (3) Prerequisites: PSY 358 or PPSY 558 and permission of instructor. Develop understanding of developmental and behavioral disorders of childhood. Thorough knowledge of specific pathologies and conditions through intensive reading, research or practical experience.

PPSY 759 Advanced Psychopathology: Adult (3) Prerequisites: PSY 358 or PPSY 558 and permission of instructor. Develop professional knowledge and sophistication by reviewing topics in abnormal psychology, exposure to theories and models explaining adult psychological behavior, and a complete conceptual view of psychopathology.

PPSY 763 Introductory Seminar in School Psychology (3) Required in first fall quarter of EdS or EdD program in School Psychology. Discuss professional issues and problems concerning the school psychologist, including certification requirements, confidentiality, relations with other professions, referrals, ethical issues, role models and report writing. Observations in schools.

PPSY 765 Practicum in Family Therapy (4) Prerequisites: PPSY 612, 662 and 665 and permission of instructor. Enrollment limited to 6-8. Receive supervised experiential training, read relevant literature, discuss current issues and participate in dialogue with supervisors, co-workers and clients. Develop specific diagnostic and therapeutic skills, applying them in family intervention.

PPSY 773 Practicum in Supervision of Group Facilitation (4) Prerequisites: PPSY 718 and permission of counseling practicum coordinator. Doctoral candidates receive experience in supervision of group facilitator training. Work with regular staff member supervising group practicum, observe techniques and processes and receive feedback on progress.

PPSY 774 Practicum in Supervision of Family Therapy (4) Prerequisites: PPSY 665, 714 and permission of instructor. Doctoral candidates receive experience in supervision of family therapist training. Work with regular staff member in supervising family therapy practicum, observe techniques and processes, receive feedback on progress. S/U grading.

PPSY 775 Internship in Supervision of Psychological Testing (4-12) Prerequisite: Permission of instructor. Participate, under faculty supervision, in instruction and supervision of students in testing courses, including demonstration, supervision, instruction, scoring, report writing, and interpretation of tests. S/U grading.

PPSY 779 School Psychology Practicum (4) Prerequisites: PPSY 675, 676, 677, 763 and permission of instructor. Field experience, in local schools and agencies, of school psychologists' roles. Immediate supervision by certified practicing school psychologists.

PPSY 781 Evaluation of Psychological Services (3) Prerequisite: EPRE 505. Learn theory and practice of psychological program evaluation, taking both a non-statistical and statistical approach. Use data to promote systems change techniques for evaluating effectiveness of consultation, therapy, guidance, and placement.

PPSY 782 Introduction to Rorschach Administration and Scoring (3) Prerequisites: PPSY 558, 675, 676, 651, and permission of instructor. Learn conceptual basis for comparing projective with traditional psychometric procedures, and begin skills in administration and scoring of Rorschach Test.

PPSY 789 Internship in School Psychology (8) Prerequisites: PPSY 679, 779 and permission of instructor. Full-time field experience in school psychology under qualified supervisors in selected settings. Taken at end of program. Eight credits granted per quarter of full-time internship. May be repeated to total of 24 credits.

PPSY 792 Externship (1-16) Permission of instructor must be obtained by end of the fifth week of preceding quarter. Field experiences for qualified specialist and doctoral students in areas of specialty.

PPSY 796 Internship in Counseling Psychology (6) Prerequisite: Completion of all doctoral coursework. For the doctoral candidate in counseling psychology who will complete a one-year, 12-month, 2,000 hour, internship after completion of coursework. Register for 6 credits per quarter for 4 consecutive quarters of internship. S/U grading.

PPSY 797 Doctoral Proposal Research (1-6) Required for all doctoral students. Student may register for 1-6 hours of this course in any quarter, but must earn a minimum-maximum of 6 hours of credit in this course in partial fulfillment of requirements for all doctoral degrees, prior to admission to candidacy. S/U grading.

PPSY 799 Doctoral Dissertation (1-18) Required of all doctoral candidates. A student may register for 1 to 18 hours of dissertation credit in any quarter, but must earn a minimum-maximum of 12-18 hours of credit for the dissertation in partial fulfillment of requirements for all doctoral degrees. S/U grading.

Psychology

PSY 101 Introductory Seminar in Psychology (1) Required no later than 2 quarters after declaration of PSY major. General overview of psychology and its career opportunities. Prepare a course of study to optimize career opportunities in psychology. S/U grading.

1-PSY 120 General Psychology (3) Study basic psychological principles, methods, theories and research findings, including perception, cognition, maturation, motivation, learning, individual differences, mental health and physiological correlates. Identify practical applications. For non-majors.

1-PSY 121 Introduction to Psychology I (4) Survey psychology as a science, with basic statistics, learning, perception, memory, cognition, sensation, motivation and physiological psychology. Required for majors and minors.

f-PSY 122 Introduction to Psychology II (4) Survey intelligence, personality, growth and development, maturation, socialization, abnormal psychology, social psychology and emotion. Required for majors and minors.

f-PSY 230 Human Growth and Development (5) Study basic concepts and issues of growth and development, including the individual from conception through senescence, with emphasis on cognitive, affective, psychomotor and social development.

PSY 240 Principles of Learning (3) Prerequisites: PSY 121 and 122. Discover principles of conditioning and reinforcement, concept learning, problem solving, information processing and memory.

I-PSY 250 Humanistic Psychology (3) Explore humanistic psychological systems, conceptualizations, models, methods, tools and research, focusing on means of developing understanding of self and others, effective interactions, sensitivity, and more humanistic and existentially meaningful life.

f-PSY 255 Principles of Emotional Adjustment (3) Prerequisite: PSY 120 or 122. Consider processes and principles in individual adjustment to psychological stresses arising from internal and external causes, emphasizing varied reaction patterns in coping with common and unique sources of stress. Consider stresses of physically different individuals and racial minorities.

f-PSY 265 Social Psychology (3) Prerequisite: PSY 122. Survey major areas of social psychology, discussing nature of and factors involved in human social behavior, impression management, prosocial behavior, aggression, conformity, obedience to authority, attitude change and interpersonal attraction.

PSY 271 Psychological Testing and Measurements (3) Prerequisite: STAT 203. Receive an introduction to psychological test theory, interpretation of results, group and individual tests (cognitive, affective and psychomotor), reliability, validity and standardization procedures.

PSY 330 Child and Adolescent Psychology (3) Prerequisite: PSY 230. Focus on human development from conception through adolescence, particularly physical, cognitive and socio-emotional development. Learn research methods for studying developmental processes.

PSY 340 Social Learning and Behavior Modification (4) Prerequisites: PSY 121, 240 or 348. Apply learning theory, emphasizing principles such as operant conditioning, vicarious learning, modeling, desensitization and biofeedback. Apply operant and social learning principles in a variety of settings.

f-PSY 341 Phenomenological Approaches to Perception (3) Study factors influencing openness to experience (physiological capacities, time, opportunity, need, expectations, language and self-perception). Understand behavior dynamics from internal reference frame, multi-dimensionality of perceptual possibilities, and implications for educational processes.

PSY 343 Sensory Processes (4) Prerequisite: PSY 121 or BIO 101. Learn about sensory mechanisms in humans: vision, audition, olfaction, etc., including research and theory about organization and interpretation of sensory reception. Apply psychological and other techniques in laboratory.

I-PSY 344 Group Process and Human Relations (3) Examine human interactions from human relations, communications and group dynamics theory, and from skill-building, experiential perspective. Practice effective one-to-one and small group communication, emphasizing intercultural communication, conflict resolution and giving and receiving feedback skills.

PSY 345 Parapsychology (3) Examine research in extra-sensory perception, telepathy, precognition, clairvoyance, psychokinesis and other parapsychological or psi-phenomena.

PSY 357 Theories of Personality (3) Prerequisite: PSY 120 or 122. Use psychological systems to explain personality development and functioning, perhaps including type-trait, behavior-learning, psychoanalytical, neopsychoanalytical and perceptual field theories.

PSY 358 Abnormal Psychology (3) Prerequisite: PSY 122 or 255. Study abnormal behavior: causes, symptoms, characteristics, classification, prevention and treatment.

PSY 366 Industrial Psychology (3) Discover basic method employed by psychologists in selection, placement, training and motivation of industrial personnel. Examine psychological factors influencing morale, production and job satisfaction.

f-PSY 369 Environmental Psychology (3) Prerequisite: PSY 120 or 122. Survey major issues involving environment/behavior relationships, emphasizing physical and social factors influencing how individuals react to and act on the environment. Apply psychological principles to current environmental issues.

PSY 375 Experimental Psychology (5) Prerequisites: PSY 121, STAT 203. Psychology majors only. Receive an introduction to psychological research, and practice reviewing, conducting and reporting psychological research.

PSY 407 Introduction to Counseling Theory (3) Prerequisite: PSY 357. Survey counseling, its historical antecedents, its place in the contemporary and current theoretical approaches with individuals and groups. Not intended as training in counseling approaches, but as basis for future study.

PSY 422 Individual Studies (1-4) Prerequisites: PSY 121, 122 and 20 hours of Psychology. Permission of instructor and department chairperson required. Students define a problem or area of student 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 instructor and one with department chair. No General Education credit.

PSY 425 Seminar: Psychological Issues (3) Prerequisites: PSY 121 and 122. Majors and minors and seniors only. Study, report and discuss psychological issues and problems identified through class discussion and study. Review and discuss research findings and conduct independent research projects.

PSY 430 Maturity and Aging (3) Prerequisite: PSY 230. Consider concerns and decisions to be faced during maturity; explore interrelationships among physiological, sociological and psychological variables which affect aging; roles of aging in society; psychological reactions to death and dying.

PSY 433 Motivation (3) Prerequisite: PSY 121 or permission of instructor. Investigate motivational concepts and related research: drive, goals, direction, incentive, reinforcement, external stimulation, emotion, homeostasis, biological aspects, instinct and self-actualization.

PSY 465 Psychology of Human Sexuality (3) Prerequisite: PSY 122. Study sex as an individual difference affecting life-long learning and motivation. Examine social, biological and psychological bases for sex differences and institutional structures, including socialization processes in sex role identity development.

PSY 467 Psychology of Prejudice (3) Understand basic causes of prejudice and how prejudicial behavior is learned and diminished. Experience increased understanding of others.

PSY 475 Research Methodologies in Psychology (3) Prerequisites: PSY 375, STAT 203. Study advanced experimental and correlational research designs, and implement computer data systems analysis procedures most commonly used in psychological research.

PSY 480 Physiological Psychology (5) Prerequisite: Introductory Biology or Zoology and PSY 121 or permission of instructor. Survey neuroanatomy and neurophysiology, functional relationship between nervous system and behavior. Review sensory and motor processes and investigative procedures. Consider biochemical correlates of learning and other behaviors.

PSY 481 Comparative Psychology (4) Prerequisite: PSY 121 or permission of instructor. Study innate and learned, individual and social, normal and abnormal behavior of insects, fish, amphibia, reptiles, birds and mammals. Explore ethological and experimental techniques through lecture and laboratory.

PSY 482 Behavioral Genetics (3) Prerequisites: PSY 120 or 121 and introductory Genetics course recommended. Consider 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) Prerequisites: PSY 121 and 122. Learn about psychological ideas and systems, psychology and philosophy of science, goals, laws, paradigms, and evolution of science as a human endeavor. Many graduate programs in Psychology recommend taking this at undergraduate level.

PSY 491 Field Experience (5-15) Prerequisite: Junior or senior Psychology major and permission of instructor. Get full or part-time experience working with professionals in Psychology, for one or more quarters. Make arrangements with instructor and supervisor during quarter prior to registration. S/U grading.

PSY 499 Special Topics in Psychology (1-4) Scheduled on irregular basis. Explore special topics in psychology. An appropriate subtitle will explain each course.

PSY 508 Workshop (1-5) Offers a variety of workshops on special topics. Each has a subtitle, and no subtitle may be repeated for credit.

PSY 513 Professional Renewal (1-6) Improve skills and knowledge as a professional in the discipline. Variable in content, specific subject matter will be indicated in course subtitle when offered. No subtitle may be repeated for credit.

PSY 524 Physiological Aspects of Biofeedback (3) Investigate physiological events which underlie EEG, EMG, temperature and other biofeedback modes, and general concepts of feedback as body-regulating systems.

PSY 526 Principles of Biofeedback Control (3) Study theoretical framework and get practical experience in use of biofeedback equipment to establish and maintain physiological control. Train on equipment and assist and monitor others in training.

PSY 622 Directed Studies (1-4) Prerequisite: Permission of instructor. Qualified graduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Three copies of a well-written paper must be filed before credit is given; one with instructor, one with department chair, and one with the Graduate School. Does not satisfy 500-level requirement unless student is in full-time residence at UNC during quarter course is taken.

PSY 624 Human Neuropsychology (4) Basic nervous system structure and function. Research approaches employed in study of nervous system — behavior relationships. Cortical function and physiological bases of sensation, learning and motivation are considered.

PSY 649 Master's Project in Psychology (3-6) For master's students in Psychology as an approved alternative to the written comprehensive examination. Students will enroll with major advisor to develop research proposal, conduct project, report results. May be repeated once for total of six credits. S/U grades.

PSY 664 Social Psychology (4) Survey major social psychology areas, learning social observation techniques, nature and factors of human social behavior, cooperation, prosocial behavior, aggression, change, interpersonal attraction and impression management. Observe social psychological phenomena in laboratory sessions.

PSY 743 Seminar in Motivation (3) Prerequisite: PSY 543 or permission of instructor. Doctoral students in Psychology make an in-depth study of selected topics in motivation.

PSY 780 Introduction to Psychological Research (4) Prerequisite: EPRE 505. Gain advanced skills in research and advanced study.

Quantitative Analysis

QA 291 Business Statistics I (4) Prerequisite: MATH 175. Learn use of statistics in business affairs through techniques in statistical data description, sampling distribution, statistical estimation, and hypothesis testing.

QA 390 Business Statistics II (4) (Laboratory arranged) Prerequisite: QA 291 or equivalent. Build on foundations of QA 291, emphasizing trend analysis, simple and multiple regression, correlation analysis, ANOVA, Chi square and other statistical techniques.

QA 391 Business Statistics III Topics in Statistics (3, maximum 12) Prerequisite: QA 390. Study statistics topics not available through existing courses, which reflect specific interests of available instructors, or specific student needs. For example, Modern (Bayesian) decision theory, experimental design, or advanced time series analysis.

QA 395 Production Management (4) Prerequisites: QA 291, MGT 350. Emphasize special problems of managing resources, people, money and physical property in product and services production. Include product development and processes, plant layout, inventory systems and control, scheduling and materials handling.

QA 396 Management Science — Deterministic Models (4) Prerequisite: QA 291. Make managerial decisions, using such techniques as optimality analysis, linear programming and inventory models.

QA 397 Management Science — Probabilistic Models (4) Prerequisite: QA 291. Make managerial decisions using Bayesian Decision Analysis, PERT, queuing theory, Markov analysis and simulation techniques.

QA 406 Internship In Quantitative Management (12) Prerequisite: Consent of faculty coordinator. Get practical experience and opportunities to utilize theory of academic Quantitative Management courses. S/U grading.

QA 592 Statistical Analysis for Business (4) Become oriented to classical and Bayesian statistical methodology, emphasizing applications to modern business decisions, and including probability concepts, sampling, hypothesis testing, correlation and regression analysis, and statistical design.

QA 692 Seminar in Business Statistics (4) Prerequisite: QA 291 or 592. Examine advanced topics in inferential statistics, especially sample design, multiple regression, correlation and time series analysis.

QA 695 Seminar in Operation Analysis (4) Prerequisites: QA 692, ECON 110, 120, MATH 175 or equivalents. Study management science and some models in operations research, making decisions through use of such problem-solving models and with attention to specific applications.

QA 697 Seminar in Business Decision Theory (4) Prerequisites: QA 692, ECON 110, 120, MATH 175 or equivalents. Demonstrate Bayesian logic usefulness in integrating diverse ideas of management science, and study decisions based on prior information, sampled evidence alone and those based on feelings and sampled evidence combination.

Reading

●-EDRD 103 Introduction to College Reading (3) Focus primarily on developing reading skills, covering textbook study techniques, lecture note taking, exam preparation, comprehension improvement, critical reading and library use.

●-EDRD 104 Individualized Reading (1-3) Prerequisite: Consent of instructor. Develop college reading skills through an individualized program designed for specific needs. Practice comprehension and vocabulary improvement in a reading lab and confer with instructor weekly.

●-EDRD 130 College Reading Study Skills (3) Develop reading and study skills proficiency for college success through instruction and outside assignments. Emphasize effective study for mature readers; intensive study and rapid reading flexibility; comprehension improvement; recreational reading; listening and note taking; and time management for improved learning.

●-EDRD 131 Speed Reading (3) As a mature reader, make significant comprehension improvement through instruction and outside assignments, as well as new techniques. Stress rapid-survey approaches and vocabulary development. Two hours of outside practice required for each class hour. S/U final mark.

EDRD 303 Developing Tutoring Skills (3) Prerequisite: Instructor consent. Learn about the tutoring process, role-play experiences, discuss tutor-student interaction, improve study skills and attitudes, and enhance sensitivity for tutoring students who are culturally different or who have special needs.

EDRD 308 Reading Workshop (1-15) Subtitle indicates whether workshop is for elementary or secondary teachers. Topics related to remedial reading, word perception, study skills, reading in the content fields, and trends and issues will be included. No subtitle may be repeated for credit. S/U final mark.

EDRD 310 Improvement of Instruction In Reading In the Elementary School (4) PTE Consider content, methods, materials and evaluation used in kindergarten through sixth grade in detail. Specifically learn to meet wide range of educational needs and abilities of "normal" and exceptional children.

EDRD 314 Improvement of Instruction In Literature In the Elementary School (3) PTE Consider interests and abilities governing the choice of literature appropriate for kindergarten through sixth grade, and survey this literature. Emphasize modern selection, and use of literature, individualizing reading instruction and use in content fields.

EDRD 411 Approaches to Reading Instruction (3) PTE Prerequisites: EDRD 310 and EDFE 444 and consent of instructor. Learn various approaches to teaching reading in the elementary school. Theoretical rationale underlying approaches, their objectives, organization and evaluation are incorporated. Laboratory and field experiences are included.

EDRD 412 Applied Reading In the Elementary and Middle School (4) Addresses specific reading needs of elementary and middle school students in content materials. Students work directly with elementary and middle school students and content teachers in developing and testing teaching strategies.

EDRD 413 Adolescent and Young Adult Literature: Expressive and Receptive (3) Analysis and discussion of adolescent and young adult literature, and resultant implications for teaching, including multiple responses to literature. Trends and research in this area will be examined. Field experiences included.

EDRD 415 Trends and Issues in Reading Instruction (3) Develop students' awareness of trends and issues in reading instruction and emphasize their professional responsibility to keep abreast through reading, research and/or involvement in professional organizations.

EDRD 416 Introduction to Reading for the Special Student (3) Prerequisite: EDRD 310 or consent of instructor. Identification of reading problems of atypical students: gifted, slow learners, handicapped, educationally disadvantaged, linguistically and culturally different, and the psychologically and neurologically dysfunctional. Educational laboratory experience required.

EDRD 417 Seminar in Reading for the Special Child (3) Prerequisite: EDRD 416. Learn to teach reading to the gifted, slow learners, physically handicapped, educationally disadvantaged, linguistically and culturally different, and the psychologically and neurologically dysfunctional. Educational laboratory experience required.

EDRD 418 Receptive and Expressive Communication Skills in a High-Tech Society (3) Focus on present and future use of educational technology and its impact on the teaching of reading. Discussions on developing critical communication skills in a high-tech society.

EDRD 419 Reading and Writing Development of Preschool Children (2) Become acquainted with current research on early literacy. Opportunities to interact with preschool children in relation to course content. Implications for primary reading and writing curriculum development.

EDRD 420 Reading In the Secondary School (3) Required for undergraduates preparing to be secondary teachers, and graduate students without reading instruction background. Investigate reading theory, reading and content area teaching, concept of reading level, reading as skills development, individual differences in reading ability, scope and sequence of skills development, and their reinforcement.

EDRD 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. No General Education credit.

EDRD 508 Reading Workshop (1-15) Subtitles indicate whether workshop is for elementary and/or secondary teachers. Subtitles will include topics related to remedial reading, word perception, study skills, reading in content fields, and trends and issues. No subtitle may be repeated for credit. S/U final mark.

EDRD 521 Reading In the Content Fields (3) Teach subject matter to utilize and further develop fundamental reading. Consider effective reading skills, vocabulary development in specific subject areas, and study skills.

EDRD 601 Practicum (1-4) Open only by invitation to resident graduate students. Supervised professional activity in reading approximately two hours per day. A well-written paper must be filed with instructor before credit is given.

EDRD 611 Reading Practicum (1-4) Prerequisite: EDRD 612. Application of knowledge gained in EDRD 612. This field-based experience will culminate in a written report and concluding seminar with the supervising instructor. S/U final mark.

EDRD 612 Reading in the Primary Grades (3) Study the nature of reading, pertinent research in the field, reading curriculum from preparatory periods through primary grades, selection of effective teaching materials, teaching methods and techniques and use of various tests.

EDRD 613 Reading in the Intermediate Grades (3) Emphasize specific skills taught in the intermediate grades. Skills are identified and discussed in terms of instructional materials, methods and evaluation procedures and management in reading programs.

EDRD 614 Literature in the Elementary School (3) Consider locating and evaluating children's books and the method of organizing, teaching and evaluating a literature program. Examine current issues and research.

EDRD 615 Seminar in Literature for Children and Young Adults (3) Prerequisite: EDRD 314, 614 or consent of instructor. Review and discuss issues and research in children's and young adult's literature, including censorship, style analysis, minority books, trends and issues. Mini-research study required.

EDRD 617 Remedial Reading In the Elementary School (4) Prerequisite: EDRD 612, 613 or equivalent. Gain insight into problems of the educationally disabled reader in elementary school, including diagnosis, causation and remediation. Spend two hours weekly in Reading Center laboratory experiences.

EDRD 620 Developmental Reading in the Secondary School (3) In detail, analyze problems concerned with selecting what to teach, grade placement of content, methods and materials for teaching, and means of evaluating reading achievement in junior and senior high schools.

EDRD 622 Individual Studies (1-4) Qualified graduate 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 instructor before credit is given. Does not apply toward Graduate Division requirement for courses numbered 500 or above unless student is in full-time residence at UNC during quarter course is taken.

EDRD 627 Remedial Reading in the Secondary School (4) Gain insight into problems of the educationally retarded reader in secondary school, including diagnosis, causation and remediation. Spend two hours weekly in Reading Center laboratory.

EDRD 637 Developmental and Remedial Reading at the College Level (2) In detail, consider problems of what to teach, placement of content, methods and materials for teaching and means of diagnosis and evaluation of reading achievement of college students.

EDRD 640 Linguistic Foundations of Reading Instruction (3) Analyze the phonic structure of the English language, vocabulary development, sentences, and intonation patterns to develop teacher competence.

EDRD 645 Seminar in Research and the Analysis of Reading Programs (3) Prerequisite: EDRD 310, 411 or 612. Study research techniques and their application to education. Critique reading programs, and develop and present an individual research report.

EDRD 650 Remedial Reading Case Study: Elementary (5) Prerequisites: EDRD 617 and instructor consent. Tutor an elementary level disabled reader for five sessions a week, and spend one additional period in a seminar reviewing case studies and diagnostic and remedial techniques. Observation of tutoring sessions followed by individual or group conferences. S/U final mark.

EDRD 651 Remedial Reading Case Study: Secondary (5) Prerequisites: EDRD 627 and instructor consent. Tutor a secondary level disabled reader for five student sessions per week, and spend one additional period in seminar reviewing case studies and diagnostic and remedial techniques. Observations of tutoring session followed by individual or group conferences. S/U final mark.

EDRD 652 Remedial Reading Internship: Elementary (3) Prerequisites: EDRD 617 and instructor consent. Serve as an intern with a remedial reading teacher or in supervised setting in Reading Center, with small group of elementary level disabled readers, five student sessions per week. Observations of teaching followed by conferences between clinician and supervisor. Weekly seminars are held to discuss diagnostic and remedial procedures. S/U final mark.

EDRD 653 Remedial Reading Internship: Secondary (3) Prerequisites: EDRD 627 or instructor consent. Intern with a remedial reading teacher or in a supervised setting in Reading Center, with small group of secondary level disabled readers, five student sessions per week. Observations of teaching followed by conferences between clinician and supervisors. Weekly seminars or equivalent discuss diagnostic and remedial procedures. S/U final mark.

EDRD 654 Reading Center Internship: Reading Clinic, College Reading, Adult Literacy (3) Prerequisites: EDRD 617, or 627 and consent of instructor. Separate practicums in these subjects may be taken for 3 credits each, for a maximum of 9 credit hours. Tutor college students, illiterate adults or severely disabled readers, supervise clinicians or conduct diagnostic services. S/U final mark.

EDRD 672 Teaching Reading in a Pluralistic Society (3) Prepare reading teachers, specialists or administrators with abilities and knowledge necessary for direction of reading instruction for multicultural K-12. Techniques, approaches, materials, measurement, psychological/sociological aspects, racism and sexism considered.

EDRD 699 Thesis (1-15) Optional for Master of Arts program on recommendation of major advisor. S/U final mark.

EDRD 701 Specialist Degree Practicum (8) Project or supervised professional activity required of all candidates for the Specialist in Education degree. S/U final mark.

EDRD 745 Seminar in Reading (3) Analyze historical and current research in reading to consider trends and issues in teaching reading. Topics vary according to student interests.

EDRD 755 Supervised Practicum in College Teaching (3) Experiences in observation and supervised practice in college teaching for doctoral candidates planning to teach on college or university level. Observations and teaching used as basis for analysis of learning experiences. May be repeated for maximum of 9 quarter hours.

EDRD 797 Doctoral Proposal Research (6) Required of all doctoral students. Students must earn 6 hours of credit for doctoral dissertation research proposal in partial fulfillment of requirements for doctoral degree prior to admission to candidacy. S/U final mark.

EDRD 799 Doctoral Dissertation (18) Required of all doctoral candidates. Students must earn 18 hours of credit for the dissertation in partial fulfillment of requirements for the doctoral degree. S/U final mark.

Recreation

Professional Courses for Departmental Majors and Minors

f-REC 203 Introduction to Recreation (3) Discover the breadth, scope and nature of the professional program in Recreation.

REC 250 Therapeutic Recreation (3) Adapt recreation activities to meet varying needs of handicapped individuals in hospitals, schools, homes, recreation and rehabilitation centers, through reports, discussions, observations and visitations.

REC 251 Leisure, Recreation and the Older Adult (3) Use an interdisciplinary approach involving the role of leisure and recreation as it relates to understanding and working with older adults. Learn concepts, practices, trends and discuss current issues. Visits, observation and practicum required.

e-REC 252 Social Recreation (3) Discover advantages of effective planning and leadership in social recreation activities, especially as they relate to programs for church and school groups, and to activities appropriate for family groups at home. Practicum required.

REC 253 Camp Counseling (3) Study methods of leadership in camping activities, particularly the development and application of outdoor skills. Practicum required.

REC 265 Recreation Skills (3) Use a lifetime approach in becoming acquainted with skills necessary to organize and conduct activities.

REC 266 Outdoor Recreation Skills (2) Gain knowledge and skills from experience in many outdoor activities.

REC 267 Outdoor Recreation Programming (3) Make practical application and experience in the effective planning, organization and management of a variety of outdoor recreation programs.

f-REC 337 Socio-Psychological Concepts of Leisure (3) Become familiar with basic sociological and psychological concepts of leisure.

REC 368 Volunteer Management (3) Learn the processes necessary to conduct a successful program using volunteers in the community. Include goals, task description, recruitment, interviewing, training, directing and evaluation of volunteers.

REC 369 Management of Recreation Facilities (3) Emphasize management of selected facilities such as recreation centers, swimming pools, sports complexes and others in this introduction to the principle and practice of operating recreation facilities.

REC 408 Workshop in Recreation (1-3) Opportunities for study in personal problem areas of participants, but varying according to experts conducting the workshop. Each workshop has a subtitle, and no subtitle may be repeated for credit.

REC 410 Clinical Aspects in Therapeutic Recreation (3) Concentrate on treatment procedures and/or medications and their side effects in this introduction to common disabilities and illnesses and their implications for therapeutic recreation. Restricted course.

REC 411 Client Assessment in Therapeutic Recreation (3) Gain exposure to methods and techniques used for assessing leisure needs and determining appropriate goals. Restricted course.

REC 412 Goal Achievement in Therapeutic Recreation (3) Develop competencies in facilitation techniques for achievement of client goals and objectives. Restricted course.

REC 420 Therapeutic Recreation Service (3) Learn the history, philosophy and practice of providing recreation services to special populations through educational experiences in observation, visitations, reports, required reading, discussions and special projects.

REC 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 instructor and one with department chair. No General Education credit.

REC 425 Seminar in Recreation Program Development for Special Populations (3) Study the foundations, principles and procedures utilized in developing recreation programs for special populations such as the handicapped, disadvantaged, older adult, etc. Required reading and study problems to research.

REC 444 Recreation and Voluntary Agencies (3) Obtain orientation to various voluntary agencies that operate unique programs of recreation in the community. Emphasize organization, employment practices, staff, supervision and financing.

REC 451 Administration of Community, Park and Recreation (5) Prerequisite: REC 468. Be concerned with organization and administration of community recreation programs, studying 11 essential areas: fact-finding, survey, legal aspects, municipal organization, department structure, financing, records and reports, publicity, public relations, leadership and program.

REC 452 Internship in Recreation (18) Prerequisites: REC 368, 369, 451, 468, 472, 495. Make the transition from the classroom to the practical situation. Assume normal responsibilities in the conduct of various kinds of recreation activities. Requires one quarter of full-time activity.

REC 453 Advanced Internship in Recreation (18) Prerequisite: REC 452. Open only by permission of department chair. Assume normal responsibilities in the conduct of various recreation activities. Requires one quarter of full-time activity.

REC 460 Outdoor Recreation (4) Initiate and develop outdoor recreation programs through multidisciplinary (team) approach, involving state and national professional education associations, governments, organizations and private agencies. Practicum required.

REC 468 Programs in Recreation (4) Prerequisites: REC 203, 252, 265, 267. Effectively plan varied types of recreation programs, especially those for public playgrounds, and community centers; and for special groups such as the aging, teenagers, young adults and the handicapped.

REC 472 Recreation Leadership (4) Prerequisite: REC 468. Observation and practicum required. Read, write reports and complete projects covering the philosophy, methods and materials for the recreation leader.

REC 495 Senior Seminar (2-4) Research, observe, participate, present and discuss current events to develop a personal and professional philosophy for each individual's chosen professional area.

REC 508 Workshop in Recreation (1-3) Study problem areas of participants, with variation according to experts conducting workshop. Each workshop has a subtitle, and no subtitle may be repeated for credit.

REC 511 Client Assessment in Therapeutic Recreation (3) Gain exposure to methods and techniques used for assessing leisure needs and determining appropriate goals. Restricted course.

REC 512 Goal Achievement in Therapeutic Recreation (3) Develop competencies in facilitation techniques for the achievement of client goals and objectives. Restricted course.

REC 520 Therapeutic Recreation Service (3) Study history, philosophy and practice of providing recreation services for special populations. Cover organization, leadership and administration of the therapeutic recreation in the community and in treatment centers. Observe, visit, report, read, discuss and complete special projects.

REC 525 Seminar in Recreation Program Development for Special Populations (3) Study foundations, principles and procedures utilized in developing recreation programs for special populations. Required reading and study problems to research out of class. Short lectures, discussion of study problems and reports in class.

REC 530 Recreation for the Older Adult (3) Understand and work with older persons through the role of Recreation, planning programs for those in retirement in the community, senior centers and nursing homes. Visits, observation and practicum required.

REC 568 Programs in Recreation (4) Plan varied types of recreation programs effectively, particularly those for public playgrounds, community centers and such special groups as the aging, teenagers, young adults and the handicapped.

REC 572 Recreation Leadership (4) Prerequisite: REC 568. Read, report and complete projects covering the philosophy, methods and materials for the recreation leader. Observation and practicum required.

REC 610 Evaluation and Research in Parks and Recreation (4) Be acquainted with the types, methods and areas of evaluation and research in the field of parks and recreation services. Accomplish an actual evaluation in a public recreation setting. Visits and practicum required.

REC 622 Individual Studies (Maximum 4) Qualified graduate 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 instructor before credit is given. Does not satisfy 500-level requirement unless student is in full-time residence at UNC during quarter the course is taken.

REC 652 Graduate Internship in Recreation (4-16) Put into practice the knowledge and skills learned in the classroom, and assume responsibilities in administration, supervision and evaluation, as well as conducting various activities.

REC 674 Seminar in Leisure and Recreation Programs (3) Make an in-depth study of contemporary topics and trends in leisure and recreation programming, with opportunity for intensive inquiry into individual areas of specialization. Visits and practicum required.

REC 675 Areas and Facilities in Physical Education and Recreation (4) Study major problems involved in planning, construction and maintenance of varied types of physical education and recreation areas and facilities, emphasizing technical aspects. Visits and practicum required.

REC 676 Seminar in Contemporary Problems in Recreation (4) Make a detailed study of important problems in the area of leisure and recreation in America.

REC 677 Parks and Recreation Management (4) Be prepared in the more complex areas of present-day management, including federal grants, budgets, consultation, workshops, professional certification and legislation.

REC 678 Organization and Operation of Park and Recreation Services (4) Learn to effectively organize and train staff and operate programs and facilities unique to park and recreation services. Emphasize employment practices, staff supervision, financing, scheduling and maintaining program/facility operations.

Russian

d-RUS 101 Elementary Russian I (5) Receive an introduction to spoken and written Russian for a sound knowledge of the language's structure and high-frequency vocabulary. Use audiovisual aids as needed.

d-RUS 102 Elementary Russian II (5) Continuation of RUS 101.

d-RUS 103 Elementary Russian III (5) Continuation of RUS 102.

d-RUS 125 The Russian's World (3) Learn about the Russian's world -- life, culture and traditions of the people of the USSR. Conducted in English. For Russian minor credit, outside reading and research papers must be in Russian.

d-RUS 201 Intermediate Russian I (4) Prerequisite: RUS 103; corequisite of RUS 211. Review Russian grammar, learn through imitative composition, and read intermediate Russian texts.

d-RUS 202 Intermediate Russian II (4) Prerequisite: RUS 201; corequisite, RUS 211. Continuation of RUS 201, but more intensive reading, oral reports, advanced composition and extensive conversation.

d-RUS 203 Intermediate Russian III (4) Corequisite: RUS 211. Continuation of RUS 202, with more intensive reading, oral and written reports, advanced composition and translation.

RUS 211 Conversation and Culture Laborator (1) Corequisites: RUS 201, 202, 203. Augment development of language skills and receive more extensive exposure to culture through films, lectures, conferences and discussion in the language. May be taken up to 6 times. S/U grading.

d-RUS 335 Russian Conversation (3) Prerequisite: 3 years of high school Russian or equivalent. Develop basic speech habits for control of spoken, conversational Russian through exercise in reproducing episodes in one's own words.

d-RUS 336 Advanced Russian Composition (3) Prerequisite: 3 years of high school Russian or equivalent. Increase fluency in the language through the use of original compositions, translations and resumes.

d-RUS 337 Advanced Russian Grammar (3) Prerequisite: 3 years of high school Russian or equivalent. Study Russian syntax and common difficulties in sentence structure. Emphasize many exceptional grammatical rules 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 instructor and one with department chair. No General Education credit.

Science

These courses taught by appropriate departments.

h-SCI 100 History of Science and Modern Humans (3) Trace the historical and philosophical development of 20th century science. Impacts and effects on humans, human systems or institutions, and contemporary reactions to science and technology will be considered.

h-SCI 103 Physical Science (3) Survey of physical science concepts of current interest to society. Limited mathematics involved. Taught by Physics or Chemistry.

h-SCI 107 Energy: Humans and the Crisis (3) Energy basics, including fundamental principles and limitations of energy conversion, human energy requirements, environmental impact of large scale energy uses, underlying causes of the impending energy crisis, and possible future energy possibilities. Taught by Physics.

h-SCI 108 Science and Society (3) The relationship of science to society, using an historical approach. Growth of science and development of public attitudes. Present relationships between science and society. Taught by Physics.

h-SCI 109 The Cosmos (3) Present concepts of the universe, including the "big bang" and "steady state" theories, black holes, and continuing expansion. Recent television programs such as *Cosmos* will be studied. Taught by Physics.

g-SCI 110 Sights and Sounds (3) Descriptive study of wave motion as applied to sound and light, emphasizing sound associated with music and musical instruments, and light associated with art. Taught by Physics.

h-SCI 114 Science and "The Ascent of Man" (3) A non-mathematical study of the major developments, impacts and controversies of science throughout recorded history. Follows television series and book by J. Bronowski. Taught by Physics.

h-SCI 116 Chemical Evolution: Protons to People (3) Evolution of atoms and biochemically important compounds, and formation of biologically active molecules based on current theories of prebiotic chemical and physical conditions.

g-SCI 117 Science, Religion and Truth (3) Reality and truth as perceived by science and Judeo-Christian religion with discussion of apparent conflicts, strengths, weaknesses and areas of common belief.

h-SCI 210 Values -- Action on Environment (3) General Education and Interdisciplinary. Investigate environmental problems such as air and water pollution, population pressures and natural resource use. Apply value clarification techniques to examine controversial environmental issues.

SCI 260 Earth Science Concepts for Elementary Teachers (4) (3 lecture, 2 laboratory) An investigation of the basic concepts of earth sciences. For elementary education majors interested in general understanding of science.

SCI 261 Biological Science Concepts for Elementary Teachers (4) (3 lecture, 2 laboratory) An investigation of basic biological concepts in science emphasizing their application to living organisms. For elementary education majors interested in general understanding of science.

SCI 262 Physical Science Concepts for Elementary Teachers (4) (3 lecture, 2 laboratory) An investigation of basic physical science concepts in science, emphasizing their application to the physical world. For elementary education majors interested in a general understanding of science.

h-SCI 302 Philosophical Concepts of Physical Science (3) Prerequisite: one Philosophy or Physics course. Philosophical problems in science as viewed by scientists. Concepts of scientific truth. Conservation principles, duality, the uncertainty and correspondence principles, validation of physical laws. Taught by Physics.

SCI 303 Elementary Biological Science (3) (2 lecture, 3 laboratory) Study basic concepts of animal, plant and human life. Films, laboratory experiences, field work, museum study and reading materials. Includes activities and methods for elementary school teaching of Biology.

SCI 305 Elementary/Middle School Earth Science (3) (2 lecture, 3 laboratory) Learn general earth science concepts and principles for classroom teaching, including activities and methods.

SCI 309 Science for Elementary Teachers (3) (2 lecture, 3 laboratory) Elementary majors learn science concepts and information, including light, heat, sound, simple machines and interrelationships of things to the physical environments.

h-SCI 364 Elementary Photography (3) (2 lecture, 3 laboratory) A study of physical principles of photography, including optics and film structure. Includes practical black and white lab work, with developing, printing and enlarging. Learn the camera for personal and professional use. Taught by Physics.

SCI 505 Physical Science Concepts (4) For elementary teachers. Fundamental concepts of physical science. Not applicable to graduate science major.

SCI 507 Aerospace Workshop (3) Elementary and secondary teachers understand aerospace through concepts of aircraft, rockets, satellites, weather, navigations, flight theory and aviation. Field trips are required.

SCI 508 Science Workshop (3) A subject matter workshop course designed to improve the science background of teachers. A variety of approaches may be used. No subtitle may be repeated for credit.

SCI 510 Earth Science for Elementary Teachers (3) Selected units from contemporary science curriculum materials are used as a basis from which to improve the geology, meteorology, astronomy, and oceanography background of elementary teachers.

SCI 513 Professional Renewal (1-12) Study a topic of scientific content for four to ten weeks. No subtitle may be repeated for credit.

SCI 515 Principles of Physics I (3) Survey essential concepts in Physics with selected applications drawn from mechanics, electricity and magnetism, thermodynamics, and wave motion.

SCI 516 Principles of Physics II (3) Learn essential concepts in Physics with selected applications from optics, atomic, molecular and nuclear physics, relativity and cosmology.

SCI 517 Energy (3) Prerequisite: SCI 515, 516 or equivalent. Survey course to prepare junior high teachers to effectively teach multiple aspects of energy. Review physical laws governing energy, fossil fuel resources, nuclear energy, alternative energy systems, solar, geothermal, environmental effects of large scale energy systems, energy conservation methodology.

SCI 592 Computer Simulations in Science (3) Restricted to high school science teachers. Study computer simulations through the concept of modeling and its application to the science curriculum. Large group instruction, special interest group activities, and independent study included.

SCI 593 Computer Programming in Science (3) Learn flow-charting, programming in BASIC language and on-line computer operation to develop programs using BASIC language to solve problems, modify existing computer simulations and generate original simulations in natural sciences. Large group instruction, special interest group activities and individual study included.

SCI 595 Advanced Computer Applications in Science (3) Restricted to high school science teachers. Apply computer techniques to high school science through identification of course material lending itself to computer instruction. Develop, evaluate and field test instruction modules using computers. Cover rudimentary computer theory.

SCI 676 History of Science (3) Study how the evolution of scientific thought has contributed to contemporary research methods. Emphasize underlying principles, theories, laws of sciences, and techniques used by various scientists in formulating their conclusions.

SCI 679 Philosophy of Science (3) Interrelations between philosophy, science and society. Examines such concepts as nature and sources of knowledge, meaning and scientific inquiry. Promotes clearer understanding of issues through exposition and discussion.

SCI 690 Physical Properties of Matter (3) Deal with some of the basic properties of matter and their measurement, including density, thermal expansion, elasticity and freezing, melting and boiling points. Experimental approach emphasized.

SCI 694 Philosophical Foundations of Science (4) Advanced philosophical problems in science as viewed by scientists. Concepts of scientific truth. Conservation principles, duality, the uncertainty principle, the correspondence principle, evolution, validation of natural laws. Taught by Physics.

Science Education

SCED 151 Introductory Science Field Experiences (2, maximum 6) Provides practical experience for the prospective science teacher, in the classroom and community during the freshman, sophomore, and junior years.

SCED 360 Science for the Handicapped (2) Examine commercial materials, modify existing materials and develop science study units for handicapped children. Concentrate on special interest areas by using micro-teaching -- 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 instructor before credit is given. No General Education credit.

SCED 441 Methods of Teaching Secondary School Science (3) Prerequisite: PTE or SCED 151 or equivalent. Corequisite: EDLS 363. Prerequisite to student teaching. Learn curriculum and classroom organization, testing and evaluation, procedures and materials, relationship of subject area to total secondary program, emphasizing teaching techniques.

SCED 442 Methods of Teaching Science in Middle School/Junior High School (3) Prerequisite: PTE or SCED 151 or equivalent. Corequisite: EDLS 362. Prerequisite to student teaching. Consider curriculum and classroom organization, testing and evaluation, procedures and materials, relationship of subject area to total secondary program, emphasizing teaching techniques.

SCED 470 Teaching Science in the Elementary School (PTE) (3) (2 lecture, 3 laboratory) Develop a knowledge of objectives, methods and materials needed for providing learning activities and for teaching a functional elementary science program. Laboratory activities included.

SCED 475 Science for the Preschool Child (3) Gain knowledge in this laboratory-centered course, of objectives, methods and materials needed by the early childhood teacher to provide learning activities.

SCED 568 Instructional Materials in the Teaching of Science (3) (2 lecture, 3 laboratory) Study and develop teaching materials, particularly those associated with new science curriculum projects. Design and construct suitable demonstration and laboratory aids, and demonstrate, study and evaluate commercial science teaching aids.

SCED 601 Practicum (1-4) By invitation only to resident graduate students. Supervised professional activity in the major field, approximately two hours per day. Two copies of a well-written paper must be filed with instructor before credit is given.

SCED 622 Individual Studies (1-4, maximum 8) Qualified graduate 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 instructor before credit is given. Does not satisfy 500 level requirement unless student is in full-time residence at UNC during quarter course is taken.

SCED 671 Science Curriculum in the Elementary School (3) Familiarization and evaluation of elementary science programs in terms of theory and research in science curriculum development including teaching strategies and the influence of controversial issues on teaching elementary science.

SCED 672 Science Curriculum in the Secondary School (3) Familiarization and evaluation of secondary science programs in terms of theory and research in science curriculum development including teaching strategies and the influence of controversial issues on teaching secondary science.

SCED 673 Seminar in Science Education Research (3) Become acquainted with research in the field, including types of problems, quality and areas explored. Learn library resources, and review English Style Form to prepare research reports. Open only to Science Education majors and minors.

SCED 674 Instructional Problems in Teaching Science (3) Study instructional problems in elementary and secondary schools, including those relating to mathematics ability, reading and problem solving, laboratory difficulties, evaluation, demonstration, vocabulary and provisions for better students.

SCED 675 Developing Children's Scientific Inquiry Abilities through Science (4) Emphasizes the need for knowledge of research in scientific inquiry, psychological elements of problem solving, organizing classroom techniques to develop pupils' critical thinking and scientific abilities.

SCED 676 Evaluation of Classroom Performance in Science (3) A study of test construction and use by science teachers. The philosophy, purposes and values of classroom and standardized tests are included. Test administration, scoring and proper physical form are considered.

SCED 678 Science Education Seminar (1, maximum 12) An opportunity for graduate students to discuss current science education research, report on some topic of interest in recent literature, discuss individual research problems, and profit by reports of the group.

SCED 679 Science Curriculum in the Junior High School (3) Evaluation of middle and junior high science programs in terms of underlying theories of curriculum research and development which consider characteristics of the middle level learner, and appropriate teaching strategies.

SCED 680 Problems in Teaching Physics (4) Study current trends in teaching high school physics, and the various problems confronting teachers.

SCED 681 Problems in Teaching Biology (4) Organize biology units, learn teaching procedures and evaluation of learning, including teaching materials, preparation, and organization of lessons. Evaluate present practices by criteria that foster general education in secondary school programs.

SCED 682 Problems in Teaching Chemistry (4) Deals with special problems in teaching chemistry, including elementary concepts, laboratory and stockroom problems, and demonstrations.

SCED 685 Administration and Supervision of Science K-12 (4) Graduate students are prepared to function as science coordinators of K-12 science programs.

SCED 686 Science Education for Gifted and Talented (3) Explore the materials, curriculum designs and instructional methods for gifted and talented students in K-12. Special attention is given to the identification of these students and appropriate techniques for their motivation and instruction.

SCED 687 Comparative Science Education (3) This course is designed to broaden the perspective of graduate students with respect to methods, problems of teaching science in selected countries throughout the world. Includes economic, political, social implications.

SCED 699 Thesis (15) Optional for Master of Arts program on recommendation of major advisor.

SCED 701 Specialist Degree Practicum (Maximum 8) Project or supervised professional activity, required of all candidates for Specialist in Education degree.

SCED 755 Supervised Practicum in College Teaching (Maximum 9) Experiences in observation and supervised practice in college teaching for doctoral candidates planning to teach on college or university level. Observations and teaching used as basis for analysis of learning experience.

SCED 756 Internship in Supervising College Teaching (3) Provides doctoral candidates with experience working with regular staff members who supervise college and university teaching experiences. Stress various aspects of teaching-learning process and analysis of self-growth.

SCED 777 Evaluation and Testing of Science (3) Prerequisite: RSM 504, SCED 676 or equivalent. Construct some test items and analyze achievement tests used by classroom science teachers. Application of statistical techniques to classroom testing, problems of planning, and developing test programs in science.

SCED 797 Doctoral Proposal Research (1-6) Required of all doctoral students. Although students may register for 1-6 hours of doctoral dissertation proposal research in any quarter, they must earn a minimum-maximum of 6 hours of credit for doctoral dissertation proposal research as partial fulfillment of requirements for all doctoral degrees prior to admission to candidacy.

SCED 799. Doctoral dissertation (Maximum 18).

Social Studies Education

SSED 341 Methods of Teaching Social Science in the Secondary School (3) Prerequisite: PTE. Prerequisite to student teaching. Learn curriculum and classroom organization, testing and evaluation, procedures and materials, relationship of subject area to total secondary program and teaching techniques.

SSED 470 Theory and Research in the Social Sciences (4) Social science teaching majors study theory and research in the social sciences, emphasizing the logic of social scientific theory and research, and its applicability for the secondary teacher.

SSED 605 Improvement of Instruction in Social Studies in the Secondary School (PTE or certification at undergraduate level) (3) Consider recent trends in the organization and teaching of social studies courses in the secondary school, and evaluate new courses of study, new materials and new equipment.

Sociology

f-SOC 100 Principles of Sociology (5) Overview briefly the basic theories, methods and concepts central to the discipline of sociology.

f-SOC 120 Marriage and the Family (4) Focus on the family as an institution in society. Examine alternative forms of the family, and relate these to the changes that have taken place in society as a whole.

f-SOC 135 Society, Science and Technology (3) Analyze sociological perspectives on relationships between science, technology and social life. Discuss social control of science, interrelationships between science and technology, and effects of technology on social life, emphasizing American society.

f-SOC 145 Social Problems (3) Understand selective complex problems in our society from a sociological frame of reference. Look at poverty, slums, wars, alcoholism, mental illness, drug addiction and prostitution in the context of American society.

All the following Sociology courses have a SOC 100 prerequisite, or equivalent.

f-SOC 210 Social Movements (3) Study the nature of deviant groups concerned with major social problems. Explore reasons for joining, remaining in and defecting from various unconventional political, economic, religious and cultist organizations and their effect on society's processes, goals and values.

I-SOC 221 Sociology of Sex Roles (3) Examine contemporary sex roles and their relationship to society as a whole. Discuss socialization, role change and related topics.

I-SOC 240 Criminology (4) Survey criminal behavior generally, including theories of causation, types of crime, extent of crime, law enforcement, criminal justice, punishment and treatment.

I-SOC 242 Women and Aging (3) Discuss growing older from a female perspective, including common problems such as widowhood, income, work, retirement, victimization, sexuality, health care and living situations. Compare women and aging historically and culturally with today's American society.

I-SOC 245 Sociology of Mental Illness (3) Study the medical model and alternative models of mental illness, social factors in mental illness "cause" and treatment, institutional organization changes and provision of services, and current mental illness theory, research and social policy.

I-SOC 270 World Population Problems (4) Examine various theories of population, methods of discovery and critical variables such as fertility, mortality and migration. Relate the population problem to variables which indicate the web of interdependency.

I-SOC 272 The Community (3) Examine common features of all communities, and differences in size, ecology, occupation, history and cultural heritage. See community as interacting social systems network, comprised of meaningful social groups, family, religion, economy, local government, health and welfare services, and recreation.

I-SOC 310 Social Psychology (3) Study social communication in human groups, identifying mutually dependent elements in the group, and studying the group as an organic whole, emphasizing leadership.

I-SOC 311 Collective Behavior (3) Direct relevant, appropriate sociological theory to collective behavior subdiscipline. Identify certain theoretical developments unifying mobs, riots, crowds, crazes, mass behavior, revolutions and reforms to examine social strains underlying collective effort and behavior.

SOC 312 Mass Communication and Propaganda Analysis (3) Examine the structure and policy of mass communications in relation to their economic, political, sociological and psychological functions. Consider propaganda, its techniques and impact on the masses.

I-SOC 321 Political Sociology (3) Analyze the state as a social organization; nature and conditions of its legitimacy, nature of political systems, political behavior in a societal context, and interrelationships of political and societal phenomena.

SOC 323 Sociology of Religion (3) Compare the world's major religions, their origins and historical development, their doctrines, literature, customs and relations to society.

SOC 325 Sociology of Medicine (3) Relate sociological concepts systematically to physical health and illness, with overview of socio-cultural concepts of "Medicine;" community and medical care, medical education; hospital as a social institution; and medical practice concepts.

SOC 330 Complex Organizations (3) Study basics of modern bureaucratic organizations. Analyze their social structure as well as human organizational behavior from a social psychological perspective.

I-SOC 333 Social Stratification (3) Present a unified portrait of today's American class system, describing its realities. Make an analysis of verified knowledge based on systematic research, and treating the mobility central to America's open-class system.

I-SOC 334 Sociology of the Future (3) Analyze the future from several sociological perspectives, interpret utopian designs for societies of the future and theoretically construct future societies.

I-SOC 337 Soviet Society Today (4) Sociologically analyze the Soviet Union's social institutions, social problems and values systems, specifically considering communist ideology in theory and practice.

I-SOC 340 Juvenile Delinquency (4) Approach delinquency from sociological, psychological and legal points of view, and learn sociological theories proposed as possible causes of delinquency. Discuss various methods of rehabilitation in correctional institutions.

I-SOC 341 Sociology of the Aging (3) Survey theories and research on the social aspects of aging, emphasizing 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) Deal with evidence from all types of intergroup relations: race, nationality, minority groups, income groups, urban and rural groups, and methods of teaching and measuring intergroup relations.

SOC 350 History of Social Thought (4) Discover the 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) Study sociological theory from Comte to the 20th century. Deal with Sociology's beginnings as a separate discipline to its full emergence in the academic community. Emphasize important theorists and major schools of theory.

SOC 352 Social Theory II (4) Survey contemporary sociological theories with particular emphasis on Parsons, Merton, Homans, Mills and Levy. To relate contemporary theories to thoughts of classical European and American sociologists.

SOC 402 Issues and Perspectives in Sociology (3-9) Variable topic course. Choose the sociology of science, art forms, alternative life styles, formal organization or comparative sociology, for example. May be taken 3 times if topic is different each time.

SOC 415 Sociology of Child Development (3) Place primary emphasis on the social situation and how the child grows and develops within its context from birth to maturity.

I-SOC 420 Sociology of Education (3) Systematically attempt to relate sociological concepts to the educational institution. Focus on a scientific analysis of social processes and patterns involved in the educational system.

SOC 421 Industrial Sociology (3) Study the processes involved in the development of industrial society; work's social organization; work plant's internal dynamics as a social system; U.S. labor movement development; and labor-management relations dynamics and impact.

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 instructor and one with department chair. No General Education credit.

I-SOC 424 Sociology of Criminal Law (4) Inquire into the origins of criminal law, its administration, and the effects of legal sanctions.

SOC 432 Occupations and Professions (3) Describe and analyze selected occupations and professions in American society.

I-SOC 435 Socio-Cultural Change (3) Consider theories of change, and analyze change as interaction product of several factors. Discuss effects of technology on change, and change measurement problems. See change processes in underdeveloped countries, and compare with developed nations.

SOC 437 Seminar in American Society Today (3) Make an advanced study of the main cultural and social structures of American society, social relations, beliefs and values which characterize the people of the United States.

I-SOC 447 Social Deviance (4) Study social deviance, particularly in terms of types, sources, functions, dysfunctions and social control mechanisms that operate relative to these departures from conformity.

I-SOC 454 Social Conflict (4) Analyze the nature of social conflict, its origins, functions, dysfunctions, and how conflict is resolved or accommodations made for it.

SOC 460 Social Research I (4) Focus upon the scientific method as it applies to Sociology and the social sciences. Examine methods and techniques of research, as well as study designs relevant to Sociology.

SOC 461 Social Research II (4) Prerequisite: SOC 460 or equivalent. Continue introductory statistics with special emphasis on applied problem solving, utilizing both parametric and non-parametric measurements. Cover statistics relating to scale verification, concepts of statistical applications, and levels of significance theories.

I-SOC 478 Urban Sociology (3) Consider population, spatial and social patterns characteristic of modern urban communities, including trends and problems such as out-migration and urban blight.

SOC 480 Field Research Sociology (4-15) Prerequisite: Consent of instructor. Combine a substantial amount of self-directed research under instructor's supervision with actual field experience as an intern in a relevant social agency.

SOC 515 Seminar in Socialization (3) Approach socialization theory and research, particularly child development, from a sociological standpoint. Emphasize the socialization process and social situations in which the child grows and develops, especially those in low income areas.

SOC 520 Seminar in the Family (3) Explore marriage in depth, focusing primarily on American marriage. Also, contrast the American system with that of other societies.

SOC 550 Philosophical Issues in Sociology (4) Prerequisite: SOC 351. Explore a variety of philosophical problems, issues and contentions forming a backdrop to theoretical and empirical sociology.

SOC 551 Sociology of Knowledge (3) Prerequisite: SOC 350. Evaluate and analyze the relationship between knowledge and existence, between thoughts and social structures, between mental productions and cultural and historical contexts.

SOC 554 Criminological Theories (3) Analyze and evaluate the major historical and contemporary theories of criminal behavior.

SOC 563 Ethnomethodology (4) Study folk classifications of social systems to discover how members of a social system perceive, define and classify and how these members actually perform their activities as social systems participants.

SOC 574 Demographic Analysis (4) Prerequisite: One course in statistics or permission of instructor. Learn research procedures in demographic research, including computation of standard demographic statistics (life tables, birth and death rates, population projections, etc.) and interpret demographic trends.

SOC 602 Seminar in Perspectives in Sociology (3-9) Variable topics may include theory construction, research and theoretical development as it occurs in various areas of sociology, or current issues and problems within the profession. May be taken 3 times if topic is different each time.

SOC 610 Seminar in Social Psychology (3) Prerequisite: SOC 310. Analyze major perspectives, and discuss certain issues, problems and trends. Emphasize specific theoretical approaches in the field: interaction, cognitive, reinforcement, field, and social learning theories, etc.

SOC 620 Seminar in Comparative Social Institutions (4) Discuss social transition from the prehistoric period's stateless society to contemporary nation-states, to illustrate change from small isolated units of social interchange to interdependent, interrelated world-centered units today.

SOC 622 Individual Studies (Maximum 4) Qualified graduate 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 instructor before credit is given. Does not satisfy 500 level requirement unless the student is in full-time residence at UNC during quarter the course is taken.

SOC 645 Seminar in the Sociology of Mental Health and Illness (3) Study American history of mental health and illness, and focus on meaning of these terms, current conceptions of social psychiatry and role of social scientists. Discuss school problems and disturbed children at length.

SOC 650 Sociological Theory (4) Prerequisite: SOC 352. Analyze sociological theory development from Comte to present, emphasizing various European and American "schools." Systematically learn concepts of sociological theory for orientation to frames of reference for viewing human interaction.

SOC 660 Seminar in Advanced Social Research (4) Examine the scientific method as it applies to Sociology, advanced research designs and techniques used in sociological research, developing and testing of hypotheses and basic statistical tools used in research.

SOC 680 Sociology Internship (2) Master of Arts candidates in Sociology have opportunities to assist, under supervision, the teaching of SOC 100. Meet with small course section two hours a week, prepare and proctor written examinations, review and clarify material covered in prior lectures and lead section discussions of current and topical matters.

SOC 699 Thesis (Maximum 15) Required of Master of Arts candidates in Sociology on recommendation of major advisor.

Spanish

d-SPAN 101 Elementary Spanish I (5) Three-quarter sequence of the basic elements of Spanish through the aural-oral conversation approach. Intensive and extensive use of aural-oral materials, writing and reading exercises and audio-visual aids.

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 111 Spanish for Health Care Professionals I (3) Designed to teach basic Spanish for Health Care Professionals. Intensive practice in conversation. Concentrates on development of vocabulary essential for effective Spanish communication in a health care setting.

d-SPAN 112 Spanish for Health Care Professionals II (3) Continuation of SPAN 111.

d-SPAN 113 Spanish for Health Care Professionals III (3) Continuation of SPAN 112.

d-SPAN 201 Intermediate Spanish I (4) Prerequisite: Two years of high school Spanish or equivalent. Corequisite of SPAN 204. Review of the basic principles of the language. Emphasizes oral Spanish communication. Familiarizes students with Spanish and Latin American cultures through readings, films, literature, art and audio-visual materials.

d-SPAN 202 Intermediate Spanish II (4) Prerequisite: Two years of high school Spanish or equivalent. Corequisite of SPAN 204. 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 Spanish or equivalent. Corequisite of SPAN 204. 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.

SPAN 204 Conversation and Culture Laboratory (1) Prerequisite: A corequisite of SPAN 201, 202, 203. Designed to expand language skills and offers exposure to cultural activities. Will include films, lectures, conferences, discussion in the language. Course may be taken up to 6 times. S/U grading.

SPAN 205 Introduction to Hispanic Literature (3) Prerequisite: Three years of high school Spanish or equivalent. Designed to give the student a foundation for evaluating literature and writing a research paper. An introduction to literary criticism and to the *MLA Handbook*.

d-SPAN 301 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.

d-SPAN 302 Advanced Spanish Composition (3) Prerequisite: Three years of high school Spanish or equivalent. Designed to increase the student's composition skills in Spanish through the use of original essays, descriptions, compositions, research papers and translations.

d-SPAN 303 Spanish Conversation (4) Prerequisite: Three years of high school Spanish or equivalent. Designed to increase the ability to use spoken Spanish in practical, everyday situations. Class conducted in Spanish.

d-SPAN 304 Spanish Pronunciation (3) Prerequisite: Three years of high school Spanish or equivalent. Study of the mechanics of Spanish pronunciation. Methods of recognizing and correcting pronunciation errors.

g-SPAN 305 Dialects of the Hispanic World (3) Designed to acquaint future professionals with the regional and social characteristics of Spanish. Will include three major dialects: Southwest, Puerto Rican and Cuban Spanish. Emphasis on Southwest Spanish.

g-SPAN 321 Spanish Civilization and Culture (4) Prerequisite: Two years of college Spanish or equivalent. Designed to acquaint students with general trends of Spanish civilization and culture. Includes historical, economic, political and artistic developments of Spain from pre-historic times to the present.

g-SPAN 322 Spanish Literature I (3) Prerequisite: SPAN 321. Study of Spanish literature and civilization of the 16th, 17th and 18th centuries. Emphasis placed on the most significant writers: Cervantes, Lope de Vega and Calderon de la Barca.

g-SPAN 323 Spanish Literature II (3) Prerequisite: SPAN 321, 322. Study of Spanish literature and civilization of the 19th and 20th centuries. Emphasis placed on more recent periods.

g-SPAN 331 Latin American Culture and Civilization (4) Prerequisite: Two years of college Spanish or equivalent. Designed to examine the historical and cultural development of the Latin American countries. Surveys the major historical events from the pre-Columbian period to the present.

g-SPAN 332 Latin American Literature I (3) Prerequisite: SPAN 331. Study of Latin American literature during the 19th and early 20th centuries. Special emphasis on the intellectual currents: Romanticism, Modernismo, Criollismo and Indigenismo. Includes poetry, essay, drama and novel.

g-SPAN 333 Latin American Literature II (3) Prerequisite: SPAN 331. Study of recent Latin American literature. Special emphasis on the "New Novel." Includes the works of Jorge Luis Borges, Mario Vargas Llosa, Gabriel Garcia Marquez and Pablo Neruda.

g-SPAN 334 Latin American Poetry (2) Prerequisite: Two years of college Spanish. Study of the major periods of Latin American poetry: Modernismo, Postmodernismo, Vanguardismo and Post-Vanguardismo. Movements will be related to poetic influences and visual arts of corresponding periods.

d-SPAN 401 Problems in Oral Spanish (3) Prerequisite: Four years of high school Spanish or equivalent. Designed to provide advanced oral training and to help students with persistent individual problems in spoken Spanish to overcome difficulties.

d-SPAN 402 Spanish for the Professions (4) Prerequisites: SPAN 301, 302, 303, 305. For professionals dealing with Spanish-speaking people in business, education, health care, law enforcement and welfare. Includes material on data processing and information systems. Emphasis on conversation, writing skills, vocabulary.

d-SPAN 403 Introduction to Translation (3) Prerequisites: SPAN 301, 302, 303, 305. Introduction to translation techniques and resource material in a wide variety of subjects and styles. Emphasis will be placed on translation accuracy.

SPAN 404 Spanish for Bilingual Education I (4) Prerequisite: Two years of college Spanish or equivalent, and placement test scores at third level proficiency. Designed to develop Spanish language skills in the area of Language Arts. Students must pass the Spanish Proficiency Exam after completion of SPAN 406 to receive Bilingual Education Certification.

SPAN 405 Spanish for Bilingual Education II (4) Prerequisite: SPAN 404. Designed to develop Spanish language skills in math and science areas. Students must pass the Spanish Proficiency Exam after completion of SPAN 406 in order to receive Bilingual Education Certification.

SPAN 406 Spanish for Bilingual Education III (4) Prerequisites: SPAN 404, 405. Designed to develop Spanish language skills in geography and social studies. Students must pass the Spanish Proficiency Exam after completion of SPAN 406 in order to receive Bilingual Education Certification.

g-SPAN 407 Spanish Readings (3) Prerequisite: Three years of high school Spanish or equivalent. Designed to accommodate the reading abilities and interests of students. Extensive reading to be discussed in class and in conference. Reading content is variable and determined by instructor.

SPAN 408 Study Abroad Program: Coursework (8) Prerequisite: Two years of college Spanish or permission of department. Designed to give the student practical experience in the use of Spanish. Study includes formal instruction in conversation, composition and culture at the foreign study center. To be taken with SPAN 409.

SPAN 409 Study Abroad Program: Project (4) Prerequisite: Two years of college Spanish or permission of department. Students research contemporary and historical cultural phenomena of Spain or Mexico by completing an area studies project of the study center's region. To be taken with SPAN 408.

SPAN 422 Individual Studies (1-4) Undergraduate students spend a minimum of 25 hours per quarter hour on a problem. Two copies of a paper must be filed before credit is given. Not for General Education credit.

SPAN 508 Workshop (Maximum 10) Study of topics relating to Spanish language and literature. Designed according to interest of the student and expertise of the instructor.

SPAN 513 Professional Renewal (1-10) Study of topics relating to Spanish. Designed according to interest of the student and expertise of the instructor.

SPAN 622 Individual Study in Spanish (Maximum 4) Graduate students spend a minimum of 25 hours per credit hour on a problem. Two copies of a final paper must be filed with the instructor before credit is given.

Special Education

EDSE 100 Education of Exceptional Children (3) Survey the characteristics and educational needs of impaired and gifted children. An overview for undergraduate students in Special Education, General Education, Nursing, Counseling and related disciplines.

EDSE 201 Undergraduate Practicum (1-4) Open only to sophomore majors and minors in Special Education. Supervised professional activity in student's major or minor field. Approximately 1 hour of credit granted for every 20 hours of practicum. Two copies of a well-written paper must be filed with instructor before credit is given.

d-EDSE 250 Structure of Language (3) Approach language from a syntactical and morphological view as it applies to the child, stressing the understanding of the structure of the English language as well as how language is learned.

EDSE 301 Undergraduate Practicum (1-4) Open to junior Special Education majors and minors. Supervised professional activity in student's major or minor field. Approximately one hour of credit granted for every 20 hours of practicum. Two copies of a well-written paper must be filed with instructor before credit is granted.

EDSE 302 Counseling Parents of Exceptional Children (3) Student in special education, general education, nursing, counseling and related professions receive techniques for working with parents of exceptional children.

EDSE 303 Behavioral Objectives and Educational Programming for Exceptional Children. (1) Write, classify and evaluate goals and learning objectives and relationship to educational programming through self-instructional learning module requiring no class attendance except scheduled test period. Competency assessed through criterion measures.

EDSE 304 Introduction to Measurement of the Handicapped (3) Understand results of educational tests, especially knowledge of problems encountered in testing children who are visually, acoustically, orthopedically, mentally handicapped, or speech/language impaired, and interpret test results accounting for handicaps.

EDSE 305 Education Prescription and Programming for Exceptional Children (4) Prerequisites: EDSE 304, EDRD 310. Study techniques of educational evaluation and program planning for individualization of instruction.

EDSE 306 Identification of Handicapped and High Risk Children in Early Childhood (3) Receive introduction to identification and generally purposed theories of remediation for handicapped and high risk children ages 0 to 8.

EDSE 308 Workshop in Special Education (1-4) For beginning teachers and clinicians. Topics will include observation techniques, programming for the handicapped, community relations, child development as related to exceptional children, and evaluation of children for placement. Materials prescribed by specific workshop offered.

EDSE 309 Introduction to Special Education Student Teaching PTE (2) Prerequisite: EDSE 100. Participate directly in classrooms for the handicapped under master teacher supervision. Spend 4 hours per week in Special Education laboratory school, and 1 additional hour per week in arranged conference. S/U final mark.

EDSE 310 Introduction to Mental Retardation (4) Prerequisite: EDSE 100 or 602. Study social, emotional, physical and mental characteristics of the mentally retarded child. Discuss methods of classifying, diagnosing and treating these children from medical, psychological, sociological and educational points of view.

EDSE 311 Education of the Moderately Mentally Handicapped (4) Prerequisites: EDSE 100, 310. Participate in educational programs for moderately mentally handicapped children. Learn diagnosis and classification, development of teaching materials and techniques, and consider community organizations and parent education.

EDSE 312 Seminar: Teaching the Moderately Mentally Handicapped (2) Prerequisites: EDSE 100, 310, 311. Participate in educational programs of the moderately mentally handicapped before undertaking actual student teaching experience. Relate these field experiences with in-class presentation of materials in weekly one-hour seminar.

EDSE 313 College for Living Lab (1-4) Laboratory course for students in Special Education. Work with retarded young adults, teaching social interaction skills and a sense of independence. Create curriculum materials in reading, writing and arithmetic based on needs of individual students.

e-EDSE 320 Introduction to the Education of Socially and Emotionally Disturbed Children (3) Learn concepts, practices and trends in education for emotionally disturbed and socially maladjusted children, with orientation to dynamics, personality characteristics and needs of these children.

e-EDSE 326 Introduction to Teaching Learning Disabled Children (3) Survey 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. For teachers and other interested in Special Education. Discuss medical and educational problems in areas of disabled (cerebral palsy, muscular dystrophy, etc.) and other health impaired (diabetes, epilepsy, etc.)

e-EDSE 350 Introduction to the Hearing Impaired (3) Study the history and philosophy of education of the deaf, problems in organization, support and maintenance of programs for hearing impaired children, and problems in psychological development imposed by hearing loss.

EDSE 356 Introduction to Manual Communication Skills (3) Develop basic skills in total communication through use of signs and fingerspelling.

EDSE 357 Introduction to Hearing Aids and Amplification Systems (3) Prerequisite: EDSE 370. Study the use of amplification systems for acoustically handicapped individuals, including component parts, electroacoustic measurements, evaluation, orientation and counseling.

EDSE 358 Auditory Training and Speechreading (4) Prerequisites: EDSE 357, CMDS 370. Examine the development of receptive language through auditory and visual channels, particularly methods of developing auditory discrimination and speechreading skills in the hearing impaired.

EDSE 380 Introduction to Gifted and Talented Student Education (3) To give beginning teachers an understanding of talented and gifted children. Learn the characteristics and needs of the gifted and strategies and materials which benefit these children.

EDSE 401 Undergraduate Practicum (1-4) Open to senior majors in Special Education only. Supervised professional activity in student's major field. Approximately 1 hour of credit granted for every 20 hours of practicum. Two copies of a well-written paper must be filed with instructor before credit is given.

EDSE 404 Resource Program Teacher (3) Orientation to various types of resource programs, strategies and materials designated to serve handicapped children in resource programs.

EDSE 406 Working with Handicapped Students in the Elementary School (2) Prerequisite: EDSE 405. Make an overview of specific methods and techniques to use in working with handicapped students in regular elementary schools.

EDSE 407 Working with Handicapped Students in the Secondary School (2) Prerequisite: EDSE 405. Survey specific methods and techniques for use in working with handicapped students in regular secondary schools.

EDSE 408 Handicapped Students in the Elementary Classroom (4) Provides information about handicapping conditions, including identification procedures and specific techniques and materials appropriate for mainstreamed students in the elementary classroom.

EDSE 409 Handicapped Students in the Secondary Classroom (4) Provides information about handicapping conditions, including identification procedures and specific techniques and materials appropriate for mainstreamed students in secondary classrooms.

EDSE 410 Handicapped Students in Regular Classrooms (3) Required of students majoring in Fine Arts, Physical Education, Music Education and Vocational Education. Provides information on various handicapping conditions, identification procedures, and specific techniques to be used at the level.

EDSE 412 Curriculum Development and Methodology for Educable Mentally Handicapped: Elementary Level (4) Prerequisites: EDSE 100 or 602, 310 and EDRD 310. Develop integrated experience units and gain knowledge of teaching strategies and materials appropriate to elementary level educable mentally handicapped youngsters.

EDSE 414 Problems in Teaching Moderately Mentally Handicapped Children (4) Prerequisites: EDSE 310, 311. Develop curriculum techniques and strategies for teaching the moderately mentally handicapped child from onset of the school program to a vocational level.

EDSE 415 Vocational Training for Moderately Mentally Handicapped (4) Prerequisites: EDSE 310, 311, 414 or permission of instructor. Investigate pre-vocational and vocational programs for the moderately mentally handicapped in terms of assessment, skill training, job placement and community living.

EDSE 416 Education of the Severely/Profoundly Mentally Handicapped (4) Make an in-depth study of physical management of severe/profound retardation, emphasizing medical aspects, assessments, instructional models, interdisciplinary concept, curriculum content and teaching strategies.

EDSE 417 Curriculum Development and Methodology for Educable Mentally Handicapped: Secondary Level (4) Prerequisites: EDSE 100 or 602, EDRD 310. Emphasize content, methods and materials appropriate for teaching junior and senior high school classes for educable mentally handicapped youngsters.

EDSE 418 Clinical Experience with the Severely/Profoundly Mentally Handicapped (1-18) Receive clinical programming experience in an institutional or community center setting with severe/profoundly retarded individuals.

EDSE 421 Introduction to Classroom Management (3) Study 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 instructor and one with department chair. No General Education credit.

e-EDSE 440 Survey of Visually Handicapped Education (3) Investigate educational, social and emotional implications of visual impairment. Survey history, current education and rehabilitation planning; organization and scope of educational services from childhood through college. Review philosophies and programs of public and private agencies, and legislative measures.

EDSE 441 Listening Skills for Learning (3) Explore theoretical foundations, sequential development, commercially produced and teacher-prepared materials, and special techniques to promote effective listening in and out of the classroom. Practice labs provided.

e-EDSE 442 Rehabilitation Teaching for the Visually Handicapped (3) Learn how rehabilitation of visually handicapped persons is accomplished through counseling, evaluation, higher education, coping skills, preparation for employment and independent living. Consider eye conditions and their implications for employment, and discuss stereotyped ideas.

EDSE 443 Teaching Daily Living to the Visually Handicapped (2) Study and use adapted materials and techniques for teaching the visually handicapped such skills as grooming, eating, cleaning, cooking, sewing and simple home repairs. One hour lab required.

EDSE 444 Adaptations in Recreation and Physical Education for the Visually Handicapped (3) Provides the teacher of the visually handicapped with an awareness of how to adapt and implement recreational activities.

EDSE 450 Speech Development for the Hearing Impaired I: Theory (3) Prerequisites: EDSE 250, 350, 357 or permission of instructor. PTE. Develop competencies to describe the speech process and its relationship to language for the hearing impaired; evaluate speech functioning and provide a foundation for 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. Develop competencies to teach speech to the hearing impaired, select methods, materials and techniques appropriate to individual needs, and 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. Determine language problems of the hearing impaired; evaluate receptive and expressive language functioning, and provide a foundation for teaching language to the hearing impaired.

EDSE 453 Curriculum and Content for the Hearing Impaired (4) Prerequisites: EDEM 410, EDSE 250. PTE. Understand purpose and nature of curriculum and plan, implement and evaluate learning experiences for hearing impaired children. Design evaluation based on 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. PTE. Understand process and problems in reading for the hearing impaired; analyze and develop reading materials and provide a reading program foundation for the hearing impaired, pre-school through secondary levels.

EDSE 456 Manual Communication Skills: Signed English (3) Increase signing proficiency beyond instructional level of comprehension, emphasizing receptive skills as well as experience.

EDSE 457 Curriculum: Language and Speech for the Hearing Impaired (3) For Audiology and Speech/Language Pathology majors. Understand and apply teaching techniques used by teachers of the hearing impaired, and specific language and speech methods used for remediating deficits experienced by hearing impaired children.

EDSE 458 Language Development for the Hearing Impaired II: Methods (3) Prerequisites: EDSE 250, 350, 357 and 452, or permission of instructor. PTE. Develop competencies necessary to teach language to the hearing impaired, preschool through secondary levels. Select methods, materials and techniques appropriate for each level, and develop a comprehensive language program for the hearing impaired.

EDSE 503 The Multihandicapped (3) Prerequisite: EDSE 100 or 602. Study assessment techniques, approaches to problems, remediation strategies and characteristics of the multihandicapped (retarded, physically disabled, blind, emotionally disturbed etc.)

EDSE 504 Practicum for the Multihandicapped, K-12 (3-15) Prerequisites: EDSE 503, 505. Participate as a teacher in the classroom under the direction of a master teacher for a laboratory/educational type experience.

EDSE 505 Curriculum for the Multihandicapped (3) Prerequisite: EDSE 503. Study educational and training techniques used with the multihandicapped, including motor, language, social, emotional, behavioral and intellectual development. Focus on curriculum modification, adaptation, implementation and activities.

EDSE 506 Seminar in Mainstreaming Handicapped Students in Regular Classrooms (4) Survey course for non-Special Education graduate students concerning mainstreaming and accommodation of handicapped students in regular classrooms. Emphasis placed on solving classroom problems relating to graduate student's previous experiences with handicapped persons.

EDSE 508 Workshop in Special Education (1-6) Facilitates special disability areas designated when each workshop is offered. Includes current issues, problems, programs and topics of national and local interest.

EDSE 510 Severely Intellectually Handicapped (1) Investigate assessment and treatment of the severely intellectually handicapped individual, and examine implications in the education and training process.

EDSE 513 Professional Renewal Experience (1-5) For teachers and administrators. Enhance expertise in respective professional fields. Specific content designated by course title offered, and number of hours.

EDSE 520 Severely Emotionally Disturbed (1) Study severe emotional problems exhibited by children, particularly characteristics which might lead to institutionalization and/or special class if not corrected.

EDSE 521 Introduction to Kephart Rationale of Perceptual-Motor Development (3) Survey research on perceptual-motor theory in general and specifically focus on research pertaining to Kephart rationale.

EDSE 530 Severely Disabled and Other Health Impaired (1) Learn medical involvements, terminology, self-help skills and ancillary personnel for severely physically disabled and other health-impaired (OHI). Discuss communication, prosthetic and orthotic devices and environmental adaptations.

EDSE 531 Relationship of Occupational and Physical Therapy to Special Educators (3) Become familiar with occupational and physical therapy techniques, terminology, self-care skills, and handling and positioning reflexes and equipment for the handicapped person.

EDSE 532 Problems of Teaching the Physically Handicapped (3) Learn methods, techniques and teaching procedures with various types of physically handicapped children, and study programs, materials, and curriculum planning with adaptations and aids.

EDSE 540 Introduction to the Severely/Profoundly Handicapped Blind (1) Investigate causes and characteristics of impairments resulting in severely/profoundly handicapping blindness. Overview of assessment and curricula.

EDSE 541 Early Developmental Needs of Severely/Profoundly Handicapped Blind (3) Prerequisites: EDSE 549, 649 or consent of instructor. Learn a developmental approach to design strategies for working with severely and profoundly handicapped blind children, functioning at 0-2 years. Develop IEPs through assessment, planning, implementation and evaluation, aide roles, consultants, ancillary personnel and families.

EDSE 542 Meeting Educational Needs of Severely/Profoundly Handicapped Children (3) Prerequisites: EDSE 549, 649 or consent of instructor. Learn strategies for working with severely/profoundly handicapped blind children functioning at 3-6 years developmentally. Design, through IEP, appropriate developmental programs, adapt existing materials and curricula, and create individualized materials.

EDSE 543 Braille and Other Communication Skills for Visually Handicapped I (3) Auditory or visual materials and use of special devices and equipment. Two hour lab.

EDSE 544 Media and Methods for Visually Handicapped I (3) Discover special instructional techniques in teaching reading, language arts, mathematics, science, social studies, physical education and fine arts to the blind and partially sighted. Two hour lab.

EDSE 545 Media and Methods for the Visually Handicapped II (3) Learn practical aspects of programming, evaluation procedures, records, staffing, appropriate placements, sourcing materials and equipment, scheduling, consulting, legislative and financial provisions, parent conferences, volunteer service coordination, community agencies and related services. Two hour lab.

EDSE 546 Principles of Orientation and Mobility for Visually Handicapped (3) Learn importance of independent travel, and techniques to develop orientation skills and pre-cane mobility; cane instruction philosophy and history, dog guides and other travel methods; review current programs and observe cane travel.

EDSE 547 Independence in Orientation and Mobility (3-5) Learn skills involved in general navigation and environmental awareness while working under a blindfold. Gain insight into travel problems of blind individuals.

EDSE 548 Advanced Independence in Orientation and Mobility (3-5) Prerequisite: EDSE 547. Continuation of EDSE 547. Develop mobility skills in the advanced travel situation, emphasizing maximum effective use of remaining senses.

EDSE 549 Survey of Severely/Profoundly Handicapped Blind (3) Discuss common causes/characteristics of impairments resulting in severely/profoundly handicapping blindness and to interpreting medical information; focus on sequences of development and effects of blindness on development.

EDSE 550 Low Functioning Acoustically Handicapped (1) Investigate compounding effects of a second handicap on development of the hearing impaired child. Emphasize psychological, social, linguistic, communication and educational problems.

EDSE 555 Diagnosis of Language and Reading Behaviors of the Hearing Impaired (3) Diagnostic/evaluation of receptive language and reading levels of the hearing impaired child, development of the I.E.P. and implementation with a hearing impaired child.

EDSE 556 Advanced Manual Communication Skills (3) Prerequisites: EDSE 356, 456 or permission of instructor. Learn to use correct signs for classroom teaching, conversation and interpreting for the deaf.

EDSE 580 Nature and Needs of the Talented and Gifted Student (3) Study, in depth, the psychological, social physical and educational characteristics and needs of talented and gifted students, especially the diverse nature of giftedness through extensive research readings.

EDSE 581 Methods and Curriculum for Teaching the Talented and Gifted (4) Survey techniques, methods and materials used to educate children with superior cognitive and creative abilities, stressing procedures for their maximum overall development.

EDSE 582 Practicum in Teaching the Talented and Gifted (1-15) Prerequisites: EDSE 580, 581. Emphasize the processes of assessment, prescription, educational programming, teaching skill development and program development in this supervised teaching experience.

EDSE 583 Research Seminar in Gifted and Talented Education (3) Prerequisites: RES 600, EDSE 580. Stress principles, methods and evaluation of research as they specifically relate to completed research in the area of the gifted and talented, and investigate appropriate educational techniques especially designed for these children.

EDSE 584 Organization and Administration of Public School Programs for the Gifted and Talented. (3) Receive assistance in planning and implementing a gifted and talented program in a school and school district, emphasizing actual identification of students and program to be developed for them.

EDSE 601 Practicum (1-4) Open only by invitation to resident graduate students. Supervised activity in a major field, approximately two hours per day. Two copies of a well-written paper must be filed with instructor before credit is given.

EDSE 602 Education and Psychology of Exceptional Children (3) Survey the characteristics and educational needs of impaired and gifted children. An overview of the field for graduate student in Special Education, General Education, Psychology and related fields.

EDSE 603 Administration and Supervision of Special Education (3) Review problems in the administration and supervision of special education programs: Finance and program organization, physical facilities, budgeting and effects of legislation and litigation.

EDSE 604 Principles and Practices of Measurement of the Handicapped (3) Discover basic concepts needed to interpret the results of psychological and educational tests, particularly those tests used to evaluate and diagnose educational problems in handicapped children.

EDSE 605 Appraisal of Exceptional Children (5) Become familiar with techniques, methods and purposes of appraising exceptional children, especially the historical development, basic purposes and assumptions of assessment; testing terminology and statistics, and formal testing administration and interpretation.

EDSE 606 Practicum in Appraising Exceptional Children (4) Prerequisite: EDSE 605. Receive supervised experience in administering and interpreting specialized tests to handicapped students.

EDSE 608 Directed Case Study with ED/LD Children (4) Prerequisites: EDSE 320, 326, 620. Tutor an individual with learning and/or emotional problems under supervision, and review teaching process utilized in individual and group conferences.

EDSE 609 Basic Concepts of Mental Retardation (4) Prerequisite: EDSE 100 or 602. Examine the intellectual, psychological, medical and educational characteristics of the mentally retarded and related methods of management.

EDSE 610 Sociological and Educational Aspects of Mental Retardation (4) Study research findings concerned with community and institutional care, treatment and education of the mentally retarded.

EDSE 611 Psychological Aspects of Mental Retardation (4) Prerequisite: EDSE 310 or 609. Review the management and research implications of the intellectual functioning, psychological theories and learning interrelations of the psychological aspects of mental retardation.

EDSE 612 Advanced Curriculum Development (4) Prerequisite: EDSE 412. Develop the application of principles of preparation, development and effective use of integrated units, emphasizing evaluation and reporting in terms of achievement of the curriculum objectives.

EDSE 614 Practicum with the Mentally Handicapped, K-12 (3-15) Prerequisite: EDSE 100 or 602, 412, 417. Individual observation and supervised practice in the education of the mentally handicapped.

EDSE 616 Case Study with Handicapped Children (1-4) Experience working with emotionally disturbed, learning disabled, mentally retarded or visually, auditorily or physically impaired children ages 0-8. Required are preschool program observations, planning and implementation of teaching strategies.

EDSE 617 Assessment and Methods of Teaching Intellectually Impaired, Learning Disabled and Emotionally Disturbed Young Children (4) Develop skills in administering a variety of assessment tools, plan and implement teaching strategies and evaluate the teaching process. Focus on children ages 0-8.

EDSE 618 Assessment and Methods of Teaching Visually and Hearing Impaired Young Children (4) Develop skills in administering a variety of assessment tools, plan and implement teaching strategies and evaluate the teaching process. Focus on children ages 0-8.

EDSE 619 Practicum in Teaching Handicapped and High Risk Children in Early Childhood (3-15) Prerequisites: CD 533, EDEC 648, 662, EDSE 306, 617, 618. Supervised teaching of handicapped and high risk children with the ages of 0-8. Must be taken concurrently with EDEC 619.

EDSE 620 Teaching Strategies and Resources for Learning Disabled and Emotionally Disturbed (3) Teach basic "generic" Special Education applied classroom techniques, including informal assessment, objective and IEP writing, program evaluation, material selection, resource room management and professional roles.

EDSE 622 Individual Studies (1-4) Qualified graduate student outline and spend a minimum of 25 clock hours per quarter on a problem. Two copies of a well-written paper must be filed with instructor before credit is given. Does not satisfy 600-level requirement unless student is in full-time residence at UNC during quarter the course is taken.

EDSE 623 Sociological and Cultural Aspects of Socially and Emotional Disturbed Children (3) Investigate research findings in etiology, community and institutional care and treatment, pertinent current issues and review special legislation and typical community services related to sociological and cultural problems.

EDSE 624 Seminar in Education of Emotionally Disturbed/Learning Disabled (3) Prerequisites: EDSE 320, 326, 602 and any two of the following: EDSE 639, 665 or 667. Synthesize experiences and coursework in learning disabled and emotionally disturbed, focusing on current issues in field and classroom applications.

EDSE 625 Practicum with Socially and Emotionally Disturbed, K-12 (3-15) Prerequisites: EDSE 320, 602, 623, 636 and 665. Individual observation and supervised practice in education of the socially and emotional disturbed. S/U final mark.

EDSE 626 Behavior Management in the Classroom (3) Prerequisite: EDSE 421. Apply and critically evaluate major concepts and techniques underlying application of behavior modification techniques to problems of children with academic and behavioral difficulties in the classroom.

EDSE 627 Learning and Developmental Theories Applied to Emotionally Disturbed/Learning Disabled Persons (3) Prerequisite: EDSE 620. Make in-depth analysis, synthesis and evaluation of theories of cognitive and psycho-social development and information processing related to unique development and processing of emotional disturbed and learning disabled children and adolescents.

EDSE 628 Practicum with Severely Emotionally Disturbed and Learning Disabled Children, K-12 (9-15) Prerequisites: EDSE 632, 639, 665. Supervised practice in educating severely emotionally disturbed and learning disabled, focusing on those children in self-contained classrooms and/or residential centers.

EDSE 629 Practicum in Learning Disabled Children, K-12 (3-15) Prerequisites: EDSE 326, 602, 667. Supervised practice in programming for and teaching learning disabled children. S/U final mark.

EDSE 631 Advanced Problems in Teaching Children with Physical Defects (3) Study techniques helpful in education, vocational training, therapeutic problems and developing satisfactory self-concepts among children with cerebral palsy, spinal bifida, muscular dystrophy, etc.

EDSE 632 Language Development and Disorders in Emotionally Disturbed and Learning Disabled Children (3) Learn basic information about language development, and relationships to language disorders of emotionally disturbed and learning disabled. Theories, assessment and teaching of language disorders with learning handicapped included.

EDSE 633 Seminar in Disabled and Other Health Impaired (3) Augment other seminar courses in this area with shared experiences. Discuss COHI problems in depth, and work on an individual project.

EDSE 634 Practicum with Physically Handicapped, K-12 (3-15) Prerequisite: EDSE 100, 330 or 602. Individual observation and supervised practice in education of the physically handicapped.

EDSE 640 Academic, Prevocational and Vocational Strategies for Severely/Profoundly Handicapped Blind (3) Emphasize strategies for working with SPHB persons functioning at 7-11 years. Discuss Stephen's Project PAVE, pre-vocational and daily living skills, programming, alternative living environments and vocational planning with family and vocational rehabilitation.

EDSE 641 Structure and Function of the Eye (3) Prerequisite: EDSE 440 or consent of instructor. Study the anatomy, physiology and pathology of the eye, and procedures for medical eye examinations, as presented by an ophthalmologist.

EDSE 642 Low Vision and Its Educational Implications (3) Investigate principles of preparation, selection and effective use of instructional materials for low vision children. Discuss educational interpretation of eye reports, educational implication of diagnosis, techniques for observation, visual efficiency and testing.

EDSE 643 Braille and Other Communication Skills II (3) Prerequisite: EDSE 543. Learn special braille codes: Mathematical and scientific notations, music and foreign languages; textbook formats for braille large type and recorded transcriptions; operation and use of Cranmer Abacus. Two hours lab.

EDSE 645 Teaching the Use of the Optacon in Reading (3) Learn to use the Optacon, electronic machine that converts regular ink-print symbols into tactile, vibrating images to be read with a finger, in order to teach VH students.

EDSE 647 Applied Methodologies in Orientation and Mobility (4) Learn methodologies in orientation skills for totally blind, low vision and multihandicapped children. Address program, curricula and professional issues, and work individually with a visually handicapped person, providing O & M instruction.

EDSE 648 Assessment of Severely/Profoundly Handicapped Blind Children (3) Practice observation techniques and use appropriate developmental scales and other assessment tools to obtain information to develop IEPs. Discuss roles of psychologists and ancillary personnel.

EDSE 651 Advanced Problems in Speech for the Hearing Impaired (3) Prerequisite: EDSE 451. Study, in depth, the problems, development and appropriate remediation of hearing impaired speech, including diagnosis and program planning.

EDSE 652 Linguistic Approach to Language for the Hearing Impaired (3) Prerequisite: EDSE 458. Explore basic psycholinguistic theories and their application to hearing impaired language development, remediation, diagnosis and program planning. Apply to language diagnosis and program planning.

EDSE 654 Practicum with Hearing Impaired, K-12 (3-15) Registration by permission of major advisor only. Individual observation and supervised practice in the education of the deaf and hard of hearing.

EDSE 659 Seminar in Education of the Hearing Impaired (3) Prerequisites: EDSE 452, 453, 455, 458. Discussion of problems encountered in working with hearing impaired children. Structured with needs of candidates included.

EDSE 665 Methods of Teaching Socially and Emotionally Maladjusted (4) Prerequisites: EDSE 100 or 602 and EDSE 320. Learn major intervention strategies for teaching emotionally disturbed, and develop skill in technique application. Emphasis on problems in grades K-12.

EDSE 666 Methods of Teaching Students with Severe Learning Disabilities and Behavioral Disturbances (4) Preparation to teach students residing in self-contained, special day school and residential settings who are classified as severely learning disabled or emotionally disturbed.

EDSE 667 Methods of Teaching the Learning Disabled (4) Prerequisites: EDSE 326, 620. Learn about various major current techniques, methods, philosophies and trends for teaching the learning disabled (LD) in grades K-12.

EDSE 670 Practicum with Visually Handicapped K-12 (3-15) Supervised teaching experience with both blind and partially seeing children; placement evaluations, preparation of materials and observation of varied programs; itinerant, resource room, residential school.

EDSE 671 Practicum in Severely/Profoundly Handicapped Blind (3-15) Supervised teaching experience with severely/profoundly handicapped children in day school (public or private), residential school, state institution or on itinerant basis. Daily supervision by master teacher with overall supervision by UNC SPHB faculty.

EDSE 672 Practicum in Orientation and Mobility for the Blind K-12 (6-15) Supervised teaching experience with both blind and partially seeing children in orientation and mobility. Observe varied programs; itinerant, resource room, residential school.

EDSE 685 Administrative Planning and Program Evaluation in Special Education (3) Prerequisite: EDSE 603. Special education administrators in training conduct special education program evaluations for decision making, better understand resource utilization, and integrate these activities with other special education administrative functions.

EDSE 701 Specialist Degree Practicum (8) Project or supervised professional activity, required of all candidates for the Specialist in Education degree, except in those departments which have substitutes for this course.

EDSE 705 Internship in Special Education (4-15) Supervised program of orientation, observation and participation in one or more agencies devoted to exceptional children. Specific experiences include administration, program development and interagency relationships. Requires a 330 clock hour minimum in one full quarter.

EDSE 706 Advanced Seminar in Research in Special Education (3) Analyze studies and research pertaining to education of exceptional children. Learn to conduct and report research, and survey critical problems and trends in Special Education.

EDSE 707 Trends in Special Education (3) Doctoral students only. Study historical development of educational programs for exceptional children, and critically analyze issues and trends in the field.

EDSE 709 Problems in Assessment in Special Education (3) Review and analyze individual tests of intelligence, and assess the educational implications of such tests for special populations.

EDSE 711 Advanced Seminar in Mental Retardation (3) Discuss, review, analyze and evaluate five major theories and/or conceptualizations of mental retardation, and investigate relationship of law and the Principle of Normalization to present approaches to dealing with mentally retarded individuals in schools and society.

EDSE 712 Advanced Seminar in Learning Disabilities (3) Review, analyze and evaluate selected learning disabilities, theories and related concerns.

EDSE 713 Advanced Seminar in Applied Behavior Analysis (3) Review Special Education topics in behavioral technology, research in single subject design, and explore needed research.

EDSE 714 Seminar in Professional Writing (3) Develop an understanding of the importance and procedures involved in professional writing, emphasizing writing for publication in those journals and textbooks which publish more often in areas of Special Education.

EDSE 741 Advanced Seminar in Visually Handicapped (3) Learn educational programming for the visually handicapped, including rapid changes in braille systems, techniques for reproduction, development and distribution of educational materials, and low vision aids application and residual vision utilization.

EDSE 755 Supervised Practicum in College Teaching (3-9) Receive experiences in observation and supervised practice in college teaching, which will be used as basis for analysis of learning experiences. For doctoral candidates planning to teach on college or university level.

EDSE 797 Doctoral Proposal Research (1-6) Required of all doctoral students. A student may register for 1-6 hours of this course in any quarter, but must earn 6 hours of credit as a partial fulfillment of requirements for all doctoral degrees prior to admission to candidacy.

EDSE 799 Doctoral Dissertation (1-18) Required of all doctoral candidates. A student may register for 1 to 18 hours of dissertation credit in any quarter, but must earn 18 hours of credit for the dissertation as a partial fulfillment of requirements for any doctoral degree.

Speech Communication

d-COMM 110 Public Speaking I (3) Learn the principles and practices of platform speaking, including basic theory, purposes, planning, modes of proof, delivery and audience analysis.

I-COMM 111 Speech Communication: Interpersonal (3) Learn about the processes involved in dyadic communication, including listening, self awareness, assertiveness, perception and language.

COMM 170 Oral Interpretation (3) (2 lecture, 2 laboratory) Learn about oral communication in literature, especially prose and poetry. Substantial individual laboratory experiences.

e-COMM 210 Laboratory Forensics (1-3, maximum 8) Experience intercollegiate forensics. Individual events or readers theater, one hour; debate, two hours; individual events and debate, three hours.

d-COMM 212 Argumentation and Debate (3) Attain better understanding of the intricacies of intercollegiate academic debating and receive an opportunity for practical experience in team debating.

I-COMM 220 Nonverbal Communication (3) Gain insight into relationship between verbal and nonverbal communication associated with communication accuracy, attraction and influence. Investigate major categories of nonverbal communication including: kinesic, proxemic, tactile, artificial, olfactory and vocalic communication.

e-COMM 230 Organizational Communication (4) Investigate the dynamics of communication within organizations.

e-COMM 250 Public Speaking II (4) Prerequisite: COMM 110, high school public speaking or instructor's consent. Get practical experience in current modes of public communication in one-to-many situations. Make three to five speeches and evaluate others in terms of appropriate theory.

I-COMM 251 Small Group Communication (4) Apply problem-solving and decision-making techniques and theories, particularly in the relationship between communication and group variables such as leadership roles and cohesiveness.

COMM 271 Oral Interpretation of Children's Literature (3) (2 lecture, 2 laboratory) Prerequisite: COMM 170. Study theory of and practice orally interpreting children's literature. Experience choral reading and Reader's Theatre for Children.

COMM 310 Principles of Interviewing (4) Study interviewing from the perspectives of both interviewer and interviewee. Examine information seeking/giving, employment, appraisal, grievance and firing/exit interviews.

COMM 312 Argumentation Theory (4) Focus on the nature of argument, reasoning processes and evidence-claim relationships.

COMM 320 Seminar in American Public Address (4) Learn the theory and practice of rhetorical criticism and the application of criticism to selected American speakers, speeches and movements.

I-COMM 323 Interpersonal Communication Theory (4) Prerequisite: COMM 111 or equivalent. Examine the philosophical foundations of interpersonal communication and the most contemporary interpersonal theories being developed by speech communication scholars.

COMM 341 Secondary School Teaching Methods--Communication (4) Prerequisite to student teaching. Taken in department of student teaching. Includes classroom organization and curriculum, testing and evaluation, procedures and materials, relationship of subject area to total middle school and secondary program. Teaching techniques emphasized.

COMM 344 Juries, Justice and Jurisprudence (4) Investigate communication aspects of American trial advocacy, criminal justice and the role of the American courtroom lawyer. Improve communication skills in the setting of a jury trial.

COMM 350 Speech Composition (3) What is involved in writing speeches Use speech models for study and analysis, and prepare and deliver short extempore speeches.

COMM 351 Persuasion (4) Investigate major variables surrounding attitude change and human persuasion. These include source credibility, message organization and personality traits of auditors.

COMM 353 Intercultural Communication (4) Prerequisites: COMM 220 and either 111 or 323. Learn about the communication concepts and theories inherent in the process of interacting with individuals in cross-cultural or inter-ethnic environments.

COMM 370 Interpreter's Theatre (4) Learn about the theory and practice of group performance of literature. Special emphasis is placed on traditional Reader's Theatre, Chamber Theatre, scripting and staging techniques, and topics such as adaptations of nonfiction and interpretation in social contexts.

COMM 400 Theories of Group Process (3) Prerequisite: COMM 302. A systematic overview of current theory and knowledge concerning discussion processes.

COMM 401 Undergraduate Internship (Maximum 15) Supervised work experience in area of specialization. Submit a proposal to the coordinator of internships two weeks prior to registration. Juniors and seniors only. S-U grading.

COMM 411 Family Communication (4) Gain a better understanding of both the theory and pragmatics of skills and competencies in the critical analysis of family communication.

COMM 420 General Semantics (4) Examine in depth the relationship between language, thought and behavior, emphasizing systematic communication errors, their causes and corrections.

COMM 422 Individual Studies (Maximum 4) Qualified undergraduate students spend a minimum of 25 clock hours per credit hour on a problem. Two copies of a well-written paper must be filed before credit is given: one with instructor and one with department chair.

COMM 423 Communication Practicum (4) Prerequisite: Consent of instructor. Individual specialized activity emphasizing application of particular communication skills to be determined by student and supervising faculty member. Apply for COMM 423 two weeks prior to registration. Open to Communication majors and minors only. S-U grading.

COMM 451 Seminar in Conflict (4) Gain a better understanding of the process of conflict and the nature of communication involved in that process.

COMM 453 Communication and Decision Making (3) Examine communication concepts and theories inherent in the processes involved in decision making, decision management and decision analysis.

COMM 455 Rhetoric of Feminism (3) Study the rhetorical dimensions of feminism, including persuasive genre, methods and strategy. Explore the nature and function of rhetoric in both historical and contemporary contexts.

COMM 456 Current Trends in Argument (3) Compare modern approaches to argumentation from the field of philosophy with modern approaches to argumentation from the field of human communication.

e-COMM 486 Directing Forensic Activities (1) Study philosophy, principles, methods and problems of directing debate and individual events at secondary school levels.

COMM 490 Workshop in Speech Communication (3, maximum 12) Concentrate on communication strategies in such areas as: social protest groups, argumentation, the courtroom, the classroom and interpersonal relationships. May be repeated only under different subtitles.

COMM 501 Internship in Speech Communication (Maximum 10) Receive interdisciplinary and inter-professional communicative experience. Hours may not be credited to 30 basic hours in speech communication graduate program. Submit a proposal to the Coordinator of Internships two weeks prior to registration. S-U grading.

COMM 520 Psychology of Human Communication (3) Introduction to psycholinguistics, with analysis of basic psychological factors involved in human communication.

COMM 521 Seminar in Speech Communication (3, maximum 9) Investigate issues of current concern, with subjects varied according to faculty expertise and student need. May be repeated only under different subtitles.

COMM 524 Seminar in Organizational Communication (4) Study the nature of organizations and their communication patterns.

COMM 530 Leadership and Conference Planning (4) Examine theories of leadership, major leadership research findings, various leadership methods and conference planning techniques. Consider how the principles derived from leadership literature can be applied to small group and organizational settings.

COMM 532 Interpersonal Communication: Theory (4) First of a two-quarter sequence. Develop a theoretical base in interpersonal communication.

COMM 533 Interpersonal Communication: Practice (3) (2 lecture, 2 laboratory) Prerequisite: COMM 532. Second in two-quarter sequence. Laboratory experience in interpersonal communication.

COMM 534 Communication Consulting (3) Learn step-by-step about the communication consulting process, and the communication theories and concepts which have application to communication consulting.

COMM 543 Television Criticism (4) Study literary, rhetorical and eclectic methods of criticism as they apply to television. Read and evaluate popular and scholarly criticism of television and learn methods for determining and evaluating the impact of television.

COMM 554 Communication in the Courtroom (4) Investigate the relationship between communication and the law, and legal argumentation and persuasion within courtroom advocacy. Analyze communication within the legal profession.

COMM 560 Rhetorical Theory and Practice (4, maximum 8) Systematically review rhetorical theory for its probable impact on communication. Periods include: Homer to Quintilian, and Campbell to present theorists.

COMM 570 Advanced Oral Interpretation (3) (2 lecture, 2 laboratory) Oral communication in literature, including individual and group performance for students of graduate level ability.

COMM 584 Current Trends in Teaching Communication (3) Seminar study of the philosophy of learning and methods of teaching, with trends and techniques in an institutional setting and professional communication consulting.

COMM 600 Graduate Study in Communication (4) Orientation to graduate study with investigation of various types of research used in the speech communication discipline.

COMM 603 Seminar in Research (4) Prerequisite: COMM 600. Learn design and methodology in speech communication research.

COMM 620 Communication Theory (4) The study of current theories of human communication and the process of theory building.

COMM 622 Individual Studies (Maximum 4) Qualified graduate 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. Does not satisfy 500-level requirement unless student is UNC full-time resident during quarter course is taken.

COMM 664 Seminar in Rhetorical Criticism (4) Explore contemporary theories of rhetorical criticism.

COMM 668 Seminar in Persuasion (4) Investigate the implications of research methodologies in the study of persuasion, particularly attitude research.

COMM 680 Teaching Communication (2) Required for T.A.s and prospective T.A.s. Requires participation in two-day pre-quarter workshop, one class meeting per week to discuss classroom techniques and problems, and one hour per week visitation to a 100-level course taught by speech communication faculty.

COMM 681 Graduate Research Project (4-6) Prerequisite: COMM 600. Under the direction of a speech communication faculty advisor, research a topic relevant to speech communication and produce a thesis-type paper. Designed for graduate students in speech communication who wish to pursue in-depth research study in speech communication.

COMM 699 Thesis (4-9) Optional for Master of Arts candidates on recommendation of major advisor.

Teaching English as a Second Language

TESL 301 TESL Practicum I (2) A beginning-level field experience for students enrolled in the TESL Program (coordinated with TESL methods course). Foreign students will make up the student body of the practicum. S-U grading.

TESL 302 TESL Practicum II (2) Prerequisites: TESL 301. An intermediate level experience for students enrolled in the TESL Program (coordinated with TESL methods course). Foreign students will make up the student body of the practicum. S-U grading.

TESL 303 TESL Practicum III (2) Prerequisites: TESL 301, 302. An advanced-level field experience for students enrolled in the TESL Program (coordinated with TESL methods course). Foreign students will make up the student body of the practicum. S-U grading.

TESL 325 Methods in Teaching English as a Second Language (3) A course designed to train the student in the effective use of the latest methods, materials, and media related to the teaching of English as a second language.

TESL 330 Language Through Culture (3) A course designed to train the student in the methods, materials and media that may be used in teaching culture to non-native students of English.

Theatre Arts

THEA 105, 106, 107 Individual Performance in Theatre (2 each) Participate in productions of the Little Theatre of the Rockies. S/U final mark or conventional grade. Register for proper section. For an S, student must participate 60 hours.

d-THEA 110 Introduction to Stagecraft (3) (2 lecture, 2 laboratory) A study of the arts, terminology and materials of stagecraft and the physical theatre plant. Emphasize laboratory experiences in basic stage construction, shifting and rigging and scene painting.

d-THEA 130 Introduction to the Theatre (3) Survey the history of the Theatre through study of representative plays from each historical period.

d-THEA 160 Acting I: Internals (3) (2 lecture, 3 laboratory) Learn the primary needs of acting: concentration, motivation and believability.

THEA 165 Theatre Improvisation (3) (2 lecture, 1 laboratory) Designed to assist students in increasing their sensitivity and spontaneity in any situation through exercises in and experiences with improvisational techniques.

THEA 170, 171, 172 Stage Movement I, II, III (1 each) Develop an actor's basic tool, the body, in this laboratory course. Emphasize skills to communicate realistic modes of movement, strength, coordination, agility and control necessary to the development of character.

THEA 190 Stage Speech I (1) Designed to help the student to develop good speech for the stage through intelligent use and care of the speaking instrument.

THEA 191 Stage Speech II (1) Prerequisite: THEA 190 or permission of instructor. The focus of this course is on language: the playwright, the play and the character.

THEA 192 Stage Speech III (1) Prerequisite: THEA 190, 191 or permission of instructor. The focus of this course is on Dialects and Accents.

THEA 204, 205, 206, 207 Individual Performance in Theatre (2 each) Open to all students desiring to participate in the Little Theatre of the Rockies productions. S/U final mark or conventional grading. Register for proper section. For S, students must participate in a minimum of 60 hours.

THEA 210 Stagecraft (3) (2 lecture, 2 laboratory) Prerequisite: THEA 110. Study advanced construction problems, rigging and backstage organization and management. Develop basic skills in mechanical drafting, scenic and properties construction and advanced painting techniques in the lab.

e-THEA 220 Beginning Stage Costuming (3) (2 lecture, 2 laboratory) Discover techniques of basic costuming for the theatre, role of the costumer, pattern and construction, and become familiar with materials and practices related to play production.

THEA 240 Beginning Stage Directing (3) (2 lecture, 3 laboratory) Prerequisites: THEA 110, 160. Learn the principles of directing a play, focusing on contemporary theories and practices of stage directing.

THEA 260 Acting II: Externals (3) (2 lecture, 3 laboratory) Prerequisite: THEA 160. Focus on observation, character analysis and research, and use of the voice and body for external characterization.

THEA 261 Stage Make-Up (2) (1 lecture, 2 laboratory) Become acquainted with the principles of the art of stage make-up.

THEA 280 Creative Drama in the Community (3) Laboratory arranged. Learn about creative dramatics, including content areas, methods of application, service to special community groups such as the handicapped and elderly, and use in recreation center programs.

THEA 281 Creative Drama in Education (3) Laboratory arranged. Study creative dramatics, including content areas, application methods, communication and social skill development, and function in contemporary society. Emphasize basic concepts usable within framework of personal teaching methodology.

THEA 304, 305, 306, 307 Individual Performance in Theatre (2 each) Open to all who wish to participate in The Little Theatre of the Rockies productions. S/U final mark or conventional grading. Register for proper section. For an S, student must participate a minimum of 60 hours.

THEA 310 Beginning Scene Design (3) (2 lecture, 2 laboratory) Prerequisites: THEA 110, 210. Discover the aesthetics and styles of stage design and development of rendering skills and staging concepts.

THEA 320 Stage Costume Design I (4) Begin designing costumes for the stage, emphasizing historical, conventional and visual tools and media available to designers for translating verbal script to visual and tactile form.

THEA 321 Stage Costume Design II (4) Design costumes for the stage, concentrating on historical, conventional and visual tools and media available to designers for translating verbal script to visual and tactile form.

THEA 322 Seminar in Costuming (3, maximum 9) Prerequisites: THEA 220, 230, 321, or permission of instructor. Specializing in topics of design, patterns, materials and techniques of reproducing historical costume. Specific historical period determined by the instructor in consultation with the students in course. Emphasis on research.

d-THEA 330 History of the Theatre I (3) Research European theatre and its development from the beginning until the end of the Middle Ages, including primitive origins and oriental theatre development.

d-THEA 331 History of the Theatre II (3) Research 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) Research American and European theatre and their development from the beginnings of the 19th century to the present.

THEA 333 Script Development for Children (3) Designed to acquaint students with adaptable narrative literature and existing dramatic literature. Emphasis on analyzing and adapting narrative literature into script form, and on analyzing and altering existing scripts.

THEA 340 Directing Period Plays (3) (2 lecture, 2 laboratory) Prerequisite: THEA 240. Learn to direct plays from Aeschylus to Ibsen for public performance, giving special attention to stylistic demands of each period.

THEA 341 Directing Experimental Plays (3) (2 lecture, 2 laboratory) Prerequisite: THEA 240. Learn how to direct plays from various contemporary styles: symbolism, expressionism, "theatre of cruelty," "theatre of the grotesque," "theatre of the absurd" and other experimental modes.

THEA 342 Directing Musical Theatre (3) (2 lecture, 3 laboratory) Prerequisite: THEA 240. Study specific techniques required of director for production of various musical theatre styles. Look at historical musical theatre and study production techniques in detail.

THEA 350 Workshop (15) Prerequisite: Acceptance by Theatre Arts staff. Eight weeks of eight hours daily rehearsal for summer productions. Undergraduate TA majors receive credit for THEA 210, 220, 260 (with instructor's permission), and two hours in Individual Performance in Theatre. May be taken 3 times for credit.

THEA 353 Theatre Production (2, 6 laboratory) Prerequisite: Acceptance by TA staff director. Learn production and presentation of touring theatre before live audiences in this laboratory class. Triple period 2 days per week. Repeatable for 8 hours maximum credit.

THEA 360 Acting III: Musical Theatre (3) (2 lecture, 3 laboratory) Prerequisite: MUS 360 or permission of instructor. Follow THEA 260. Externals structure, but in musical theatre. Sing, dance and act in laboratory.

THEA 361 Advanced Stage Make-Up (2) (1 lecture, 2 laboratory) Prerequisite: THEA 261. Produce professional quality make-ups, going beyond basics into special problems, group make-up, three-dimensional prosthetics, make-up for other media and make-up for educational theatre.

THEA 370, 371, 372 Rhythmic and Dramatic Movement I, II, III (1 each) Prerequisites: THEA 170, 171, 172. Continue preparation of an actor's skills in movement in this laboratory course. Learn rhythmic demands of various styles of acting, period movement, stage fighting and mime.

THEA 380 Children's Theatre Production (3, laboratory arranged) Study methods and procedures for producing good children's theatre, including literature in the field, technical problems and educational values.

THEA 385 Methods of Teaching Drama in the Secondary School (3) PTE Prerequisite to student teaching. Learn teaching techniques, curriculum and classroom organization, testing and evaluation, procedures and materials, and relationship of the subject area to the total secondary program.

THEA 401 Practicum in Theatre (1-4, maximum 12) Qualified undergraduates must have permission of instructor, advisor and department chair. Supervised and specialized field work in theatre, involving theory and methodology in practice. Two to 8 hours per week. Critical evaluation by instructor, with 2 copies filed with instructor and department.

THEA 404, 405, 406, 407 Individual Performance in Theatre (2 each) Open to all students who wish to participate in The Little Theatre of the Rockies productions. S/U final marks or conventional grading; register for preferred section. To receive S, students must participate a minimum of 60 hours.

THEA 410 Advanced Staging Techniques (4) Prerequisite: THEA 310. Study and practice modern trends and developments in scene design, staging methods and techniques, emphasizing stage management, new materials, staging, design and shifting of the multi-set production and maintenance of equipment.

THEA 411 Stage Lighting (3) (2 lecture, 2 laboratory) Prerequisite: THEA 210. Learn lighting theory and design and apply them to staging practices. Practical lab experience in wiring, instrument use, color, hanging, focusing and lighting design graphics.

THEA 412 Advanced Scene Design (3) Prerequisite: THEA 310. Expand the student's knowledge, skill and technical understanding of advanced forms of scene design.

THEA 422 ID Research in Theatre (1-4, maximum 12) Qualified undergraduates must have permission of instructor, advisor and department chair. Supervised individual research in Theatre involving standards and methodologies of research procedures. Two to 8 hours per week. Critical evaluation by instructor. Copies of standard research paper must be filed with instructor and department.

THEA 430 Dramatic Theory I (3) Study, in seminar, development of dramatic theory and criticism in western civilization from the classical period through the early German romantic period, with research reports on theory and criticism and applying theory to contemporary plays.

d-THEA 431 Dramatic Theory II (3) Follow development of dramatic theory and criticism in western civilization from early German romantic period to the present through research reports on theory and criticism and applications of theory to contemporary plays.

THEA 440 Directing the One-Act Play (2) Prerequisites: THEA 340, 341 or permission of instructor. Produce a one-act play under staff supervision. Requires two copies of a well-written paper defending purpose and success of production, and one prompt book.

THEA 460 Serious Styles of Acting (2, 4 contact hours per week) Prerequisite: THEA 260. Concentrate on Greek, Elizabethan and Jacobean tragedy, serious drama of Spanish Renaissance, French neo-classic tragedy, 19th century Romantic drama, Ibsen and Strindberg, in this advanced acting laboratory.

THEA 461 Comic Styles of Acting (2, 4 contact hours per week) Prerequisite: THEA 260. Focus on Greek and Roman comedy, Medieval and Renaissance farce comedy, Commedia dell'Arte, Elizabethan and Jacobean, French neo-classic comedy, Restoration and 18th century English comedy, and 19th century farce and comedy.

THEA 462 Problems in Acting Conventions (2, 4 contact hours per week) Prerequisite: THEA 260. Concentrate on conventions necessary 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) Take concurrently with MUS 407. Prerequisite: THEA 260 or 360. Train and practice integrating acting, dance and vocal music with theatre techniques, particularly technical and aesthetic tasks of professional music-theatre performance. Class meets 4 hours per week. Especially for Music/Theatre majors

THEA 466 Musical Theatre Repertory II (2, 4 contact hours per week) Take concurrently with MUS 409. Prerequisite: THEA 465. Study role preparation and styles, particularly 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) Take concurrently with MUS 411. Interpret and develop musical theatre roles, integrating vocal, dance and character development. Focus on advanced stage presence in solo and ensemble roles for musical comedy and opera, and developing repertoire. Class meets 4 hours per week.

THEA 475 Musical Dance Workshop (2, 4 contact hours per week) For cast of winter quarter musical theatre production. Receive practical experience in dance and stage movement in preparation of public performance. May be repeated for maximum 8 hours credit.

THEA 480 Advanced Creative Dramatics (3, laboratory arranged) Prerequisite: THEA 280 or 281. Receive teaching experience in creative dramatics stressing drama leader's role as planner, player and evaluator.

THEA 481 Seminar in Child Drama (4) Prerequisite: Consent of instructor. Focuses on current theories in child drama and child development. Designed to give students an in-depth study of theories relevant to their work in child drama.

THEA 507 Graduate Individual Performance in Theatre (2 each) Open to all graduate students who wish to participate in The Little Theatre of the Rockies productions. For a B grade, student must participate a minimum of 60 hours.

THEA 585 Theatre Production in the High School (3) PTE or certification at Undergraduate level. English and/or speech teachers involved in direction of high school plays are offered this basic production course. Not for Theatre Arts majors without instructor's permission.

THEA 601 Graduate Practicum in Theatre (1-4) Prerequisite: Qualified graduate major, permission of instructor, advisor and department chair. This specialized, supervised field work course in Theatre involves theory and methodology in practice, 2 to 8 hours per week. Copies of written work evaluation must be filed with instructor and department.

THEA 622 Graduate Independent Research in Theatre (1-4) Prerequisite: Graduate TA major, permission of instructor, advisor and department chair. Supervised individual research in Theatre, involving research standards and methodologies, with 2-8 hours of research/writing per week. Critical evaluation by instructor. Copies of standard research paper must be filed with instructor and department.

THEA 650 Graduate Summer Theatre (15 each) Prerequisite: Acceptance by Theatre Arts staff. Graduate workshop in acting and technical theatre, with 8 weeks of 8 hour daily rehearsals for summer productions. May be counted for 2 hours in Individual Performance in Theatre by graduate majors. May be taken 3 times for credit.

THEA 680 Advanced Children's Theatre Production (4) Prerequisite: THEA 380 or permission of instructor. Deal with practical problems of production in a theatre for children, particularly the educational possibilities. Gain practical experience through community groups and with public school students.

THEA 685 Seminar in Educational Theatre (3, maximum 9) Study specialized topics in creative dramatics, children's theatre, teaching in high school, theatre production activities in high school, curricula and other concerns of educational theatre. Emphasis on educational research. Topics determined by instructor in consultation with students.

Visual Arts

ART 180 Introduction to Art (3) Receive a comprehensive introduction to the many and diverse applications of style, meaning and process in art today.

d-ART 181 History of Art I (4) General survey of Western art from pre-historic (20,000 B.C.) through early Christian era (5th century A.D.). Emphasize major movements, methods of analysis, historical and cultural context, changes and development of styles.

d-ART 182 History of Art II (4) View Western art from early medieval era of the 6th century through the Renaissance (1600). Particularly stress major movements, methods of analysis, historical and cultural context and style development.

d-ART 183 History of Art III (4) An overview of Western art from the Baroque period, (1600) through Modern art of the 20th century, emphasizing major movements, methods of analysis, historical and cultural context and development of styles.

ART 184 Drawing and Design I (3) Fundamentals of drawing: Technique, materials and expression. Seeing, rendering and pictorial organization.

ART 185 Drawing and Design II (3) Prerequisite: ART 184. Drawing as a basis for two-dimensional organization. Aerial and linear perspective. Visual problem-solving.

ART 186 Color Theory (3) Prerequisite: ART 185. Mixing pigments; color organization in pictorial and three-dimensional design.

ART 187 Three-Dimensional Design (3) Prerequisite: ART 185. Discover principles of mass, volume, space and linearity related to direct use of materials and shaping/constructing techniques.

d-ART 190 Art Appreciation (4) Further and enhance understanding and appreciation of the functional and expressive nature of works of architecture, painting, sculpture and the applied arts.

d-ART 210 Ceramics for Non-Art Majors (3) Explore the historical development of pottery and the contemporary craftsman's attitude toward clay, in addition to receiving instruction in basic technology of pottery-making, particularly aesthetic and functional values.

ART 211 Ceramics I (3) Design and construct pottery in coil and slab techniques, emphasizing form and texture. Receive general background in clay bodies, glazes and firing.

ART 212 Ceramics II (3) Begin throwing on the potter's wheel, and learn techniques of centering, opening and raising clay into basic pottery forms.

d-ART 220 Fibers for Non-Art Majors (3) Lecture and studio approach to the historical and cultural study of fiber construction and studio techniques of fibers as an art form.

ART 221 Fibers I (3) Prerequisite: ART 184. A studio course involving one or more of the processes of fabric surface treatments in two and three dimensions.

ART 223 Weaving (3) Prerequisite: ART 184. Introduction to the fundamentals of loom weaving as an art form, emphasizing applied design problems and concentrating on hand-controlled techniques.

ART 224 Fibers II (3) Prerequisite: ART 184 Take an experimental studio approach to the problems of working with contemporary materials in non-loom fiber construction techniques.

d-ART 230 Drawing for Non-Art Majors (3) Gain studio experience in drawing fundamentals with an historical approach to the study of functional and expressive aspects of the medium of drawing.

ART 231 Painting I (3) Prerequisite: ART 186. Basic procedures in studio oil painting, surface preparation, color palette, underpainting, glazing and color distribution.

ART 232 Painting II (3) Prerequisite: ART 186. Basic instruction in techniques of water media painting, transparent water color and opaque use of tempera, gouache and acrylic paints.

ART 233 Introduction to Life Drawing (3) Prerequisite: ART 185. Fundamentals of life drawing, emphasizing proportion, simple anatomy and aesthetic relationships.

ART 234 Interpretive Drawing (3) Prerequisite: ART 185. Visual problem-solving, stressing personal philosophy, individual interpretation, imagination, pictorial composition and working to a theme.

d-ART 235 Painting for Non-Art Majors (3) Learn painting techniques and study the historical implications of pictorial art through a lecture and studio approach.

d-ART 240 Lettering (3) Receive studio practice and study the history of lettering and manuscripts. For the student with little or no experience in art.

ART 241 Basic Crafts Design (3) Experience, on an introductory level, at least several school craft areas: clay, fibers, paper, textiles, plaster. Required for Art Education majors. Recommended for Education, Special Education and Recreation majors.

ART 242 Jewelry (3) Begin making jewelry of such materials as wood, fibers, ceramics and metals. Required for Art Education majors. Recommended for Education, Special Education and Recreation majors.

ART 248 Art for the Handicapped (3) Overview characteristics, needs and instructional adaptations suitable for teaching visual arts to the handicapped.

d-ART 250 Printmaking for Non-Art Majors (3)

Take a combined studio and lecture approach to the study of the art print and its aesthetic and communicative imprint on society.

ART 252 Printmaking I (3) Receive theory and technical instruction in the intaglio processes of printmaking, etching, engraving soft ground, lift ground and the aquatint.

ART 253 Printmaking II (3) Explore the relief, stencil and planographic processes of printmaking, including woodcut, monoprint, silkscreen or lithography, through theory and technical instruction.

ART 254 Monoprints (3) Study orthodox and experimental techniques in the production of the monoprint.

ART 255 Silkscreen Prints (3) Learn silk-screen and stencil processes of printmaking, including the use of photo-sensitized screens and color.

d-ART 256 Chinese Summi and Calligraphy (3) Receive studio practice and study the history of Chinese lettering and oriental summi painting as a student with little or no experience in art or lettering.

d-ART 260 Sculpture for Non-Art Majors (3) Survey traditional, modern and experimental sculpture, dealing with problems of sculptural form related to expressive and functional needs.

ART 261 Sculpture I (3) Prerequisite: ART 187. Emphasize three-dimensional design theory and that of replication. Learn modeling techniques and simple mold making.

ART 262 Sculpture II (3) Prerequisite: ART 187. Experience direct use of materials and tools, as well as basic sculpture studio procedures. Study processes of construction and assemblage.

ART 270 Graphic Arts I (3) Prerequisite: ART 186. Study visual forms in graphic design. An introduction to the various tools and processes and an investigation of images for visual communications.

ART 271 Graphic Arts II (3) Prerequisite: ART 270. Learn techniques of problem solving for graphic design and related visual concepts.

ART 272 Graphic Drawing (3) Prerequisite: ART 233. Drawing for graphic processes of reproduction emphasizing linear form and spatial relations.

d-ART 290 Visual Thinking and Visual Images (3) Explore concepts of visual thinking and communication, with broad applications to careers. Combine some work with art materials with personal interaction, reading, discussion and viewing art examples and forms.

ART 308 Workshop in Art (3) Specialized areas in Art. Subject completed in any one workshop determined by course subtitle. May be repeated for credit with different subtitles.

ART 310 Junior Art Seminar (1) Fall Quarter.

ART 311 Ceramic Design (3) Prerequisite: ART 211 or 212. Explore various methods of construction of large hand-built forms, emphasizing sculptural considerations.

ART 312 Ceramics III (3) Prerequisite: ART 212. Learn intermediate throwing on the potter's wheel, forming bowls, vases, pitchers, lidded pots and related forms and gain experience in stacking and firing combustible fuel kilns.

ART 314 Glaze and Clay Body Formulation (3) Prerequisite: ART 212 or equivalent. Explore ceramic glazes and clay bodies, particularly the development of original glazes and clay bodies to suit individual modes of ceramic expression.

ART 320 Junior Art Seminar (1) Winter Quarter.

ART 321 Design on Fabric (3) Prerequisite: ART 221. Continue the study and exploration of the processes of fabric surface treatment and their design application.

ART 323 Weaving (3) Prerequisite: ART 223. Continue the study of loom weaving, particularly loom-controlled techniques.

ART 324 Non-Loom Fiber Construction (3) Prerequisite: ART 224. Continue exploration in non-loom fiber construction techniques.

ART 330 Junior Art Seminar (1) Spring Quarter.

ART 331 Oil Painting (3) Prerequisite: ART 231. Take more time to develop individual expression and mastery of painting media. Emphasis is on appropriate use of media in this advanced painting studio.

ART 332 Water-Media Painting (3) Prerequisite: ART 232. Problems in water-media painting. Emphasize development of individualized use of specific materials, tools and techniques.

ART 333 Life Drawing (3) Prerequisite: ART 233. Study from life in this advanced studio to experiment and develop personal interpretations of the human form.

ART 334 Interpretive Drawing (3) Prerequisite: ART 234. Advanced work in visual problem-solving, stressing personal philosophy and working to a theme.

ART 340 Clinical Experience: K-12 Art (2) For Art Education majors. Gain practical experience in the classroom with a variety of materials, subject matter and with varying age groups. Requires classroom observation and participation with weekly seminar.

ART 344 Methods of Teaching Art in the Elementary School (5) Prerequisite: Admission to PTE. Gain practical experience in wide variety of media suitable for elementary classroom. Study selected philosophies of art in education, teaching techniques, procedures, materials and evaluation. Not for Art Education majors.

ART 350 Special Problems in Art (1-4) Individualized, supervised study on specific topics in art for Junior Art majors. May be repeated for credit.

ART 352 Intaglio and Relief Printmaking (3) Prerequisites: ART 252, 253. Gain individual development in creative printmaking, emphasizing advanced technical processes including photoplate, combined techniques and use of color.

ART 354 Monoprints (3) Prerequisite: ART 254. Make an advanced study of orthodox and experimental techniques in the production of the monoprint.

ART 355 Silkscreen Prints (3) Prerequisite: ART 255. Study the silkscreen stencil process of printmaking, including the use of photo-sensitized screens and color on an advanced level.

ART 361 Sculpture: Modeling and Casting (3) Prerequisite: ART 261. Gain theoretical and practical experience in traditional and experimental approaches to making sculpture, stressing clay and wax modeling for casting.

ART 362 Sculpture: Construction and Assemblage (3) Prerequisite: ART 262. Apply design and technical skills to sculptural problems, particularly fabrication of wood, metal and plastics.

ART 370 Graphic Arts III (3) Prerequisite: ART 272. An inquiry into graphic design as a communications tool with emphasis on professional design practices and the range of problems presented to graphic artists.

ART 372 Copy Preparation and Camera Procedures (3) Prerequisite: ART 270. Acquire knowledge and skills in layout and design, paste-up and process camera procedures.

ART 373 Graphic Technology I (3) Prerequisite: ART 372. Work with copy preparation, process camera procedures, film stripping and printing press operations.

ART 374 Illustration I (3) Prerequisites: ART 332, 334. Study the development of narrative imagery, pictorial illusion and space, and their combined potential for communication.

ART 376 Basic Typography (3) Prerequisite: ART 240. An introduction to the formal elements and practice of typography, emphasizing the organization and design of verbal information in relation to other graphic elements.

ART 377 Pictorial and Working Drawings (3) Study drafting techniques, procedures and mechanical drawing for pictorial and orthographic projection.

ART 378 Advertising Design (3) Prerequisite: ART 370. Apply problem-solving skills for visual communication through poster design, product design and packaging, and other print or visual media.

ART 379 History of Graphic Arts (4) An in-depth study of the graphic arts and illustration highlighting major trends and artists, with an emphasis on historical context as it relates to varying societal factors.

ART 380 Art: Analysis and Criticism (4) Make critical studies of the art object, analyze the interrelationships of theme, context, formal elements and process toward a basis for critical judgment.

ART 381 Tribal Art (4) Study the arts, concepts and culture of tribal societies, particularly African, Oceanic, South Seas and American Indian.

ART 382 African Art (4) A cross-cultural survey of types, styles, history and values of arts, ranging from personal decoration to state festivals in the study of the relationship of art to life in sub-Saharan Africa.

ART 383 Pre-Colombian Art (4) Study the history and arts of Central America, emphasizing the Olmec, Maya, Mixtec, Zapotec, Aztec and Toltec civilizations and related sub-groups.

ART 384 Classical Art (4) Trace the development of culture and related arts of the ancient world, particularly the Aegean, Greek and Roman civilizations.

ART 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.

ART 386 Renaissance Art (4) Study in detail the humanistic aspects of Renaissance art, 1265-1600.

ART 387 Baroque Art (4) An in-depth study of art, religious and social changes from the Mannerist Period, 1525, through the Baroque, 1600-1710, focusing on major centers of Italy, Belgium, Holland, France and Spain.

ART 388 19th Century Art (4) Follow the development of European art through the 19th century from the Revivalist styles to the brink of Modern Art.

ART 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.

ART 390 Modern Art: 1945 to Present (4) Study in depth the major art movements in the United States and Europe since 1945.

ART 401 Practicum in Art (1-4) Supervised professional activity in major fields or related career areas. Spend a minimum of 20 clock hours per quarter hour of credit on the practicum. Practicum must be completed and an evaluation and one copy of a written report filed with instructor of record for credit.

ART 410 Senior Art Seminar (1) Fall Quarter.

ART 411 Ceramic Design (3) Prerequisite: ART 311. Apply various ceramic decorative processes to hand-built and wheel-thrown clay forms.

ART 412 Ceramics IV (3) Prerequisite: ART 312. Gain experience in advanced throwing on potter's wheel, including complex pottery forms such as tea pots, matched sets and objects using combined forming techniques.

ART 420 Senior Art Seminar (1) Winter Quarter.

ART 421 Design on Fabric (3) Prerequisite: ART 321. Concentrate on an advanced level in a selected process of fabric surface treatment to provide more time for personal design development and expertise.

ART 422 Individual Studies in Art (1-4) Qualified undergraduate students 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 instructor and department chair.

ART 423 Weaving (3) Prerequisite: ART 323. Advanced study in weaving to develop personal design and mastery of the medium.

ART 424 Non-Loom Fiber Construction (3) Prerequisite: ART 324. Concentrate in a selected non-loom fiber construction technique.

ART 430 Senior Art Seminar (1) Spring Quarter.

ART 431 Painting Studio (3) Prerequisite: ART 331. Individual expression and mastery of painting media, particularly appropriate use of media toward creative ends.

ART 432 Water-Media Painting (3) Prerequisite: ART 332. Undertake advanced individual problems in water-media painting.

ART 433 Life Drawing (3) Prerequisite: ART 333. Study from life in this advanced studio; experiment and develop personal interpretations of the human form.

ART 434 Interpretive Drawing (3) Prerequisite: ART 334. Do advanced work in visual problem-solving, emphasizing personal philosophy and working to a theme.

ART 440 Cultural Studies in the K-12 Curriculum (4) Receive intensive instruction in basic research, writing and oral presentation techniques aimed at inclusion of cultural studies in the K-12 Art curriculum.

ART 441 Readings in Art Education (3) Survey selected literature in visual arts education and related areas such as philosophy, psychology, learning theory, aesthetics and the non-visual arts.

ART 442 Curriculum in the Visual Arts (4) Study curriculum development for appropriate learning and instruction in elementary and secondary Art education.

ART 443 Art Education Studio and Strategies (3) Develop art learning activities through traditional and alternative processes and strategies. Study facilities, materials and inventory, and budgeting and ordering.

ART 450 Special Problems in Art (1-4) Individualized, supervised study on specific topics in Art for Senior Art majors. May be repeated for credit.

ART 452 Intaglio and Relief Printmaking (3) Prerequisite: ART 352. Intensively develop individual creative printmaking, emphasizing advanced technical processes.

ART 454 Monoprints (3) Prerequisite: ART 354. Apply and experiment with advanced monoprint techniques.

ART 455 Silkscreen Prints (3) Prerequisite: ART 355. Advanced application and experimentation in silkscreen printing techniques.

ART 461 Sculpture: Modeling and Casting (3) Prerequisite: ART 361. Apply modeling techniques for casting in metal and plastics on an advanced level.

ART 462 Sculpture: Construction and Assemblage (3) Prerequisite: ART 362. Apply advanced design and technical skills to fabrication of sculpture with wood, metal and plastics.

ART 470 Graphic Arts IV (3) Prerequisite: ART 370. Solving graphic problems in a creative way for the development of conceptual abilities. Work must be suitable for implementation or publication.

ART 472 Photo-Graphics (3) Prerequisite: ART 372. Explore highly experimental processes requiring multi-media, photographically derived solutions to graphic design problems.

ART 473 Graphic Technology II (3) Prerequisite: ART 373. Learn color separation, photomechanical reproduction and a variety of technologically assisted graphic design and reproduction processes.

ART 474 Illustration II (3) Prerequisite: ART 374. Directed toward the development of individual style and interpretation. Considerations include symbolic and expressive functions, airbrush, media exploration and other special treatments suitable for publications and implementation.

ART 476 Typography and Letterforms (3) Prerequisite: ART 376. Learn historical and contemporary typefaces and letterforms with an emphasis on contemporary applications through logo types, posters, alphabets and a variety of design formats.

ART 477 Technical Drawing (3) Prerequisite: ART 377. Pursue advanced studies in drafting and mechanical drawing in combination with a variety of graphic design techniques, procedures and media as a means of realizing complex linear and spatial problems.

ART 478 Publication Design (3) Study design concepts of mailers, folders, brochures, reports and magazines using design elements and dissimilar information units to develop content and image sequence into a unified publication.

ART 501 Practicum in Art (1-4) Supervised professional activity in major fields and related career areas. Spend a minimum of 20 clock hours per credit hour on the practicum. Practicum must be completed and an evaluation and one copy of a written report filed with the instructor of record for credit.

ART 508 Workshop in Art (3) Specialized areas of the Visual Arts, with subjects determined by course subtitle. Specific graduate student requirements stated in course outline. May be repeated for credit with different subtitles.

ART 511 Ceramic Design (3) Take an innovative approach to design, forming, glazing and firing of ceramic objects.

ART 512 Ceramics V (3) Develop an individual approach to pottery forms, decorative techniques, and firing methods to establish a unique mode of expression.

ART 521 Design on Fabric (3) Advanced design concept in textile surface treatment.

ART 523 Weaving (3) Concentrate in a selected area of weaving on an advanced design concept.

ART 524 Non-Loom Fiber Construction (3) Select a non-loom fiber technique for advanced concentration.

ART 531 Painting (3) Special problems in oil painting, developing personal imagery and images in series.

ART 532 Water-Media Painting (3) Water-soluble media, especially development of content based on a thematic approach.

ART 533 Life Drawing (3) Develop personal imagery through special problems in life drawing.

ART 534 Interpretive Drawing (3) Study in integrating personal philosophy through working in series of images.

ART 541 Crafts Design (3) Relate basic art and crafts to the fields of art education, education and recreation, emphasizing materials, instructional techniques, tools and facilities. Read literature appropriate to area of study.

ART 550 Special Problems in Art (1-4) Individualized, supervised study on specific topics in Art for beginning graduate students in Art. May be repeated for credit.

ART 552 Intaglio and Relief Printmaking (3) Use color in relief and intaglio procedures for individual development in creative printmaking.

ART 555 Screen and Planographic Printmaking (3) Intensive experience in selected techniques of screen printing, monoprint and lithography.

ART 561 Sculpture: Modeling and Casting (3) Intensive experience in selected modes of indirect sculpture processes, especially form and meaning.

ART 562 Direct Sculpture (3) Intensive experience in selected modes of direct sculpture, especially form and concept.

ART 600 Introduction to Graduate Studies (3) Learn appropriate art, art historical and art education research methodology and procedures for inquiry. Present research according to approved style guidelines. Review Art program and Graduate School requirements.

ART 601 Practicum in Art (1-4) Supervised professional activity in individual major field or related career area. A minimum of 20 clock hours per quarter hour required. Practicum must be completed and an evaluation and two copies of a written report filed with academic advisor and graduate coordinator.

ART 611 Ceramic Design (3) Prerequisite: ART 511. Synthesize ceramic processes, showing a mature mode of expression with clay in a variety of forming, glazing, and firing methods. May be repeated for credit.

ART 612 Ceramics VI (3) Prerequisite: ART 512. Synthesize the ceramic processes using the potter's wheel. Stress high level of individual expression and aesthetic quality. May be repeated for credit.

ART 621 Design on Fabric (3) Prerequisite: ART 521. Continue advanced study of techniques and design concepts in textile surface treatment. May be repeated for credit.

ART 622 Individual Studies in Art (1-4) A qualified graduate student must submit a project proposal to the academic advisor and project instructor for approval. Required to spend a minimum of 25 clock hours per quarter hour on the project. Project must be completed and two copies of a written report filed with instructor and graduate coordinator.

ART 623 Weaving (3) Prerequisite: ART 523. Continue advanced study of techniques and design concept in a concentrated area of weaving. May be repeated for credit.

ART 624 Non-Loom Fiber Construction (3) Prerequisite: ART 524. Continue advanced study of non-loom fiber techniques and design concept. May be repeated for credit.

ART 631 Painting (3) Prerequisite: ART 531. Advanced special problems in oil painting. Develop personal imagery and work in series. May be repeated for credit.

ART 632 Water-Media Painting (3) Prerequisite: ART 532. Water-soluble medium on an advanced level. May be repeated for credit.

ART 633 Life Drawing (3) Prerequisite: ART 533. Advanced special problems in life drawing. Develop personal imagery. May be repeated for credit.

ART 634 Interpretive Drawing (3) Prerequisite: ART 534. Individual study in image development and inventive use of media. May be repeated for credit.

ART 638 Visual Arts in Gifted Programs (3) Explore traits of giftedness in the Visual Arts. Learn to apply art theory and gifted theory to special art learning activities for both academically gifted and artistically gifted students through visual and other means.

ART 641 Literature of Art Education (3) Survey historical and contemporary literature on art education. May be repeated for credit.

ART 642 Visual Arts in the Secondary School (3) Study studio art and art appreciation using selected resources, materials and techniques for developing and implementing courses of study appropriate to the high school student.

ART 643 Leading Ideas in Art for Teachers (3) A philosophical study of Art in American schools as an essential ingredient to the realization of human potential.

ART 644 Learning Experiences in Elementary Art Education (5) Research selected readings in art education, instructional methods, child development in art, curriculum and evaluation, and get practical experience with media suitable for use in the elementary school.

ART 646 Aesthetic Education (3) An interdisciplinary approach to art involving students in affective learning situations, intuitive and cognitive dimensions of learning, problem solving and creative potential.

ART 647 Seminar in Art Education (3) Inquiry into past and current research related to art in education, and an in-depth study of issues raised by implications of this research. Oral presentation and paper required. May be repeated for credit.

ART 648 Art and the Handicapped Student (3) Study art for the handicapped in depth. Emphasize consideration of the aesthetic value of creative involvement, review relevant literature and research in the field, and develop an art curriculum specific to individual interest area.

ART 649 Patterns of Experience in Art (3) Study the psychology of learning through art and the patterning of appropriate experiences in art for elementary and secondary levels of education.

ART 650 Special Problems in Art (1-4) Individualized, supervised study on specific topics in Art for advanced graduate students in Art. May be repeated for credit.

ART 652 Intaglio and Relief Printmaking (3) Prerequisite: ART 552. Intensive individually prescribed development and experiment with color in relief and intaglio processes. May be repeated for credit.

ART 655 Screen and Planographic Printmaking (3) Prerequisite: ART 555. Concentrate on selected and individually prescribed techniques of printmaking. May be repeated for credit.

ART 661 Sculpture: Modeling and Casting (3) Prerequisite: ART 561. Concentrate on selected and individually prescribed methods of creating sculpture by modeling and casting. May be repeated for credit.

ART 662 Direct Sculpture (3) Prerequisite: ART 562. Focus on selected and individually prescribed methods of constructing or fabricating works of sculpture. May be repeated for credit.

ART 680 Advanced Seminar in Art History (4) Discuss advanced and specialized art historical topics. Take concurrently with 300 level art history course. Subject area determined by subtitle. Different subtitle may be repeated for credit.

ART 699 Thesis (10) Required for the master's degree.

Vocational Teacher Education

VTE 107 Computer Literacy (1) Receive an introduction to microcomputer use, its function and how it is controlled, as well as classroom use and instructional applications.

VTE 210 Career Opportunities and Exploration (3) Explore various areas/careers available to students, analyze personal interests, aptitude, values, motivation, and apply the assessment as personal strengths/interests to a career-planning process.

VTE 290 Supervised Work Experience (3) Prerequisite: Instructor's permission. Combine work experience and related seminars. Experience may be applied to work hour requirements for vocational credential. S/U final mark. May be repeated.

VTE 301 Instructional Design: Analysis and Planning (1) Analyze what is to be taught and plan for teaching, among other topics.

VTE 302 Instructional Design: Performance Objectives (1) Identify and develop performance objectives in each domain.

VTE 303 Instructional Design: Classroom Evaluation (1) Prerequisite: VTE 302. Design classroom test items matching objectives as to domain and level for program.

VTE 304 Instructional Design: Instructional Methods (1) Identify characteristics of classroom methods of instruction and develop materials to be used with these methods.

VTE 305 Instructional Design: Media Utilization (1) Critique and use media in programs.

VTE 306 Teacher Competencies (1) Assess and plan for improvement of teaching based on competencies to teach in Vocational Education.

VTE 307 Instructional Applications for Computers (2) Examine program design, microcomputer programming, language usage and examination of existing software programs.

VTE 308 Workshops in Vocational Teacher Education (1-6) Maximum 6. Study common instructional or administrative problems. Each workshop carries a subtitle, which may not be repeated. Undergraduates should see advisors for degree requirements.

VTE 309 Seminars in Vocational Teacher Education (1-6, maximum 6) Through group participation, focus on specific topics. Graduate students working on degrees should see advisors regarding special seminars.

VTE 310 Vocational Education Foundations (3) Provides an overview of the history, legislation, state policies, programs and contemporary concerns of Vocational Education.

VTE 311 Software Applications for Vocational Education (3) Prerequisite: Computer literacy. Receive assistance in applying software for computer-assisted and computer-managed instruction.

VTE 340 Organization and Administration of Business and Office Education (3) PTE Prerequisites: EDF 367, VTE 301, 302, 303, 304, 305, 306 and 307. Become acquainted with problems of teaching business curriculum, philosophy of business education and professional organizations.

VTE 341 Methods and Materials of Teaching Typewriting (2) PTE Prerequisites: Typewriting competency and VTE 340. Study the teaching of typewriting and keyboarding for microcomputers, emphasizing various methods and techniques. Examine and evaluate materials.

VTE 342 Methods and Materials for Teaching Basic Business Subjects (2) PTE Prerequisites: BUS 100, VTE 340 and ECON 110. As a beginning business teacher, receive aid for teaching basic business subjects of business law, economics, consumer economics, general business, etc. Examine methods and materials.

VTE 343 Methods and Materials for Teaching Accounting (2) PTE Prerequisites: BUS 221, VTE 340. Receive introduction to teaching bookkeeping, accounting and data processing. Place major emphasis on techniques and methods used in secondary schools. Examine and evaluate materials.

VTE 345 Methods and Materials for Teaching Shorthand (2) PTE Prerequisites: Shorthand competency and VTE 340. Begin to learn the teaching of shorthand, with emphasis on devices, techniques and materials.

VTE 346 Methods and Materials for Teaching Office Practice (2) PTE Prerequisites: Typewriting competency and VTE 340. Study the teaching of office practice, including information, word processing and micro-computer use, emphasizing classroom organization plans, teaching methods, development and selection of materials and equipment.

VTE 360 Organization and Administration of Marketing Education (3) PTE Study the organization, supervision and coordination of secondary school, post-secondary school and adult marketing education programs.

VTE 364 Teaching Marketing Personnel (3) Prerequisite: BUS 361 or consent of instructor. Study various occupations in retailing, wholesaling and service industries with special attention to competencies needed by marketing education students for employment in occupations emphasizing techniques and methodologies for instruction.

VTE 373 Preparation for Teaching Home Economics (3) Examine the processes of teaching and the development of instructional materials and evaluation procedures.

VTE 410 Cooperative Education and Coordination Techniques (3) Prerequisite: VTE 310 or 610. Analyze cooperative Vocational Education programs and problems, duties of teacher-coordinators, development of training plans, and on-the-job experiences.

VTE 412 Vocational Student Organizations (2) Investigate initiation, organization and maintenance of successful vocational student organizations, particularly the purpose and function of DECA, FBLA/OEA, FHA/HERO, HOSA and others. State plan requires available local vocational state organization.

VTE 418 Adult Vocational Education (3) Examine the organization and administration of post-secondary and adult occupation programs, including existing adult education programs.

VTE 419 Advisory Committees in Vocational Education (2) Prerequisite: VTE 310 or 610. Study the organization and utilization of advisory committees within reimbursed Vocational Education programs.

VTE 422 Individual Studies in Vocational Teacher Education Foundations (1-6) Study a self-selected topic within Vocational Education. Offered by arrangement with instructor.

VTE 430 Vocational Education for Learners with Special Needs (3) Prerequisite: VTE 310 or 610. An overview of characteristics of disadvantaged and handicapped students in Vocational Education. Emphasize programmatic needs, assessment and curriculum of these students in Vocational Education.

VTE 435 Human Relations in Vocational Education (3) In seminar, cover basic principles of human relations in both a didactic and experiential manner. Emphasize communications, public relations and understanding of personality theory.

VTE 440 Preparation for Teaching Vocational Business and Office Education (3) PTE Prerequisite: VTE 340. Methods may be taken concurrently. Cover such topics as Colorado vocational business and office education curricula, preparation for student teaching, terminology, instructional content and learning experiences, methods review, media and teaching strategies, evaluation, and professional involvement.

VTE 441 Teaching Improvement Seminar in Vocational Business and Office Education (2) Prerequisite: Consent of instructor or concurrent with EDFE 444. Receive group and individual instruction on evaluation of student teaching experiences; diagnosis of knowledge/skill competencies for teaching business/office education; define professional responsibilities; employment procedures and techniques; and job interviews.

VTE 450 Organization and Administration of Health Occupations (3) Prerequisite: VTE 310. Emphasize external factors affecting health programs at secondary and post-secondary levels. Course in three modules: Organization of Health Occupations; Delivery of Health Occupations Education Programs; and Implications for Program Operations.

VTE 453 Clinical Teaching: Evaluation in HOE (3) Prerequisite: VTE 302 or 502 or equivalent. Modules include: Clinical Teaching; Site Selection and Coordination; and Clinical Objectives and Evaluation.

VTE 456 Preparation for Teaching Vocational Health Occupations -- Seminar (2) Must be completed immediately before student teaching. Learn application of methodology and classroom management.

VTE 457 Teaching Improvement Seminar in Vocational Health Occupations (2) Prerequisite: EDFE 444. Take after teaching experience. Consider improvement of instruction, placement, and continuing education planning.

VTE 460 Curriculum Development in Marketing Education (3) Prerequisite: VTE 360. Study basic principles of curriculum development, content organization and criteria for evaluation; analysis of marketing education curriculum in high school, junior college and adult education programs; construction of course study and preparation units of instruction in marketing education.

VTE 465 Preparation for Teaching Marketing Education (2) Prerequisite: VTE 360. Learn specific methods and techniques relating to teaching marketing education, emphasizing individual instruction and sources of instructional materials.

VTE 468 Program Development in Marketing Education (2) Prerequisites: VTE 310, 410, 460 and 465. Take at end of course work. Synthesize past marketing education courses, and study organization, planning and analysis in depth.

VTE 474 Teaching Improvement Seminar in Vocational Home Economics (2) Examine issues relevant to student teaching environment. Take concurrently with EDFE 444.

VTE 475 Consumer Homemaking and Wage Earning Program Development (3) Plan and implement consumer homemaking and wage earner programs.

VTE 488 Seminar in Vocational Teacher Education (1-6) Focus on specific subtitled topics designed for small groups. No subtitle may be repeated for credit.

VTE 491 Practicum in Vocational Special Needs (1-15) College-supervised individual or group experience in a field-based vocational setting to work with students in Vocational Education and special needs.

VTE 501 Instructional Design: Analysis and Planning (1) Analyze what is to be taught and plan for teaching.

VTE 502 Instructional Design: Performance Objectives (1) Identify and develop performance objectives in each domain.

VTE 503 Instructional Design: Classroom Evaluation (1) Prerequisite: VTE 302 or 502. Design classroom test items matching objectives as to domain and level for programs.

VTE 504 Instructional Design: Instructional Methods (1) Identify characteristics of classroom methods of instruction and develop materials to be used with these methods.

VTE 505 Instructional Design: Media Utilization (1) Critique and use media in programs.

VTE 506 Teaching Competencies (1) Learn a process for assessing and planning for improvement of teaching based on competencies to teach in Vocational Education.

VTE 507 Instructional Applications for Computers (2) An introduction to program design, microcomputer programming, language usage, and an examination of existing software programs.

VTE 508 Workshops in Vocational Teacher Education (1-4, maximum 9) Study common instructional or administrative programs. Subtitles may not be repeated. Graduate students in a degree program must see advisor for program inclusion.

VTE 509 Seminar in Vocational Teacher Education (1-6) Focus on specific topics through group participation. Graduate students in degree programs should see advisors regarding special seminars.

VTE 510 Cooperative Education and Coordination Techniques (3) Prerequisite: VTE 310 or 610. Analyze cooperative Vocational Education programs and problems, duties of teacher-coordinator, development of training plans and on-the-job experiences.

VTE 512 Vocational Student Organizations (2) Learn the initiation, organization and maintenance of successful vocational student organizations. State Plan requires available local vocational state organization. Study the purpose and function of DECA, FBLA/OEA, FHA/HERO, HOSA and others.

VTE 530 Vocational Education for Learners with Special Needs (3) Prerequisite: VTE 310 or 610. Overview characteristics of disadvantaged and handicapped students in Vocational Education. Emphasize programmatic needs, assessment and curriculum of disadvantaged and handicapped students in Vocational Education.

VTE 550 Organization and Administration of Health Occupations (3) An introduction to the field of vocational allied health occupations for instructors. Emphasize external factors affecting health programs at secondary and post-secondary levels.

VTE 551 Accreditation and Regulatory Practices in Health Occupations (3) For administrative and supervisory personnel. Investigate accreditation, registration, licensure and certification practices as they affect students and allied health occupations programs in secondary, post-secondary and community college institutions.

VTE 553 Clinical Teaching and Evaluation in HOE (3) Prerequisite: VTE 402 or 502 or equivalent. Modules include: Site selection; coordination and scheduling; clinical objectives and evaluation; and teaching strategies.

VTE 565 Experiential Classroom Techniques (3) Experience and adapt some interactive classroom techniques such as simulation games, problem solving, exercises and listening skills activities.

VTE 610 Vocational Education Foundations (3) Overview of the history, legislation, state policies, programs and contemporary concerns of Vocational Education.

VTE 612 Programs and Process in Vocational Education (3) Cover scope and depth of VE training, staffing patterns, facilities and equipment, utilization of community resources, and methods and techniques of instruction.

VTE 616 Performance-Based Curricula (3) Assist personnel in training and development. Develop various performance-based curricula for business, industry and education.

VTE 619 Advisory Committees in Vocational Education (2) Prerequisite: VTE 310 or 610. Study the organization and utilization of advisory committees within reimbursed Vocational Education programs.

VTE 622 Individual Studies in Vocational Teacher Education (1-6, maximum 6) A minimum of 25 clock hours per quarter hour on a topic not covered under the regular program. Two copies of a well-written paper must be filed.

VTE 623 Curriculum Planning and Evaluation (3) Consider important inputs for decision making for planning. Consider models, processes and instruments for evaluation.

VTE 624 Curriculum Design, Development and Diffusion (3) Study the structure and organization of curriculum. Utilize existing materials/media, produce new materials and investigate the diffusion function.

VTE 625 Program Proposals and Budgets (3) Cover the multi-facets of proposal writing and implementation.

VTE 626 Program Leadership (3) Investigate leadership styles for Vocational Education management and evaluation techniques for department/division levels.

VTE 627 Components of Vocational Education Evaluation (3) Cover student/program evaluation for business, industry and education through study of department/division or program organization; components of a recommended system; and component standards.

VTE 630 Community and Adult Vocational Education (3) Overview a comprehensive community-based system of education from the standpoints of current adult education practices, community education, adult basic education, and current trends in lifelong learning.

VTE 632 Adult Methods and Materials in Vocational Education (3) Study adult education, methods and materials, curriculum development and organizing for instruction.

VTE 635 Human Relations in Vocational Education (3) Cover, in seminar, the basic principles of human relations, through both a didactic and experiential manner. Emphasize communications, public relations, motivation, and the application of personality theory to leadership development.

VTE 642 Career Development Education (3) Examine the comprehensive education system for career development, beginning in elementary school and extending through university and adult work life.

VTE 650 Sex Equity in Vocational Education (3) Establish an awareness of current legislation, affirmative action guidelines, career planning for non-traditional student and current issues in equity in education.

VTE 690 Field Experiences (1-12) Prerequisite: Instructor's permission. Combine work experience and related seminars, which may be applied to work hour requirements for vocational credential. S/U mark. May not be repeated.

VTE 696 Vocational Internship Program (1-12) Include this internship as an integral part of a graduate program by written authorization from advisor. Experiences supervised by recognized vocational leaders at local, state, regional or national level.

VTE 768 Advanced Seminar (1-4) For all specialist and doctoral students emphasizing graduate Vocational Teacher Education in their plans of study. Series of experiences determined by those involved in seminar.

Vocational Teacher Home Economics

VTHE 170 Vocational Home Economics Education (2) Explore the role, responsibilities and professional personal outcomes of a career in Home Economics Education.

e-VTHE 182 Consumer Textiles (3) (2 lecture, 2 laboratory) Learn the selection, care and use of household and clothing textiles.

e-VTHE 183 Clothing Consumerism (3) Consider the planning, purchase and care of clothing needs of the individual. Analyze the clothing selection process, emphasizing design principles and socio-psychological aspects.

e-VTHE 184 Clothing Construction (5) (3 lecture, 4 laboratory) Learn the principles of garment construction, fitting and pattern adjustment.

e-VTHE 272 Living Environments I (5) (3 lecture, 4 laboratory) Examine housing alternatives and the utilization of living space according to one's needs, values and resources.

e-273 Living Environments II (5) (3 lecture, 4 laboratory) Investigate the purchase and maintenance of furniture, home furnishings and household equipment for the home.

I-VTHE 274 Personal, Family and Professional Management (4) Identify and apply management processes and principles to the individual, family and the school classroom/laboratory.

e-VTHE 275 Consumer Education (3) Explore issues relevant to analysis and resolution of consumer problems relating socio-psychological factors to consumer behavior.

VTHE 375 Teaching Child Development and Family Living (3) Learn the particular skills needed in planning and teaching child development and family living in secondary schools.

VTHE 570 Trends in Home Economics (3) Focus on current trends and issues in the field of Home Economics. Each course has a subtitle, and no subtitle may be repeated for credit.

VTHE 573 Advanced Techniques in Teaching Home Economics (3) Advanced students may improve teaching competencies in Home Economics.

VTHE 575 Teaching Child Development and Family Living (3) Learn skills needed in planning and teaching child development and family living in secondary schools.

VTHE 580 Consumer Issues (3) Explore issues of current interest in consumer areas.

VTHE 583 Teaching Textile Arts (3) Investigate creative techniques in applied textile arts for use in teaching Home Economics, art or recreation classes.

VTHE 585 Selected Topics in Family Life (3) Study the functions of family and practices; roles, adjustment, relations and problems of adult and child members. For teachers of adolescents and adults.

VTHE 675 Curriculum in Home Economics Education (3) Consider the purpose, content and organization of curriculum, emphasizing social, psychological and economic influences on program development.

VTHE 677 Evaluation in Home Economics Education (3) Emphasize the examination and development of formal and informal evaluation devices for use in evaluating student growth and development in the Home Economics classroom.

VTHE 678 Supervision of Student Teaching in Home Economics (3) Analyze leadership behaviors for cooperating teachers, and emphasize principles of supervision so that any leadership or supervisory role in Home Economics may be applied.

Women's Studies

I-WS 120 Women and Men in Perspective (3) No prerequisite. For General Education, focus on 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. Through individual and group processes, explore yourself in relation to woman's world, emphasizing attitude formation, gender role-learning, self-images, needs, values, fears and aspirations. Primarily for Women's Studies minors.

WS 304 Women's Studies Curriculum (4) Prerequisite: 8 hours in approved Women's Studies electives, or Education, or consent of instructor. Provides a conceptual framework for Women's Studies curriculum development from kindergarten through university, emphasizing research topics, problems, and units based on this research, and integrating Women's Studies resources into traditional learning environments.

WS 308 Women's Studies Workshop (1-4) Cover specific issues in Women's Studies, examining one issue intensively to be announced in advance of the quarter offered.

WS 448 Women's Studies: Senior Seminar (3) Prerequisites: WS 148 and 15 hours approved electives in Women's Studies. Primarily for students minoring in or taking a core course program in Women's Studies. Focus upon materials learned in disciplinary areas, using these ideas and techniques to develop interdisciplinary methodologies and concepts for understanding sexism and feminist approaches to combat it.

WS 508 Women's Studies Workshop (1-4) Open to graduate students, seniors, and juniors. Cover specific issues in Women's Studies, examining one issue intensively to be announced in advance of the quarter offered.

WS 648 Women's Studies: Graduate Seminar (3) Prerequisites: WS 148 and 15 hours approved electives in Women's Studies or consent of instructor. Primarily for students minoring in or taking a core course program in Women's Studies. Focus upon materials 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) Investigate principles of human biology emphasizing basic organ structure and function. Foundation for human anatomy and physiology courses for biomedical students. No credit for Biological Sciences majors.

h-ZOO 156 Introduction to Human Anatomy-Physiology (5) (4 lecture, 3 laboratory) Stress regulatory mechanisms that maintain normal body function, and broad general biological principles as they apply to structure and function. Credit not given for both ZOO 156 and ZOO 250.

h-ZOO 221 Human Anatomy (4) (3 lecture, 3 laboratory) Prerequisites: ZOO 105 or BIO 103) Study the organ systems of the mammalian body, their structure and integration. Laboratory includes examination of mammal and cadaver organs.

ZOO 250 Human Physiology (5) (4 lecture, 3 laboratory) Prerequisites: ZOO 221 or 428, or CHEM 109 or 130. Examine in detail the functions of the organ systems of the human body, especially those involved with the maintenance of normal function.

ZOO 302 Principles of Animal Behavior (4) (3 lecture, 3 laboratory) Prerequisite: BIO 103. Study animal behavior by emphasizing ethnology and the ecological significance of behavior. Field trip fee required.

h-ZOO 304 Ornithology (4) (3 lecture, 2 laboratory) Investigate habits, habitats, life histories, migration activities, behavior patterns and economic importance of birds in classroom, museum and field. Identify birds in the field. Furnish own binoculars. Field trip fee required.

ZOO 316 Entomology (5) (3 lecture, 4) Prerequisite: BIO 103. Learn principal orders of insects by collecting specimens locally and preparing them for classification. Consider insects' role as vectors in disease transmission, and some insect control measures. Insect collection required.

ZOO 320 Invertebrate Zoology (5) (3 lecture, 4 laboratory) Prerequisites: BIO 103. Investigate invertebrate phyla through a phylogenetic approach, stressing form, function and evolutionary relationships. Study examples of each group in laboratory, using live specimens when possible. Insects and parasites not stressed.

ZOO 340 Animal Ecology (5) (3 lecture, 6 laboratory) Prerequisites: BIO 102, 103. Learn structure and function of ecosystems, emphasizing patterns of relations between organisms, including humans with their environment. Field trip fee required.

ZOO 350 Medical Pharmacology (4) (3 lecture, 3 laboratory) Prerequisites: ZOO 221 or 428, 250 and CHEM 130 or 281. Make a detailed study of the principles underlying absorption, distribution, metabolism, excretion and interaction of drugs in humans. Credit not allowed for both ZOO 350 and ZOO 550.

ZOO 410 Medical Parasitology (4) (3 lecture, 2 laboratory) Prerequisite: BIO 103 or ZOO 105. Discover principles and practices of parasitology, particularly parasites of human medical importance. Discuss morphology, pathology, and epidemiology of selected species, and effects on world health, economics and demography. No credit for both ZOO 410 and 412.

ZOO 412 General Parasitology (5) (3 lecture, 4 laboratory) Prerequisite: BIO 103 or ZOO 105. Study the symbiotic relationships of parasitism as exemplified by typical parasites of humans, domesticated and wild animals, stressing life cycles, pathology, systematics and host-parasite relationships. No credit for both ZOO 410 and 412.

ZOO 422 Individual Studies (4 maximum) Prerequisite: Overall GPA 2.5 or better. Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. One copy of a paper must be filed with instructor and one with department chair before credit is given.

ZOO 427 Vertebrate Embryology (5) (3 lecture, 4 laboratory) Prerequisite: BIO 103 or ZOO 105. Study fundamental principles of embryology and developmental anatomy, from the development of the zygote through the fetal stage. Serial sections of chick and pig used to illustrate lectures.

ZOO 428 Comparative Vertebrate Anatomy (5) (3 lecture, 6 laboratory) Prerequisites: BIO 101, 103. Compare details of anatomical systems of vertebrates, through careful dissections of selected vertebrate specimens.

ZOO 441 Mammalogy (5) (3 lecture, 6 laboratory) Prerequisite: BIO 103. Study the taxonomy and ecology of mammals, emphasizing Colorado fauna. Collect, classify and study habits, habitats and life histories of local species under conditions governing distribution. Field trip fee required.

ZOO 442 Survey of Amphibians and Reptiles (4) (3 lecture, 3 laboratory) Prerequisite: BIO 103. Survey the biology and taxonomy of amphibians and reptiles, emphasizing local taxons. Laboratories include field trips, specimen collection and identification, using taxonomic keys. Field trip fee required.

ZOO 443 Ichthyology (4) (3 lecture, 3 laboratory) Prerequisites: BIO 101, 103. Study the classification, ecology, behavior and life histories of native and introduced fishes. Field trip fee required.

ZOO 505 Special Topics in Zoology (4, maximum 12) (2 lecture, 4 laboratory) Study taxonomy, physiology, ecology, or vertebrate or invertebrate zoology at an advanced level.

ZOO 511 Advanced Invertebrate Zoology (5) (3 lecture, 4 laboratory) Prerequisite: ZOO 320. Compare the classification, anatomy, physiology and natural history of the invertebrates, exclusive of insects and most parasitic forms.

ZOO 512 Helminthology (4) (3 lecture, 3 laboratory) Prerequisite: ZOO 410 or 412. Make an advanced study of parasitic worms, emphasizing concepts of phylogeny, morphology, life cycles, classification and history.

ZOO 518 Medical Entomology (4) (3 lecture, 2 laboratory) Prerequisite: ZOO 316. Make an advanced study of insects and other arthropods of medical importance to humans and domestic animals.

ZOO 526 Vertebrate Histology (5) (3 lecture, 6 laboratory) Prerequisite: ZOO 221 or 428. Study normal tissues and organs of vertebrates intensively, particularly mammals.

ZOO 540 Zoogeography (3) Learn principles and theories of animal distribution, especially higher vertebrate taxons. Place basic emphasis on world and continental distribution, discuss local and unique patterns as they affect North American taxa.

ZOO 550 Medical Pharmacology (4) (3 lecture, 3 laboratory) Prerequisites: ZOO 221 or 428, 250 and CHEM 130 or 281. Study in detail principles underlying absorption, distribution, metabolism and excretion of drugs, especially the interaction between drugs and living organisms. Credit not allowed for both ZOO 350 and 550.

ZOO 551 Mammalian Physiology I (5) (4 lecture, 3 laboratory) Prerequisites: ZOO 221 or 428 or equivalent; CHEM 281 or 483. Examine the cardiovascular and pulmonary systems in depth, integrating the functions of the nervous and endocrine systems.

ZOO 552 Mammalian Physiology II (5) (4 lecture, 3 laboratory) Prerequisite: ZOO 551. Consider in detail the digestive, muscular and excretory systems, particularly the integrative functions of these systems in homeostasis maintenance.

ZOO 553 Central Nervous System and Special Senses (3) Prerequisite: ZOO 250 or instructor's permission. Study the detailed anatomy and function of the brain and spinal cord, and cover the physiology of vision, hearing olfaction, equilibrium and proprioception.

ZOO 622 Individual Studies (4 maximum) Qualified graduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. One copy of a paper must be filed with instructor and one with department chair before credit is given. Does not satisfy 500 level requirement unless student is in full-time residency at UNC during quarter course is taken.

ZOO 627 Comparative Mammalian Adaptations (5) (4 lecture, 3 laboratory) Prerequisites: ZOO 250 and 428. Make detailed study of selected aspects of vertebrate anatomy, stressing function and adaptive significance of organ systems. Deliver one seminar on specialized topic.

ZOO 651 Endocrinology (3) Prerequisite: ZOO 250. Study endocrine glands and hormones, emphasizing the concepts of feedback systems, chemical characteristics and organ response to hormonal stimuli.

ZOO 699 Thesis (15 maximum).

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Administration and Faculty

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the second figure is the date of expiration of the present term.

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William R. Erwin, Associate Dean
Duane E. Henderson, Associate Dean
Douglas S. Burrton, Assistant Dean

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Donna Arlton, Dean
Rita Payton, Assistant Director

School of Health, Physical Education and Recreation

Martilu Puthoff, Dean,
Robert A. Oliver, Director, Intercollegiate Athletics

College of Performing and Visual Arts

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Robert Ehle, Assistant Director, School of Music

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George Leach, Assistant Dean
Marvin Ernst, Assistant Dean

Library Services

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William Hurt, KUNC-FM
Willard G. Jones, Grants and Contracts
Jerry W. Moorman, Vocational Teacher Education
Donald L. Myers, Computer and Data Processing Center
Douglas L. Stutler, Personnel

Faculty

(G) indicates Graduate faculty

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Richard R. Bond, President Emeritus of the University — B.S., M.S., Ed.D. Appointed 1971; Emeritus since 1981

John Edgar Bothell, Professor Emeritus of Education — B.A., M.A., Ed.D. Appointed 1949; Emeritus since 1970

Dorothy Brengarth-Jones, Assistant Professor Emeritus of Sociology — B.S., M.A., Ph.D. Appointed 1969; Emeritus since 1982

George H. Brooks, Assistant Professor Emeritus of Social Studies — B.A., M.Ed.; Appointed 1961; Emeritus since 1982

John D. Brown, Professor Emeritus of Business — B.A., M.Ed., C.L.U. Appointed 1970; Emeritus since 1980

✓ Edith B. Brummer, Assistant Professor Emeritus of Library Science — B.S. Appointed 1956; Emeritus since 1965

Martin Candelaria, Professor Emeritus of Spanish — B.A., M.A., Ed.D. Appointed 1948; Emeritus since 1963

Shirley M. Carrier, Professor Emeritus of English — B.Ed., M.A., Ed.D. Appointed 1958; Emeritus since 1982

John Elbert Chadwick, Professor Emeritus of Music — B.A., M.A., Ph.D. Appointed 1924; Emeritus since 1962

Harald P. Christensen, Professor Emeritus of Political Science — B.A., M.A., Ph.D. Appointed 1947; Emeritus since 1980

Amos Lincoln Claybaugh, Professor Emeritus of Elementary Education — B.A., M.A., Ed.D. Appointed 1958; Emeritus since 1978

Susan J. Clevenger, Professor Emeritus of Psychology, Counseling and Guidance — B.A., M.A., Ed.D. Appointed 1959; Emeritus since 1976

Roy Edward Colby, Assistant Professor Emeritus of Spanish — B.A., M.A. Appointed 1962; Emeritus since 1972

Harry E. Collins, Professor Emeritus of College Student Personnel Administration — B.A., M.A., Ed.S. Appointed 1956; Emeritus since 1975

✓ Virginia Costello, Professor Emeritus of Library Science — B.A., M.A. Appointed 1942; Emeritus since 1978

John A. Damgaard, Professor Emeritus of Business — B.A., M.B.A., Ed.D. Appointed 1962; Emeritus since 1982

Ray Lawrence DeBoer, Professor Emeritus of Communication — B.A., M.A., Ed.D. Appointed 1950; Emeritus since 1978

Donald Gilmore Decker, Provost Emeritus and Professor Emeritus of Science Education — B.S., M.A., Ph.D., Sc.D. Appointed 1937; Emeritus since 1975

Richard G. Ellinger, Professor Emeritus of Fine Arts — B.A., M.A. Appointed 1927; Emeritus since 1962

Margaret E. Everett, Professor Emeritus of Physical Education — B.A., M.A. Appointed 1951; Emeritus since 1981

Forest N. Fisch, Professor Emeritus of Mathematics — B.A., M.A. Appointed 1947; Emeritus since 1980

William M. Folger, Professor Emeritus of Journalism — B.S., M.S. Appointed 1975; Emeritus since 1981

Forrest W. Frease, Professor Emeritus of English — B.A., B.S.Ed., M.A., Ph.D. Appointed 1949; Emeritus since 1980

John B. Fulbright, Professor Emeritus of Psychology, Counseling and Guidance — B.A., M.A., Ed.D. Appointed 1949; Emeritus since 1972

Clara E. Funderburk, Associate Professor Emeritus of Home Economics — B.S., M.A. Appointed 1964; Emeritus since 1973

Don Garlick, Professor Emeritus of Music — B.F.A., M.M., D.M.A. Appointed 1949; Emeritus since 1973

George G. Gates, Professor Emeritus of English — B.A., M.A., Ed.D. Appointed 1946; Emeritus since 1969

Catherine Crates Gibert, Professor Emeritus of Foreign Languages — B.A., M.A. Appointed 1922; Emeritus since 1959

Blanche Ginsburg, Associate Professor Emeritus of Music — B.A., M.A. Appointed 1946; Emeritus since 1974

Rupert M. Goodbrod, Professor Emeritus of Music — B.F.A., M.S. in Ed. Appointed 1945; Emeritus since 1971

Robert Somerville Graham, Professor Emeritus of French — B.A., M.A., Ph.D. Appointed 1958; Emeritus since 1978

Lyman Beecher Graybeal, Professor Emeritus of Education — B.S., M.A., Ed.D. Appointed 1950; Emeritus since 1960

Walter O. Green, Professor Emeritus of Fine Arts — B.A., M.A. Appointed 1965; Emeritus since 1970

Rhonda Foss Hall, Professor Emeritus of Home Economics — B.S., M.A. Appointed 1945; Emeritus since 1967

Mabel B. Hallan, Assistant Professor of Nursing — B.A., M.S. Appointed 1964; Emeritus since 1982

John William Hancock, Professor Emeritus of Physical Education — B.A., M.A. Appointed 1932; Emeritus since 1966

Beatrice E. Hansen, Associate Professor Emeritus of Business — B.S., M.A. Appointed 1964; Emeritus since 1979

Marjorie Harkness, Professor Emeritus of Elementary Education — B.S., M.A., Ed.D. Appointed 1950; Emeritus since 1977

William F. Hartman, Professor Emeritus of Journalism — B.A., M.A., Ed.D. Appointed 1946; Emeritus since 1974

Ramon P. Heimerl, Professor Emeritus of Business — B.S., B.Ed., M.A., Ph.D. Appointed 1952; Emeritus since 1981; Dean Emeritus of the School of Business. Appointed 1967; Emeritus since 1981

William C. Heiss, Jr., Associate Professor Emeritus of Health and Physical Education — B.S., M.A. Appointed 1959; Emeritus since 1979

- Tyrus Hillway, Professor Emeritus of Higher Education — B.A., M.A., Ph.D. Appointed 1951; Emeritus since 1973
- Donald L. Holley, Professor Emeritus of Communication — B.Ed., M.A., Ed.D. Appointed 1964; Emeritus since 1982
- Edna Mary Hoydar, Professor Emeritus of Public School Music — B.A., M.M. Appointed, 1937; Emeritus since 1962
- Bernice E. Hunn, Professor Emeritus of Elementary Education — B.S., M.A., Ed.D. Appointed 1957; Emeritus since 1975
- Rita J. Hutcherson, Professor Emeritus of Music — B.A., M.A., Ph.D. Appointed 1946; Emeritus since 1973
- Alex Jardine, Professor Emeritus of Education — B.A., M.A., Ed.D. Appointed 1966; Emeritus since 1970
- F. Morris Johnson, Professor Emeritus of Industrial Arts — B.A., M.A., Ed.D. Appointed 1953; Emeritus since 1976
- H. Audrie Johnston, Professor Emeritus of Mathematics — B.A., M.S. Appointed 1965; Emeritus since 1981
- Edward J. Kelly, Professor Emeritus of Elementary Education — B.A., M.A., Ph.D. Appointed 1953; Emeritus since 1980
- LeRoy Kerns, Professor Emeritus of Education — B.A., M.A., Ed.D. Appointed 1949; Emeritus since 1974
- Winfield LeRoy Knies, Associate Professor Emeritus of Business Education — B.A., M.B.A. Appointed 1922; Emeritus since 1957
- Paul Charles LaBorne, Instructor Emeritus in Foreign Languages — B.A., M.A. Appointed 1960; Emeritus since 1970
- Helen Langworthy, Professor Emeritus of Speech and Drama — B.A., M.A., Ph.D. Appointed 1933; Emeritus since 1965
- Rose Eileen Leacock, Professor Emeritus of Fine Arts — B.A., M.A. Appointed 1945; Emeritus since 1968
- Elizabeth Lehr, Associate Professor Emeritus of Elementary Education — B.A., M.A. Appointed 1926; Emeritus since 1969
- A. Juanita Lewis, Professor Emeritus of Elementary Education — B.S., M.A., Ph.D. Appointed 1959; Emeritus since 1982
- Virgil Y. Lindahl, Professor Emeritus of Physical Education — B.A., M.A. Appointed 1953; Emeritus since 1982
- Betty L. Lowry, Professor Emeritus of Elementary Education — B.A., M.A., Ph.D. Appointed 1956; Emeritus since 1982
- J. Max Lubbers, Professor Emeritus of Industrial Arts — B.A., M.A. Appointed 1949; Emeritus since 1980
- Arno H. Luker, Professor Emeritus of Psychology, Counseling and Guidance — J.D., M.A., Ed.D. Appointed 1949; Emeritus since 1977
- Carol L. Lutey, Professor Emeritus of Psychology — B.S., M.A., Ph.D. Appointed 1959; Emeritus since 1981
- Charles William McLain, Professor Emeritus of Educational Psychology and Guidance — B.A., M.S., Ed.D. Appointed 1951; Emeritus since 1963
- Florence Marguerite Meyer, Associate Professor Emeritus of English — B.A., M.A. Appointed 1939; Emeritus since 1960
- Howard M. Mickens, Professor Emeritus of Music — B.S., M.M. Appointed 1963; Emeritus since 1982
- Estel Elgar Mohr, Professor Emeritus of Public School Music — B.S., M.A., Ed.D. Appointed 1926; Emeritus since 1970
- Arthur D. Moinat, Professor Emeritus of Botany — B.S., M.S., Ph.D. Appointed 1959; Emeritus since 1977
- Marie W. Moinat, Associate Professor Emeritus of Library Science — B.S., M.A. Appointed 1970; Emeritus since 1980
- Lola J. Montgomery, Professor of Psychology — B.A., M.A., Ed.D. Appointed 1963; Emeritus since 1982
- Gaylord D. Morrison, Professor Emeritus of Education — B.S., M.A., Ed.D. Appointed 1951; Emeritus since 1979
- Alvin O. Mosbo, Professor Emeritus of Elementary Education — B.A., M.A., Ed.D. Appointed 1957; Emeritus since 1978
- Margaret Lois Mulroney, Professor Emeritus of Foreign Languages — B.A., M.A., Ph.D. Appointed 1928; Emeritus since 1975
- Louise Adelaide Neal, Professor Emeritus of Education — B.A., M.A., Ed.D. Appointed 1946; Emeritus since 1972
- Dale A. Nebel, Professor Emeritus of Elementary Education — B.A., M.A., Ed.D. Appointed 1967; Emeritus since 1981
- Vera Lanore Newburn, Professor Emeritus of Home Economics — B.S., M.A. Appointed 1926; Emeritus since 1964
- Howard D. Ninemires, Professor Emeritus of Education — B.A., M.A. Appointed 1952; Emeritus since 1968
- Dale O. Patterson, Professor Emeritus of Mathematics — B.A., M.A., Ph.D. Appointed 1947; Emeritus since 1965
- Eleanor M. Peiffer, Associate Professor Emeritus of Home Economics/Vocational Teacher Education — B.S., M.Ed., Ed.D. Appointed 1972; Emeritus since 1981
- Francis R. Quammen, Professor Emeritus of Sociology — B.A., M.A. Appointed 1948; Emeritus since 1980
- Alberta Eloise Reitze, Associate Professor Emeritus of Education — B.A., M.A. Appointed 1950; Emeritus since 1966
- Arthur R. Reynolds, Professor Emeritus of History — B.A., M.A., Ph.D. Appointed 1949; Emeritus since 1980; Dean Emeritus of the Graduate School, Appointed 1965; Emeritus since 1980
- Winnifred S. Richardson, Associate Professor Emeritus of Library Science — B.A., M.A. Appointed 1960; Emeritus since 1973
- Grace A. Robins, Professor Emeritus of Business — B.S., M.E. Appointed 1970; Emeritus since 1980
- Gretchen Saam, Associate Professor Emeritus of Business — B.A., M.A., M.B.A. Appointed 1972; Emeritus since 1981
- George F. Sanderson, Professor Emeritus of Education — B.A., M.A. Appointed 1948; Emeritus since 1975
- Edith Marie Selberg, Professor Emeritus of Biology — B.A., M.A. Appointed 1926; Emeritus since 1962
- Jack Shaw, Professor Emeritus of College Student Personnel Administration — B.A., M.Ed., Ph.D. Appointed 1950; Emeritus since 1973
- Maynard N. Stamper, Professor Emeritus of Biological Sciences — B.S., M.A., Ph.D. Appointed 1954; Emeritus since 1974
- Wendell R. Starr, Professor Emeritus of English — B.A., M.A., Ph.D. Appointed 1958; Emeritus since 1980
- Doris C. Steffy, Professor Emeritus of Physical Education — B.A., M.A. Appointed 1950; Emeritus since 1981
- Vivian Tilden, Associate Professor Emeritus of Library Science — B.A., M.A. Appointed 1958; Emeritus since 1973
- Oscar W. Tollefson, Professor Emeritus of Geology — B.S., M.A., Ph.D. Appointed 1956; Emeritus since 1969
- Sylvester Roy Toussaint, Professor Emeritus of Speech — B.A., M.A., Ph.D. Appointed 1938; Emeritus since 1967
- Wayman E. Walker, Professor Emeritus of Music — B.M.E., M.M. Appointed 1951; Emeritus since 1978
- Doris O. Walters, Associate Professor Emeritus of Home Economics — B.S., M.Ed. Appointed 1970; Emeritus since 1979
- Laura O. Williams, Assistant Professor Emeritus of Education — B.A., M.A. Appointed 1968; Emeritus since 1971
- A. M. Winchester, Professor Emeritus of Biology — B.A., M.A., Ph.D. Appointed 1962; Emeritus since 1973
- Marian G. Witwer, Associate Professor Emeritus of English — B.A., M.A. Appointed 1965; Emeritus since 1979
- Welby B. Wolfe, Professor Emeritus of Drama — B.A., M.A., Ed.D. Appointed 1946; Emeritus since 1973
- Ernest J. Woods, Professor Emeritus of Mathematics Education — B.A., M.A. Appointed 1956; Emeritus since 1982
- Leslie Day Zeleny, Professor Emeritus of Sociology — B.S., M.A., Ph.D. Appointed 1946; Emeritus since 1963

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