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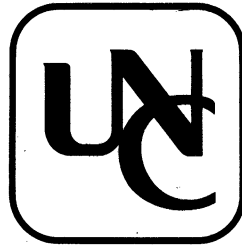
# UNC BULLETIN

UNDERGRADUATE AND GRADUATE  
1986 — 1987 — 1988





*9000 students  
overall*



# UNC BULLETIN

UNIVERSITY OF NORTHERN COLORADO  
GREELEY

EFFECTIVE DATES  
SEPTEMBER 1, 1986 TO AUGUST 31, 1988

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 official for University compliance is the Director of Affirmative Action/Equal Opportunity, Carter Hall, University of Northern Colorado, Greeley, Colorado 80639. Phone (303) 351-2829.

**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.

*As part of the University's effort to save money without affecting the quality of our academic programs, this Bulletin is being printed on newsprint for the first time.*

Published January, March, April, July, September, October, UNC *Bulletin* (USPS 411-510), UNC Information Services Office, Carter Hall 2012, Greeley, Colorado 80639. Second class postage paid at Greeley, Colorado.

Bulletin Series LXXXVII, July, 1986, No. 4.

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# **University of Northern Colorado Greeley, Colorado 80639 (303) 351-1890**

### **Academic Advising**

University Center 206  
351-1391

### **Admissions**

Admissions Office, Carter Hall 3006  
351-2881

### **Affirmative Action**

Carter Hall 2011  
351-2829

### **Career Development and Testing Center**

Carter 3005  
351-2694

### **Continuing Education**

Frasier Hall 11  
351-2944

### **Evening Division**

Frasier Hall 3  
351-1940

### **Fee Payment**

Carter Hall 1002  
351-2837

### **Financial Aid**

Carter Hall 1005  
351-2502

### **Graduate School**

Carter Hall 2007  
351-2831

### **Housing Office**

Gordon Hall  
351-2721

### **International Students Services**

1925 10th Avenue  
351-2396

### **Parking Services**

Gray Hall  
351-2131

### **Public Safety**

Gray Hall  
351-2245

### **Student Employment**

Carter 1005  
351-2628

# Calendar

## Fall, 1986

Monday and Tuesday, September 22-23  
Registration  
Wednesday, September 24  
Classes begin  
Wednesday-Friday, November 26-28  
Thanksgiving break, no classes  
Monday, December 1  
Classes resume  
Monday-Friday, December 8-12  
Finals week  
Saturday, December 13  
Commencement, quarter ends

## Winter, 1987

Monday, January 5  
Registration  
Tuesday, January 6  
Classes begin  
Monday, January 19  
University closed, Martin Luther King Day  
Monday-Friday, March 16-20  
Finals week  
Saturday, March 21  
Commencement, quarter ends  
Monday-Friday, March 23-27  
Spring break, no classes

## Spring, 1987

Monday, March 30  
Registration  
Tuesday, March 31  
Classes begin  
Monday, May 25  
University closed, no classes  
Monday-Friday, June 8-12  
Finals week  
Friday, June 12  
Graduate Commencement  
Saturday, June 13  
Undergraduate Commencement, quarter ends

## Summer, 1987

Monday-Friday, June 15-19  
Pre-Session  
Monday, June 22  
Registration for 8- and 10-week classes  
Tuesday, June 23  
Classes begin, 8- and 10-week classes  
Friday, August 14  
Last day of 8-week classes  
Saturday, August 15  
Commencement  
Monday, August 24  
Begin post session  
Friday, August 28  
End post session and 10-week classes

## Fall, 1987

Monday and Tuesday, September 21-22  
Registration  
Wednesday, September 23  
Classes begin  
Wednesday-Friday, November 25-27  
Thanksgiving break, no classes  
Monday, November 30  
Classes resume  
Monday-Friday, December 7-11  
Finals week  
Saturday, December 12  
Commencement, quarter ends

## Winter, 1988

Monday, January 4  
Registration  
Tuesday, January 5  
Classes begin  
Monday, January 18  
University closed, Martin Luther King Day  
Monday-Friday, March 14-18  
Finals week  
Saturday, March 19  
Commencement, quarter ends  
Monday-Friday, March 21-25  
Spring break, no classes

## Spring, 1988

Monday, March 28  
Registration  
Tuesday, March 29  
Classes begin  
Monday, May 30  
University closed, no classes  
Monday-Friday, June 6-10  
Finals week  
Friday, June 10  
Graduate Commencement  
Saturday, June 11  
Undergraduate Commencement, quarter ends

## Summer, 1988

Monday-Friday, June 13-17  
Pre-session  
Monday, June 20  
Registration for 8-week classes  
Tuesday, June 21  
Classes begin, 8-week classes\*  
Monday, July 4  
University closed, no classes  
Friday, August 12  
Last day of classes, 8-week  
Saturday, August 13  
Commencement

**\*NOTE:** There will be no ten-week classes or post-session for the summer of 1988. Fall Semester, 1988, will be early semester.

# 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.

New courses approved between catalogs will end with a "98." These courses are not listed in the *Bulletin*, but will appear in the *Schedule of Classes*. For example, a new course in Geology might be GEOL 398. The permanent course number will be implemented in the next catalog. Experimental courses should be scheduled utilizing the workshop number "08." For example, ACCT 308 would indicate a new experimental course. If the department wishes to continue the course after the workshop, a permanent course number should be applied for via the current approval process.

**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 credit 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.

Courses may be repeated for credit only when the *Bulletin* so indicates, 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  
BAQA — Business Quantitative Analysis  
BIO — Biology  
BLS — Black Studies  
BOT — Botany  
BUS — Business  
CH — Community Health  
CHED — Chemistry Education  
CHEM — Chemistry  
CMDS — Communication Disorders  
COMM — Speech Communication  
CS — Computer Science  
CSPA — College Student Personnel Administration  
DS — Directed Studies

ECON — Economics  
EDAD — Educational Administration  
EDEC — Early Childhood Education  
EDEL — Elementary Education  
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  
HON — Honors  
HRS — Human Rehabilitative Services  
HUM — Humanities  
ID — Interdisciplinary Studies  
IE — Individualized Education  
JMC — Journalism and Mass Communications  
MATH — Mathematics  
MED — Mathematics Education  
MET — Meteorology  
MGT — Management  
MIND — Life of the Mind  
MIS — Management Information Systems  
MKT — Marketing  
MS — Military Science  
MTEC — Medical Technology  
MUS — Music  
NURS — Nursing  
OCN — Oceanography  
PE — Physical Education  
PHIL — Philosophy  
PHYS — Physics  
PPSY — Professional Psychology  
PSCI — Political Science  
PSY — Psychology  
REC — Recreation  
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





# 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 seven schools and colleges. These are:

The College of Arts and Sciences  
The College of Business Administration  
The College of Education  
The College of Health and Human Services  
The College of Human Performance and Leisure Studies  
The College of Performing and Visual Arts  
The Graduate School

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 9,000 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.

The 236-acre campus has two distinct, but adjacent parts. Both have residence halls and classroom buildings. Central Campus features a tree-lined green and older, ivy covered buildings, while the new campus is distinguished by high-rise buildings.

## The "UC"

The University Center, called the "UC," is the campus community center. It is a spacious, modern building located between the West and Main campuses. Various facilities, programs and services of the "UC" are designed and operated to serve individuals and groups of students, faculty and staff. The focus of the "UC" is on the cultural, social, leisure, recreational and co-curricular activities of the campus.

The Information Desk is staffed by students who provide information on any aspect of campus and community life.

Crossroads Cafeteria and Snack Bar serves full meals and snacks, while Hungry Harold's fast food stand offers a variety of fast food snacks.

The Recreation Area provides bowling, billiards, video games and TV, with a lounge area for popcorn and drinks.

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

Numerous meeting rooms and lounges, which can be scheduled for meetings and other activities, include the Ballroom (which can seat 1,100 people at a major lecture, or 700 people at a formal dinner) and the Panorama Lounge.

The "UC" is home for the Campus Activities and Student Organization Office. Located on the second floor, the office includes:

- Student Representative Council, known as SRC or student government.
- SRC Services, such as the Bookmart, Legal Services and Off-Campus Housing.
- University Program Council, which is responsible for student programming and entertainment, such as concerts, box office movies, and Homecoming and May Daze celebrations.
- *Mirror*, the campus newspaper.
- *Colorado North Review*, the campus literary magazine.
- CoPIRG, a public interest research and consumer advocate organization.
- Graphic Services and Sign Shop, which prepares materials to publicize student events.
- Greek Office, which provides services and programming for fraternities and sororities.
- Black Student Union and Organization of Hispanic Students, which provide cultural awareness programs.
- Business Office, which processes all student fee expenditures.
- Mailboxes and secretarial services for recognized and chartered student organizations.

## Library Services

### James A. Michener Library

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

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

The traditional card catalog is being replaced by an online computer-based 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 six of Colorado's research institutions, including the University of Colorado at Boulder, the Colorado School of Mines, the University of Denver, Auraria, the Denver Public Library and UNC.

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

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

## Music Library

The Music Library, with comprehensive holdings, (including scores and recordings) selected for music students, is located in Frasier Hall.

## Laboratory School Library

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.

## Educational Materials Services

The Educational Materials Services (EMS) is a faculty support service which assists in the acquisition and use of educational media materials and equipment for classroom instruction. Located in the lower level of the Michener Library, EMS provides film rental services and maintains a permanent library of films, videotapes and other media materials.

Professional staff and modern facilities are available to assist the faculty in producing original teaching materials including television programs, tape/slide presentations, audio tapes and graphic arts materials. EMS also operates Channel 34 on the local cable television system. Requests to publicize UNC activities on Channel 34 should be directed to Information Services, phone 351-2331.

EMS is responsible for maintenance of all University-owned audio-visual equipment, and equipment malfunctions should be reported to the EMS Office. Engineers are available for consultation on the purchase and installation of audio-visual and television equipment, and all purchases of audio-visual equipment or materials must be approved by EMS.

## KUNC-FM

UNC owns and operates a 100,000-watt non-commercial public radio station located at 91.5 on the FM band. Broadcasts are a blend of cultural, educational and informational programming, including award-winning programs produced locally. A division of University Relations, KUNC is a member of National Public Radio and American Public Radio.

KUNC-FM extends the resources of the University 365 days a year, and is well-known along Colorado's Front Range and in the northern section of the state.

In addition to enhancing the University's image, KUNC-FM also augments the Journalism and Mass Communications Department by providing the opportunity for student interns to work with full-time professional staff.

## Computing Services

The Computer Center, located in Carter Hall on Central Campus, supports the instructional, research and administrative programs of the University. It provides computer resources and technical support to academic users. Services include systems design, programming and data analysis.

Equipment and materials are strategically placed throughout Central and West Campus. The central computer is an Amdahl V8 with administrative and instructional terminals linked to it directly and through various networks. The standard languages of COBOL, FORTRAN 77, BASIC, PASCAL, PL/1, C, and Assembler are supported. The statistical packages SAS, SPSS, GPSS and Minitab are available for analytical purposes.

A computer-assisted/computer-managed instruction package, PHOENIX, operates in the Amdahl computer with instructional terminals in the lower level of the Michener Library and in McKee Hall. Microcomputers, primarily Apple II and IBM, are placed in various areas of the campus. All facilities are available six days a week for use by the campus community.

## Housing

University Housing main office is in Gordon Hall, phone 351-2721. University Housing provides economical and convenient accommodations for more than 2,800 students, including graduate students

and those with families. All residence halls and apartments are managed by full-time, professional staff members, who strive to provide a comfortable living environment to encourage successful academic pursuit.

Freshmen are required to live on campus and carry a 19-meal-per-week food plan. A student with less than 45 credits is exempt from this requirement if he or she is married, is at least 21 years old at the beginning of the contractual period, or is living at and commuting from the home of his or her parent or legal guardian throughout the contract period. The decision to commute must be made prior to the beginning of the contract period.

Married students, single parents and their immediate families may be housed in 98 furnished apartments at Student Family Housing. At this location and in Harrison Residence Hall, specially designed rooms are available for the physically handicapped.

University residences are furnished. Residents provide cooking utensils, linens, blankets, cleaning supplies and personal items. They may also bring small furnishings and decorations. Recreation rooms, TV lounges, study areas and laundry facilities are standard in each facility. Limited storage facilities are provided.

The deposit to hold housing space is \$100 for residence halls and apartments. A \$50 deposit is required to hold a unit at Student Family Apartments.

## Central Campus Housing

### Belford, Sabin, Snyder, Wiebking, Wilson

Dutch colonial in architectural style, these halls are located 10 minutes from the University Center. Housing 800 students in total, these halls are appealing due to the small number of students living in each of five buildings. A strong sense of community emerges as the result of hall-sponsored programs, events and shared living experiences in a small-scale setting.

Rooms and suites accommodate either two or three students. Each room contains beds, desk areas, bookshelves, and closet and drawer space. Bathroom, laundry, activity and TV areas are conveniently located. Halls are either coed throughout or by floor except for Belford, which houses 50 women only. Sabin houses only upperclass students. Students living in all five halls are required to carry a 15- or 19-meal-per-week food plan. Tobey-Kendel Dining Room serves Central Campus students.

## West Campus Housing

### Lawrenson, Turner, Harrison, McCowen

More than 1,900 students live on West Campus in two large residence halls and two apartment complexes. The University Center, Michener Library, Butler-Hancock Gymnasium and Ross, McKee and Candelaria Halls are a five minute walk away. Air-conditioned Harrison and McCowen dining rooms are conveniently located too.

- Harrison and McCowen Halls. These have two-person rooms. Each room has twin beds, desk areas, bookshelves, and closet and drawer space. Harrison has private baths. Both halls are coeducational with adjoining dining facilities. Activity areas, TV lounges and laundry facilities are conveniently located. Residents are required to carry a 15- or 19-meal-per-week plan.

- Turner Apartments. In this 13-story upperclass coeducational complex, each apartment accommodates three or four students. The facility is air-conditioned, and each apartment is furnished and has a living-study room, private bath, two bedrooms and a small kitchen. Study-lounge, laundry facilities and limited storage areas are available. Meal plans are available.

- Lawrenson Apartments. Upperclass students who are at least 21 years old or who have at least 45 credits are eligible to live in this 17-story coeducational complex. Two floors are reserved for graduate and re-entry students. Efficiency units accommodate two persons. Two-bedroom units accommodate four students. Each apartment is furnished and has a living-study room, private bath, bedroom(s) and kitchen. The facility is air-conditioned with an activity area, TV lounge, and laundry facility conveniently located in the complex. Meal plans are available.

## Student Family Apartments

Located five minutes from Central Campus at 18th Street and 5th Avenue, these apartments accommodate families up to four persons.

An apartment resident must be registered or enrolled and carrying seven credit hours or more each quarter. The 98-unit complex provides economical living with community facilities including playground, individual storage units, recreation room and laundry facilities. Apartments are furnished and all utilities (excluding phone) are included. A limited number of apartments for disabled students are available.

Residents must provide cooking utensils, linens and a shower curtain. The complex is managed by a full-time staff member who coordinates activities and meets emergency needs. Maintenance is handled by University personnel.

## Graduate Houses for Women

Located close to campus, Warren and Harper Graduate Houses for women offer economical living. Each facility holds seven women, providing double rooms and limited singles in a comfortable setting.

## Off-Campus Housing

Off-Campus Renters Information Service, located in the University Center, Room 212 (phone 351-2172), offers information about Greeley area housing, and assistance and referral in landlord/tenant disputes. Students can benefit by using these services before they sign any lease or contract.

## Dining on Campus

University Food Services in Gordon Hall (phone 351-2721) provides convenient, economical, seven-day per week meal service for students and staff. A wide variety of meal plans is available for residence hall students, off-campus students and commuters. Three dining rooms and the University Center Cafeteria provide varied menus and convenient service. Large salad bars, varied entrees, grill and snack bar service, fast food and special event dinners are available. Students living in seven of nine residence halls are required to carry a quarterly meal plan. Freshmen living on campus are required to carry a 19-meal per week food plan. Students with meal plans may dine in any of the three dining rooms or the University Center Cafeteria. University Food Services employs many students in cash, catering and dining room operations.

## Public Safety & Parking Services

### Public Safety

The Department of Public Safety supervises the University police force. This unit protects the order and security of the University community.

### Parking Services

Parking Services is responsible for the administration of campus parking regulations. Enforcement decisions, permit sales, fine payments and hearings are handled through this office, located in Gray Hall, phone (303) 351-2131. Any car parked on campus must have a valid UNC parking decal or permit to avoid being ticketed. Decals and permits may be purchased from the Parking Services Office. Visitor, Staff and Student Daily Permits, at a cost of 50 cents per day, may be obtained from any of the red dispenser machines located in most student parking lots. Daily permits are valid only in the student lots.

## Division of Student Affairs

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 services are divided into the following five clusters: Enrollment Management, Student Academic, Personal Support and Enrichment Services, and Student Life.

Information about any of these programs may be obtained from the

Office of the Vice President for Student Affairs, Carter Hall, phone 351-2303.

## Enrollment Management Services

All of these services seek to provide assistance to students as they seek admission and continue enrollment at the University.

**Admissions Office.** This office provides information and assistance to students seeking admission to the University. New freshmen and students transferring from other institutions should contact this office in Carter Hall, phone 351-2881.

**Student Financial Resources Office.** This office assists students in obtaining the financial resources necessary to pursue higher education. These resources include scholarships, grants and loans from state, federal and private sources. Contact this office in Carter Hall, phone 351-2502.

**Office of Special Projects.** This office coordinates a wide variety of University cultural and academic events designed to enhance the college experience. Contact this office in Carter Hall, phone 351-2443.

## Student Academic Services

All of these services provide a myriad of programs designed to facilitate the academic progress, career development and job placement of students from their initial orientation to the University until after graduation.

**Academic Advising Center** has three major functions: academic advising for students who have not declared a major, orientation for all new students, and provision of information about and assistance with meeting academic standards. Qualified professional staff and peer advisers assist undeclared students with information about course selection, general education requirements and other academic questions and concerns. In addition, the office coordinates the orientation program for new students and their parents/spouse. The office also answers questions regarding scholastic standards and assists students experiencing academic difficulties. Contact this office in the University Center, phone 351-1391.

**Career Development and Testing Center** assists students in selecting vocational direction and, thus, an academic major. Services such as career counseling, interest testing, a comprehensive career information center and computer-assisted guidance assist in this process. The Center also provides national and local administrative service for tests including the CLEP, ACT, GRE and CAT. Contact this office in Carter Hall, phone 351-2694.

**Placement Services** assists students in their search for summer or full-time employment after graduation. Services include posting of daily job vacancy lists from local and national employers, on-campus interviews, referrals, job fairs, establishment of reference files, workshops and literature on preparing resumes and interviewing, national and international job directories, company literature, salary information, application blanks, reciprocity placement assistance in the U.S., and management of an alumni network. Contact this office in Carter Hall, phone 351-2127.

**Registrar and Records** provides tuition classification, registration, maintenance of academic records, transcripts and the graduation check. This office also answers questions about University policies and procedures. Contact this office in Carter Hall, phone 351-2231.

## Personal Support Services

All of these services seek to aid students in meeting personal, health and special academic needs.

**University Counseling Center** offers students aid as they deal with personal problems and as they assess personal and professional goals. In addition to individual and group counseling, the Center provides biofeedback training and test-anxiety management programs. These services are confidential and free to students. Contact this office in McKee Hall, phone 351-2496.

**Resources for Disabled Students** offers counseling, academic assistance, notetakers, interpreters, campus transportation and various forms of physical support. Special adaptive educational equipment is available. A counselor from the Colorado Division of Rehabilitation is based in this office on designated days during the academic year. Contact this office in McKee Hall, phone 351-2289.

**Student Health Center** provides a variety of medical and nursing services, emphasizing preventive medicine, first aid care of injury

and specific referrals for health care. In addition to nursing staff assistance on a walk-in basis, appointments are available with physicians, nurse practitioners and mental health professionals. Contact this office in Decker Hall, phone 351-2412.

## Enrichment Services

All of these services seek to provide a comprehensive approach to student development and retention. They attempt to maximize student participation at the University by improving educational experiences while providing personal support and cultural enrichment. Academic, personal and social support are integrated.

**Center for Human Enrichment** provides academic advising, skill development classes, tutoring and personal and career counseling to referred students. Tutoring and academic workshops are available to all UNC students. Contact this office at 1007 20th Street, phone 351-2710.

**Marcus Garvey Cultural Center** provides the black student with an academic and personal support network through its programs of academic assistance, personal counseling, and social and cultural programming. Contact this office at 1925 10th Avenue, phone 351-2351.

**International Student Center** provides support through ongoing orientation, advising and counseling for students from other countries. Contact this office at 1925 10th Avenue, phone 351-2396.

**Hispanic Cultural Center** provides both cultural and educational activities for Hispanic students, faculty and staff. Contact this office at 1410 20th Street, phone 351-2302.

## Student Life

All of these services seek to assist students adjust to university life by providing counsel, programs and support to student organizations.

**Dean of Students** office serves as a University-wide problem-solving and information and referral service for UNC students. It coordinates student national and international student exchanges, as well as an honors and awards program. Any student withdrawing from the University during an academic quarter must initiate the process in this office, located in the University Center, phone 351-2796.

**Re-Entry Students** office provides academic and support services to undergraduate students over 25 years old. Informational seminars and workshops which focus on the needs of the older undergraduate are held in the Re-Entry House, located at 1905 10th Avenue, phone 351-2943.

**Campus Activities and Student Organization Office** provides a trained staff to involve students in out-of-class organizations to meet social, recreational and cultural needs. The Student Representative Council recognizes nearly 100 organizations each year in areas such as intramurals, fraternities, sororities, religious, academic, honorary, minority and special interest groups. This office is located in the University Center, phone 351-2871.

## Summer Session

For the past 95 years the University has hosted a Summer Session. It is an integral part of the academic program, allowing students to accelerate completion of degree programs. It also provides non-degree students an opportunity to enrich themselves and improve their professional standing.

Lasting from mid-June to mid-August the session offers courses in varied formats lasting from one-day to ten weeks. Many of the same courses offered throughout the year are offered in the summer; in addition, some unique institutes and workshops are scheduled.

Contact the Summer Session Office in Frasier Hall, phone 351-1940.

## Evening Division

The establishment of the 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 day-time programs.

One-sixth of the courses within the UNC curriculum are offered between the hours of 4 and 10 pm, Monday through Thursday, and on weekends. This provides students a chance to take courses and/or start or finish a degree program.

Presently, the College of Business Administration 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 College of Business Administration, phone 351-2764.

The Department of Special Education also offers an evening degree program for a Master's Degree in Learning Disabilities, Teaching Socially and Emotionally Disturbed Children, and Teaching the Mentally Retarded. Practicums, however, will still need to be arranged during daytime hours.

In addition, the Department of Community Health offers a Master's in Health Education: Emphasis Community Health, as an evening program.

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 5-7 pm, phone 351-1940, or days in Frasier 3. Staff members are available in the Evening Division office from 5-7 Monday through Thursday evenings.

## Continuing Education

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

## Off-Campus Courses

These include regular undergraduate and graduate *Bulletin* courses including workshops, individual studies and other special programs.

## CEU/Non-Credit Programs

These include professional and community programs both on and off campus.

## Independent Studies

These are multimedia, correspondence and telecourse learning packages for home study.

## External Degree Programs

Selected undergraduate and graduate degree programs are offered entirely off campus for career-oriented and adults employed full-time.

Class schedules, program brochures and bulletins describing continuing education offerings are available upon request from Continuing Education Services, Frasier Hall 11, University of Northern Colorado, Greeley, Colorado 80639.



# 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, 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.

## ***Bulletin Status***

The content of this document is provided for the information of the student. It is accurate at the time of printing but is subject to change from time to time as deemed appropriate by the University president or Board of Trustees, in order to fulfill the University role and mission or to accommodate circumstances beyond their control. Any such changes may be implemented without prior notice, without obligation, and, unless specified otherwise, are effective when made.

The calendar is a projection of the course of events of the 1986-1987 and 1987-1988 academic years and represents the best judgement of the administration and staff. It is subject to change due to forces beyond the control of University employees or as deemed necessary by the University staff in order to fulfill educational objectives.

The faculty and staff of the University of Northern Colorado reserve the right to terminate or modify program requirements, content, and the sequence of program offerings from quarter to quarter for educational reasons which are deemed sufficient to warrant such actions.

## **Accreditation and Affiliation**

Since 1916, the University has been fully accredited by the North Central Association of Colleges and 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 Rights and Responsibilities of Students statement from the Office of the Vice President for Student Affairs, Carter Hall 4007, phone 351-2303; or the Dean of Students Office, University Center 206, phone 351-2796.

## **New Student Orientation**

The University operates an undergraduate student orientation program, Discover UNC, for entering freshmen and transfer students. The program provides essential information about academic requirements and policies and assists students in registering for classes. After admissions processing is completed, newly admitted students are invited to a Discover UNC program in a separate mailing.

The Graduate School conducts an orientation for graduate students after the quarter begins.

## **Academic Quarter System**

The University of Northern Colorado follows the academic quarter system in 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 for the first time 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 equal two semester credit hours). Both semester credits and quarter credits are recognized and evaluated throughout American higher education.

## Registration and *Schedule of Classes*

The University publishes a *Schedule of Classes* listing courses offered each quarter. The *Schedule of Classes* for the appropriate quarter may be obtained from the Registration Center, University Center 247, the Academic Advising Center, University Center 206, or the Admissions Office, Carter Hall 3005.

The *Schedule of Classes* is the basic guide to assist students in registering for classes. It provides information on drop/add/withdrawal, fee payment and other relevant policies, procedures, and deadlines for which students are responsible. Registration 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. Registration consists of four steps:

**Step 1.** Distribution of course selection materials and advising

**Step 2.** Selection of courses

**Step 3.** Receipt of statement of account and change of address form

**Step 4.** Payment (or arrangements for deferral) of student account

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 and August provides academic advising and special assistance for new student registration. The Graduate School also conducts an orientation for new graduate students.

It is the policy of the University that each faculty member advises students, and that every student, whether the student has selected a major or holds undeclared major status, is entitled to academic advising. This service of the University is designed to expedite the course selection process and to assist the student in creating a personal academic program appropriate to both his or her needs and University requirements.

**Course Numbers.** Courses are divided 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, courses which do not appear in the *Bulletin* may appear in the *Schedule of Classes*. The course numbers for these end in "98" and are considered "experimental." For example, an experimental course in Geology might be GEOL 398. 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." Most courses offered by the University are from 1-5 quarter credit hours per academic quarter.

Courses may be repeated for credit only when the *Bulletin* so indicates, and 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.

## Normal Course Load

A normal undergraduate course load is 15 hours of academic credit in each quarter. However, undergraduate students are allowed to enroll for a maximum of 18 credit hours prior to the beginning of the quarter. Thereafter, through the drop/add deadline, students with a 2.75 or higher cumulative grade point average may enroll for additional courses, with approval from the Academic Advising Center located in the University Center 206, phone 351-1391.

An academic program in excess of 18 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 (see Chapter 5, Tuition and Fees).

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 *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 University courses are offered for one to five quarter credit hours per academic quarter.

Courses may be repeated for credit only when the *Bulletin* so indicates and 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 as though the course is taken for credit; no audit or visitor cards may be issued. Students taking a course for no credit must enroll for 00 hours prior to the drop/add deadline. Students need not complete exams or assignments used to determine grades, but are expected to attend classes when enrolled for no credit. Non-attendance may result in removal from a course.

## 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 in Directed Studies courses:

- The study must be limited to no more than eight 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 doing the study.

- 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. The Non-Scheduled Course Form to be presented at the Registration Center at the time of enrollment must bear the signatures of the supervising faculty member and the department chairperson. Forms are available only through the department in which the study is supervised.

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, phone 351-2831, or the dean of the college in which the Directed Study is to be undertaken.

## 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 full-term course(s) after the first five class days of fall, winter, spring and summer quarters. This deadline applies to students who have not selected any courses previously for the current quarter and wish to enroll late. Consult the *Schedule of Classes* for the exact date each quarter after which new enrollments will not be accepted.

## Schedule Changes

During the beginning of each academic quarter, students may add or drop courses from a previously derived schedule (see the *Schedule of Classes* for specific deadlines). This procedure is handled in the Registration Center, University Center, phone 351-1247. After the deadline posted in the *Schedule of Classes*, students may not enroll in additional courses or drop courses in which they are currently registered. The number of credits for which a student is registered at the time of the drop/add deadline determines 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 six class 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 *Schedule of Classes* for each quarter. A signature is not needed to drop a class.

The procedure for withdrawal requires the student to obtain the faculty member's signature on the Schedule Change Form, so that the faculty member will be informed of the withdrawal. The form may be obtained in the Registration Center or in the Academic Advising Center in the University Center or from the Registrar's Office in Carter Hall. The last date to withdraw from an individual course is the midpoint of the period in which the course is taught. Withdrawal deadlines for each quarter are also noted in the *Schedule of Classes*.

The student must understand that registration for a class incurs a financial liability which may be forgiven or reimbursed only if the student removes himself/herself 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 may ask for assistance from the Academic Advising Center in the University Center.

When properly processed by either the faculty member or the Academic Advising Center, the schedule change form is turned in at the Registration Center, Room 247 at the University Center.

A faculty member is empowered to drop a student from a course during the drop/add period 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 cannot expect that the failure to attend the class will automatically cause him or her to be dropped. Consequently the student who intends to remove himself/herself from a class absolutely must follow the procedures listed in the *Schedule of Classes*.

## Withdrawal From the University

A student may withdraw completely from the University at any time during the academic quarter. Students who wish to withdraw com-

pletely must initiate and complete the withdrawal process at the Dean of Students Office, University Center, Room 238.

Students who withdraw completely will be charged a withdrawal fee. This fee is a *pro ratum* 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 Dean of Students Office, University Center 238, phone 351-2796, or the Accounting Office, Carter Hall 1002, phone 351-2201, for additional information, 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 Office 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 pm 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 change requests are to be submitted on Special Grade Report forms signed by the instructor and department chairperson. Forms are available from the Registrar's Office and are supplied only to faculty and departmental offices. No grade change requests submitted by students will be accepted by the Registrar's Office.

## 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 also used for theses, dissertations and educational field experience courses. They may be used for certain workshops, practica, performance or activity courses, when so indicated in the *Schedule of Classes* and in the course descriptions in the *Bulletin*. S/U grades are not interpreted as equivalent to any other letter grade and are not computed as part of the student's grade point average.

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*. This grade is not computed in the student's grade point average.

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 UW is not computed in the student's grade point average.

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 week of a quarter or because he or she missed the final examination due to sickness, an emergency in the family, 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 and is computed into the student's grade point average, with the numerical value equal to "F."

## Computing Grade Averages

The University operates on a 4.0 grade point system, in which a grade of "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 to "F" and the credit hours are bracketed on the academic record.

To compute a quarterly grade point average, multiply the credit hours for each class by the letter grade equivalent listed in the first paragraph of this section, then divide the total number of hours attempted for a quarter into the total number of points earned for that quarter. 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.

All grades with a numerical value are used in the computation of the grade point average whether or not the credits count toward graduation or the courses have been repeated.

## Transcripts

Official transcript orders placed with the Records Office require the student's signature and the \$2 fee prior to processing each request. Transcripts may be ordered in person or by mail and are mailed out or can be picked up.

## Academic Appeals Board

Students may appeal any academic decision which they consider arbitrary or capricious. The procedures of the Academic Appeals Board and the University Disciplinary Committee are published in the Rights and Responsibilities of Students statement, 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 his or her academic advisor.

## International Students

An international student is a student who is not a citizen of the United States or classified by U.S. Immigration as a resident alien. There are approximately 125 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 than 52 on any of the three sections, (students applying to the College of Business Administration must score at least 540 on the TOEFL), or
- Submitting test scores of at least 85 from the Michigan Test of the English Language, or
- Completing (in the U. S.) a college-level course in English

composition with a grade of "B" or better (undergraduate only).

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, Beverly House, 1925 10th Ave, phone 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 undergraduate foreign student admission should be addressed to the Admissions Office, Carter Hall Room 3006. Inquiries regarding graduate admission should be sent to the Graduate School, Carter Hall 2007. International Student Services (Beverly House, 1925 10 Ave, UNC, 80639) is the office which administers the University's relationship to the Immigration and Naturalization Service, issues student visa applications, and provides orientation information to new students.

## Student Financial Resources

Theoretically, financial aid is intended to meet the difference between a family's ability to contribute towards education and the cost of attending the institution a student chooses to attend. The family's ability to contribute is determined by the American College Testing (ACT) Family Financial Statement (FFS) or College Scholarship Service (CSS) Financial Aid Form (FAF). These needs analysis documents, completed each year, along with other requested forms provide the necessary information for the aid administrator to offer the student a "financial aid package."

**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.

The financial aid package may include a combination of grants, loans, a work-study job and/or scholarships. Within the limits of its resources, the University then attempts to award the student adequate financial aid to make up the difference between the family's and/or student's ability to contribute and the cost of enrollment. The following subsections contain 1) the procedures for applying for aid, 2) the aid types available, and 3) general financial aid information.

**Application Procedures.** Students applying for financial aid are required each year to submit an American College Testing (ACT) Family Financial Statement (FFS) or College Scholarship Service (CSS) Financial Aid Form (FAF). The FFS or FAF must be mailed by the applicant to the appropriate processing center indicated on the application. The processing center will complete the analysis and forward the results to the University. The priority date for the receipt of the processed Family Financial Statement or Financial Aid Form from ACT or CSS 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 or FAF to CSS to insure that the processed form is received by the University to meet the March 31 preferential filing date. It is recommended that the Family Financial Statement (FFS) or Financial Aid Form (FAF) be mailed to the needs analysis service by March 1 to assure priority treatment of the aid application.

Processed applications received after March 31 will be considered late and are unlikely to be packaged with campus-based need programs (i.e., federal programs — College Work-Study, Supplemental Education Opportunity Grant, National Direct Student Loan or the Colorado programs — Colorado Student Grant, Colorado Student Incentive Grant or Colorado Work-Study Programs).

Should the University receive additional state and/or federal funding or should funds be released by early applicants, those funds would be redirected to other students. These funds would be awarded on a priority basis which is based upon the application processed date, the completion of the application, and the student's need.

Alternative funding such as Pell Grant, Guaranteed Student Loan/



Auxiliary Loans to Assist Students (PLUS) Loan and hourly employment on- or off-campus, may be available, depending on need, to late applicants.

The staff of the University of Northern Colorado Office of Student Financial Resources and the offices of high school and community counselors will provide information assistance and FFS/FAF forms upon request. Needs analysis forms, 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 Student Financial Resources in the first weeks of the preceding January. 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 (FSS) or College Scholarship Service's Financial Aid Form (FAF) for the preceding academic year. In addition, UNC requires that an institutional application for summer financial aid be submitted. The application becomes available from the Office of Student Financial Resources on January 15 of each year.

Institutional applications for summer financial aid should be submitted to the Office of Student Financial Resources by January 31 of each year to receive full consideration. Historically, applications received after the preferential January date are not awarded because of fiscal year-end funding limitations.

## 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.** Normally, loan funds plus interest must be repaid to the lending institution. UNC participates in the National Direct Student Loan (NDSL), Guaranteed Student Loan (GSL), and Auxiliary Loans to Assist Students (PLUS) programs. All educational loans with the exception of the PLUS loan are based on financial need. Applications for the GSL and PLUS loans are available through local lending institutions, e.g., banks and credit unions. The Family Financial Statement or Financial Aid Form is the student's application for the NDSL. Additional information on interest rates, cancellation and postponement provisions, and sample repayment schedules are available upon request in the Office of Student Financial Resources, Room 105, Carter Hall.

**Grants.** Awarded on the basis of financial need, these do not require repayment unless you do not complete the term for which the award is given. Grant funds available at UNC are: Pell Grants, Supplemental Educational Opportunity Grants, Colorado Student Incentive Grants, Colorado Student Grants, and Colorado Graduate Grants.

All admitted or continuing students who submit the Family Financial Statement (FFS) or Financial Aid Form (FAF) will be automatically considered for all need-based grants awarded through the University. In addition, students should indicate on the FFS or FAF their desire to be considered for the Pell Grant Program.

**Student Employment.** Many UNC students are employed during their period of enrollment, as well as during vacations. The greatest range of employment opportunity at the University of Northern Colorado is found in the work-study programs. These programs are designed to provide students with financial assistance as well as a meaningful learning experience in areas of interest to the individual student.

**Federal Work-Study.** The Federal Work Study Program provides jobs for undergraduate and graduate students who need financial aid. Federal work study gives the student an opportunity to earn money to help pay their educational expenses.

The student's pay will be at least the current federal minimum wage, but it may also be related to the type of work being performed and its difficulty.

All federal work study awards depend on need, the amount of funds the university has been allocated for the program, and the amount of aid the student receives from other sources.

**Colorado Work Study.** The Colorado Work Study Program provides jobs to Colorado undergraduate residents who qualify for need-based financial assistance. Like the federal program, all Colorado

work study positions pay at least the federal minimum wage and require approximately 10-12 hours work per week.

**Colorado No-Need Work Study.** The Colorado No-Need Work Study Program is available to undergraduate Colorado residents who do not qualify for financial assistance based on their family's financial circumstances. This program is limited and will be offered to students whose FFS or FAF were processed and received at UNC by the March 31 preferential filing date and are not eligible for other need-based assistance (excluding GSL and PLUS loans).

**On-Campus Hourly.** The University offers a variety of employment opportunities available throughout the University's offices, laboratories, departments and shops in the form of student hourly positions. Students enrolled at least half-time are eligible to apply for these positions regardless of financial need.

**Off-Campus Hourly.** 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.

Finally, UNC offers the CASE (Credit Available for Student Employees at UNC) Program. This program allows students who are employed under UNC's employment programs (except federal work study) to defer payment of tuition, fees, room and board, etc., on a quarterly basis. Additional information and application forms are available in the Student Employment area of the Office of Student Financial Resources.

**Scholarships.** Scholarships are awarded on the basis of academic performance, talent, athletic ability, or other criteria, as determined by the donor, and may not include financial need as a requirement for eligibility. UNC awards Colorado undergraduate scholarships and graduate fellowships to qualified resident students. Colorado Cultural Diversity and non-traditional scholarships are also available. Non-resident students may receive assistance under the University of Northern Colorado National Award Program. Scholarships which are administered by the University of Northern Colorado are applied for by completing the "University of Northern Colorado Scholarship Application Form." These applications are available in the Department of Student Financial Resources usually after January 15: The preferential filing date for submission of the application is March 31. Many other scholarships are available through private sources.

**Selective Service Registration Compliance.** Every student must sign a "Statement of Registration Compliance" before an institution can disburse to, certify eligibility for, or deliver Title IV aid (Pell, GSL, NDSL, SEOG, CWS or SSI).

**Financial Aid Transcript.** A financial aid transcript is required from each college or university that a financial aid applicant attended prior to enrolling at UNC. Regardless of whether or not financial aid was received, the transcript is required.

**Satisfactory Academic Progress Standards.** The Office of Student Financial Resources is responsible under state and federal regulations for establishing and monitoring minimum acceptable progress for the continuation of financial aid eligibility. The standard of satisfactory progress must include a student's total academic history at UNC. In order to be eligible to receive financial aid, the student must be making satisfactory progress towards a degree program, regardless of whether she or he has previously received financial assistance. The current policy requires that progress be measured in three distinct areas: 1) maximum attempted hours permitted for completion of a degree program; 2) 80% successful completion rate for hours attempted during the academic year with a minimal GPA of 2.0; and 3) successful completion of hours greater than 0 in any one quarter with a GPA of not less than 2.0.

Absolute maximum hours have been established for the student to complete the degree of his/her choice. Since program lengths do vary, students should use the proper catalog under which they were admitted as a guide for the number of hours their program requires. The student will be permitted to attempt hours according to the following formula: TOTAL HOURS IN DEGREE PROGRAM DIVIDED BY .8 EQUALS TOTAL ALLOWABLE HOURS HE/SHE MAY ATTEMPT AND CONTINUE TO REMAIN ELIGIBLE FOR FEDERAL AND STATE ASSISTANCE AT UNC. Maximum limits for students with transfer hours are computed differently. An explanation of this process is available in the complete "Satisfactory Academic Policy Statement" which may be obtained in the Office of Student Financial Resources.

In addition to the maximum hours provision, a student must satisfactorily complete a minimum of 80% of the credit hours attempted during the academic year. The academic year established at UNC, for the purpose of monitoring satisfactory academic progress, shall be fall quarter through spring quarter (summer quarter, if applicable) of each year. Students that did not satisfactorily complete 80% of the coursework attempted will be suspended from eligibility for financial assistance. The grades of A, B, C, D, S, and NR are considered to be satisfactory grades for the completion of a course. For the most part, students will be monitored at the close of the academic year, with the following exceptions: *students that do not satisfactorily complete any hours attempted, during any one quarter, will be immediately suspended from financial aid eligibility at the close of that quarter.*

Total credit hours attempted is defined as: a) credit hours still held at the end of each quarter, or b) if a student received financial aid during the quarter, the total hours attempted are defined as minimum hours required for financial aid disbursement. For most financial aid programs this will be twelve (12) quarter hours for undergraduate students and ten (10) quarter hours for graduate students. Exceptions to this policy include the Pell Grant Program which may be received at 3/4-time (9-11 hours) and 1/2-time (6-8 hours) and the Guaranteed Student Loan Program which provides assistance to students who are enrolled at least half time.

**Refund Policy.** Tuition adjustments resulting from a complete withdrawal from the University may affect the financial aid you have received. The UNC refund distribution policy (repayment) has been designed to repay financial aid funds when a tuition/housing adjustment creates a credit balance on your statement of account. No refund will be returned to a student unless *all* aid received has been fully repaid.

Refund calculations are prorated by Accounting Services, on the basis of educational costs and total financial aid received that quarter. Please refer to Accounting Services explanation of refund policy in the University *Bulletin*.

**Repayment Policy.** Any student withdrawing totally from the University, that has secured the proceeds of his/her financial aid for that quarter, will be required to repay the financial aid received as follows: Withdrawal during Week 1 (class day 1-5) = 100% repayment; Week 2 (class day 6-10) = 80%; Week 3 (class day 11-15) = 60%; Week 4 (class day 16-20) = 40%; Week 5 (class day 21-25) = 20%. After Week 5, a repayment is not required.

## Insurance

UNC's Board of Trustees requires that all full-time students have health insurance. This insurance is also available to students' dependents and part-time students upon request. The UNC-sponsored health insurance policy is automatically assessed to all full-time students, but can be waived providing the student presents evidence of a comparable health insurance plan. Further information on deadlines and procedures may be obtained from the Student Health Center, phone 351-1915.

## 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, phone 351-2412.

**Immunization Regulation.** Beginning fall 1986, in order to register for classes at UNC, all individuals are required to complete and submit to the UNC Student Health Center a UNC Immunization Record Form completed by qualified medical personnel (nurse, physician, or school health official). This record must certify that the individual has immunity to Rubeola (measles) and Rubella (German measles).

Individuals who, for medical, religious, or personal beliefs, refuse to provide the immunization information must complete the appropriate statement of exemption on the UNC Immunization Record Form.

Individuals who do not have proof of immunity against Rubeola or Rubella and have signed an exemption may be suspended from classes at the University of Northern Colorado during an outbreak/epidemic as determined by the University President. For additional information, contact Student Health Services, Decker Hall, phone 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 required. 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.

## 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 want 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, previous educational institutions attended, and weight and height of members of athletic teams.

(Full-time is 12 hours or more for undergraduates, and 10 hours or more for graduates; part-time is less hours than stated for full-time. Half-time is 6 hours or less for undergraduates, and 5 hours or less for graduates.)

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 the Office of Registrar and Records, Carter Hall 3002, phone 351-2231.

# 3 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.

### 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.
- Completion of two years of college preparatory mathematics in a secondary school, e.g., two years of algebra or one year of algebra and one year of geometry.
- In addition, an applicant for freshman admission is *encouraged* to earn secondary school credits in at least the following distribution:
  - English — four units with emphasis upon courses in composition.
  - Mathematics — three units. 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 a laboratory science.

### 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, Colorado 80639.

An applicant should take the American College Test (ACT) or the Scholastic Aptitude Test (SAT) and have examination results forwarded to UNC. An October or November test date is recommended for admission to UNC the following fall quarter.

Students planning to major in music are required to submit an additional application for admission to the School of Music. The music application and appropriate instructions will be provided by the Admissions Office upon 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, Colorado 80639, phone 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 is granted to the following:

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

If one of the above exceptions is met or if special needs conflict with this 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, Colorado 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, phone 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 30 semester hours or 45 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 a music application for admission to that School. The music 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 contacting the School of Music, Frasier Hall, University of Northern Colorado, Greeley, Colorado 80639, phone 351-2678.

## Transfer Credit

A maximum of 135 hours of academic credit may be accepted from regionally-accredited four-year institutions. No more than 96 hours of credit earned at junior or community colleges may be applied towards the meeting of UNC degree requirements. 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 after 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. However, this does not preclude the student from the requirement of passing the English proficiency exam.

Any credit earned by examination alone (e.g., CLEP credit) will be re-evaluated by the UNC Admissions Office. The exercise of this requirement may result in a reduction of hours awarded for the possession of a liberal arts-based Associate of Arts degree.

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, phone 351-2881, or 573-1379 (Denver line), or from the Denver office, 595-4229.

## Transfer Bulletin

Transfer students from Colorado junior and community colleges may use the *Bulletin* of the year in which they entered the junior or community college; or they may use any *Bulletin* subsequent to that year. Transfer students from four-year institutions will typically be evaluated under the *Bulletin* of the year in which they enter UNC. (Students planning to transfer to UNC in fall, 1986, who submit their transcripts for evaluation prior to the publication of the 1986-88 *Bulletin*, will be allowed to use the 1984-1986 *Bulletin*.)

# New Student Orientation Registration and Other Services

## Orientation

The University offers an orientation program, Discover UNC, for entering freshmen and transfer students. This program provides essential information about academic advising and registration for classes. Newly-admitted students are invited to an orientation program by separate mailing. Discover UNC provides new students with essential information about academic requirements and policies, and assists students in registering for classes. Every new student is strongly encouraged to participate fully in the orientation program.

## Undergraduate Academic Advising

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. It is recognized 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 in their department.

Undergraduate students who have not declared a major will be assigned an advisor by the Academic Advising Center located in University Center 206.

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 Academic Advising Center, University Center 206, phone 351-1391.

## 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 and until successful completion of 90 quarter hours of course credit.

A student is a junior after successful completion of 90 quarter hours of credit. A student is a senior after successful completion of 135 quarter hours of credit and 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 (AP) 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 Career Development and Testing Center, Carter Hall 3005, Greeley, Colorado 80639, phone 351-2694.

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 should contact 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 five specific requirements which a student must meet to earn a baccalaureate degree from the University. The requirements are:

### Minimum Quarter Hours

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 2.50.

## 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 (however, University *Bulletins* expire after six years). See the General Education program description presented later in this chapter.

## 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. Students who are unsure of their major concentration may enter the University as undeclared. It is expected that students choose a major no later than the completion of 60 credit hours. Exemptions may be obtained from the Director of Academic Advising. Undergraduate students may transfer from one major to another as long as they meet the requirements of the new department.

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-major 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 an 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. Additional information can be obtained from the English Department, Michener L50, phone 351-2971.

## Double Majors and Concurrent Degrees

Students may elect to complete the requirements for two majors (a "double major"), in which case both majors will be listed on the transcript. Undergraduate students who have two majors leading to different degrees (e.g., B.A. and B.S.) may receive a diploma indicating the awarding of two degrees simultaneously if they have satisfactorily completed a minimum total of 225 quarter hours of credit. A student with less than 225 quarter hours will receive one degree appropriate for the major selected by the student.

*Additional hours above the minimum requirement for a degree are incorporated into that degree program and may not be used to meet other requirements.*

## General Education

It is the conviction of the faculty at the University of Northern Colorado that the University should provide its students with a solid grounding in the skills they must have in order to be personally independent in thought and action. It should also provide them with an introduction to the full range of concerns that must claim the attention of all those who are well-informed and reflective about the world in which they live.

Central among the skills that are essential for personal independence are self-expression, calculation, rigorous reasoning, and the development of one's physical abilities. The courses in composition, mathematics, and physical activity included within the program out-

lined below are designed to provide students with the necessary fundamentals in each of these areas.

## Requirements

General Education at the University of Northern Colorado is a program of 60 quarter hours selected from four skill areas, four content areas, and an elective area. The General Education program is intended to be distributed throughout the undergraduate years.

The nine areas, with the courses meeting each of these requirements and any exception to the General Education program are listed below:

## Skills

### 1. Basic Composition (4 hours)

ENG 122 Elementary Composition: Exposition 4

### 2. Intermediate Writing (4 hours)

One course from the following:

BIO 291 Seminar in Scientific Writing 4  
 BUS 205 Business Communications 4  
 CHEM 291 Scientific Writing in Chemistry 4  
 CMDS 367 Research Writing in Communication Disorders 4  
 ENG 123 College Research Paper 4  
 ENG 125 Communications on a Theme 4  
 ENG 127 Technical Writing 4  
 EPRE 300 Research Analysis and Report Writing 4  
 ESCI 291 Scientific Writing 4  
 HIST 399 Introduction to Historical Research 4  
 JMC 210 Newswriting 4  
 MUS 152 Writing & Scholarship in the Performing & Visual Arts 4  
 NURS 405 Nursing Theory and Research 4  
 PHIL 120 Art of Philosophical Writing 4

### 3. Mathematics (3-5 hours)

One course from the following:

MATH 101 Fundamental Mathematical Skills 3  
 MATH 123 Intermediate Algebra 5  
 MATH 124 College Algebra 5  
 MATH 125 Plane Trigonometry 5  
 MATH 127 Elementary Functions 5  
 MATH 130 Analytic Geometry 4  
 MATH 175 Mathematics for Business Decisions I 4  
 MATH 191 Mathematics for Elementary School Teachers I 3

### 4. Physical Activity (2 hours)

One or two courses from the following:

PE 103 Badminton 1  
 PE 104 Activity for Stress Management 1-2  
 PE 105 Self Defense 1  
 PE 107 Modern Rhythmic Gymnastics 1-2  
 PE 108 Gymnastics 1-2  
 PE 109 Physical Fitness & Conditioning 1-2  
 PE 111 Softball 1  
 PE 112 Tennis 1-2  
 PE 113 Soccer 1  
 PE 115 Volleyball 1  
 PE 116 Golf 1-2  
 PE 118 Basketball 1  
 PE 120 Bowling 1  
 PE 121 Racquetball 1  
 PE 122 Fencing 1-2  
 PE 125 Swimming 1-2  
 PE 126 Skiing 1-2  
 PE 127 Ice Skating 1  
 PE 128 Roller Skating 1  
 PE 129 Back Packing & Hiking 1  
 PE 130 Modern Dance 1-2  
 PE 132 Jazz Dance 1-2  
 PE 133 Social Dance 1  
 PE 134 Folk Dance 1  
 PE 135 American Square & Couple Dance 1  
 PE 136 Ballet 1-2  
 PE 137 Tap Dance 1-2  
 PE 138 Ethnic Dance 2  
 PE 140 Self Awareness With Movement 1

## Content

### 5. Arts and Letters (9-15 hours)

Three courses, one each from three of the following areas:

#### a. Fine Arts

ART 181 History of Art I 4  
 ART 182 History of Art II 4  
 ART 183 History of Art III 4  
 ART 190 Art Appreciation 4  
 ART 210 Ceramics for Non-Art Majors 3  
 ART 230 Drawing for Non-Art Majors 3  
 ART 290 Visual Thinking & Visual Images 3  
 ENST 363 Art & the Environment 3  
 MIND 181 The Great Traditions of Asia 4  
 (this course may be used to meet the requirement in Fine Arts or History or Literature)

MUS 140 Introduction to Music 3  
 MUS 141 Music Literature & Styles I 3  
 MUS 142 Music Literature & Styles II 3  
 THEA 130 Introduction to the Theatre 3  
 THEA 330 History of the Theatre I 3  
 THEA 331 History of the Theatre II 3  
 THEA 332 History of the Theatre III 3

#### b. Foreign Language

FR 101 Elementary French I 5  
 FR 102 Elementary French II 5  
 FR 103 Elementary French III 5  
 FR 201 Intermediate French Grammar I 3  
 FR 202 Intermediate French Grammar II 3  
 FR 203 Intermediate French Grammar III 3  
 GER 101 Elementary German I 5  
 GER 102 Elementary German II 5  
 GER 103 Elementary German III 5  
 GER 201 Intermediate German Grammar I 3  
 GER 202 Intermediate German Grammar II 3  
 GER 203 Intermediate German Grammar III 3  
 SPAN 101 Elementary Spanish I 5  
 SPAN 102 Elementary Spanish II 5  
 SPAN 103 Elementary Spanish III 5  
 SPAN 201 Intermediate Spanish I 4  
 SPAN 202 Intermediate Spanish II 4  
 SPAN 203 Intermediate Spanish III 4

#### c. History

HIST 160 The Western Experience from Classical Greece & Rome Through the Renaissance 4  
 HIST 161 The Western Experience from the Reformation to the Age of Revolution 4  
 HIST 162 The Western Experience: Modern Times 4  
 HIST 176 American Experience, 1607-1861 4  
 HIST 177 American Experience, 1861-1932 4  
 HIST 178 American Experience, 1932 to the Present 4  
 MIND 180 Great Ideas of the Western Tradition 4  
 (this course may be used to meet the requirement in History or Literature or Philosophy)  
 MIND 181 The Great Traditions of Asia 4  
 (this course may be used to meet the requirement in Fine Arts or History or Literature)  
 MIND 289 Coming of Age in the 20th Century 12  
 (this course meets requirements for History, Literature and Anthropology)  
 MIND 290 Search for Meaning 8  
 (this course meets the requirements for both History and Philosophy)  
 SCI 100 History of Science — 20th Century 8

#### d. Literature

ENG 130 Introduction to Language 4  
 ENG 131 Introduction to Poetry 4  
 ENG 132 Introduction to Fiction 4  
 ENG 133 Introduction to Drama 4  
 ENG 138 Modernism in Literature 4  
 ENG 160 Masterpieces of English Literature 4  
 ENG 161 Masterpieces of American Literature 4  
 ENG 162 Masterpieces of World Literature 4  
 HISP 435 Latin American Short Story 3  
 MIND 180 Great Ideas of the Western Tradition 4  
 (this course may be used to meet the requirement in History or Literature or Philosophy)



MIND 181	The Great Traditions of Asia (this course may be used to meet the requirements for Fine Arts or History, or Literature)	4	SCI 260	Earth Science Concepts for Elementary Teachers (L)	4
MIND 289	Coming of Age in the 20th Century (this course meets requirements for History, Literature and Anthropology)	12	<b>b. Life Sciences</b>		
MIND 290	Search for Meaning (this course meets the requirements for both History and Philosophy)	8	BIO 101	Principles of Biology (L)	5
MIND 293	Play as a Route to Insight and Creation (this course meets the requirement in Literature or Philosophy)	4	BIO 104	Exploring Biology	3
<b>e. Philosophy</b>			BOT 205	Plants for Humans	3
MIND 180	Great Ideas of the Western Tradition (this course may be used to meet the requirement in History or Literature or Philosophy)	4	BOT205/ 206	Plants for Humans/Plants for Humans Lab (L)	5
MIND 290	Search for Meaning (this course meets the requirements for both History and Philosophy)	8	MIND 294	Revolutions in Science (this course meets requirement for Earth Science, or Life Science or Physical Science)	4
MIND 293	Play as a Route to Insight & Creation (this course meets requirements for both Literature and Philosophy)	8	SCI 261	Biological Science Concepts for Elementary Teachers (L)	4
PHIL 100	Introduction to Philosophy	4	ZOO 105	Human Biology (L)	4
PHIL 105	Philosophical Perspectives on Current Issues	4	ZOO 220	Introduction to Human Anatomy-Physiology (L)	5
PHIL 110	Figures in Western Philosophy	4	<b>c. Mathematics</b>		
<b>6. Social Sciences (10-15 hours)</b>			MATH 110	Mathematics & Liberal Arts	3
Three courses, one each from three of the following areas:			MATH 132	Calculus II	5
<b>a. Anthropology</b>			STAT 203	Introduction to Statistical Analysis	3
ANT 100	General Anthropology	4	STAT 303	Statistics for Health Sciences	3
ANT 140	Introduction to Archaeology	4	<b>d. Physical Science</b>		
ANT 170	Introduction to Biocultural Anthropology	4	CHEM 101	Foundations of Chemistry I	3
MIND 289	Coming of Age in the Twentieth Century (this course meets requirements for History and Literature and Anthropology)	12	CHEM 104	Principles of Chemistry I (L)	5
<b>b. Economics</b>			CHEM 108	Fundamentals of General Chemistry (L)	5
ECON 100	Introductory Economics	5	CHEM 110	Current Topics About Chemistry	3
ECON 110	Principles of Economics: Microeconomics	4	ENST 210	Nuclear, Solar & Alternative Power	3
ECON 120	Principles of Economics: Macroeconomics	4	ENST 211	Chemistry & the Environment	3
<b>c. Geography</b>			MIND 294	Revolutions in Science (this course meets requirement for Earth Science, or Life Science or Physical Science)	4
GEOG 100	World Geography	5	PHYS 260	Introductory Physics — Mechanics (L)	5
GEOG 110	Geography of the United States & Canada	5	PHYS 265	General Physics — Mechanics (L)	5
GEOG 123	Cultural Geography	4	SCI 103	Physical Science	3
GEOG 200	Location & Human Behavior	4	SCI 103/ 104	Physical Science/Physical Science Lab (L)	4
<b>d. Political Science</b>			SCI 109	The Cosmos	3
PSCI 100	American National Government	5	SCI 110	Sights & Sounds	3
PSCI 105	Introduction to Political Science	3	SCI 110/ 111	Sights & Sounds/Sights & Sounds Lab (L)	4
PSCI 210	European Political Systems	4	SCI 112	Mysteries of the Microcosm	3
PSCI 220	International Relations	4	SCI 116	Chemical Evolution: Protons to People	3
PSCI 332	Modern Political Philosophy	4	SCI 262	Physical Science Concepts for Elementary Teachers (L)	4
<b>e. Psychology</b>			<b>8. Interdisciplinary, Multicultural, and International Studies (6-10 hours)</b>		
PSY 120	Principles of Psychology	5	Two courses, one Multicultural course (as indicated by *), and one course from other interdisciplinary studies or international cultures:		
PSY 230	Human Growth & Development	5	ANT 223	*Sex Roles in Cross Cultural Perspective	4
PSY 255	Principles of Emotional Adjustment	3	ANT 321	Anthropology of the Third World: Africa & the Middle East	4
PSY 265	Social Psychology	3	ANT 329	Peoples & Cultures of the Caribbean	4
<b>f. Sociology</b>			BLS 101	*Crisis of Identity	3
SOC 100	Principles of Sociology	4	BLS 102	*The Black Woman in America	3
SOC 120	Marriage & the Family	4	EDEL 101	*Introduction to Multiculturalism	3
SOC 141	Introduction to Criminal Justice	4	ENST 101	Introduction to Environmental Studies	4
SOC 145	Social Problems	4	ENST 209	Energy & the Environment	3
SOC 173	American Society Today	4	FR 316	Modern France	3
<b>7. Science and Mathematics (10-15 hours)</b>			GEOG 326	Africa	5
Three courses, one each from three of the following areas; at least one course must have an L (laboratory) designation:			GEOG 336	Geography of Mexico & Central America	4
<b>a. Earth Sciences</b>			GEOG 365	The Soviet Union	5
AST 100	General Astronomy (L)	4	GER 316	Modern Germany	3
GEOL 100	General Geology (L)	4	GERO 205	Introduction to Gerontology	3
GEOL 110	Our Geological Environment	3	HISP 101	*Introduction to Mexican American Studies	4
GEOL 201	Physical Geology (L)	5	HISP 121	Spanish Civilization & Culture	4
MET 110	Climate & Man	3	HISP 131	Latin American Civilization & Culture	4
MET 200	General Meteorology (L)	4	HISP 225	*History of the Chicano in the Southwest	3
MIND 294	Revolutions in Science (This course meets requirement for Earth Science or Life Science or Physical Science)	4	HISP 250	Mexican Civilization & Culture	3
OCN 110	Man & the Sea	3	HISP 380	*Hispanic Cultures in the United States	4
OCN 200	General Oceanography (L)	4	HIST 110	African Civilization	4
			HIST 112	Latin America in Change	4
			HIST 115	Asian Civilization	4
			HIST 218	History of Mexico	4
			HIST 290	*American Immigration	4
			HIST 302	Modern Africa	4
			HRS 392	*Psychological Aspects of the Handicapped	3
			HRS 395	*Working with Families of the Handicapped	3

HUM 111	The Classical Ages: Greece & Rome	4	HIST 241	Modern American Wars in Perspective	4
HUM 112	The Middle Ages & Renaissance	4	HIST 250	Recent America, 1945 to the Present	4
HUM 113	Age of Reason to Age of Romanticism-17* through 19th Century	4	HIST 263	Social & Cultural History of Europe, 1750 to the Present	4
HUM 331	*Images of Women in Literature & the Arts	8	HIST 267	Age of Revolution Since the 17th Century	4
ID 208	*Feminism: An Interdisciplinary Analysis	5	HIST 268	Religion in the Western World, Ancient Times Through 18th Century	4
MIND 292	Ideas in Conflict	4	HIST 308	History of Modern China	4
SOC 217	*Sociology of Minorities	4	HRS 290	Introduction to Human Rehabilitative Services	3
SOC 221	*Sociology of Sex Roles	4	HUM 114	The Twentieth Century	4
SOC 377	Soviet Society Today	4	HUM 125	Contemporary Issues in Film	4
WS 120	*Women & Men in Perspective	3	ID 176	The Idea of America	5
<b>9. Electives (courses to complete a total of 60 credit hours for the General Education program)</b>					
Any course listed under content areas 5-8 above may be taken for elective credit. In addition, the courses listed below carry elective credit.					
ANT 240	American Archaeology	4	ID 210	Death & Dying	5
ANT 370	Human Evolution	4	ID 304	American Nightmare: Protest Against the Dream	4
ART 220	Fibers for Non-Art Majors	3	ID 325	Human Sexuality	3
ART 256	Chinese Summi Painting & Calligraphy	3	JMC 100	Introduction to Journalism & Mass Communications	3
BIO 205	Biology of Food	3	JMC 397	Outstanding Journalists & Their Times	3
BIO 240	General Ecology	4	MIS 180	Information Systems	4
BIO 283	Biology & Behavior of Human Sexuality	3	MUS 243	History of Music I	3
BLS 201	Afro-American History I	3	MUS 244	History of Music II	3
BLS 202	Afro-American History II	3	MUS 245	History of Music III	3
BLS 450	The Philosophy and Theology of Martin Luther King, Jr., and Malcolm X.	3	MUS 340	Survey of History & Literature of Jazz	3
BOT 475	Plant Propagation & Maintenance	3	NURS 200	Women's Health Care	3
BUS 100	American Business System	3	OCN 301	Principles of Oceanography I	4
CH 205	Issues in Health	3	OCN 302	Principles of Oceanography II	4
CH 238	Contemporary Issues in Drug Abuse	3	PE 457	Dance History & Philosophy	3
CH 336	Human Sexuality	3	PHIL 210	The Nature of Scientific Reasoning	4
CHEM 105	Principles of Chemistry II	5	PHIL 220	The Nature of Legal Reasoning	4
CHEM 109	Fundamentals of Organic Chemistry	5	PHIL 352	Business Ethics	4
CHEM 130	Introductory Organic Chemistry	5	PSCI 320	American Foreign Policy	4
CMDS 160	Introduction to Human Communication Disorders	3	PSCI 330	Classical & Medieval Political Philosophy	4
COMM 110	Public Speaking I	3	PSCI 350	Comparative Public Policy	3
COMM 230	Organizational Communication	4	PSY 240	Principles of Learning	3
COMM 251	Small Group Communication	4	PSY 250	Humanistic Psychology	3
COMM 411	Family Communication	4	PSY 357	Theories of Personality	3
COMM 453	Communication & Decision Making	3	SCI 108	Science & Society	3
CS 100	Computers & Their Impact on Society	3	SCI 114	"The Ascent of Man"	3
ECON 102	Contemporary Economic Problems	3	SCI 302	Philosophical Concepts of Physical Science	3
ECON 205	Labor Economics	3	SOC 175	Science, Technology & the Future	4
ECON 245	Urban Economics	3	SOC 270	World Population Problems	4
ECON 260	Radical Economics	3	SOC 322	Women & Aging	4
EDF 345	Foundations of Human Interaction	3	THEA 430	Dramatic Theory I	3
ENG 208	Bible as Literature	4	THEA 431	Dramatic Theory II	3
ENG 209	Introduction to Shakespeare	4	ZOO 304	Ornithology	4
ENG 210	Major Themes in Literature	4			
ENG 240	Creative Writing: Introduction to Poetry	4			
ENG 241	Creative Writing: Introduction to Fiction	4			
ENG 250	History of the English Language	4			
ENST 240	Politics and the Environment	3			
ENST 250	Atmospheric Environment of Humans	3			
ENST 260	Ecological Interpretations	3			
ENST 280	Natural Resources & Technology	3			
ENST 281	Politics of the Nuclear Age	3			
ENST 362	Literature & the Environment	4			
FND 250	Principles of Human Nutrition	3			
FND 355	Nutrition & Physical Fitness	3			
FR 210	French Civilization & Culture	4			
FR 235	Conversational French	4			
GEOG 315	Resource Management	3			
GEOG 350	Geography of Colorado	3			
GEOG 355	Population Geography	3			
GEOL 202	Historical Geology	5			
GEOL 330	Earth Materials	4			
GEOL 390	Colorado Geology	3			
GER 210	German Civilization & Culture	4			
GER 235	Conversational German	4			
HISP 350	Contemporary Chicano Literature	3			
HIST 222	History of the Early West	4			
HIST 223	History of the Far West, 1821-1890	4			
HIST 224	History of Colorado	3			

## Exceptions to General Education Requirements

- Transfer students 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 a liberal arts-based Associate of Arts degree from an accredited junior/community college will be exempt from General Education requirements, but will not be exempt from the English Essay requirement.

- If a student presents an ACT score of 26.0 or higher in English, he or she is exempt from the Basic Composition area (Skill 1).

- If a student presents an ACT score of 23.0 or higher in Mathematics, he or she is exempt from the Mathematics area (Skill 2). In these cases, credit is not granted, and the student must take comparable hours of General Education elective credit to reach the 60-hour General Education requirement.

- 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 Career Development and Testing in Carter Hall 3005, 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 are listed above as General Education courses.

• Courses required for a minor or second major may count for both the minor or second major as well as General Education, provided such courses are listed as General Education courses.

• A course taken prior to the time it appears in a Bulletin as a General Education course 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 having a quarterly and cumulative grade point average above the University minimum for their class class standing.

"On academic probation" and thereby in an intermediate status between good standing and academic 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.

"Academically 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 may be appropriate. A notation of academic suspension is made on the official transcript.

## Academic Probation and Suspension.

All students are expected to maintain a quarterly and cumulative grade point average of 2.0 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 academic 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 academic 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 academic 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

Academic 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 of the Committee on Scholastic Standards in care of the Academic Advising Center, University Center 206, phone 351-1391. The petition should include a detailed account of the reasons which caused the student to not achieve their academic potential and a description of circumstances that have changed that will now allow him or her to perform at a satisfactory level. The application should also contain a specific plan of action that the student would implement on readmission that will ensure academic success. Although no form is specifically required, a Readmission Appeal Form is available through the Academic Advising Center, University Center 206, phone 351-1391. A student who has attended other institutions since suspension from the University of Northern Colorado must furnish an official transcript from those institutions attended during the interim.

## Recognition of Academic Excellence

### Dean's List of Distinction

Students will be placed on the Dean's List of Distinction if they complete a minimum of 30 hours and achieve a 3.75 or above grade point average for any three quarters of the year (cumulative grade point averages are not considered).

### Dean's Honor Roll

Students will be placed on the Dean's Honor Roll if they complete a minimum of 30 hours and achieve a 3.5 to 3.74 grade point average for any three quarters of the year.

## 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 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 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 school/college 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 school/college 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 school/college graduating class.

## The Graduate Dean's Citation

The Graduate Dean's Citation is awarded each quarter to students recommended by their division/department in recognition of superior achievement in their graduate studies. Each division/department

may recommend up to 10% of their graduate students completing their programs during a specific quarter (summer, fall, winter or spring) provided that they meet these minimum criteria: (a) a cumulative graduate grade point average of at least 3.75, and (b) documented evidence of superior accomplishment while a graduate student at the University of Northern Colorado. The recommendation should be supported by (a) written recommendations from Graduate Faculty of the academic program outlining the student's accomplishments, (b) outstanding dissertation/theses/creative projects nominated by the academic unit, and/or (c) special recognition by an agency or organization (outside the University of Northern Colorado) for scholarly accomplishment, academic achievement, or contributions to society.

## Honors Program

The University Honors Program is designed to offer exceptional students both the resources of a comprehensive university and the individual attention traditionally associated with a small college. It asks that they be alive to the life of the mind, and it pushes them to raise the expectations they have for themselves and their education. It seeks to involve them in learning, heighten their critical awareness, and stimulate them to ask: "How should I act?"

Students are urged to join the Honors Program as freshmen, but they may enter up to the second quarter of their junior year. Entering freshmen should be in the top 10 percent of their graduating class academically, or should have scored in the top 10 percent on the ACT or SAT exams. Prospective Honors students already enrolled at UNC or transferring from another college need a minimum GPA of 3.25. All applications must be accompanied by two letters of recommendation from teachers and a written statement of intent. Students with GPA's of less than 3.25 may be accepted on probationary status. If, after two quarters of academic work, they have maintained a GPA of at least 3.25 and have received a grade of at least "B" in two Honors-designated courses, they can earn formal acceptance into the Honors program even if their cumulative GPA is still below 3.25. Applications and inquiries should be directed to the University Honors Program, UNC, 1905 10th Avenue, Greeley, Colorado 80639, phone 351-2940 or 351-2948.

The Honors Program of Study has two general categories. First, the General Education core asks students to take classes that emphasize an interdisciplinary approach to the analysis and discussion of great books and significant ideas. Students will also take two Honors Connections Seminars which are open exclusively to Honors participants.

## Honors Requirements

MIND 180	Great Ideas of the Western Traditions	4
MIND 181	Great Traditions of Asia	4
MIND 294	Revolutions in Science	4
HON 100	Honors Connections Seminar I	2

A variable-content course 4  
that focuses on the theme of "knowing yourself and your values."  
(General Education courses that fulfill this category will be specified by the University Honors Coordinating Committee.)

A variable-content course 4  
that focuses on the theme of "knowing your world and times".  
(General Education courses that fulfill this category will be specified by the University Honors Coordinating Committee.)

HON 200 Honors Connections Seminar II 2  
Except for the Connections Seminars, all of these courses will count for General Education credit.

The second category of study for the Honors Program concerns enrichment work within a student's chosen discipline. It includes the following:

HON 351	Junior Honors Seminar	3
HON 451	Senior Honors Research Thesis	6

The Honors Thesis is the capstone of a student's Honors program. It gives participants in Honors the opportunity to work closely with one or more faculty members on a serious project of their own choice.

Honors students are expected to register for a full-time program and to maintain at least a 3.25 GPA. A student who falls below that

level for two successive quarters will be removed from the program.

Graduating Honors students will be given recognition during commencement ceremonies. On their transcript there will be the notation that they have graduated in the "University Honors Program."

# Graduation Requirements

## Bulletin Requirements

Requirements for graduation are checked in accordance with one specific University *Bulletin*. A student may not choose to meet requirements for a major from one *Bulletin* and a minor and/or a general education program from a *Bulletin* of a different year. The *Bulletin* used to meet graduation requirements is normally the one published for the academic year during which the student enters the University. The undergraduate student has six years to complete his/her academic program using the *Bulletin* selected. When the *Bulletin* has expired at the end of the six-year limit, the student may select any subsequent *Bulletin* up to and including the current one, providing the student was in attendance at the University during that academic year.

## 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

Official 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

A maximum of 45 quarter hours of credit in correspondence and/or continuing education courses from the University of Northern Colorado and/or any other institution 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.

## Second Baccalaureate Degree

To declare an intent to complete a second baccalaureate degree, students must complete a graduation check application available in the Registrar's Office. Upon completion of this application and review by the appropriate department, the necessary changes in the student records will be made to reflect the student's intent to complete a second baccalaureate degree. In order for the classification change to go through for a particular quarter, the graduation check application must be returned from the appropriate department to the Graduation Check Office by Wednesday of the third full week of the quarter. Applications turned in after this point in the quarter will not affect the student's classification (undergraduate, second baccalaureate degree) until the following quarter.

Students who have completed their baccalaureate degree at another institution must complete an application for admission through the UNC Admissions Office.

## **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 pm 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.

## **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 Department of the Registrar's Office. Faculty should alert students to changes in final examination times or locations prior to the testing date.

The 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 Office of Academic Affairs 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 Office of Academic Affairs 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.

# 4 Graduate School Information

Location: Carter Hall, 2007 & 2008  
Telephone: 351-2831  
Bill R. Brown, Dean  
Marvin Ernst, Associate Dean

## Graduate Education

The first graduate degree, a master's degree, was offered by the University of Northern Colorado in 1913. In 1929 the Doctor of Education was added, and in 1934 the Doctor of Philosophy and the Doctor of Arts were approved. Later, the University added the Doctor of Music Education and, the most recent degree, the Doctor of Psychology in 1984.

Graduate study at UNC involves the graduate student studying under the direction of a qualified member of the Graduate Faculty. Graduate credit is awarded for courses of study taught by duly appointed members of the Graduate Faculty who meet the criteria established by the *Faculty Constitution* and by the *By-Laws of the Graduate Faculty*. The exchange of information, ideas, and values that takes place between the Graduate Faculty and highly qualified students is the essence of graduate education.

Students seeking graduate credit must display evidence of superior academic aptitude, achievement, and motivation. Moreover, the demonstration of competence in the discipline as evidenced by written and oral exams, theses, research projects, directed studies, and internships is an integral part of the graduate education experience. Through cooperative efforts of the Graduate Faculty, the Graduate Council, and the Graduate School, the University attempts to establish an environment in which the graduate student and the graduate faculty can achieve the traditional goals of graduate education. Rules and regulations contained herein are intended to assist the graduate faculty and the graduate student to accomplish the intent and purposes of graduate education.

## The Graduate Faculty

Graduate Faculty are appointed by the President of the University after being recommended by the academic unit, the academic dean, the Graduate Council, and the Graduate Dean. Upon appointment, the Graduate Faculty are authorized to teach graduate courses, act as program advisors for graduate students, serve on doctoral oral and research committees, and serve on other university committees pertaining to graduate education at UNC. Graduate credit is granted for courses taught by a faculty member who has been appointed to the Graduate Faculty or to the Graduate Lecturer Faculty. No gradu-

ate credit is granted for any course taught by a faculty member who is pursuing an advanced degree at this institution. Graduate Faculty members are noted in the listing of UNC Faculty in this bulletin.

In addition to the activities established for Graduate Faculty, members of the Graduate Faculty may be appointed as Doctoral Research Faculty. These faculty may serve as the research advisors on doctoral student research committees.

Upon approval by the department/division, the academic dean, and the Vice President for Academic Affairs, the Dean of the Graduate School may appoint, for a two-year period, selected individuals as Graduate Lecturer Faculty. These faculty may teach specific courses for which they are approved or perform other designated graduate responsibilities.

## The Graduate Council

The Graduate Council is a representative faculty council established to represent the Graduate Faculty. It is the responsibility of the Council to recommend policies governing graduate programs and requirements at the University. Members of the Graduate Council are elected from the Graduate Faculty and serve three-year terms.

## The Graduate School

The Dean of the Graduate School is the administrative representative of the Graduate Faculty and the Graduate Council and is responsible for all graduate programs. Under the Dean's direction, the Graduate School monitors and enforces the policies and procedures related to graduate education including policies and procedures related to admissions, records, and graduation.

## 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 which culminate in a comprehensive examination and, in some cases, a thesis. Master's programs require a minimum of 45 quarter hours beyond the baccalaureate degree plus 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 and are sharply focused on a particu-

lar 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 but 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 a significant teaching/education problem(s) or a traditional research topic. Students 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** degree programs are designed to prepare comprehensively trained educator-musicians. The program provides expertise in teaching, supervising, consulting, and administering within elementary and secondary schools, colleges and universities, music education programs, and community cultural projects.

**Doctor of Education** degree programs are professional or practitioner programs designed to prepare candidates for positions of leadership in all fields including elementary and secondary education, higher education, business, industry, government, and the military. Ed.D. programs prepare graduates for service in instructional, supervisory, and administrative capacities.

**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.

**Doctor of Psychology** degrees are given in the Professional Psychology program. A Psy.D. in counseling psychology indicates that the degree holder has specialized training in the area of psychological aspects of counseling/therapy and human behavior. The degree is a professional/practitioner degree at the highest level of university training.

## Graduate Programs and Degrees

*Emphasis areas are indented and italicized*

### College of Arts and Sciences

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

Biological Sciences, M.A., D.A.

Botany, M.A.

Zoology, M.A.

Chemistry, M.A., D.A.

*Teaching*

*Non-Teaching*

Communication, M.A.

*Journalism and Mass Communications*

*Speech Communication*

Earth Science, M.A.

English, M.A., Ed.D.

Foreign Languages, M.A.

*French*

*German*

*Spanish*

Geography, M.A.

History, M.A., D.A.

Mathematics, M.A.

*Teaching*

*Non-Teaching*

Psychology, M.A.

*Clinical Biofeedback*

*Neuropsychology*

Sociology, M.A.

*Criminal Justice*

*Family Studies*

### College of Business

Business Administration, M.B.A.

### College of Education

Agency Counseling, M.A.

*Marriage and Family Therapy*

College Student Personnel Administration, Ph.D.

Counseling Psychology, Psy.D.

Counselor Education, Ed.D.

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

*Elementary*

*Junior High School*

*Secondary*

*Community College*

*General School Administration (Ed.S., Ed.D. only)*

*Administration of Higher Education (Ed.D. only)*

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

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

*Elementary Education: Middle School Education (M.A. only)*

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

*Early Childhood Education/Special Education (M.A. only)*

Elementary School Counseling, M.A.

Reading, M.A., Ed.D.

*Reading: Elementary (M.A. only)*

*Reading: Secondary (M.A. only)*

Secondary & Post Secondary Counseling, M.A.

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

Special Education, Ed.D.

*Research*

*Special Education Administration*

*University Teaching*

Special Education, M.A.

*Acoustically Handicapped*

*Learning Disabilities, M.A.*

*Mental Retardation*

*Socially/Emotionally Disturbed*

*Talented and Gifted*

*Visually Handicapped, M.A.*

*Orientation and Mobility*

*Severely/Profoundly Handicapped Blind*

*Orientation and Mobility and Severely/Profoundly*

*Handicapped Blind*

### College of Health and Human Services

Communication Disorders: Audiology, M.A.

Communication Disorders: Speech/Language Pathology, M.A.

Gerontology, M.A.

Health Education, M.A.

*Community Health*

Rehabilitation Counseling, M.A.

*Vocational Evaluation*

Human Rehabilitation, Ph.D.

### College of Human Performance and Leisure Studies

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

Recreation, M.A.

### College of Performing and Visual Arts

Music, M.M.

*Conducting (Choral, Orchestral, Wind)*

*History and Literature*

*Performance (Brass, Percussion, Piano, Strings, Voice, Woodwinds)*

*Theory and Composition*

Music, D.A.

*Conducting  
History and Literature  
Pedagogy  
Performance  
Theory and Composition*

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

Visual Arts, M.A.

## Graduate Interdisciplinary Degree Programs

(See "Programs of Study")

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

Educational Technology, M.A., Ed.D.

Secondary Science Teaching, M.S.

## Post-Doctoral Programs

Programs of research and advanced study are available in selected areas to persons holding earned Doctor of Arts, Doctor of Education, Doctor of Music Education, Doctor of Psychology, or Doctor of Philosophy degrees. 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. The specific research project or program of study is planned by the post-doctoral student in conference with a faculty committee appointed to advise the student throughout the program and to assess the student's progress at the end of the program.

Admission information is available in the Graduate School. Admission is granted on an individual basis.

## General Admission: Procedures and Standards

### General Admission Procedures

All application materials are to be filed with the Graduate School at least 30 days prior to registration. To be admitted for a particular quarter, all application materials must be filed with the Graduate School at least 45 days prior to the end of that particular quarter. International students, however, must file all required application materials at least 90 days prior to admission and registration. (See Admission of International Students under "Special Admission: Procedures and Requirements.") The necessary steps for applying to a degree program are listed below.

1. Obtain the appropriate application form from the Graduate School. International applicants must obtain application materials specifically designed for admitting international students.

2. Return the completed application form along with a \$20 non-refundable application fee to the Graduate School.

3. Write the registrars of all colleges or universities attended (including UNC) and request that two official copies of your transcripts be sent to the Graduate School.

4. Submit letters of recommendation if required by the program of study (required of all doctoral applicants).

5. Request, if required, the Educational Testing Service to send GRE General Test scores (and Subject Test scores, if applicable) to the Graduate School. GRE General Test scores are required for all doctoral applicants and must not be more than five years old at the time of application.

6. Contact the department/division which offers your intended degree program for information regarding any additional admission requirements established by the department/division.

Once all required materials are received by the Graduate School, they are reviewed to determine whether the applicant meets university-wide graduate admissions criteria. If the applicant satisfies the university-wide criteria, the applicant's materials are sent to the appropriate department/division for evaluation. Upon receipt of a

positive recommendation by the academic unit, the Graduate School will issue an admissions letter. Applicants are not considered admitted to graduate degree programs until they receive an official admissions letter from the Graduate School.

If an applicant wishes to obtain one degree enroute to a second degree, the applicant must apply for each degree program, meet the admission requirements for each degree program, and meet the degree requirements for each degree program.

## Graduate Admission Classifications

After an application is evaluated by both the Graduate School and the major department/division, the Graduate School will notify the applicant of his/her admission classification. Admission classifications are defined as follows:

1. Regular Admission: Applicants who meet all of the admission standards set by the Graduate School and the major department/division.

2. Conditional Admission: Applicants admitted pending the receipt of application requirements specified by either the Graduate School and/or the major department/division. No student will be permitted to take the comprehensive examination or its equivalent until the specified requirement(s) is met.

3. Provisional Admission: Applicants who are admitted pending the completion of academic standards/criteria specified by the Graduate School and/or major department/division. Provisional admission status may not exceed three quarters of enrollment. No more than 27 graduate credit hours earned while provisionally admitted may be applied to a degree program. If students do not meet the prescribed academic standards/criteria, their degree programs will be terminated.

4. Denied Admission: Applicants who do not meet one or more of the admission standards set by the Graduate School or the major department/division and who, in the judgement of the faculty of the department/division, are not eligible for provisional admission.

## General Admission Restrictions

Admission to any graduate program will remain valid for one calendar year following the first day of the applicant's proposed quarter of enrollment. If a student does not begin course work during that year and if admission requirements have changed, the student will be required to satisfy the new admission requirements.

Departments/divisions sponsoring on-campus and extended degree graduate programs utilize the same criteria for admission to either program.

Laboratory School faculty and tenured or tenure track UNC employees holding faculty rank will not be admitted to graduate programs at the University unless, in the judgement of appropriate University officers, UNC will benefit substantially by such enrollment. (See appropriate and current employment policies for details.)

## Master's Degree Admission Standards

Applicants to a master's degree program must possess a baccalaureate degree from an accredited college or university and have a grade point average of 2.70 on the most recent 100 quarter hours. However, upon recommendation by the major department/division and approval by the Graduate School, an applicant having a grade average between 2.50 and 2.69 on the most recent 100 quarter hours may be admitted to a master's degree program. If an applicant whose grade average is between 2.50 and 2.69 on the most recent 100 quarter hours is admitted, he/she may not transfer work taken prior to admission to a degree program.

An applicant whose grade average on the most recent 100 quarter hours is less than 2.50 will be denied admission. Under Graduate School policy, however, those applicants who are denied for this reason may seek a special type of provisional admission. The specific provisions are as follows:

- Upon the recommendation of the major department/division and approval by the Graduate School, the program advisor will select 12 quarter hours of 500 and/or 600 level courses which are representative courses for the discipline.



- The selected courses must be taken in one quarter and must be taken at UNC.

- If the student's grade average for the selected courses is less than 3.33, the student will not be granted regular admission to a degree program.

- If the student's grade average for the selected courses is equal to or greater than 3.33, the department/division shall recommend to the Dean of the Graduate School that the student be granted regular admission or that the student be denied regular admission.

- After taking into account the recommendation, the Dean of the Graduate School will make the final decision regarding the admission of the student to a degree program.

- If the student is granted regular admission, the 12 quarter hours of selected courses will count in the student's degree program, but the student may not transfer work taken prior to the provisional admission.

Master of Business Administration (MBA) applicants must meet the requirements established by the College of Business Administration. Each applicant will be evaluated on their past academic record, their results of the Graduate Management Admission Test (GMAT) and their undergraduate program of study.

## Specialist Degree Admission Standards

Applicants must possess a master's degree from an accredited college or university. Depending upon the specialization area, some applicants may be accepted with only a baccalaureate degree. The applicant must have a grade average of 2.70 or better on the most recent 100 quarter hours and an adequate academic background in the proposed area of specialization as defined by the department/division through which the specialist degree is to be awarded. In addition, the applicant should possess at least two years of appropriate work experience in the specialization as determined by the major department/division.

Any student who is admitted to a doctoral program and who completes any course in that program will not be allowed to earn a Specialist in Education degree in the same program area.

## Doctoral Degree Admission Standards

All applicants for the doctoral degree must possess a baccalaureate degree from an accredited college or university and submit three letters of recommendation stating that the applicant has the ability to do doctoral work in the proposed discipline(s).

Furthermore, the Graduate School requires that doctoral applicants must have a grade average of 3.20 on the most recent 90 quarter hours and a GRE combined verbal, quantitative, and analytical score (not more than five years old) of at least 1,350 or a grade average of 3.00 on the most recent 90 quarter hours and a GRE combined verbal, quantitative, and analytical score (not more than five years old) of at least 1,500.

Departments/divisions offering doctoral programs may recommend admission based upon supplemental/alternate criteria which have been established by the major department/division and approved by the Graduate Council. Check with the major department/division for information regarding supplemental/alternate admission criteria.

## Special Admission: Procedures and Requirements

### Application for a Certification Program

The necessary steps for applying for a certification program for applicants who are not seeking admission to a degree program are:

1. Obtain the "Non-Degree Graduate Student Certification Appli-

cation" and "Plan to Seek Institutional Recommendation for a Teaching Certificate" forms from the Graduate School.

2. Complete the forms and return them to the Graduate School along with a \$20 non-refundable application fee.

3. Write the registrars of all colleges or universities attended (including UNC) and request that one official copy of your transcript be sent to the Graduate School.

Applicants to a certification program must possess a baccalaureate degree from an accredited college or university and have a grade point average of 2.70 on the most recent 100 quarter hours. However, upon recommendation by the major department/division, an applicant having a grade average between 2.50 and 2.69 on the most recent 100 quarter hours may be admitted to a certification program.

Although an applicant may simultaneously apply for a degree program and a certification program, an applicant who is admitted to a certification program only is not automatically admitted to a degree program. If the original application is for certification only, a separate application must be made for degree program admission. In such cases, all rules governing work acceptable in a degree program apply.

## Unclassified Status

Students who have not been officially admitted to a graduate degree program may register as unclassified graduate students. Unless a student applied to or attended UNC within the last year, the student must complete a "Statistical Information Form" at the Registration Center or at the Graduate School.

None of the course work taken as an unclassified graduate student may be used toward meeting residence requirements in a degree program. Furthermore, no more than 15 quarter hours of unclassified work may be counted in a graduate degree program. (See Graduate Academic Standards section for additional information.)

## Admission to the Non-Baccalaureate Master's Degree Program

An individual who does not possess a baccalaureate degree may be admitted to a master's degree program by submitting an application which demonstrates that the applicant possesses 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 from the Graduate School.

2. Complete the form and return it along with a \$20 non-refundable application fee to the Graduate School.

3. Write the registrars of all colleges or universities attended (including UNC) and request that two official copies of your transcripts be sent to the Graduate School.

4. Submit a resume of work experience and accomplishments to the Graduate School.

5. Submit 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.

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

7. Submit three letters of recommendation from persons who are familiar with your work stating that you are capable of pursuing a graduate degree at this university.

An applicant's prior transcript(s) must show at least 90 quarter hours of course work with a grade average of 2.70 and must give evidence of knowledge in English, humanities, mathematics, natural science, and social science. Up to 45 quarter hours of this course work may be replaced by 50th percentile CLEP scores in each of the five areas.

Based upon sound academic rationale, the Committee On Admissions has the authority to waive any criterion for individual applicants.

Applicants applying under the provisions of this program may not take graduate level courses until they are officially admitted.



## Admission of Baccalaureate Holders from Non-Accredited Institutions

Applicants holding baccalaureate degrees from non-accredited institutions will be considered for admission on the basis of the same criteria used for the admission of applicants to the Non-Baccalaureate Degree Program. It should be understood that "non-accredited" refers to the accreditation status of the institution at the time the applicant attended the institution.

Applicants applying under the provisions of this program may not take graduate level courses until they are officially admitted.

## Admission to a Graduate Interdisciplinary Degree Program

The steps for applying for an Interdisciplinary Degree program are:

1. Obtain the degree application form and the appropriate "Guidelines for Interdisciplinary Degree Programs."
2. Complete the forms and return them to the Graduate School along with the \$20 non-refundable application fee.
3. Write the registrars of all colleges or universities attended (including UNC) and request that two official copies of your transcripts be sent to the Graduate School.
4. If applying for a doctoral program, request that one official copy of your GRE General Test scores (not more than five years old) be sent to the Graduate School.
5. Submit three letters of recommendation stating that you have the ability to pursue a graduate interdisciplinary degree.
6. Submit a written statement of career goals and objectives and a rationale for pursuing the chosen interdisciplinary program. Include a list of the disciplines which will be combined in the proposed program.
7. Submit a current vita which summarizes academic and professional experiences, activities, publications, and other pertinent information.

Provisional admission will be granted to an applicant who meets the admission requirements of the Graduate School and who is recommended for provisional admission by the appropriate departments/divisions. Upon official notification of provisional admission, a student, in conjunction with his/her assigned faculty advisors, is authorized to prepare a program proposal.

The student may be in provisional admission status for a maximum of 15 quarter hours. The program proposal with all required signatures must be filed in the Graduate School by the end of the provisional period.

Regular admission to the degree program is contingent upon acceptance of the program proposal. (See the "Guidelines for Interdisciplinary Degree Programs" for more specific details regarding admission criteria and program requirements.)

All Graduate School policies apply to interdisciplinary program students.

## Admission of International Students

An international student is a student who is not a citizen of the United States or classified by United States Immigration as a resident alien. International students must meet English proficiency requirements as well as academic and financial requirements before being fully admitted to the university.

Except for English proficiency scores and GMAT and GRE scores, if applicable, all application materials and all related credentials must be received by the Graduate School no later than 90 days (30 days if living in the United States) prior to the quarter for which the student wishes to enroll. The scores for the English proficiency exams must be received prior to the beginning of the student's initial quarter of enrollment at UNC.

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

1. Obtain the appropriate application forms from the Graduate School.
2. Complete the forms and return them along with a \$20 non-refundable application fee.

3. Submit the "Financial Statement for International Students" and "Affidavit of Support" forms. (Forms are attached to the application form.)

4. Submit all records of previous schooling such as mark sheets, official transcripts, diplomas, and certificates. These records must show courses taken, grades awarded, and degrees earned. An English translation must be included.

5. Document English proficiency by submitting one of the following:

- a. Evidence that you have obtained a current TOEFL score of 520 or above with no score less than 52 on any of the three sections. The College of Business Administration requires a current TOEFL score of 540 with no score less than 54 on any of the three sections; or
- b. Evidence that you have obtained a current Michigan Test of English Language score of no less than 85; or
- c. Evidence of two or more years of full-time study or evidence of a completed degree program at a regionally accredited United States institution. If such work was completed more than six months prior to application to this university, additional evidence of English proficiency may be required.

Please note that departments/divisions may have higher or additional English proficiency requirements including departmental/divisional screening or testing for English proficiency. Check with the department/division regarding language requirements. Although credit will be awarded for any UNC course work required to increase a student's English skills, such credit will not count toward a graduate degree.

Upon application approval, international students will be sent a letter of admission, and the Form I-20 will be issued. If a student is granted conditional admission pending completion of English language schooling and receipt of English proficiency scores, the Form I-20 will be issued by the English language school. Please do not plan to enter the United States without the Form I-20 and an admission letter from the UNC Graduate School. The admission letter is needed for your visa.

## Graduate Academic Standards

### Program Advisors

The Dean of the Graduate School will ask the department/division chair or school dean to appoint a program 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 program advisor. In addition, the program advisor has the authority in some instances to recommend changing the departmental/divisional program to suit the individual needs of the student. However, unless a program advisor obtains written approval from the Graduate School, he/she is not permitted to alter a university requirement, a plan of study, or a published departmental/divisional requirement.

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

### Change in Graduate Degree Program

(Change of Major)

If a student is admitted to and begins work in a degree program and if the student desires to change programs, the student must complete a "Request for Change of Major" form and receive appropriate departmental/divisional approvals. If approval is given, the Dean of the Graduate School will ask the chair of the new department/division to appoint an advisor and will notify the former department/division of the change.

If a student is admitted to but does not begin work in a degree program and if such a student desires to change programs, the student must request that the Graduate School cancel the original admission and send the application materials to a new degree program.

## Eligibility for Enrollment

Graduate students who are eligible to enroll in courses are classified in the following three categories:

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

## Competency in English Usage and Speech Skills

A student is expected to have competency in English usage and speech skills which will enable the student to progress satisfactorily in the chosen curriculum and to perform adequately in the chosen vocation.

A student may be counseled or required by a faculty member, department, and/or advisor to enroll in an English and/or a speech course(s).

## Work Toward Next Higher Degree

Students who are within 12 quarter hours of graduation for one degree program may apply for provisional admission to the next higher degree. If the applicant is provisionally admitted to the next higher degree, he/she must complete a "Petition to Count Work on Next Higher Degree" form before starting any courses that are to count on the next degree. Such dual enrollment is limited to two consecutive quarters. Furthermore, no student may earn 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.

Because all credits applicable to graduate degrees must be earned within the time limits specified for each degree program, the work toward the next higher degree must fall within the specified time limit in order to actually count the petitioned work in the degree program. (See specific "Degree Requirements" in this bulletin.)

## Course Numbering

Courses at the University are sequentially numbered. Courses numbered 100 to 499 are for undergraduate credit, and courses numbered 500 to 799 are for graduate credit. Graduate students may not count courses numbered 100-499 toward graduate degree programs, and courses numbered 700-799 may be taken for specialist or doctoral credit only.

Upon prior written permission of the instructor, the major advisor, and the department/division chair, an undergraduate student may take 500-level courses. Only those undergraduate students who have been granted approval to count work toward the next higher degree will be permitted to take 600 level courses.

## Double Numbering

Courses numbered 300-599 may be double numbered allowing undergraduate and graduate students to enroll simultaneously, but all double-numbered courses may be offered independently at either the graduate or undergraduate level. No course identified as an undergraduate General Education course may be double numbered.

Students and advisors should check with the Graduate School regarding the current double-numbering policy prior to including double-numbered courses in a student's program.

## Unclassified UNC Hours

A maximum of 15 quarter hours of course work taken while in an unclassified status may be used toward a graduate degree program. Upon admission to a degree program, a student may obtain, complete, and submit a "Petition to Count Work in a Degree Program" form. The work requested must be reviewed and approved by the Graduate School and the student's program advisor before the work will be included in the degree program.

Because all credits applicable to graduate degrees must be earned within the time limits specified for each degree program, the

unclassified hours must fall within the specified time limit in order to actually count the petitioned work in the degree program. (See specific "Degree Requirements" in this bulletin.)

## Degree Credit Limitations

Courses in which grades of "D" or "F" are earned shall not be counted toward meeting the requirements of a graduate degree at the University of Northern Colorado.

No graduate credit is given for any correspondence course, although graduate credit may be awarded for certain multimedia courses completed through UNC Continuing Education Services. These courses must be approved by the student's major department/division and by the Dean of the Graduate School prior to enrollment.

## Course Load Policy

Course load limitations for graduate students refer to all courses taken while enrolled as a graduate student in a graduate degree program, a non-degree certification program, or any combination thereof. The normal load for a graduate student is 15 hours per quarter. Up to 18 hours may be taken if the student is maintaining a 3.00 or better grade point average. Requests to take more than the eighteen quarter hours per quarter will not be approved.

During the Summer Session, a graduate student may register for a maximum of 16 credit hours of courses offered during the eight week session. If a Summer Session student registers for a combination of courses offered during both the eight week and ten week sessions, he/she may register for a maximum of 18 credit hours. If a Summer Session student registers for courses offered during the eight week and/or ten week sessions plus courses offered during the pre-session and/or post-session, he/she may register for a maximum of 20 credit hours.

The course load limitations refer to work completed in either the on-campus or off-campus programs or in a combination of the two types of programs.

## Directed Studies

Directed Studies are available in most disciplines. A Directed Study is a course 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 Study 622 is at the graduate level, the faculty member providing the supervision must be approved to teach graduate level courses. However, no faculty member will be authorized to supervise a directed study during a quarter in which he/she is not actually employed on campus at UNC.

Unless specifically recommended by the program advisor and the department/division chair and approved by the Graduate Dean, a Directed Study investigation must be on a specific topic which is not duplicated by an existing course within the university's curriculum. The nature of the study must involve intensive use of relevant literature, materials, or techniques, and the study report must reflect a synthesis of the information or techniques acquired.

The following policies apply to Directed Study courses:

- Each study is limited to no more than four credit hours, and no more than two Directed Studies may be taken in any one quarter.

- The student shall apply through the department/division in which the study is to be supervised.

- Requests 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 chair of the major department/division.

All persons receiving credit for a Directed Study 622 must submit two copies of a final report to the supervising faculty member. While the final report may be in the nature of a scholarly research paper, it may also take the form of a report or a summary of the activities undertaken. The format and writing style of the final report must be in keeping with the style manual used by the discipline concerned. It is the student's responsibility to acquire the appropriate style manual for reference.

The faculty member must forward one copy of the final report to the appropriate departmental/divisional office indicating the final grade awarded.

(See specific "Degree Requirements" regarding limitations on counting Directed Study courses in degree programs.)

## Enrichment Course Work for Graduate Students

At the request of the student or the department/division, the Graduate Dean may send a graduate student to another accredited institution offering graduate degrees to earn a maximum of 15 quarter hours of specific course credit.

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. Such work will count as residence credit. Those students interested in this arrangement may obtain the guidelines and the proper form in the Graduate School Office. Forms must be completed and approved prior to the term in which a student proposes to take a course.

## Grades

Grades of "A," "B," "C," "D," and "F" are used and are computed in the grade point average. However, courses in which "D" or "F" grades are awarded will not count in graduate degree programs and will not satisfy program deficiency requirements.

Other marks used are "I" for incomplete, "W" for withdrawal, "UW" for unapproved withdrawal, "S" for satisfactory, "U" for unsatisfactory, and "NR" for no report. "S," "U," "UW," "W," and "NR" grades are not counted in determining grade point average.

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 calendar 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."

"NR" will be recorded for X number of hours in a Master's Thesis or Creative Project, a Specialist Degree Practicum, a Doctoral Proposal, or a Doctoral Dissertation when a student has 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 grade can be changed after the first two weeks of the quarter following the receipt of the original grade by the Records Office.

## Grade Point Average

In order to remain in a graduate program, a graduate student must maintain a cumulative grade point average of 3.00 in graduate level courses. If a student's cumulative grade average drops below 3.00 after taking at least 15 graduate level credit hours, a warning letter will be sent to the student. The degree program of a student who has been sent a warning letter will be terminated if the student's grade point average is below 3.00 after completing an additional 15 or more graduate level credit hours in which grades of "A," "B," "C," "D," or "F" are earned. All grades earned during the quarter in which the 15th hour is earned are used in the calculation of the grade average.

## Theses and Dissertations

Each candidate presenting a master's thesis, a detailed explanation of a creative project, a written report of the specialist practicum, or a doctoral dissertation must furnish an original and three copies of the final document to the Graduate School. The Graduate School shall submit these documents for binding, but students must pay for binding, mailing, microfilming, and publishing.

Various departments of the university have adopted specific style manuals for their disciplines. A student should check with his/her department/division for the specific style acceptable to that department/division.

The Graduate School publishes a *Thesis and Dissertation Manual* giving instructions and examples. This manual may be purchased at the UNC Bookstore. In cases of conflict between the adopted style manual and the current *Thesis and Dissertation Manual*, the current *Thesis and Dissertation Manual* will take precedence.

## Termination of Degree Program

A student's degree program may be terminated for one or more of the following reasons.

- Based on an overall evaluation of a student's progress, the major department/division recommends that the student's program be terminated. (See specific "Degree Requirements" for additional information.)

- A provisionally admitted student fails to meet the prescribed standards/criteria of the provisional admission.

- The student fails to maintain the cumulative grade point average standard.

- The student fails the retake of the written comprehensive examination or its approved equivalent.

- In programs requiring an oral comprehensive examination, the student fails the retake (if authorized) of the oral comprehensive examination.

- The student submits an unsatisfactory thesis or dissertation.

- The time limit established for the degree program expires before the degree requirements are completed.

A student desiring to appeal the termination of his/her degree program must follow the procedures outlined in the "Student's Rights and Responsibilities" statement. Copies of the statement are available in the Dean of Students Office.

## Readmission Subsequent to Program Termination

A student whose degree program has been terminated may be admitted to a different degree program.

- The student must apply for admission to a different degree program.

- If admitted, the student must complete all standard requirements of the program in which he/she has been admitted.

- A maximum of 9 credit hours from the terminated program may be counted in the new program if approved by the new program advisor and the Graduate School.

- If the student's former program was terminated due to failure of the retake of the comprehensive examination or its equivalent, the student will be allowed only one opportunity to pass the comprehensive examination or approved equivalent in the new program.

## Removal of Written Comprehensive Exams from Student Files

After all names and identifying marks are removed, written comprehensive examinations are transferred to a general Graduate School file where they are retained for a period of one year. Although the Graduate School shall refuse permission to any student to examine past comprehensive examinations, it is not the intent of this policy to prevent any department/division from collecting, maintaining, and/or disbursing past comprehensive examination questions used by the department/division.

## Petition Process

Students may petition the Dean of the Graduate School to waive any Graduate School rule published in this Bulletin. Petition forms, obtained at the Graduate School, must be completed by the student and signed by the student, the program advisor, and the department/division chair. The program advisor and the department/division chair must indicate in writing their positions regarding the student's petition.

Decisions by the Dean of the Graduate School are final.

## Graduation Requirements

Requirements for graduation are checked in accordance with one specific University Bulletin. The bulletin used to meet graduation requirements is normally the one published for the academic year during which the student first enrolls after admission to the University.

The student may select any subsequent bulletin up to and including the current one, providing the student was in attendance at the University during that academic year. A student may not choose, however, to meet some requirements in one bulletin and other requirements in another bulletin. The student must specify the bulletin under which he/she wishes to be evaluated and must meet all requirements in that bulletin only.

## Graduation Procedures

Formal application for graduation must be filed with the Graduate School at least 30 days prior to the beginning of the quarter in which a student plans to graduate. Applications filed after this date will be considered late applications. Late applications will be accepted no later than 4 pm of the Friday of the second week of the quarter in which the student expects to graduate. A late fee, payable at the Accounting Office, will be charged for late applications. The student has the responsibility for determining that the application has been filed with the Graduate School.

The Graduate School will not accept a graduation application which is not signed by the program advisor and the student. All requested information must be provided.

If the student does not complete all requirements for the degree and, therefore, 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. Such notice must be submitted before the end of the second week of the quarter in which the student plans to graduate.

All graduating students are encouraged to attend graduation. Those students participating in the graduation ceremony are required to wear appropriate academic regalia. Those who choose not to participate must notify the Graduate School at least two weeks before graduation.

Diplomas are not issued at the graduation ceremony. They will be mailed to addresses supplied by the students to the Graduate School. Failure to supply the mailing address could result in a delay in receipt of the diploma.

No diploma will be issued until all requirements for graduation have been met.

## Master's Degree Program Requirements

### Plan of Study

Students and advisors should check with the Graduate School regarding the current policy on the degree program plan of study requirements.

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

### Credit Requirements

The Graduate School requires a minimum of 45 credit hours for a master's degree, and at least 24 of those credit hours must be taken in the discipline. Students are required to have a minimum of 64 graduate and undergraduate credit hours in the discipline. No course may be counted in the 64 credit hour requirement if the course grade is "D" or "F." Students are advised, however, that departments/divisions may have requirements which exceed the minimums established by the University.

All students must register for "Introduction to Graduate Study" or one of the research-oriented substitute courses approved by the Graduate Council. The Graduate School will not waive this requirement unless, at the discretion of the program advisor, the student has received a graduate degree from an accredited college or university within the last five years. The program advisor must request in writing that this requirement be waived. DS or Departmental Prefix 622 shall not be used as a substitute for the research course.

The research-oriented courses listed below have been approved by the Graduate Council as substitute courses for "Introduction to Graduate Study."

Biological Science, BIO 694; Business, BUS 692; Chemistry, at least 3 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, HRS 610; Physical Education and Recreation, PE 602; Mathematics, MATH 510; Music, MUS 600; Sociology, SOC 660.

Graduate degree credit will not be given for any correspondence courses or for any course in which a grade of "D" or "F" is awarded. A maximum of 12 quarter hours, individually or in combination, of courses numbered 508, 513, or 622 may be counted toward the master's degree.

### Residency

Although the Graduate School does not have a residency requirement for master's degree students, departments/divisions have the authority to set residency requirements for their programs. Students are advised, therefore, to check with the major department/division for information regarding program residency requirements.

Program advisors are responsible for monitoring departmental/divisional residency requirements for graduate students they are advising.

### Double Major

With the approval of the departments/divisions concerned and with the approval of the Graduate School, a master's degree student may declare a double major. Double majors must meet all requirements for each major and must apply for, take, and pass the comprehensive examination or approved equivalent in each major.

Students who desire a double major are advised that only one degree will be awarded. The student must specify, therefore, which program is to be used for degree purposes.

A student with a double major may drop one of the majors prior to taking the comprehensive examination in either major if he/she has a UNC grade average of 3.00 in the major being dropped.

### Time Limit

The maximum time allowed for the completion of the master's degree is five calendar years beginning with the first quarter of enrollment after admission has been granted. However, if a student has approval to count work taken prior to first enrollment after admission, the student must complete the degree within five calendar years beginning with the earliest work counted in the program.

### Transfer of Credit

A student may transfer a maximum of 9 quarter hours (6 semester hours) of graduate credit from another accredited institution which offers master's degrees. Transfer credit will not be accepted if the work was used to obtain any degree at any institution or if the work was completed more than five calendar years prior to the completion of a student's master's program. Transfer credit must be compatible with the student's program and must be "A" or "B" work. Transfer credit cannot be used to meet any residency requirement and cannot be used to make up "D" or "F" grades received in required courses.

Transfer work is not used in the calculation of the graduate grade point average.

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

A student who wishes to transfer credit must obtain and complete a "Petition to Count Work in a Degree Program" form and must obtain an official transcript(s) showing the course(s) to be transferred. The student must then present the completed petition and the transcript to the Graduate School for the approval or disapproval of the Graduate School Dean or his/her designee. If the Graduate School Dean or designee approves and signs the petition, the student must present the petition and the transcript to his/her program advisor for approval or disapproval. If the program advisor approves and signs the petition, the student must return the signed petition and transcript to the Graduate School no later than the second Friday of the quarter in which the student plans to graduate.

## Continuation in a Master's Program

Students must realize that departments/divisions are directed to continually evaluate the progress of each student and to recommend the termination of a student's program whenever it seems advisable. Termination recommendations will be academic in nature, will be based on the professional judgement of the graduate faculty, and may or may not be based on course work performance.

The Graduate School will terminate a student's master's degree program if all of the following conditions have been met.

- The student has been officially admitted to the Graduate School and has been accepted by the department/division filing the recommendation for termination.

- The student has completed at least 15 credit hours of the University of Northern Colorado course work subsequent to his/her official admission date.

- The student's program advisor has submitted a written recommendation for termination to the Graduate School which has been co-signed by the department/division chair.

Upon receipt of notification from the Graduate School that the degree program has been terminated, a student may file an appeal. (Refer to the appeal procedures outlined in the "Student's Rights and Responsibilities" statement. Copies of the statement are available in the Dean of Students Office.)

## Comprehensive Examinations/ Approved Equivalent

Each master's degree student must pass a written comprehensive examination or otherwise show competency in the discipline by successfully completing a departmentally/divisionally approved equivalent which has been approved by the Graduate Council. The major department/division is responsible for scheduling the date, time, and place of the examination. Each student should check the departmental/divisional requirements at the beginning of his/her program.

This examination or its approved equivalent may not be taken until the student (a) has been granted regular admission to the degree program, (b) has completed at least 30 quarter hours of work applicable toward the degree, (c) has maintained a grade average of at least 3.00, and (d) has obtained approvals from both the program advisor and the Graduate School.

In order to take this examination or its approved equivalent, a student must obtain and complete a form titled "Permit to Take Written Comprehensive Examination or Otherwise Demonstrate Competency." Double major students must obtain a permit for each major, and interdisciplinary students must obtain the signature of each area advisor on the permit. This permit is valid only for the quarter for which it is issued.

A completed permit form must be received by the Graduate School no later than 4 pm on the second Friday of the quarter in which the examination is to be taken. After receiving the completed permit form and after determining that a student is eligible to take the exam, the Graduate School will release an authorized permit form to the department/division. Departments/divisions are not authorized to allow a student to take the examination or its equivalent prior to receipt of the permit from the Graduate School. Students taking the exam without authorization are cautioned that the Graduate School will not accept the results of such an examination.

Once the comprehensive examination session begins, it is considered a take of the examination. Students leaving the comprehensive examination session and not returning will be determined as having taken the examination and will be evaluated accordingly.

After the student has taken the examination or completed the approved equivalent, the program advisor must return the report form to the Graduate School indicating that the student passed, failed, or did not take the examination. The report form must be signed by the program advisor and, if applicable, by all committee members evaluating the approved equivalent and must be returned to the Graduate School on or before the date specified by the Graduate School.

Students who are permitted to retake the examination or its equivalent may not schedule the retake during the same quarter in which the original examination was taken. A second permit is required for the retake. If a student fails the retake of the examination or its equivalent, his/her degree program will be terminated.

## Master's Thesis/Creative Project

Some departments require all master's degree candidates to submit a thesis. Theses are optional in all other programs. A minimum of 8 and a maximum of 15 credit hours are granted for a master's thesis.

All academic units that desire the alternative of requiring a Creative Project in Lieu of the Master's Thesis or the Comprehensive Examination will clearly define what is meant by a Creative Project and submit guidelines regarding the specific method(s) of evaluation to the Graduate Council. In addition, a copy of the definition and evaluation guidelines will be distributed to each student prior to his/her enrollment in a Creative Project.

One original and three copies of the thesis plus an additional copy of the abstract (150 words) must be submitted to the Graduate School along with a non-plagiarism affirmation form. If a creative project is to be copyrighted, University Microfilms requires an abstract of the project. These items must be submitted to the Graduate School at least 17 calendar days prior to the student's anticipated graduation date.

Upon filing a thesis, the Graduate School will require each student to complete specific forms related to the thesis and graduation and to pay the current fees for binding, mailing, publishing, and microfilming, if applicable.

All four copies of the thesis will be bound. After binding, the original and one copy will be filed in the University Library, one copy will be forwarded to the student's research advisor, and one copy will be sent to the student.

## Extended Degree Programs

Students admitted to extended degree programs should check with the Extended Degree Program area for requirements specific to that program.

## Specialist Degree Program Requirements

### Plan of Study

A specialist supervising committee, a two-person committee recommended by the department/division and approved by the Dean of the Graduate School, shall supervise a student's specialist degree program. In conjunction with the supervising committee, each specialist degree student must prepare a plan of study which clearly specifies core requirements and elective course work and which clearly identifies UNC course work, transfer course work, and double numbered course work. The plan must be formalized on a "Plan of Study" form, and the completed form, including the signatures of the supervising committee members, must be filed with the Graduate School no later than the student's second quarter of enrollment after admission.

Upon receipt of a properly signed "Plan of Study" form, the Dean of the Graduate School or his/her designee shall review the plan and approve or disapprove the plan. If approved, the "Plan of Study" form will be filed in the student's folder. If disapproved, the "Plan of Study" form will be returned to the student for correction and resubmission.

Because the plan of study will be the basis for the graduation check, any deviation from the plan of study must be approved by the supervising committee and the Dean of the Graduate School or his/her designee.

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

## Credit Requirements

A student entering a specialist degree program who possesses a master's degree must earn a minimum of 45 quarter hours of graduate credit beyond the master's degree. A student entering a specialist degree program who possesses only a baccalaureate degree must earn a minimum of 90 quarter hours of graduate credit beyond the



baccalaureate degree. No course may be counted in the credit hour requirements if the course grade is "D" or "F." Students are advised, however, that departments/divisions may have requirements which exceed the minimums established by the University.

All students must register for "Introduction to Doctoral Research" or one of the research-oriented substitute courses approved by the Graduate Council. This course should be taken during the first quarter of enrollment. The Graduate School will not waive this requirement unless, at the discretion of the program advisor, the student has received a degree at the same level from an accredited college or university within the last five years. The program advisor must request in writing that this requirement be waived. DS or Departmental Prefix 622 shall not be used as a substitute for the research course.

The research-oriented courses listed below have been approved by the Graduate Council as substitute courses for "Introduction to Doctoral Research."

Biology, BIO 694; Chemistry, CHEM 599; Elementary Education, EPRE 603; ELED: 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 numbered 500 & 600; Mathematics, MATH 510; Mathematics Education, MED 672; Music and Music Education, MUS 700; Physical Education, PE 703; Applied Statistics, STAT 715.

Graduate degree credit will not be given for any correspondence courses or for any course in which a grade of "D" or "F" is awarded. A maximum of 12 quarter hours (18 quarter hours if the student is in a 90 quarter hours program), individually or in combination, of courses numbered in the X08, X13, or 622 may be counted toward the specialist degree.

## Residency

Although the Graduate School does not have a residency requirement for specialist degree students, departments/divisions have the authority to set residency requirements for their programs. Students are advised, therefore, to check with the major department/division for information regarding program residency requirements.

Program advisors are responsible for monitoring departmental/divisional residency requirements for graduate students they are advising.

## Time Limit

The maximum time allowed for completion of the Specialist in Education degree is six calendar years beginning with the first quarter of enrollment after admission has been granted. However, if a student has approval to count work taken prior to first enrollment after admission, the student must complete the degree within six calendar years beginning with the earliest work counted in the program.

## Transfer of Credit

A specialist student may transfer a maximum of 9 quarter hours (6 semester hours) of graduate credit from another accredited institution which offers specialist and doctoral degrees. Transfer credit will not be accepted if the work was used to obtain any degree at any institution or if the work was completed more than six calendar years prior to the completion of a student's specialist degree program. Transfer credit must be compatible with the student's area of specialization and must be "A" or "B" work. Transfer credit cannot be used to meet any residency requirement and cannot be used to make up "D" or "F" grades received in required courses.

Transfer work is not used in the calculation of the graduate grade point average.

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

A student who wishes to transfer credit must obtain and complete a "Petition to Count Work in a Degree Program" form and must obtain an official transcript(s) showing the course(s) to be transferred. The student must then present the completed petition and the transcript to the Graduate School for the approval or disapproval of the Graduate School Dean or his/her designee. If the Graduate School Dean or designee approves and signs the petition, the student must present

the petition and the transcript to his/her program advisor for approval or disapproval. If the program advisor approves and signs the petition, the student must return the signed petition and transcript to the Graduate School no later than the second Friday of the quarter in which the student plans to graduate.

## Continuation in a Specialist Program

Students must realize that departments/divisions are directed to continually evaluate the progress of each student and to recommend the termination of a student's program whenever it seems advisable. Termination recommendations will be academic in nature, will be based on the professional judgement of the graduate faculty, and may or may not be based on course work performance.

Furthermore, departments/divisions are specifically directed to evaluate each specialist student when the student has completed 15 quarter hours in the degree program. The evaluation will be based on multiple criteria established by the department/division, but students may not assume that each criterion carries equal weight in the evaluation. Indeed, one criterion may outweigh all others: Based on the evaluation, the program advisor and the department/division must submit a written recommendation to the Graduate School that the student's program be continued or terminated. On the basis of the recommendation, the Graduate School will notify the student in writing that his/her program is being continued or that his/her program is terminated.

Upon receipt of notification from the Graduate School that the degree program has been terminated, a student may file an appeal. (Refer to the appeal procedures outlined in the "Student's Rights and Responsibilities" statement. Copies of the statement are available in the Dean of Students Office.)

## Comprehensive Examinations

Each specialist student must pass a written comprehensive examination in the area of specialization and pass any other examination(s) the supervising committee may require. The major department/division is responsible for scheduling the date, time, and place of the examination(s). Each student should check the departmental/divisional requirements at the beginning of his/her program.

The comprehensive written examination may not be taken until the student (a) has been granted regular admission to the degree program, (b) has filed an approved plan of study, (c) has completed at least 30 quarter hours [75 quarter hours if baccalaureate only student] of work applicable toward the degree, not including the practicum, (d) has maintained a grade average of at least 3.00, (e) has received a letter of continuance from the Graduate School, and (f) has obtained approvals from both the supervising committee and the Graduate School.

In order to take this examination, a student must obtain a form titled "Permit to Take Written Comprehensive Examination or Otherwise Demonstrate Competency." Interdisciplinary students must obtain the signature of each area advisor on the permit. This permit is valid only for the quarter for which it is issued.

A completed permit form must be received by the Graduate School no later than 4 pm on the second Friday of the quarter in which the examination is to be taken. After receiving the completed permit form and after determining that a student is eligible to take the exam, the Graduate School will release an authorized permit form to the department/division. Departments/divisions are not authorized to allow a student to take the examination prior to receipt of the permit from the Graduate School. Students taking the exam without authorization are cautioned that the Graduate School will not accept the results of such an examination.

Once the comprehensive examination session begins, it is considered a take of the examination. Students leaving the comprehensive examination session and not returning will be determined as having taken the examination and will be evaluated accordingly.

After the student has taken the examination, the program advisor must return the report form to the Graduate School indicating that the student passed, failed, or did not take the examination. The report form must be signed by the program advisor and must be returned to the Graduate School on or before the date specified by the Graduate School.

Students who are permitted to retake the examination may not schedule the retake during the same quarter in which the original examination was taken. A second permit is required for the retake. If a student fails the retake of the examination, his/her degree program will be terminated.

## Practicum

Under the direction of a supervising committee, each specialist student is required to complete a "Specialist Degree Practicum" (D.S. or Department Prefix 701) of at least 8 quarter hours. School Psychology students are authorized by the Graduate Council to take 16 quarter hours of PPSY 789 "Internship for School Psychology" as a substitute for the practicum requirement. If the members of the practicum supervising committee are not the same as the members of the specialist supervising committee, the members of the practicum supervising committee must be approved by the Graduate School prior to the start of the practicum.

Each student shall present a practicum proposal to his/her supervising committee for approval. No later than the last day of the quarter prior to the practicum quarter, the student must file the approved proposal with the Graduate School along with a signed, non-plagiarism affirmation form. In addition, the student must furnish copies of the approved proposal to his/her program advisor and supervising committee members.

Upon satisfactory completion of the practicum, the student must file an original and 3 copies of a written practicum report with the Graduate School. A signed, non-plagiarism affirmation form must accompany the report.

# Doctoral Degree Program Requirements

## Plan of Study

A doctoral program advisory committee, a committee of at least three persons appointed and approved by the major department/division, and, if applicable, by any supporting area department/division, shall supervise the planning of a student's doctoral degree program. In conjunction with the doctoral program advisory committee, each doctoral student must prepare a long-range plan of study which clearly specifies core requirements and elective course work and which clearly identifies UNC course work, transfer course work, and double numbered course work. The plan must be formalized on a "Plan of Study" form, and the completed form, including the signatures of the program advisory committee members, must be filed with the Graduate School no later than the student's second quarter of enrollment after admission.

Upon receipt of a properly signed "Plan of Study" form, the Dean of the Graduate School or his/her designee shall review the plan and approve or disapprove the plan. If approved, the "Plan of Study" form will be filed in the student's folder. If disapproved, the "Plan of Study" form will be returned to the student for correction and resubmission.

Because the plan of study will be the basis for the graduation check, any deviation from the plan of study must be approved by the program advisory committee and the Dean of the Graduate School or his/her designee.

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

## Credit Requirements

A student entering a doctoral program who possesses a master's degree must earn a minimum of 96 quarter hours of graduate credit beyond the master's degree. This includes a minimum of 72 quarter hours of graduate level course work, a minimum/maximum of 6 quarter hours of proposal research, and a minimum/maximum of 18 quarter hours of dissertation credit. A student who possesses only a

baccalaureate degree must earn a minimum of 141 quarter hours of graduate credit beyond the baccalaureate degree. This includes a minimum of 117 quarter hours of course work, a minimum/maximum of 6 quarter hours of proposal research, and a minimum/maximum of 18 quarter hours of dissertation credit. A student who possess a master's degree but who is attempting to obtain a second master's degree plus a doctoral degree must meet the same credit hour requirements as the baccalaureate only student. With the approval of the Graduate School, the program advisor, and all members of the doctoral program advisory committee, a student who possesses a specialist degree may count a maximum of 35 quarter hours of specialist work in the doctoral program. Students are advised that departments/divisions may have requirements which exceed the minimums established by the University.

All doctoral students must register for "Introduction to Doctoral Research" or one of the research-oriented substitute courses approved by the Graduate Council. This course should be taken during the first quarter of enrollment. The Graduate School will not waive this requirement unless, at the discretion of the program advisor, the student has received a degree at the same level from an accredited college or university within the last five years. The program advisor must request in writing that this requirement be waived. DS or Departmental Prefix 622 shall not be used as a substitute for the research course.

The research-oriented courses listed below have been approved by the Graduate Council as substitute courses for "Introduction to Doctoral Research."

Biology, BIO 694; Chemistry, CHEM 599; Elementary Education, EPRE 603; ELED: 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 numbered 500 & 600; Mathematics, MATH 510; Mathematics Education, MED 672; Music and Music Education, MUS 700; Physical Education, PE 703; Applied Statistics, STAT 715.

Graduate degree credit will not be given for any correspondence courses or for any course in which a grade of "D" or "F" is awarded. A maximum of 12 quarter hours, individually or in combination, of courses numbered in the 508, 513, or 622 may be counted toward a doctoral degree.

## Residency

Although departments/divisions may have more stringent residency requirements, the Graduate School requires each doctoral student to complete at least two quarters in residence after the student has been admitted to the doctoral degree program. A quarter in residence is defined as a quarter in which a student completes 10 or more credit hours of on-campus course work applicable to the doctoral degree. Courses numbered 601, 622, 701, and 797 will not be counted in the 10 or more credit hours unless a student also completes at least 6 other credit hours of on-campus course work applicable to the doctoral degree. Departmental Prefix or DS 799 may not be used under any circumstances to meet the residency requirement.

If a University of Northern Colorado or Aims Community College employee cannot meet the above prescribed residency requirement due to employment restrictions, he/she may satisfy the requirement by completing 20 or more credit hours of on-campus work applicable to the degree during consecutive quarters. Such a student must receive written permission from his/her immediate supervisor and a recommendation from his/her major department/division to fulfill the residency requirements in this manner. The supervisor's permission and the department's/division's recommendation must be filed with the Graduate School.

## Dual Doctoral Guidelines

A student may receive a second doctoral degree from UNC provided that the requirements for the first doctoral degree have been completed prior to initiating the second degree program and provided that no course work from the first degree is counted towards the second degree.

Except for interdisciplinary degree programs, double majors are not permitted at the doctoral level.



## Time Limit

The maximum time allowed for completion of a doctoral degree is eight calendar years beginning with the student's first quarter of enrollment after admission has been granted. However, if a student has approval to count work taken prior to first enrollment after admission, the student must complete the degree within eight calendar years beginning with the earliest work counted in the program.

If a student has completed a specialist in education degree at the time he/she begins a doctoral degree program and if the student is permitted to include 35 quarter hours of his/her specialist degree credit in the doctoral program, the student shall have a maximum time limit of five calendar years to earn the doctoral degree.

## Transfer of Credit

A doctoral student may transfer a maximum of 12 quarter hours (8 semester hours) of graduate credit from another accredited institution which offers doctoral degrees. Transfer credit will not be accepted if the work was used to obtain any degree at any institution or if the work was completed more than eight calendar years prior to the completion of a student's doctoral degree. Transfer credit must be compatible with the student's program and must be "A" or "B" work. Transfer credit cannot be used to meet any residency requirement and cannot be used to make up "D" or "F" grades received in required courses.

Transfer work is not used in the calculation of the graduate grade point average.

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

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 request to transfer a maximum of 35 quarter hours including the original 12 quarter hours. A request to transfer more than the original 12 quarter hours must be approved by the entire oral comprehensive examination committee.

A student who wishes to transfer credit must obtain and complete a "Petition to Count Work in a Degree Program" form and obtain an official transcript(s) showing the course(s) to be transferred. The student must then present the completed petition and the transcript to the Graduate School for the approval or disapproval of the Graduate School Dean or his/her designee. If the Graduate School Dean or designee approves and signs the petition, the student must present the petition and the transcript to his/her program advisor and, if applicable, to his/her oral comprehensive examination committee for approval or disapproval. If the program advisor and committee members, if applicable, approve and sign the petition, the student must return the signed petition and transcript to the Graduate School no later than the second Friday of the quarter in which the student plans to graduate.

## Continuation in a Doctoral Program

Students must realize that departments/divisions are directed to continually evaluate the progress of each student and to recommend termination of a student's program whenever it seems advisable. Termination recommendations will be academic in nature, will be based on the professional judgement of the graduate faculty, and may or may not be based on course work performance.

Furthermore, departments/divisions are specifically directed to evaluate each doctoral student when the student has completed 15 quarter hours in the degree program. The evaluation will be based on multiple criteria established by the department/division, but students may not assume that each criterion carries equal weight. Indeed, one criterion may outweigh all others. Based on this evaluation, the program advisor will notify the student and the Graduate School in writing that he/she is (a) encouraged to continue in his/her program, (b) discouraged from continuing in his/her program, or (c) placed on review for one quarter.

When a doctoral student has completed 30 quarter hours in the degree program the student's department/division will submit a written recommendation to the Graduate School and the student that the

student's program be continued or terminated. On the basis of the recommendation, the Graduate School will notify the student in writing that his/her program is being continued or that his/her program is terminated.

Upon receipt of notification from the Graduate School that the degree program has been terminated, a student may file an appeal. (Refer to the appeal procedures outlined in the "Student's Rights and Responsibilities" statement. Copies of the statement are available in the Dean of Students Office.)

## Research Tools

All Ph.D. students and all D.A. students in History must demonstrate competency in two acceptable research tools. The level of competency and the assessment of competency is established by each department/division and must be approved by the Dean of the Graduate School.

Acceptable research tools are foreign languages, applied statistics, mathematical statistics, and computer languages/applications. With the approval of the major department/division and the Dean of the Graduate School, however, doctoral students may use a collateral field of study as a substitute for one of the research tools.

All Ed.D. students in English must demonstrate competency in one foreign language.

## Appointment of Committees

Besides the doctoral program advisory committee (see Plan of Study), each doctoral student will have two committees: (1) an oral comprehensive examination committee, and (2) a research committee. Students must submit separate requests for each 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 division/department chair, 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. The faculty 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. University employees who are not members of the Graduate Faculty shall not be appointed as members of doctoral committees.

The student, the advisor, or a committee member may request a change in committee membership by presenting a request to the major department/division. Except in the case of the faculty representative membership, the department/division will rule on the request. If the department/division supports the request, the department/division will appoint a replacement member(s) subject to approval by the Dean of the Graduate School.

If a committee member other than the faculty representative is absent during the quarter in which an oral examination or defense is scheduled, the major department/division will appoint a replacement subject to approval by the division/department chair and the Dean of the Graduate School. If the faculty representative is absent during the quarter in which an oral examination or defense is scheduled, the advisor shall notify the Graduate School at least two weeks prior to the examination or defense. The Graduate School will select an appropriate replacement for the faculty representative.

Individuals who are not members of the Graduate Faculty may be appointed as additional committee members. Students should check with the Graduate School regarding such appointments.

An oral comprehensive examination committee must be appointed before the student takes the written comprehensive examination.

## Written Comprehensive Examination

Each doctoral student must pass a written comprehensive examination which is designed, administered, and evaluated by the Graduate Faculty of the major department/division and by other qualified individuals as specified by the program advisor. This examination may not be taken until the student (a) has been granted regular admission to the degree program, (b) has filed an approved plan of study, (c) has completed at least 48 quarter hours [81 quarter hours if baccalaureate only student] of work applicable toward the degree of

which at least 36 quarter hours have been completed on campus, (d) has maintained a grade average of at least 3.00, (e) has received an encouragement or a discouragement letter after 15 quarter hours, (f) has received a continuance letter from the department/division and the Graduate School after 30 quarter hours, (g) has had an oral comprehensive examination committee appointed, and (h) has obtained approvals from both the program advisor and the Graduate School.

Students are advised to check with their program advisors for information regarding examination format, procedures, date, time, and place.

In order to take this examination, a student must obtain and complete a form titled "Permit to Take Written Comprehensive Examination or Otherwise Demonstrate Competency." Interdisciplinary students must obtain the signature of each area advisor on the permit form. This permit is valid only for the quarter for which it is issued. (Examinations may be given by a supporting area or minor department/division whenever the department/division chooses.)

A completed permit form must be received by the Graduate School no later than 4 pm on the second Friday of the quarter in which the examination is to be taken. After receiving the completed permit form and after determining that a student is eligible to take the exam, the Graduate School will release an authorized permit form to the department/division. Departments/divisions are not authorized to allow a student to take the examination prior to receipt of the permit from the Graduate School. Students taking the exam without authorization are cautioned that the Graduate School will not accept the results of such an examination.

Once the comprehensive examination session begins, it is considered a take of the examination. Students leaving the comprehensive examination session and not returning will be determined as having taken the examination and will be evaluated accordingly.

After the student has taken the examination, the program advisor must return the report form to the Graduate School indicating that the student passed, failed, or did not take the examination. The report form must be signed by the program advisor and must be returned to the Graduate School prior to a request to schedule an oral comprehensive examination.

Students who are permitted to retake the examination may not schedule the retake during the same quarter in which the original examination was taken. A second permit is required for the retake. If a student fails the retake of the examination, his/her degree program will be terminated.

When the student passes 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. After the oral comprehensive examination, the original written comprehensive examination must be filed with the Graduate School.

## Oral Comprehensive Examination

After passing the written comprehensive examination, each doctoral student must pass an oral comprehensive examination.

The program advisor, who will serve as chair of the oral comprehensive examination 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 a completed "Request to Schedule Doctoral Examinations" form at least two weeks prior to the exam date. Permits for the oral comprehensive examination will not be released and the oral examination will not be authorized until the written examination report is filed with the Graduate School indicating that the student passed the written examination.

The Graduate School will approve and publicize the examination date, time, and place in *For Your Information* or in a bulletin published by the Graduate School. All members of the faculty are invited to attend and may ask questions of the student after the committee members finish their questioning. Other graduate students may also attend with permission from the chair of the committee.

The student's performance on the examination will be evaluated as (a) pass, (b) will pass if meets stated conditions, (c) unsatisfactory, retake permitted, or (d) fail, retake not permitted, program terminated. At least three-fourths of the committee members must agree on the final evaluation.

If the student passes the examination, the program advisor must

obtain the signatures of at least three-fourths of the committee members on the "Report of the Oral Comprehensive Examination" form and return the form to the Graduate School.

If the student is evaluated "will pass if meets stated conditions," the report stating the conditions must be signed and returned to the Graduate School, and the student must subsequently meet the stated conditions. No student will be admitted to candidacy until at least three-fourths of the committee 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. The student may retake the examination during a subsequent quarter. At this point, the membership of the student's committee may not be altered without approval by the Graduate School. Failure to pass the oral retest or failure to meet conditions specified after an 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. The Graduate School will terminate the degree program, and the student will not be permitted to do further work or take further examinations in that degree program.

## Admission to Candidacy

To be eligible for admission to candidacy for a doctoral degree, each student must satisfy all of the following requirements.

- The student must have completed "Introduction to Doctoral Research" or an approved equivalent.

- The student must have earned at least 55 quarter hours of credit applicable to the doctoral degree or 100 quarter hours of credit applicable to the doctoral degree if the student has only the baccalaureate degree.

- The student must have a cumulative grade average equal to or greater than 3.00.

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

- The student must have filed with the Graduate School an approved dissertation proposal containing the signatures of all committee members.

- The student must have registered for a minimum/maximum of 6 quarter hours of DS or Departmental Prefix 797.

- The student must have met the research tools requirement, if applicable. If the student is substituting a collateral field for a research tool, the student may be admitted to candidacy before completing the requirements in the collateral field.

The names of those students who meet the above stated criteria will be submitted to the Graduate Council for admission to candidacy.

No student is allowed to register for DS or Departmental Prefix 799 until he/she is admitted to candidacy, and no student will be graduated at the end of the quarter in which he/she is admitted to candidacy.

## Continuous Registration

Once a doctoral student has been admitted to candidacy, he/she is expected to be continuously enrolled each quarter, including summer quarter, until all degree requirements are completed or until the degree program is terminated. The continuous enrollment requirement may be met by enrolling in one or more hours of course work or by paying a doctoral service fee. If a student elects to pay the doctoral service fee for one or more quarters, the doctoral service fee must be paid in the Accounting Office no later than the regular fee payment period of the quarter(s) in question.

Any doctoral student who fails to be continuously enrolled or to pay the doctoral service fee will be subject to doctoral program suspension. 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.

Students whose programs have been suspended may request program reinstatement. Reinstatement requires the permission of the department/division chair, the appointment of an appropriate research committee, and the approval of 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 Proposal and the Dissertation

A dissertation pertaining to a significant topic in the candidate's major subject field is required for each doctoral program. The dissertation must demonstrate a candidate's ability to think independently and to present results coherently. Furthermore, the dissertation is to be a demonstration of a candidate's creativity and imagination.

The dissertation proposal and the dissertation shall be under the supervision of a research advisor and a research committee. The research committee will not be appointed, however, until after the student has passed the written and oral comprehensive examinations.

While working on the proposal, the student is required to enroll in DS or Departmental Prefix 797 "Doctoral Proposal Research." Although the student may register for 1-6 quarter hours of proposal research in any quarter, he/she must earn a minimum/maximum of 6 quarter hours of credit for dissertation proposal research prior to submission of the dissertation proposal.

A copy of the dissertation proposal bearing the signatures of all research committee members must be filed with the Graduate School no later than the last day of the quarter preceding the quarter in which the student expects to graduate. The Graduate School will not officially accept the proposal until the student also files a non-plagiarism affirmation form. Students must also provide each member of the research committee with a copy of the proposal.

Specific requirements and suggestions regarding the proposal and the dissertation are detailed in the current issue of the *Thesis and Dissertation Manual* which may be purchased at the UNC Bookstore.

Students may not register for DS or Departmental Prefix 799 "Doctoral Dissertation" until admitted to candidacy.

## Dissertation Defense

When the research advisor believes the dissertation is ready for defense, the following steps will be taken.

1. In conjunction with the research committee, the doctoral candidate must arrange for the date, time, and place of the defense. The defense must occur at least three weeks before graduation.

2. At least two weeks prior to the scheduled defense, the research advisor, who will serve as chair of the research committee, must notify the Graduate School of the date, time, and place of the defense.

3. At least two weeks before the defense, the doctoral candidate must submit a copy of his/her dissertation to the Graduate School and to each member of the research committee. The copies submitted must be in the form specified by the department/division and the Graduate School.

4. The Graduate School will approve and publicize the defense in *For Your Information* or in a bulletin published by the Graduate School.

All members of the faculty may attend the defense and may ask questions of the student after the committee members finish their questioning. Other graduate students may attend with permission from the committee chair. The Graduate Council requires that the all-university faculty representative to the committee must be present at all dissertation defenses.

If a candidate passes the defense, the research advisor shall obtain the signatures of the research committee members on the "Report of Defense of Dissertation" form and submit the form to the Graduate School. The candidate shall proceed to make any corrections required by the research committee and submit the corrected dissertation to the committee members for their signatures.

If the research committee requires the candidate to "meet stated conditions," the research advisor shall list the conditions on the "Report of Defense of Dissertation" form, obtain the signatures of the committee members on the form, and submit the form to the Graduate School. The list of conditions must include a statement regarding the number of additional defense meetings authorized and the amount of additional time allowed by the research committee.

If the candidate meets the stated conditions, the research advisor shall obtain the original "Report of Defense of Dissertation" form from

the Graduate School, shall obtain the signatures of the research committee members on SECTION II of the form, and resubmit the form to the Graduate School. The candidate shall proceed to make any corrections required by the research committee and submit the corrected dissertation to the committee members for their signatures.

If the candidate does not meet the stated conditions, the research advisor shall obtain the original "Report of Defense of Dissertation" form from the Graduate School, shall obtain the signatures of the research committee members on SECTION II of the form, and resubmit the form to the Graduate School. The Graduate School shall then notify the candidate that the degree program is terminated.

If a candidate fails the defense, the research advisor shall obtain the signatures of the research committee members on the "Report of Defense of Dissertation" form and submit the form to the Graduate School. The Graduate School shall then notify the candidate that the degree program is terminated.

## Filing the Dissertation

If a candidate makes the dissertation corrections required by the research committee and if the dissertation is signed by all or all but one of the research committee members, the candidate may file the dissertation with the Graduate School. Filing the dissertation involves the submission of the original and three copies of the corrected dissertation. The original and each copy must contain an originally signed approval sheet and a 350 word abstract. (University Microfilms will not publish an abstract which exceeds the 350 word limitation.) Furthermore, the candidate must submit one extra copy of the abstract to the Graduate School for publication purposes.

If the dissertation is not filed with the Graduate School at least 17 calendar days prior to the candidate's anticipated graduation date, the candidate will not graduate until the following quarter.

Upon filing the dissertation, the Graduate School will require each doctoral candidate to complete specific forms related to the dissertation and graduation and to pay the current fees for binding, mailing, microfilming, and publishing the dissertation.

All four copies of the dissertation will be bound. The dissertation will be microfilmed, and the abstract will be published in *Dissertation Abstracts*. After binding, the original and one copy will be filed in the University Library, one copy will be forwarded to the candidate's research advisor, and one copy will be sent to the candidate.

## Objection to the Dissertation

If a dissertation is filed with all but one of the signatures of the research committee members, the Dean of the Graduate School or his/her designee will ask the non-signing member if he/she wishes to enter a formal objection(s). If a formal objection is filed, the Dean of the Graduate School will appoint a review committee to assess the specific objection(s) of the dissenting dissertation committee member. If the review committee rules that the objection(s) does not justify the rejection of the study, the chair of the review committee will sign the dissertation in place of the dissenting faculty member. If the review committee rules that the objection(s) is valid, the candidate must take appropriate steps to modify the dissertation in order to gain the approval of the original dissertation committee. (The official document explaining the formal objection procedure is available in the Graduate School.)

## Doctoral Hooding

The candidate's research advisor shall hood the candidate at the graduation ceremony.

# 5 University Tuition, Fees and Other Charges

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.

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.

THE FOLLOWING RATES RELATE TO THE 1985-86 ACADEMIC YEAR FOR *IN-STATE* STUDENTS. RATES FOR THE 1986-87 AND 1987-88 ACADEMIC YEARS, WHICH BEGIN WITH FALL QUARTER EACH YEAR, ARE NOT AVAILABLE AS OF THE PUBLICATION OF THIS DOCUMENT.

## 1985-86 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 (d)	\$ 19	\$ 20
6-9 credit hours, tuition per credit hour (for course loads above 5 hours, fees are charged separately from tuition)	37	39
10-18 credit hours (full-time enrollment), total tuition	370	390
Surcharge per credit hour for credits above 18 hours (full-time student)	25	26

*get new rates*

THE FOLLOWING RATES RELATE TO THE 1986-87 ACADEMIC YEAR FOR *OUT-OF-STATE* STUDENTS. RATES FOR THE 1987-88 ACADEMIC YEAR, WHICH BEGINS WITH FALL QUARTER EACH YEAR, ARE NOT AVAILABLE AS OF THE PUBLICATION OF THIS DOCUMENT.

## 1986-87 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 per credit hour.	\$ 120	\$ 127
10-18 credit hours (full-time enrollment), total tuition	1,195	1,272
Surcharge per credit hour for credits above 18 hours (full-time student)	80	85

Updated information about tuition and fees is available from the Dean of Students office at the University Center, (phone 351-2796) or from the Accounts Receivable office in Carter Hall, (phone 351-2201), after June 15 of each year.

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

For 1985-86 (a)

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

\$8 per credit hour (d)

Student fees for students enrolled in 10 or more credit hours	
Student service fees	\$84.00 total
Health insurance fee (b)	\$68.50 total
Total fees for student enrolled in 10 or more credit hours	<del>\$152.50 total</del>
Optional CoPIRG fee (c)	171. \$2

(a) 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.

(b) 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. The deadline for such waivers is the 9th class day of the quarter.

Part-time students may request to purchase the health insurance from student health insurance personnel. Insured students may enroll their dependents in the student health insurance by request from student health insurance personnel. The above enrollments must be completed no later than the 9th class day of the quarter.

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 during summer quarter, with no additional premium being required.

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

(d) THIS SPECIAL RATE FOR RESIDENT STUDENTS IS NOT APPLICABLE FOR SUMMER QUARTERS. During the academic year (fall, winter and spring quarters), student fees are included in the tuition-per-credit-hour for students enrolled in 5 credit hours or less.

(e) TUITION AND FEES ARE CALCULATED ON THE TOTAL CUMULATIVE HOURS FOR WHICH A STUDENT IS ENROLLED IN A QUARTER.

(f) For financial aid purposes, full-time enrollment is considered 12 hours for undergraduate students and 10 hours for graduate students.

(g) Instructional fees are approved by Academic Affairs and the Board of Trustees. Courses which have been approved to charge students a fee in addition to tuition will be listed in the schedule of classes.

## Room and Board

The University operates 7 residence halls and 3 apartment complexes. Rooms and apartments hold 2, 3 or 4 persons per unit. Freshmen living on campus are required to carry a full 19-meal per week food plan. Residents of Central Campus, McCowen and Harrison residence Halls must carry a 15 or 19 meal per week food plan. Singles rooms are provided when space is available.

### Quarterly Rates for 1985-86

All rates quoted are subject to change and approved by the UNC Board of Trustees.

#### Room and board for freshmen living in Belford, Sabin, Snyder, Wiebking, Wilson, Harrison, and McCowen Residence Halls:

19-Meal Per Week Food Plan included: \$850

#### Room and board for upperclass students with 45 or more credit hours living in the above halls:

19-Meal Per Week Food Plan included: \$850

15-Meal Per Week Food Plan included: \$794

Turner Apartments (per person)	\$449
Lawrenson Apartments (per person)	\$449
Harper and Warren Graduate Women's Houses (per person)	\$250
Student Family Apartments: (rate per month)	\$249

## Quarterly Optional Meal Plans

University Food Services offers 13-meal plan choices to residents of Turner or Lawrenson Apartments (excluding freshmen), Student Family Apartments, off-campus students and commuters. Rates range from \$197 up to \$427 for quarterly meal plans. Gordon Hall, phone 351-2721. See information on Food Service.

## 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 program, \$20 and undergraduate program, \$15.

- 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, \$15.

- Re-enrollment, \$25.

- Alumni enrollment to provide periodic position listings by mail and to have up to ten (10) complete sets of credentials prepared and mailed annually, \$30 (additional credential sets above the maximum of ten, \$5 each).

- 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, \$75.50.

- Fee for each CAT group testing session in which a PTE student participates, \$10.

- Fee for each CAT individual testing session in which a PTE student participates: initial \$20; retakes \$10 per test.

- Fee for out-of-state PTE students for any testing or retesting of each of the three CATB competencies required for PTE, \$10 (\$30 for all three).

- Fee for students electing to demonstrate oral English skills (as a substitute for COMM 110), \$3.25.

- Fee for a one-hour remediation session in an area of required CAT proficiency, \$2.

- 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, \$15. (Note that non-negotiable payment is the same as non-payment and may result in cancellation of a student's enrollment).

## 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 *Schedule of Classes*.

Payment is to be made at the Accounting Services windows 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 consequences. Obtain a complete summary of the policy on sponsored-student accounts from the office of International Students, Marcus Garvey Cultural Center, phone 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 *Schedule 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

# Reassessment and Refund of Tuition, Fees and Other Charges

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 1002, 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, phone 351-2721) and Food Services (Gordon Hall, phone 351-2725) will provide assistance and information upon request.

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

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

## Resident and Non-Resident Classification for Tuition Assessment

Students who are residents of Colorado are permitted to enroll in the University at 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. A person who has been domiciled in Colorado for one year or more immediately preceding registration is eligible for in-state tuition classification. A domicile is a "person's true, fixed and permanent home and place of habitation. It is the place where he intends to remain and to where he expects to return when he leaves, without intending to establish a new domicile elsewhere." It differs from the notion of residence or

mere physical presence within the state. A person may have several places of residence, but may have only one true domicile at a given time.

A person is capable of establishing a Colorado domicile only if the person is 21 years of age or if the person has been emancipated. Evidence of emancipation includes the person's ability "to meet all financial obligations, including the cost of education," along with "an affidavit from the parents stating their relinquishment of any claim or right to the care, custody and earnings of the minor."

Evidence that a Colorado domicile has been established includes the observance of all mandatory duties imposed on domiciliaries. State requirements concerning auto registration, driver's license and payment of state income tax must be met.

A student's residency status is determined before or at the time of registration. If, at a later date, the student thinks that the residency status is no longer correct, he or she may petition for a change in residency status. Petitions must be submitted to the Registrar's Office no later than 10 class days after the last day to make payment of account for the given school term for which the student desires a change in classification. Any student who is denied residency after petitioning may appeal that decision in writing to the Residency Appeals Committee. The appeal must be submitted to the Registrar's Office no later than two weeks after the negative decision has been sent to the student. The decision rendered by the Residency Appeals Committee is the final University determination.

Petitioning for residency requires the student to complete a detailed form which is available in the Registrar's Office, Carter Hall 3002, phone 351-2231. This form and other relevant information will be reviewed and a decision rendered in accordance with the state law and authorized procedures.

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



# 6 Academic Organization

## College of Arts and Sciences

Location: Michener L54  
Telephone: 351-2707  
Theodora J. Kalikow, Dean  
Roger A. Kovar, Associate Dean  
Charles A. Meyer, Assistant 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 and sciences 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, and well prepared to enter a wide variety of occupations. Many areas prepare students specifically for positions in industry and government. 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. As Americans change jobs more and more frequently, a broad liberal arts background makes these changes possible and successful.

The College is comprised of 18 departments, and offers 35 emphasis areas. Of the 157 faculty members, 26 are women; 133 have a doctorate, 24 have a master's degree, and one has a bachelor's. The faculty of the College includes 81 professors, 56 associate professors, 20 assistant professors, and 3 instructors.

The College maintains a number of specialized facilities used by many departments. They include: the Cartography Lab; KLAB, a radio production lab; the Foreign Language Lab; a television studio; the English Writing Lab; the Animal Care Facility; the greenhouse; Computer Facilities in Ross Hall and Candelaria Hall; a photography lab; the Math Lab; and the Psychology Lab.

## The College of Business Administration

Location: 903 19th Street  
Telephone: 351-2764  
William L. Duff, Jr., Dean

Robert M. Lynch, Associate Dean  
Robert C. Harris, Assistant Dean

The School of Business was formed in 1968. Later, in 1984, its name was changed to the College of Business Administration. Since its inception, the College has been characterized by its commitment to close student faculty relationships. Good classroom instruction and student advising continues to be our paramount concern. In addition, the faculty are engaged in research and professional service activities in order to enhance the education of our students and improve the placement opportunities of our graduates.

Undergraduate business students are expected to acquire an exposure to the liberal arts as a background for their business studies. The professional education we offer in Business Administration builds upon the underlying disciplines of economics, mathematics, the social sciences, and preparation in oral and written communications. While some business coursework is offered in the students' first two years, the business program is largely concentrated in upper division studies. Therefore, Business students are advised to take the majority of their Business Administration courses in their junior and senior years.

The goal of the College of Business Administration is to provide its students a foundation in the fundamentals of organizational administration as well as the basic specialized principles included in a business emphasis area. The Bachelor of Science degree is offered with the following emphasis areas: Accounting, Finance, General Business, Management, Management Information Systems, and Marketing. The Master of Business Administration degree provides general graduate level preparation in the functional areas of Business Administration.

The objectives of the College of Business Administration are to prepare undergraduate students for entry-level positions in Accounting, Finance, Management, Management Information Systems, and Marketing and to provide courses leading to the MBA degree.

## College of Education

Location: McKee Hall 518  
Telephone: 351-2817  
Norma Nutter, Interim Dean  
Ronald E. Childs, Assistant Dean  
Michael J. Gimrestad, 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. In addition, professional education courses are offered for students in secondary and K-12 teacher education programs.

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. The

faculty, staff and administration are fully committed to equal opportunity and affirmative action. Multicultural education for all educators is a high priority in the College of Education.

Programs in the College of Education are accredited by the National Council for the Accreditation for Teacher Education (NCATE), with approval for certification by the Colorado Department of Education.

The College is composed of three divisions: Division of Educational Studies, Division of Professional Studies, and Division of Research, Evaluation and Development. The College of Education has 90 faculty members.

#### **Laboratory School**

A single academic unit within the College of Education, the Laboratory School has 45 faculty and maintains a comprehensive infant-toddler/preschool through twelfth grade 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.

#### **Special Facilities**

There are several special facilities in the College of Education designed to assist students and faculty in activities related to professional growth. The *Educational Services Center* is composed of the Newell C. Kephart Memorial Child Study Center, the Reading Center, the Early Childhood Center, the Summer Enrichment Program and Child Care Services.

The *Teacher Education Center* serves the needs of students majoring in education. Components of the Center include field experiences, Professional Teacher Education, competency testing programs, certification, program advisement and student teaching.

#### **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, adult/vocational, optional and independent college preparatory schools.

## **College of Health and Human Services**

Location: McKee 22  
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 four units; the Department of Communication Disorders, the Department of Community Health, the Department of Human Services and the School of Nursing. Programs within each unit are approved and/or accredited by appropriate organizations.

#### **Clinics**

Faculty and students from all programs in the college participate in the college's multidisciplinary health clinics which provide student learning experiences and client care services. Health activities in the clinics emphasize health rehabilitation, health promotion and disease

prevention. All clinics are located in McKee Hall.

The Speech-Language Pathology clinic provides assessment and treatment services for speech and language problems in the areas of articulation, voice, stuttering and language. The Audiology clinic provides a full range of services related to hearing including hearing assessment, special hearing tests, hearing aid evaluations, hearing aid analysis and dispensing, speech reading and auditory training, counseling on hearing impairment, noise measurement and other related services.

Faculty and students in the Community Health clinic plan and provide comprehensive health education and health promotion programs for individuals, groups, and agencies in the region. This clinic is a regional center for the health risk appraisal program.

The Human Services clinic provides learning experiences and client services in vocational evaluation, job seeking and placement skills and independent living.

Programs in nutrition and nursing in the School of Nursing clinic provide learning experiences and health services in a variety of health areas. Included are nutrition assessment, health counseling, health promotion and illness prevention activities.

## **College of Human Performance and Leisure Studies**

Location: Butler-Hancock Hall 230  
Telephone: 351-1717  
Martilu Puthoff, Dean

The College of Human Performance and Leisure Studies offers high-quality programs dedicated to career education. Students are prepared for supervisory and administrative careers in exercise, coaching and recreation to be used in business, schools and government. Students may also be educated to teach physical education at the elementary, secondary, university and community college 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 88 are assigned to four departments: Kinesiology, Physical Education and Dance, Recreation, and Intercollegiate Athletics.

Of the 35 faculty members, 14 are women; 18 have doctorates, 17 have master's degrees. 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 Physical Education and Recreation complex. They include a gymnastics studio, dance studio, two general purpose gymnasiums, 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 bowling, 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. A new teaching laboratory with state of the art video equipment and computers provide faculty and students with excellent instructional and research capabilities.

## **College of Performing and Visual Arts**

Location: Frasier Hall 101  
Telephone: 351-2194  
Howard Skinner, 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 53 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 53 faculty members, 9 are women; 26 have doctorates and 27 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.

## **Graduate School**

**(see Chapter 4)**

# 7 Programs of Study

## Aerospace Studies

Office: Crabbe Hall  
Telephone: 351-2061  
Col. Val W. Taylor, Chairman

### Faculty

Capt. Donna J. Patterson  
Capt. Jack W. Stackhouse  
Capt. Keith H. Burlison

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 (AFROTC) 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 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.

## Minor in Aerospace Studies

Requirements for a minor include completion of 12 hours of the General Military Course (freshman and sophomore ROTC classes), and 18 hours of the Professional Officer Course (junior and senior/graduate ROTC classes), 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, 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 sophomore year or 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 the POC, 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.

## 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 of \$76 per term for 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. All cadet must complete a mathematical reasoning course. In addition, ROTC scholarship cadets must complete one year of a foreign language.

## 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 members of service academy preparatory schools and service academies may request waiver of portions of the GMC. Also, the GMC may be compressed into one year to accommodate students entering out of phase.

### 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 and policy changes. 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 nominates 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 (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.

## Anthropology

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

Location: Candelaria Hall 12

Telephone: 351-2021

Michael J. Higgins, Chair

### Faculty

George E. Fay, PhD, Prof.

Michael J. Higgins, PhD, Prof.

James Wanner, PhD, Assoc. 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. Cultural/social anthropology, archaeology and biological anthropology are stressed at UNC.

A minor in anthropology is offered with three emphases: Cultural Anthropology, Archaeology, and Anthropology for Health and Human Service 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, the biological basis for culture and society, and current problems are stressed.

## Minor in Anthropology

### Core Requirements

ANT 100	General Anthropology	4
ANT 470	Human Nature	4
Total required hours		8

### Emphasis in Cultural Anthropology

ANT 140	Introduction to Archaeology	4
ANT 170	Introduction to Biocultural Anthropology	4
ANT 381	Cultural Patterns for Learning Lifestyles	4
ANT 382	Anthropology of Modernization and Development	4
ANT 480	Survey of Anthropological Theory	4
Total required hours		20

### Electives

Complete a minimum of 32 hours selected from:

ANT 223	Sex Roles in Cross Cultural Perspective	4
ANT 320	Ethnology of Hispanic Peoples	4
ANT 321	Anthro of Third World: Africa and Middle East	4
ANT 323	Anthro of Third World: South and Southeast Asia	4
ANT 328	American Indians	4
ANT 329	Peoples and Cultures of the Caribbean	4
ANT 331	Urban Anthropology	4
ANT 472	Health in Transcultural Perspective	4

### Emphasis in Archaeology

ANT 140	Introduction to Archaeology	4
ANT 170	Introduction to Biocultural Anthropology	4
ANT 440	Techniques of Archaeology	4
Total required hours		12

### Electives

Complete a minimum of 32 hours selected from:

ANT 223	Sex Roles in Cross Cultural Perspective	4
ANT 240	American Archaeology	4
ANT 320	Ethnology of Hispanic Peoples	4
ANT 321	Anthro of Third World: Africa and Middle East	4
ANT 323	Anthro of Third World: South and Southeast Asia	4
ANT 328	American Indians	4
ANT 329	Peoples and Cultures of the Caribbean	4
ANT 331	Urban Anthropology	4
ANT 340	Archaeology of Colorado and the Southwest	4
ANT 345	Archaeology of Mexico	4
ANT 348	Etruscan and Roman Archaeology	4
ANT 349	Archaeology of Egypt	4
ANT 472	Health in Transcultural Perspective	4

### Emphasis in Anthropology for Health and Human Service Professionals

#### Ethnology

Minimum of two courses selected from:

ANT 320	Ethnology of Hispanic Peoples	4
ANT 321	Anthro of Third World: Africa and Middle East	4
ANT 323	Anthro of Third World: South and Southeast Asia	4
ANT 328	American Indians	4

#### Basic Concepts

Minimum of two courses selected from:

ANT 223	Sex Roles in Cross Cultural Perspective	4
ANT 381	Cultural Patterns for Learning Lifestyles	4
ANT 382	Anthropology of Modernization and Development	4
ANT 383	Anthropology of Aging	4
ANT 472	Health in Transcultural Perspective	4

Electives to complete a minimum of 27 hours.

## Applied Statistics and Research Methods

(See Mathematics)

## Astronomy

(See Earth Sciences)

## Biological Sciences

Location: Ross Hall 234

Telephone: 351-2921

Warren R. Buss, Chair

### Faculty

Richard R. Bond, PhD, Prof.

Warren R. Buss, PhD, Prof.

James P. Fitzgerald, PhD, Prof.

John K. Gapter, PhD, Prof.

William E. Harmon, PhD, Prof.

Margaret Heimbrook, PhD, Prof.

Ivo E. Lindauer, PhD, Prof.

Charles Olmsted III, PhD, Assoc. Prof.

E. Edward Peeples, PhD, Prof.

Ronald K. Plakke, PhD, Prof.

Royal A. Rich, PhD, Prof.  
 Edmund A. Richards, PhD, Prof.  
 Gerald D. Schmidt, PhD, Prof.

The biological sciences study the diverse forms of life ranging from microorganisms and mammals to fungi and vascular plants. Study of these organisms includes how they interact with each other and with their environment; their strategies for obtaining energy and maintaining themselves; and the impact they have on our society. The biological sciences are the foundations of the health professions and provide career opportunities in science teaching, environmental resources, agriculture and research.

The Department of Biological Sciences offers the Bachelor of Arts degrees in Biological Sciences, Botany, and Zoology. The Master of Arts and Doctor of Arts degrees are awarded in Biological Sciences with research emphases possible in many of the subdisciplines.

The undergraduate Botany and Zoology degree programs require traditional courses for entrance into programs for professional botanists and zoologists. The Biological Sciences program is characterized by flexibility in course selection, preparing students for entrance into a variety of careers. Graduate programs are designed to meet the unique needs of students, enhancing their understanding of the biological sciences for teaching or for research.

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 to meet the student's personal and professional goals.

All undergraduate programs require courses in development, structure and function, heredity and diversity among living organisms. Electives may be selected to satisfy particular interests. Judicious selection of electives in the Biological Sciences major can lead to emphases in 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 experience not available in the classroom.

Animal maintenance facilities, museum, herbarium and green houses 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 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 and science education.

The department is proud of its reputation for preparing highly qualified science teachers and the success of its graduates in gaining entrance to professional schools, graduate schools in the life sciences, or employment in various areas in the biological sciences.

## 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 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.

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

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

### Core Requirements for All Bachelor of Arts Programs

BIO 101 Principles of Biology

5

BIO 102  
 BIO 103

Principles of Botany 5  
 Principles of Zoology 5  
 Hours credit 15

See Biological Sciences-Liberal Arts, Biological Sciences-Teaching, Botany-General, Botany-Applied, Zoology for remaining required courses and electives.

## Bachelor of Arts in Biological Sciences

### Liberal Arts Emphasis

This program 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.

### Required Core

15

### Electives

A minimum of 10 hours in each of the prefix areas of 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 435	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
ZOO 302	Principles of Animal Behavior	4
BIO 346	Aquatic Ecology	5

**III. Structural and Developmental Biology:** A study of development of organisms.

BOT 323	Morphogenesis of Non-vascular 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	5
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.

Distributed electives	45
Total major hours	60

## Teaching Emphasis

This program is designed to meet the Colorado Certification requirements for teaching science with a strong component of Biological Sciences in addition to Chemistry, Physics, Mathematics and Earth Sciences.



Students should consider including the following courses as part of their General Education requirements:

COMM 110	Public Speaking	3
SOC 217	Sociology of Minorities	4
EDFE 345	Foundations of Human Interaction	3

**Required Core**

ZOO 220	Introduction to Human Anatomy-Physiology	5
BIO 283	Biology and Behavior of Human Sexuality	3
BIO 240	General Ecology	4
	<i>or</i>	
BOT 340	Plant Ecology	5
	<i>or</i>	
ZOO 340	Animal Ecology	5
BIO 231	Genetics	3
BIO 435	Evolution	3
BOT 350	General Plant Physiology	5
BIO 361	Microbiology	5
		Total required hours 28-29

**Electives**

A minimum of one course must be taken from each Category I-III.

**I.**

BOT 323	Morphogenesis of Non-vascular Organisms (5)	
	<i>or</i>	
BOT 421	Plant Anatomy (5)	
	<i>or</i>	
ZOO 427	Vertebrate Embryology (5)	5

**II.**

BIO 346	Aquatic Ecology (5)	
	<i>or</i>	
ZOO 316	Entomology (5)	
	<i>or</i>	
ZOO 441	Mammalogy (5)	
	<i>or</i>	
ZOO 304	Ornithology (5)	
	<i>or</i>	
BOT 310	Plant Taxonomy (5)	5

**III.**

CS 112	Beginning Computer Programming in Basic (3)	
	<i>or</i>	
CHEM 350	Computer Programming in Chemistry (2)	
	<i>or</i>	
SCI 391	Computer Applications in Science (3)	2-3
		Elective hours 12-13
		Total major hours 55-57

**Supporting Required Courses**

BIO 291	Seminar in Scientific Writing (meets General Ed Intermediate Writing)	4
CHEM 104	Principles of Chemistry I (5)	
	<i>or</i>	
CHEM 114	General Chemistry I (5)	5
CHEM 105	Principles of Chemistry II (5)	
	<i>or</i>	
CHEM 115	General Chemistry II (5)	5
CHEM 130	Introductory Organic Chemistry (5)	
	<i>or</i>	
CHEM 332	Organic Chemistry I (5)	5
PHYS 260	Introductory Physics—Mechanics	5
PHYS 261	Introductory Physics—Heat, Sound & Light	5
PHYS 262	Introductory Physics—Electricity & Magnetism	5
MATH 124	College Algebra	5
MATH	One additional MATH course approved by advisor	
GEOL 100	General Geology	4
MET 200	General Meteorology (4)	
	<i>or</i>	
OCN 200	General Oceanography (4)	
	<i>or</i>	
AST 100	General Astronomy (4)	4
		Total science hours 104-108

**Professional Teacher Education**

Students must meet all requirements for Professional Teacher Education as specified in this *Bulletin*.

Professional Teacher Education Core	37-38
EDLS 363 Clinical Experience: Secondary	2
SCED 441 Methods of Teaching Secondary School Science	3
BIO 371 Teaching Strategies for Biology Teaching	2
Total PTE hours 44-45	

The student must meet with the departmental PTE Committee for evaluation before admittance into the program. Students must demonstrate competence in the Biological Sciences before receiving departmental recommendation for supervised teaching. A minor is not required.

**Bachelor of Arts in Botany**

This program will be necessary for students who are preparing for a graduate program requiring a basic background in plant science (General Botany Emphasis) or interested in a career working with plants in agriculture, landscaping, etc. (Applied Botany Emphasis).

**General Botany Emphasis**

Required Core 15

**Required Courses**

BIO 231	Genetics	3
BIO 232	Genetics Laboratory	2
BIO 361	Microbiology	5
BOT 310	Plant Taxonomy	5
BOT 323	Morphogenesis of Non-vascular Organisms	5
BOT 340	Plant Ecology	5
BOT 350	General Plant Physiology	5
BOT 421	Plant Anatomy	5

Total hours 35

Electives in BIO, BOT, ZOO Total Hours 10

Total major hours 60

**Required Supporting Sciences**

CHEM 104	Principles of Chemistry I (5)	
	<i>or</i>	
CHEM 114	General Chemistry I (5)	5
CHEM 105	Principles of Chemistry II (5)	
	<i>or</i>	
CHEM 115	General Chemistry II (5)	5
CHEM 130	Introductory Organic Chemistry (5)	
	<i>or</i>	
CHEM 332	Organic Chemistry I (5)	5

Total supporting hours 15

A minor not required. However, additional hours in chemistry, physics and mathematics are required for many advanced programs in botany. One year of foreign languages may also be required. See advisor for recommendation.

**Applied Botany Emphasis**

Required Core Total Hours 15

**Required Courses**

BIO 231	Genetics	3
BOT 310	Plant Taxonomy	5
BOT 340	Plant Ecology	5
BOT 350	General Plant Physiology	5
BOT 461	Plant Pathology	5
BOT 475	Plant Propagation & Maintenance	5
ZOO 316	Entomology	5
BIO 495	Internship	5-15

Total hours 38-48

Electives in BIO, BOT, ZOO Total hours 12-22

Total major hours 60

**Required Supporting Sciences**

CHEM 104	Principles of Chemistry I (5)	
	<i>or</i>	
CHEM 114	General Chemistry I (5)	5

CHEM 105	Principles of Chemistry II (5)	
	<i>or</i>	
CHEM 115	General Chemistry II (5)	5
CHEM 130	Introductory Organic Chemistry (5)	
	<i>or</i>	
CHEM 332	Organic Chemistry I (5)	5
	Total supporting hours	15

#### Recommended Supporting Courses

BUS 100	American Business Systems	3
ACCT 220	Principles of Accounting I	4
CS 112	Beginning Computer Programming in BASIC	3
ART 184	Drawing & Design I	3
PHYS 150	Principles of Physics	5
	Total hours	12-22

A minor is not required.

## Bachelor of Arts in Zoology

This program will be necessary for students who are preparing for graduate or professional schools requiring a basic background in animal science.

#### General Zoology Emphasis

Required Core 15

#### Required Courses

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)	5
ZOO 427	Vertebrate Embryology	5
ZOO 428	Comparative Vertebrate Anatomy	5
ZOO 340	Animal Ecology	5

Hours credit 35

Electives in BIO, BOT, ZOO 10

Total major hours 60

#### Required Supporting Courses

CHEM 104	Principles of Chemistry I (5)	
	<i>or</i>	
CHEM 114	General Chemistry I (5)	5
CHEM 105	Principles of Chemistry II (5)	
	<i>or</i>	
CHEM 115	General Chemistry II (5)	5
CHEM 130	Introductory Organic Chemistry (5)	
	<i>or</i>	
CHEM 332	Organic Chemistry I (5)	5
	Total supporting hours	15

A minor is not required. However, additional hours in chemistry, physics, and mathematics are required for many advanced programs in zoology. One year of foreign language may also be required. See advisor for recommendation.

## Minor in Biological Science

#### Required Courses

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

#### Electives

12

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 Programs

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 in Biological Science

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*.

#### Required Courses

BIO 691	Seminar in Biological Sciences	1
BIO 692	Special Topics in Biology (Course may be repeated)	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 biology, botany and zoology. Any course bearing the prefix, BIO, BOT or ZOO and numbered 500 or above, may be used to satisfy the Graduate School requirement that a minimum of 24 quarter hours be taken in the major discipline. A minimum of 75 hours of combined undergraduate and graduate hours in Biological Sciences is required. A written comprehensive examination is required.

## Doctor of Arts in Biological Sciences

The objective of the Doctor of Arts program is to prepare versatile and well-informed teachers of biological sciences. Emphasis is placed on the classroom preparation of effective teachers who understand and can use current research. The student who successfully completes this program will be well qualified to teach biological sciences at the undergraduate 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

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; however, all students are required to complete the following:

### Required Courses

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

### Electives

Electives may be selected from departmental courses, support sciences courses or courses in educational management and educational technology in consultation with doctoral advisory committee

Minimum Program 96

The student's individual program in Biological Sciences and related pedagogical areas will be determined by the 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 make up academic deficiencies in addition to the minimum requirements.

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 Studies and Women's Studies

Location: Candelaria 12

Telephone: 351-2685

Hermon George, Jr., Coordinator

### Faculty

George R. Garrison, PhD, Associate Professor

Hermon George, Jr., PhD, Associate Professor

The Black Studies Program offers an interdisciplinary curriculum which promotes the study of the history, culture, philosophy, economy, and political experience of people of African descent, especially those living in the United States, on the African continent itself, in Latin America, and in the Caribbean. The curriculum is based on the assumption that there exists a substantive, intrinsically valuable body of knowledge, not reducible to anything else, which expresses the black experience, and which recognizes that the common heritage and common struggle of people of African descent often are inadequately or inappropriately examined.

As an academic discipline, the Black Studies curriculum is divided into five foci: historical, social-psychological, political-economic, aesthetic, and philosophical-religious. The historical focus presents courses which follow the paths of people of African descent from the African continent into the New World; topics such as nationalism, scientific achievement, and slavery are studied. The social-psychological focus offers courses which deal with social, psychological, and behavioral patterns which characterize the black experience; topics studied include black identity formation and the effects of racism, the family, and the social scientific study of black communities. The political-economic focus contains courses which seek to assess the interaction between black socio-economic experience, and the larger domestic or global framework in which it has occurred; labor market experience, entrepreneurial initiatives, underdevelopment and ideology illustrate some of the topics addressed. The aesthetic focus provides courses whose principal aim is to reveal the aesthetic sensibilities and cultural ethos contained in the works of black writers, artists, leaders, and communities; topics include the study of

dramatic expression, literature, and music. The philosophical-religious focus demonstrates through its courses that peoples of African descent have responded historically to a specific set of concerns about the world; topics studied include worldviews and the nature of social commitment and social gospel.

The Black Studies program 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 63 quarter hours of course work in Black Studies. Required courses, or the core, consist of 48 quarter hours. The core provides students with essential information covering historical, cultural, philosophical, economic, and political aspects of the black experience, and the methodological perspectives often used to investigate them. The remaining 15 quarter hours in the major are to be composed of electives, one each from the five foci: the historical focus, the social-psychological focus, the political-economic focus, the aesthetic focus, and the philosophical-religious focus. Electives are chosen with the approval of the coordinator.

Students who minor in Black Studies must complete 33 quarter hours of course work in Black Studies; 9 of these hours are electives. Electives are chosen with the approval of the coordinator.

The major and minor in Black Studies have the following objectives: 1) to prepare students for professional and academic careers in the humanities and social sciences; 2) to provide accurate information about the histories and identities of people of African descent; 3) to advance scholarship about peoples of African descent; 4) to strengthen general or liberal arts education so that it imparts the skills necessary for working in multicultural environments; and 5) to promote the study and understanding of the struggles of black people.

As a job-related field, the Black Studies' major or minor fosters the intellectual and professional expertise which is valuable for positions in teaching (elementary, secondary, and college levels), business, criminal justice, counseling, education and health-related fields, community resource development, urban planning, public and social policy analysis, law, social services, government (local, state, and federal), and international relations.

## Bachelor of Arts in Black Studies

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

General Education requirements as specified in this *Bulletin*;

### Core Requirements

BLS 100	Introduction to Black Studies	3
BLS 105	Ancient African Civilization	3
BLS 201	Afro-American History I	3
BLS 202	Afro-American History II	3
BLS 240	Dynamics of Racism	3
BLS 290	Afro-American Movements, Organization and Thought in the Nineteenth Century	3
BLS 291	Afro-American Movements, Organization, and Thought in the Twentieth Century	3
BLS 300	Comparative African-American Cultures	3
BLS 305	Survey of African-American Literature	3
BLS 385	African Colonialism and Decolonization	3
BLS 395	Philosophy of Afro-Americans	3
BLS 399	Community Study Project	3
BLS 410	Methodological Perspectives in Black Studies	3
BLS 460	Religion and Theology in Black America	3
BLS 470	African Philosophy	3
BLS 490	Seminar in Black Studies	3
	Hours credit	48

### Electives

Select at least one course from each of the following foci:

Historical focus. One course required.

BLS 102	The Black Woman in America	3
BLS 280	Black People in Science	3
BLS 322	Black Nationalism and Pan-Africanism	3
BLS 432	Pan-African World	3
BLS 480	Black Curriculum Development	3

Social-Psychological Focus. One course required.		
BLS 101	Crisis of Identity	3
BLS 340	The Black Family	3
BLS 350	Black Psychology	3
ID 308	Interpersonal Growth Workshop	3
Political-Economic Focus. One course required.		
BLS 220	Socio-Cultural Institutions in Black America	3
BLS 320	The Economic Experience of Black People in America	3
BLS 380	Education in the Black Community	3
BLS 420	Black Urban Politics	3
BLS 430	Law and the Black Community	3
BLS 465	Black Media	3
Aesthetic Focus. One course required.		
BLS 255	Drama and Theatre in Black America	3
BLS 260	Themes in Afro-American Literature	3
BLS 360	Music and the Black Experience	3
BLS 370	Aesthetic Expression in Black America	3
BLS 392	Black Language in America	3
Philosophical-Religious Focus. One course required.		
BLS 205	African and Native American Worldviews	3
BLS450	Philosophy and Theology of Martin Luther King, Jr. and Malcolm X	3
	Hours credit in electives	15
	Total hours in Black Studies	63

## Minor in Black Studies

### Required Courses:

BLS 100	Introduction to Black Studies	3
BLS 105	Ancient African Civilization	3
BLS 201	Afro-American History I	3
BLS 202	Afro-American History II	3
BLS 240	Dynamics of Racism	3
BLS 300	Comparative African-American Cultures	3
BLS 305	Survey of African-American Literature	3
BLS 395	Philosophy of Afro-Americans	3
	Hours Credit	24

### Electives

Select from the remaining courses any 3 courses at the 300 level or higher.

ID 308	Interpersonal Growth Workshop	3
BLS 313	Professional Renewal	3
BLS 320	The Economic Experience of Black People in America	3
BLS 322	Black Nationalism	3
BLS 340	The Black Family	3
BLS 350	Black Psychology	3
BLS 360	Music in Black America	3
BLS 370	Aesthetic Expression in Black America	3
BLS 380	Education in the Black Community	3
BLS 385	African Colonialism and Decolonization	3
BLS 392	Black Language in America	3
BLS 399	Community Study Project	3
BLS 410	Methodological Perspectives in Black Studies	3
BLS 420	Black Urban Politics	3
BLS 430	Law and the Black Community	3
BLS 432	Pan African World	3
BLS 460	Religion and Theology in Black America	3
BLS 465	Black Media	3
BLS 470	African Philosophy	3
BLS 480	Black Curriculum Development	3
BLS 490	Seminar in Black Studies	3
BLS 495	Interpersonal Communication	3
	Hours credit	9
	Total hours in Black Studies	33

## Business Administration

Location: 903 19th Street  
Telephone: 351-2764

William L. Duff, Jr., Dean  
Robert M. Lynch, Associate Dean  
Robert C. Harris, Assistant Dean

The College of Business Administration is comprised of four departments: Accounting, Finance, Management and Marketing.

The College offers the Bachelor of Science degree in Business Administration and the Master of Business Administration degree. The Bachelor of Science in Business Administration degree is offered with the following emphasis areas: Accounting, Finance, General Business, Management, Management Information Systems, and Marketing. The Master of Business Administration degree provides a general graduate level preparation in all the functional areas of Business Administration.

## Bachelor of Science in Business Administration

To meet the goals of the college, it is necessary that a student pursuing the Bachelor of Science degree in Business Administration satisfies the following requirements before graduation:

- Complete the General Education course requirements.
- Complete the Required Non-Business course requirements.
- Complete Business Administration Core course requirements.
- Complete one Business Administration Emphasis area.

### Admission Requirements

*Freshmen* are admitted to the College of Business Administration (COBA) as follows:

- Applicants with an ACT of 23 or higher or applicants who graduated in the top 10% of their high school class will be admitted to any emphasis offered by the College of Business Administration.
- Applicants not meeting the standards specified in the preceding paragraph, but who have an ACT score of at least 19 or who have graduated in the top 50% of their high school class will be admitted to COBA's General Business emphasis.

*Transfer students* are admitted to the College of Business Administration as follows:

- Applicants who transfer to the University after completing 60 quarter hours of college-level coursework with at least a 2.50 GPA (on a 4 point scale) will be admitted to any emphasis offered by the College of Business Administration.
- Applicants not meeting the standards specified in the preceding paragraph, but who have at least a 2.0 GPA in transfer credit (on a 4 point scale) will be admitted to COBA's General Business emphasis.

UNC students may change their Business emphasis area as follows:

### Change of Major Requirements

- *General Business:* Students who have completed at least 15 quarter hours at UNC with at least a 2.0 GPA will be accepted to the General Business emphasis.
- *All other COBA emphases:* UNC students may be admitted to other COBA emphasis areas provided they have completed more than 60 quarter hours of college-level coursework with at least 15 hours (one quarter) at UNC. In addition, students must meet the requirements set by the faculty in the emphasis area in which the student wishes to major. Students may obtain the specific requirements for each Business emphasis area from the appropriate department office.
- Students must meet departmental requirements in effect at the time of application for a change of major.

### Continuation Requirements

To graduate with a Bachelor's degree in Business, students must attain a 2.00 ("C") cumulative grade point average in the coursework taken in the College of Business Administration. Students achieving less than the required cumulative grade point average for any two consecutive quarters may be denied continuation of their Business program.

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

### Required Non-Business Courses

(Some required non-business courses may also be used to satisfy General Education requirements.)

SOC 100	Principles of Sociology	4
PSCI 105	Introduction to Political Science	3
COMM 110	Public Speaking I	3
ECON 110	Principles of Economics: Microeconomics	4
ECON 120	Principles of Economics: Macroeconomics	4
PSY 120	General Psychology	5
MATH 175	Mathematics for Business Decisions I	4
MATH 176	Mathematics for Business Decisions II	4
PHIL 352	Business Ethics	4

And one of the two following courses:

ENG 123	College Research Paper	4
	or	
BUS 205	Business Communications	4
	Hours credit	39

### Business Administration Core

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
BAQA 291	Business Statistics I	4
BUS 307	Technical Business Reports	4
MGT 350	Principles of Management	4
MKT 360	Marketing	4
FIN 370	Business Finance	4
BAQA 395	Production Management	4
MGT 456	Business Policies & Management	4
	Hours credit	44

## General Business Emphasis

The General Business emphasis is administered by the College of Business Advising Coordinator.

Location: 903 19th Street

Telephone: 351-1233

Donald Manning, Coordinator

The purpose of the emphasis in General Business is to prepare students for entry-level positions in business organizations. The program requires courses in each of the functional areas of Business. The entire College of Business Administration faculty participates in offering courses in this program.

### Required Courses

MIS 283	Microcomputer Systems in Administration/ Business	4
ACCT 327	Managerial Accounting	4
ACCT 329	Introduction to Income Tax	4
BUS 332	Business Law II	4
FIN 340	Principles of Risk and Insurance	4
MGT 354	Human & Organizational Behavior	4
MKT 365	Marketing Strategy	4
BAQA 390	Business Statistics II	4
BUS 400	Legal Environment of Business	4
MKT 460	Market Analysis & Research I	4
FIN 470	Financial Management	4
	Hours credit	44

## Accounting Department

The Accounting emphasis is administered by the Department of Accounting.

Location: 903 19th Street

Telephone: 351-2855

Allen McConnell, Chair

### Faculty

Paul Bohrer, MS, CPA, Prof.

John Elsea, PhD, CPA, Assoc. Prof.

Robert Elton, MA, CPA, Inst.

Peter Furlong MBA, CPA, Asst. Prof.

Pauline Jaouen, MA, CPA, Asst. Prof.

Terry Lynch, MS, Inst.

Allen McConnell, MS, CPA, Prof.

Lynn Pringle, MAc, CPA, Asst. Prof.

Cinda Roark, MS, Lecturer

John Stewart, PhD, CPA, Assoc. Prof.

### Accounting Emphasis

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 comprehensive 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 nonprofit 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 should note that a grade of "D" in any of the courses listed here for the Accounting emphasis will not count toward graduation.

Students are reminded that credit hours for courses which are retaken do not count toward the 180 credit hour requirement for graduation.

### Required Courses

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
BUS 332	Business Law II	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 coursework 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, 324, and all senior level requirements at UNC.*

## Finance Department

The Finance emphasis is administered by the Department of Finance.

Location: Tobey Kendel Hall

Telephone: 351-2275

Garth Allen, Chair

### Faculty

Garth Allen, JD, CPCU, Assoc. Prof.

Caroll Dierks, PhD, Prof.

Glen Droege Mueller, JD, Assoc. Prof.

Marvin Halldorson, PhD, Prof.

Lynn Karowsky, JD, Asst. Prof.

Donald Manning, MBA, Lecturer

Stuart Rosenstein, MBA, Lecturer

Thomas Sanders, MS, Lecturer

### Finance Emphasis

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, and 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	Principles of Risk and Insurance	4
FIN 371	Financial Markets & Institutions	4
FIN 372	Principles of Real Estate	4
BAQA 390	Business Statistics II	4
FIN 470	Financial Management	4
FIN 471	Investments	4
FIN 474	Case Problems in Financial Management	4

#### Electives

Students must take one course from each of the following categories:

ACCT 320		
or		
ACCT 323		4
ECON 202		
or		
ECON 300		
or		
ECON 350		4
MIS 285		
or		
MIS 388		
or		
BAQA 396		
or		
BAQA 397		4
	Hours credit.	40

## Management Department

The Management and Management Information Systems emphases are administered by the Department of Management.

Location: Tobey-Kendell Hall

Telephone: 351-2088

Lynn Hoffman, Chair

#### Faculty

Richard Bond, PhD, Prof.  
 James Clinton, PhD, Assoc. Prof.  
 William Duff Jr., PhD, Prof.  
 Ethel Kloos Fenn, MS, Asst. Prof.  
 R. John Freese, PhD, Assoc. Prof.  
 John Gibson, MS, Asst. Prof.  
 D. Lynn Hoffman, PhD, Assoc. Prof.  
 John Kilpatrick, PhD, Assoc. Prof.  
 Robert Lynch, PhD, Prof.  
 Stephen Ong, MBA, Lecturer  
 Daniel Rowley, MPA, Asst. Prof.  
 Steve Teglovic, Jr., PhD, Prof.  
 Margaret Vaughan, PhD, Assoc. Prof.

#### Management Emphasis

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.

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 "C" or better must be earned for any of the courses listed here under the Management emphasis in order for the courses to count toward graduation.

#### Required Courses

MIS 283	Microcomputer Systems in Administration/ Business	4
ACCT 327	Managerial Accounting	4
MGT 354	Human & Organizational Behavior	4
MGT 357	Managing New Business Ventures	4
MKT 365	Marketing Strategy	4
BAQA 390	Business Statistics II	4
BAQA 396	Management Science-Deterministic Models	4
MGT 453	Human Resources Management	4
MGT 455	Industrial Relations	4
MGT 457	Managing Complex Organizations	4
FIN 470	Financial Management	4
	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 information required for business decision making.

In the MIS emphasis, students acquire knowledge of computer programming, micro and mainframe computers, data communications, systems analysis and design, data base management systems and decision support systems. Throughout the student's academic studies, the focus is on the application of computers to business and administration.

Graduates of the MIS program usually enter the job market as programmers/analysts. Subsequent positions may include systems analysts, data base administrators and data communications specialists. For the most part, the graduate's activities will focus on creating and implementing software and procedures used to service large and small organizations, including manufacturing, retail, wholesale, financial, insurance, communications and government groups.

High school students interested in majoring in MIS should pursue a college preparatory program in high school. While no specific preparatory courses are required, their high school program should give them a sound background in the sciences, mathematics, communications, and the humanities.

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 "C" or better must be earned in ACCT 221, BAQA 291, MIS 180 and any of the courses listed in the MIS emphasis for the courses to count toward graduation.

#### Required Courses

MIS 280	MIS - System and Support Facilities	4
MIS 285	COBOL Programming	4
ACCT 320	Intermediate Accounting I	4
ACCT 327	Managerial Accounting	4
MIS 380	Data Communications Systems	4
MIS 385	Advanced Structured COBOL	4
MIS 386	Data Base Management	4
MIS 388	Systems Analysis & Design	4
BAQA 390	Business Statistics II	4
MGT 453	Human Resources Management	4
MIS 482	Decision Support Systems	4
MIS 486	Advanced Data Base Management	4
MIS 488	Advanced Systems Analysis & Design	4
	Hours credit	52

## Marketing Department

The Marketing emphasis is administered by the Department of Marketing.

Location: 903 19th Street

Telephone: 351-2366

Robert C. Harris, Chair

#### Faculty

John Bennett, MBA, Inst.  
 Joseph Clithero, MS, Prof.  
 Brian Davis, PhD, Asst. Prof.  
 Robert C. Harris, MA, Assoc. Prof.  
 Lawrence Levenson, MBA, Assoc. Prof.  
 Diana Miller, MS, Inst.



Kenneth Thompson, MBA, Asst. Prof.  
R. Viswanathan, PhD., Asst. Prof.

### Marketing Emphasis

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	
	or	
ACCT 327	Managerial Accounting	4

#### Electives

Students should consult an 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	Promotional Strategy	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

## Minor in Business Administration

#### 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
BAQA 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
BAQA 395	Production Management	4
	Hours credit	36

*NOTE: ENG 102, ECON 110, ECON 120, MATH 175, and MATH 176 are prerequisites for courses required in the Business minor. They are required for the Business minor. They may be used to satisfy the University General Education requirements as well as the Business minor.*

## Master of Business Administration

Administered by the Associate Dean

Location: 903 19th Street

Telephone: 351-2764

The Master of Business Administration is designed to prepare individuals for careers in Management and Business Administration. The program embodies study in Accounting, Economics, Finance, Law, Management, and Marketing. The Management area includes Management Information Systems and Quantitative Analysis in Business.

All candidates are required to have successfully completed a set of undergraduate courses consistent with AACSB recommendations for the common body of knowledge in Business Administration. Candidates lacking such preparation will be required to complete a set of leveling (deficiency) courses during their program of study for which graduate credit is not awarded. The leveling courses are minimal prerequisites for the graduate courses in a particular area. At the time of admission, an evaluation of past work will be made to determine the extent of the deficiency work that has yet to be satisfied.

#### Admission

Admission to the MBA program will be based on the applicant's promise for success in graduate study. Each applicant will be evaluated on the following:

- past academic record
- results of the Graduate Management Admission Test
- undergraduate program of study

Specific information on admission standards can be obtained from the Associate Dean of the College of Business Administration.

#### Program of Study

Leveling Courses:

Accounting Principles I, II  
Economics - Microeconomics and Macroeconomics  
Finance (Corporate or Business)  
Information Systems/Data Processing  
Law (Business or Legal Environment)  
Management Principles  
Marketing Principles  
Production and Operations Management  
Statistics (Business)

#### MBA Program:

The MBA degree program requires a minimum of 45 hours of graduate Business and Economics coursework. Courses required of all MBA candidates include:

ECON 578	Managerial Economics	4
ACCT 623	Seminar in Management Accounting	4
MGT 652	Seminar in Organizational Behavior	4
MGT 656	Seminar in Business Policy	4
MKT 665	Seminar in Marketing	4
FIN 670	Seminar in Financial Management	4
MIS 682	Seminar in Management Information Systems	4
BAQA 692	Seminar in Business Statistics	4
		32

Additional coursework for the balance of the 45 quarter hour program is to be taken in Business and Economics. All elective work must have the approval of the Associate Dean of the College of Business Administration.

Students must attain at least a 3.00 grade point average in all MBA course requirements, including leveling courses taken at this institution. Students that receive more than two "C's" in completing their MBA graduate course requirements will be suspended from their Master's program. Readmission information can be obtained from the Associate Dean of the College of Business Administration.

#### Comprehensive Examination

Each candidate must successfully pass a written comprehensive examination. To be eligible to sit for the exam, a candidate must have removed all deficiencies and completed 36 quarter hours of graduate Business courses.

## Business Teacher Education Certification Program

Business Teacher Education

Administered by the Division of Educational Studies

J. Melvin Lane, Director

Location: McKee Hall 425

Telephone: 351-2939

Robert Welch, Program Facilitator

## Faculty

Anita T. Salazar, Ph.D., Asst. Prof.  
Robert D. Welch, Ed.D., Assoc. Prof.

This certification program is designed for students who hold a BA in Business Administration and wish to be certified and credentialed as secondary/post secondary Business Education Teachers. It 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. The program prepares students to teach basic business subjects, secretarial and clerical subjects, accounting and data processing subjects in the secondary schools. The faculty of Vocational Teacher Education work closely with the School of Business and the College of Education to offer students a comprehensive, relevant program.

Students pursuing the certification in Business Teacher Education must plan their programs to meet the following requirements:

- Schedule a conference with an advisor in Vocational Teacher Education (Business Education).
- Demonstrate appropriate literacy and competency in computer applications.
- Complete required courses listed for the Professional Teacher Education program as specified in this *Bulletin*.
- Complete the required courses in Vocational Teacher Education.
- Students pursuing Business Education certification will be placed in their student teaching assignments fall quarter.
- Most secondary schools require a vocational credential for teaching business education. Majors should check with their advisor 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 Colorado vocational credential.

## Required Courses

ACCT 320	Intermediate Accounting I	4
	<i>or</i>	
ACCT 323	Cost & Managerial Accounting I	4
	<i>or</i>	
ACCT 327	Managerial Accounting	4
	<i>or</i>	
ACCT 328	Accounting for Small Business	4
VTE 107	Computer Literacy (or demonstrated competency)	1
VTE 340	Organization & Administration of Business & Office Education	2
	<i>(fall quarter)</i>	
VTE 341	Methods & Materials for Teaching Typewriting & Keyboarding	2
	<i>(fall quarter)</i>	
VTE 342	Methods & Materials for Teaching Basic Business Subjects	2
	<i>(winter quarter)</i>	
VTE 343	Methods & Materials for Teaching Accounting & Data Processing	2
	<i>(spring quarter)</i>	
VTE 345	Methods & Materials for Teaching Shorthand	2
	<i>(spring quarter)</i>	
VTE 346	Methods & Materials for Teaching Office Procedures	2
	<i>(fall quarter)</i>	
VTE 440	Preparation for Teaching Vocational Business Education	3
	<i>(Take quarter before student teaching-winter quarter)</i>	
VTE 441	Teaching Improvement Seminar in Vocational Business & Office Education	2
	<i>(Take during student teaching quarter-fall quarter)</i>	
VTE 310	Vocational Education Foundations	3
	<i>(spring &amp; summer quarter)</i>	
VTE 410	Cooperative Education & Coordination Techniques	3
	<i>(winter &amp; summer quarter)</i>	

VTE 412	Vocational Student Organizations	2
	<i>(summer quarter)</i>	
VTE 430	Vocational Education for Learners with Special Needs	3
	<i>(fall &amp; summer quarter)</i>	
	Hours credit	33

**NOTE:** VTE 340 is a prerequisite or must be taken concurrently with VTE 341, 342, 343, 345, and 346.

**NOTE:** VTE 345 should be taken only by those students who wish to teach in secretarial programs.

## Marketing Education Certification

Administered by the Division of Education Studies

### Faculty

Robert D. Welch, Ed.D., Assoc. Prof.

This certification program is designed for students who hold a BA in Business Administration or a related major and wish to be certified and credentialed as a secondary Marketing Education Teacher Coordinator.

Students interested in this certification program for teaching must complete the program of Professional Teacher Education as described in this *Bulletin*.

Most secondary schools require a vocational credential for teaching Marketing Education. Student should check with his/her advisor concerning current requirements for this credential. Among the requirements are:

- 4,000 hours of approved work experience in related areas;
- Fourteen quarter hours of specified Vocational Teacher Education (VTE) courses; and;
- Student teaching experience with a teacher holding a valid Colorado vocational credential.

## Required Courses

VTE 303	Instructional Design	3
VTE 304	Instructional Design: Instructional Methods	1
VTE 107	Computer Literacy (or demonstrated competency)	1
VTE 307	Computer Software Use	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	3
VTE 465	Preparation for Teaching Marketing Education	2
	Hours credit	26

## Chemistry

Location: Ross Hall 138  
Telephone: 351-2559  
Marcus K. Meilahn, Chair

### Faculty

Clark L. Fields, PhD, Prof.  
Richard M. Hyslop, PhD, Asst. Prof.  
M. Lynn James, PhD, Prof.  
Roger A. Kovar, PhD, Prof.  
Marcus K. Meilahn, PhD, Prof.  
David L. Pringle, PhD, Prof.  
James O. Schreck, PhD, Prof.  
Richard W. Schwenz, PhD, Asst. Prof.  
Gordon E. Tomasi, PhD, Prof.

The Chemistry Department offers undergraduate programs leading to degrees at the bachelor's level in both Chemistry and Chemis-

try 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, 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 microcomputers 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.

## Bachelor of Arts in Chemistry

Students pursuing the B.A. degree with a major in Chemistry must

include the following courses in their programs:

- General Education requirements as specified in this *Bulletin*.

### Core Requirements for All Programs

CHEM 104	Principles of Chemistry I	5
	<i>or</i>	
CHEM 114	General Chemistry I	4
	<i>and</i>	
CHEM 117	General Chemistry I Laboratory	1
CHEM 105	Principles of Chemistry II	5
	<i>or</i>	
CHEM 115	General Chemistry II	4
	<i>and</i>	
CHEM 118	General Chemistry II Laboratory	1
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

### Liberal Arts Emphasis

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

#### Required Courses

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	Identification of Organic Compounds	3
CHEM 440	Laboratory in Inorganic Chemistry	1
CHEM 499	Seminar & Research in Chemistry	1-3

#### B. Special Topics Courses

CHEM 481	General Biochemistry I	3
CHEM 482	General Biochemistry II	3
CHEM 483	General Biochemistry III	3
CHEM 484	Experimental Biochemistry I	1
CHEM 485	Experimental Biochemistry II	1
CHEM 486	Experimental Biochemistry III	1
CHEM 493	Special Topics in Chemistry	3
CHEM	500-Level Courses	2-3

#### Supporting Required Courses

CHEM 291	Scientific Writing in Chemistry	3
COMM 110	Public Speaking I	3
ENG 122	Elementary Composition: Exposition	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 — Sound, Light & Heat	5
PHYS 267	General Physics — Electricity	5
	Hours credit	43

### Other Recommended Courses

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 and/or advanced course work in chemistry during the senior year. Advising is important, and students completing this program will be certified to the American Chemical Society and are eligible to become members of the Society.

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

### Teaching Emphasis

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

- General Education requirements as specified in this *Bulletin*.
- The Chemistry Major Core courses listed in the section designating chemistry majors.
- One minor of 27 or more quarter hours.
- The student must meet the stated departmental requirements for admission to PTE and student teaching.
- Required Professional Teacher Education courses (see Professional Teacher Education section of this *Bulletin*), including:  
EDLS 363 Clinical Experience: Secondary 2  
SCED 441 Methods of Teaching Secondary School Science 3

### Certification in Secondary Science

In order to receive institutional recommendation for Colorado Teacher Certification with endorsement in secondary science, students must develop knowledge and skills in biology, physics, earth science and mathematics. Recommended courses are:

BIO 101	Principles of Biology	5
BIO 102	Principles of Botany	5
	<i>or</i>	
BIO 103	Principles of Zoology	5
GEOL 201	Physical Geology	5
	<i>and</i>	
GEOL 202	Historical Geology	5
	<i>or</i>	
MET 200	General Meteorology	4
	<i>and</i>	
MET 301	Elements of Meteorology	4
MATH 124	College Algebra	5
MATH 125	Trigonometry	5

### 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 (PHYS 265, 266 and 267 may be substituted for PHYS 260, 261, and 262.)	5

### Electives

Chemistry electives to be selected with approval of student's advisor	10
Hours credit	27

## Minor in Chemistry

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	4
	<i>and</i>	
CHEM 117	General Chemistry I Laboratory	1

CHEM 105	Principles of Chemistry II	5
	<i>or</i>	
CHEM 115	General Chemistry II	4
	<i>and</i>	
CHEM 118	General Chemistry II Laboratory	1
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 481	General Biochemistry I	3
CHEM 482	General Biochemistry II	3
CHEM 484	Experimental Biochemistry I	1
CHEM 485	Experimental Biochemistry II	1
Hours credit		30

## Teaching Emphasis

Students pursuing a major in a teaching program should complete the requirements listed in the last section, chemistry minor, and the following course:

CHEM 495	Seminar in Teaching Chemistry	2
Total hours		32

## Master of Arts in Chemistry

### Liberal Arts Emphasis

#### Prerequisites

A candidate should have completed a program equivalent to the Bachelor of Arts degree in Chemistry (Liberal Arts) including courses in organic, inorganic, analytical and physical chemistry plus college mathematics through differential and integral calculus and one year of physics. If these prerequisites are not met, a candidate may be admitted to the program on a provisional basis but the deficiencies must be removed.

#### Requirements

- Take written qualifying examinations in the four areas of chemistry to determine strengths and weaknesses.
- Thirty quarter hours of approved course work must be completed and at least two-thirds of these hours must have a CHEM prefix. Written and oral comprehensive examinations must be passed.
- CHEM 599 Seminar in Chemistry, 3 hours credit.
- CHEM 699 Thesis, 15 hours credit. A thesis on original research work must be written and defended in an oral examination before the candidate's graduate committee.

### Teaching Emphasis

#### Prerequisites

A candidate should have completed courses comparable to those required in the BA degree in Chemistry (Teaching Emphasis) at the University of Northern Colorado. If these requirements are not met, a candidate may be admitted to the program on a provisional basis but the deficiencies must be removed.

#### Requirements

- Take written examinations in the four areas of chemistry to determine strengths and weaknesses.
- A minimum of 45 hours of departmentally approved courses distributed between chemistry and professional courses must be completed. At least one-half of these courses must have a CHEM prefix and be selected from the recommended courses listed below

unless waived by the Chemistry Department's graduate committee. Written and oral comprehensive examinations must be passed.

SCED 682	Problems in Teaching Chemistry	4
CHEM 599	Seminar in Chemistry	3
CHEM 622	Directed Studies	4
	or	
CHEM 699	Thesis	10
	(Candidates electing the thesis option must pass an oral examination over their thesis.)	

#### Required Courses (If not previously taken)

CHEM 551	Physical Chemistry I (CHEM 333, MATH 132, PHYS 267 are prerequisite)	4
CHEM 552	Physical Chemistry II	4
CHEM 553	Physical Chemistry III	4
CHEM 454	Physical Chemistry I Laboratory	1
CHEM 455	Physical Chemistry II Laboratory	1

The Chemistry Department recognizes that the educational needs of each candidate for this degree may be unique. Careful program planning with the Chemistry graduate advisor will enable the candidate to design a program suited to his or her needs. This may include departmentally approved courses outside the field of chemistry.

#### Teaching Certification

Completion of a Master of Arts degree in chemistry by itself does not meet all the PTE requirements for certification. Candidates should consult with the departmental PTE advisor if they are interested in certification.

#### Recommended Chemistry Courses for Liberal Arts and Teaching Masters Programs.

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 555	Chemical Kinetics	3
CHEM 556	Chemical Spectroscopy	3
CHEM 557	Special Topics in Physical Chemistry	2
CHEM 558	Chemical Thermodynamics I	2
CHEM 559	Chemical Thermodynamics II	2
CHEM 568	Quantum Chemistry I	2
CHEM 569	Quantum Chemistry II	2
CHEM 581	General Biochemistry I	4
CHEM 582	General Biochemistry II	4
CHEM 583	General Biochemistry III	4
CHEM 585	Current Biochemical Literature	1
CHEM 654	Statistical Thermodynamics	3

## Doctor of Arts in Chemistry

The objective of the Doctor of Arts program is to prepare the candidate to be well-qualified to teach Chemistry at the junior (community) or undergraduate college level.

#### Admission Requirements

A candidate should have completed courses comparable to those required in the BA degree (Teaching or Liberal Arts Emphasis) at the University of Northern Colorado. If these requirements are not met, a student may be provisionally admitted to the program but the deficiencies are to be removed early in the program.

#### Degree Requirements

- Pass written qualifying examinations in four of the five areas of Chemistry.
- A candidate must complete 141 quarter hours of graduate credit if he/she enters the program with the baccalaureate degree; 96 quarter hours with the master's degree.

- The candidate must pass a written and an oral comprehensive examination.

- CHEM 797 Doctoral Proposal Research (6 hours) and CHEM 799 Doctoral Dissertation (18 hours). A dissertation on original research work must be written and defended in an oral examination before the candidate's graduate committee.

- CHEM 755 Supervised Practicum in College Teaching (3 to 9 hours) will be carried out under the supervision of the UNC Chemistry Faculty. The number of hours will depend upon the candidate's background.

- The following required courses.

#### Required Courses

(If not previously taken)

CHEM 551	Physical Chemistry I	4
CHEM 552	Physical Chemistry II	4
CHEM 553	Physical Chemistry III	4
CHEM 454	Physical Chemistry I Laboratory	1
CHEM 455	Physical Chemistry II Laboratory	1
CHEM 599	Seminar in Chemistry	4-6

#### Recommended Major Courses

The candidate's program in Chemistry will be determined by his/her graduate advisory committee, after reviewing the transcripts and qualifying examination scores. The candidate may be required to take course work in areas where he/she is deficient; but such course work may not apply toward the degree.

The candidate must select, with the approval of his/her committee, those courses which afford a knowledge in at least four of the five areas of Chemistry from the following list:

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 and Reaction Mechanisms in Organic Chemistry	3
CHEM 534	Special Topics in Organic Chemistry	2-6
CHEM 535	Synthetic Organic Chemistry	3
CHEM 555	Chemical Kinetics	3
CHEM 556	Chemical Spectroscopy	3
CHEM 557	Special Topics in Physical Chemistry	2-6
CHEM 558	Chemical Thermodynamics I	2
CHEM 559	Chemical Thermodynamics II	2
CHEM 568	Quantum Chemistry I	2
CHEM 569	Quantum Chemistry II	2
CHEM 581	General Biochemistry I	4
CHEM 582	General Biochemistry II	4
CHEM 583	General Biochemistry III	4
CHEM 585	Current Biochemical Literature	1
CHEM 654	Statistical Thermodynamics	3
SCI 591	Computer Applications in Science	3
SCI 593	Computer Programming in Science	3

Courses can be taken with the approval of the candidate's committee in other areas such as in the natural sciences, mathematics, computer science, education, educational administration, etc., to round out the candidate's program.

#### 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	3
EPRE 505	Statistical Inference	3
SCED 674	Instructional Problems in Teaching Science	3
SCED 682	Problems in Teaching Chemistry	4
ID 702	Teacher in College Community	3

# College Student Personnel Administration

Administered by the Division of Professional Studies  
 Arthur R. Partridge, Director  
 Location: McKee Hall 419  
 Telephone: 351-2861  
 Sue Spooner, Coordinator of College Student Personnel Administration

## Faculty

James C. Blackburn, PhD, Asst. Prof.  
 James K. Bowen, EdD, Prof.  
 Janet Fontaine, PhD, Asst. Prof.  
 Bernard C. Kinnick, EdD, Prof.  
 Robert P. Merz, EdD, Asst. Prof.  
 Norman T. Oppelt, PhD, Prof.  
 Nancy A. Scott, PhD, Prof.  
 Charles E. Selden, MA, Asst. Prof.  
 David W. Smart, PhD, Prof.  
 Sue E. Spooner, PhD, Assoc. Prof.  
 Douglas L. Stutler, PhD, Prof.  
 Gerald E. Tanner, PhD, Assoc. Prof.

## Doctor of Philosophy in College Student Personnel Administration

The program of studies is designed to prepare professionals for college and university positions in all areas of student affairs.

The educational model on which the program is based maintains that student affairs professionals must possess a broad knowledge base, a variety of specific skills and be persons oriented toward personal growth. A strong background in the liberal arts, basic helping skills, and an interest in research, evaluation and statistics are desirable assets for those wishing to enter the program. The curriculum is based on a process-outcome model which prepares generalists for 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
- A master's degree is *strongly* recommended. UNC does not offer a master's degree in CSPA. For alternative see PPSY M.A. in Secondary and Post-Secondary Counseling.

## Requirements

The following description outlines the requirements for the PhD in College Student Personnel Administration. For more detail request a copy of the program handbook from the program coordinator. A minimum of 96 quarter hours is required.

### Core Courses

CSPA 650	Student Development Theory	3
CSPA 750	College Environments and Student Development	3
CSPA 658	Organizational Models and Resource Management	3
CSPA 671	Leadership and Administrative Styles in Student Affairs	3
CSPA 651	Historical, Philosophical and Cultural Foundations	4
CSPA 682	Legal Issues in Student Affairs	2
CSPA 683	Interpersonal Skills	2
CSPA 684	Group Leadership Skills	3
	Hours credit	23

And a choice of two from the following:

CSPA 652	Enrollment Management Services	3
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CSPA 653	Services for Environmental/Student Development	3
CSPA 654	Services for Special Populations	3
	Hours credit	6

### Plus

CSPA 758	Seminar in Student Affairs (taken at least three times)	1
	Hours credit	3

### Directed Study

CSPA 622	Directed Studies (variable credit and title)	1-4
	Hours credit	3

### Field Experience or Internship

As part of the doctoral program in College Student Personnel Administration at UNC, every graduate student is required to complete a minimum of 6 quarter hours of credit in field based experiences. Sites are to be selected with the advice and consent of the advisor in conjunction with the office/supervisor on the site. A seminar which meets every other week during the quarter is a required part of enrollment in a field experience. To enroll in a field experience (which is a non-scheduled course), obtain a bubble sheet and the signatures of the program coordinator and the on-site supervisor.

CSPA 675	Field Experience in Student Affairs	3
	or	
CSPA 670	Internship in CSPA	6
	Hours credit	6

### Research and Statistics

EPRE 505 or its equivalent is expected as a prerequisite. Students lacking an introductory statistics course should plan to take EPRE 505 to remedy the deficiency. Credits for this work do *not* count toward the PhD degree.

CSPA 700	Doctoral Research and Evaluation in Student Affairs	4
EPRE 603	Analysis of Variance and Other Methods of Analysis	4

Plus nine additional quarter hours, which must include at least one computer course.

CSPA 797	Doctoral Proposal Research	6
CSPA 799	Doctoral Dissertation	18
	Hours credit	41
	Total hours credit prior to second research tool	96

### Research Tool Policy

PhD students in CSPA must demonstrate competency in two acceptable research tools. One of these (No. 2) is contained in the curriculum. The second may be selected from among the remaining options (Nos. 1, 3, or 4): Foreign Language, Computer Applications, and Mathematical Statistics. Hours taken to satisfy a second research tool requirement may not be included in the 96 quarter hours of doctoral credit required by the Graduate School.

The CSPA faculty has set the following levels of competency and assessment standards for the research tools established by the Graduate Council:

1. Foreign Language  
 Pass the ETS (or other faculty approved) examination in any major modern foreign language with a score of the 50th percentile or better. To take these examinations, contact the Office of Career Development and Testing in Carter Hall.
2. Applied Statistics  
 Pass EPRE 505 and 603 (or their equivalent in transfer credits) with grades of B or better and complete a minimum of 4 additional credits in applied statistics, also with grades of B or better.
3. Computer Applications  
 Complete a minimum of 12 quarter hours in courses relating to computer use at the graduate level with grades of B or better.

### OR

Prepare and demonstrate a computer program written to meet a specific application need in student affairs. This program will be judged as "acceptable" or "unacceptable" by the student's



doctoral examination committee. When appropriate, the committee will seek expert consultation.

#### 4. Mathematical Statistics

Complete STAT 551, 552, 553 (or their equivalent in transfer credits) with grades of B or better.

#### 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.

## Communication Disorders

Location: McKee Hall 27

Telephone: 351-2734

Francis A. Griffith, Chair

#### Faculty

Donna J. Bottenberg, MA, Asst. Prof.

Linda K. Cleeland, MA, Inst.

Francis A. Griffith, PhD, Prof.

Raymond H. Hull, PhD, Prof.

Dennis R-S Ingrisano, PhD, Assoc. Prof.

Linda K. Kiyota, MA, Clinical Staff

Dale J. Lundeen, PhD, Prof.

Vicki A. Reed, EdD, Assoc. Prof.

The Department of Communication Disorders offers two training programs, both with clinical orientation. The department also houses the Speech-Language Pathology and Audiology Clinic. Students majoring in areas of this department are offered the opportunity for supervised clinical experiences through the Speech-Language Pathology and Audiology Clinic and various other centers and programs on- and off-campus.

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 academic and clinical preparation. Areas emphasized include:

- Diagnosis of a broad range of hearing disorders in persons ranging in age from infants through older adults.
- Audiological 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 execution of, noise abatement programs for industry, schools and other agencies.

This program offers extensive supervised clinical experience through the well-equipped UNC Speech-Language Pathology and Audiology Clinic and ancillary clinics and programs in northern Colorado. The program is accredited for audiological services through the Professional Services Board of the Boards of Examiners in Speech-Language Pathology and Audiology (BESPA) of the American Speech-Language-Hearing Association (ASHA). The Colorado Department of Education (CDE) has accredited the training program for educational audiologists, and the MA audiology program is accredited by the Educational Standards Board of the BESPA.

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 program prepares students in 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 accredited by the CDE and by the ESB (BESPA).

Areas emphasized include the diagnosis and treatment of articulation, voice, stuttering, and language disorders in persons ranging in age from young children through older adults.

This program offers extensive supervised clinical experiences through the UNC Speech-Language Pathology and Audiology Clinic. The speech-language pathology services of this Clinic are accredited by the Professional Services Board of the BESPA. The graduate degree program is accredited by the Colorado Department of Education, for persons who plan to work in the schools, and by the ESB of the BESPA.

Career opportunities include positions in schools; hospitals; ear, nose and throat medical practices; rehabilitation centers; and private practice.

## Bachelor of Arts 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 the associated on-campus clinic are accredited for *both* academic preparation and professional services by the Boards of Examiners in Speech-Language Pathology and Audiology of the American Speech-Language-Hearing Association (ASHA). Both programs are also accredited by the Colorado Department of Education for those who desire employment in the schools upon completion of the master's degree program.

Students begin their coursework in Speech-Language Pathology or Audiology in the freshman or sophomore year and take most of their major courses during the junior and senior years. In the sophomore year, students begin to observe clinical practices within the UNC Speech-Language Pathology and Audiology Clinic. Observation at a more advanced level occurs during the junior and senior years. Advanced students participate in supervised clinical activities in the Clinic during the senior year.

Academic and clinical experiences at the undergraduate level provide a strong base for students as they enter their professional certifying degree programs at the master's degree level. For a broader base of knowledge and experience, undergraduate students may major in both Audiology and Speech-Language Pathology. Students who elect the double major should obtain a faculty advisor in each area to coordinate course scheduling.

## Bachelor of Arts in Communication Disorders: Audiology

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 the 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 Audiology service program and the master's degree program are both certified by the appropriate boards (PSB and ESB, respectively) of the BESPA.

#### Program Requirements

General Education requirements as specified in this *Bulletin*.

#### Required Courses

EDSE 100	Education of Exceptional Children	3
CMDS 160	Introduction to Human Communication Disorders	3
CMDS 260	Introduction to Phonetics	3
CMDS 264	Clinical Observation in Communication Disorders	2
CMDS 265	Acoustics of Speech	3
CMDS 266	Speech and Language Development	3
CMDS 267	Anatomy and Physiology of the Speech Mechanism	3
CMDS 270	Structure and Pathology of Auditory & Vestibular Systems	3
EDSE 356	Introduction to Manual Communication Skills	3

EDSE 357	Introduction to Hearing Aids and Amplification Systems	3
EDSE 358	Auditory Training and Speechreading	4
CMDS 360	Articulation Disorders I	3
CMDS 361	Voice Disorders I	2
CMDS 364	Observation in Speech-Language Pathology	2
CMDS 365	Language Disorders in Children I	5
CMDS 370	Introduction to Audiology	3
CMDS 371	Speech and Hearing Science	4
CMDS 372	Advanced Audiology	5
CMDS 374	Advanced Observation in Audiology	2-3
CMDS 386	Basic Clinical Strategies in Speech-Language Pathology/Audiology	4
CMDS 463	Entry/Primary Speech-Language Pathology Practicum	2
CMDS 468	Neurological Bases of Speech, Language and Hearing	5
CMDS 474	Clinical Practicum in Audiology	2
ZOO 105	Human Biology	4
ZOO 220	Introduction to Human Anatomy-Physiology	5
	Hours credit	81-82

**Other Recommended Courses**

COMM 110	Public Speaking I	3
GERO 205	Introduction to Gerontology	3
HRS 290	Introduction to Human Rehabilitative Services	3

## Bachelor of Arts in Communication Disorders: Speech-Language Pathology

The bachelor of arts degree is pre-professional and does not lead to certification of any type. The master of arts degree is the professional degree and enables the student to meet the academic and practicum requirements for certification by ASHA, as well as the endorsement standards for Speech-Language Specialist K-12 in the Colorado public schools (Type E certificate).

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. Therefore, students are encouraged to develop good writing and typing skills.

**Program Requirements**

General Education requirements as specified in this *Bulletin*.

**Required Courses:**

EDSE 100	Educational of Exceptional Children	3
CMDS 160	Introduction to Human Communication Disorders	3
CMDS 260	Introduction to Phonetics	3
CMDS 264	Introduction to Clinical Observation in Communication Disorders	2
CMDS 265	Acoustics of Speech	3
CMDS 266	Speech and Language Development	3
CMDS 267	Anatomy and Physiology of the Speech Mechanism	3
CMDS 270	Structure and Pathology of Auditory & Vestibular Systems	3
EDSE 356	Introduction to Manual Communication Skills	3
EDSE 358	Auditory Training and Speechreading	4
CMDS 360	Articulation Disorders I	3
CMDS 361	Voice Disorders I	2
CMDS 364	Observation in Speech-Language Pathology	2
CMDS 365	Language Disorders in Children I	5
CMDS 370	Introduction to Audiology	3
CMDS 371	Speech and Hearing Science	4
CMDS 372	Advanced Audiology	5
CMDS 374	Advanced Observation in Audiology	1-2
CMDS 386	Basic Clinical Strategies in Speech-Language Pathology/Audiology	4

CMDS 431	Organically-Based Communication Disorders	3
CMDS 432	Clinical Report Writing	2
CMDS 462	Stuttering I	1
CMDS 463	Entry/Primary Undergraduate Speech-Language Pathology Practicum	2
CMDS 464	Intermediate Undergraduate Speech-Language Pathology Practicum	2
CMDS 465	Advanced Undergraduate Speech-Language Pathology Practicum	2
CMDS 467	Diagnosis in Speech-Language Pathology	4
CMDS 468	Neurological Bases of Speech, Language and Hearing	5
CMDS 469	Observation of Speech-Language Diagnostics	1
CMDS 474	Clinical Practicum in Audiology	2
	Hours credit	83

Upon completion of required observation hours, undergraduate Speech-Language Pathology majors, whether full- or part-time, are required to register for a practicum course (CMDS 463, 464, or 465) each quarter on campus.

**Recommended PTE Courses**

EPRE 345	Educational Psychology	5
EDF 364	Foundations of Education	4
EDF 385	Law & the Classroom Teacher	2
	or	
EDAD 385	Law & the Classroom Teacher	2

**Other Recommended Courses**

COMM 110	Public Speaking I	3
GERO 205	Introduction to Gerontology	3
HRS 290	Introduction to Human Rehabilitative Services	3
EDSE 357	Introduction to Hearing Aids & Amplification Systems	3

## Minor in Communication Disorders

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 coursework in both programs and observe ongoing diagnostics and therapy in the Department's Speech-Language Pathology and Audiology Clinic. 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 in either field. Only the majors as listed in this *Bulletin* lead to licensure or certification in Speech-Language Pathology or Audiology.

**Required Courses**

CMDS 160	Introduction to Human Communication Disorders	3
CMDS 260	Introduction to Phonetics	3
CMDS 264	Introduction to Clinical Observation in Communication Disorders	2
CMDS 265	Acoustics of Speech	3
CMDS 266	Speech and Language Development	3
CMDS 267	Anatomy and Physiology of the Speech Mechanism	3
CMDS 270	Structure and Pathology of Auditory and Vestibular Systems	3
EDSE 357	Introduction to Hearing Aids & Amplification Systems	3
CMDS 365	Language Disorders in Children I	5
CMDS 370	Introduction to Audiology	3
	Hours credit	31

## Graduate Programs

The Department of Communication Disorders offers comprehensive masters of arts degree programs in both Speech-Language Pathology and Audiology. These programs and the clinical service

program associated with them are fully accredited by a) the Colorado Department of Education, for the Type E Certificates for Educational Audiologist and for Speech-Language Specialist K-12, b) the Educational Standards Board of BESPA for the MA programs in Audiology and in Speech-Language Pathology, and c) the Professional Services Board of BESPA for the professional services provided by the UNC Speech-Language Pathology and Audiology Clinic. Students seeking initial Colorado endorsement for a Type E certificate in Speech-Language Pathology or in Audiology should contact the Teacher Education Center in McKee Hall for state proficiency examination requirements.

The student's coursework is sequenced with supervised practicum experiences in the Speech-Language Pathology and Audiology Clinic. Students also gain supervised practical experiences through off-campus auxiliary programs for assessment and/or treatment of speech-language and/or hearing disorders.

A thesis option is available and is recommended for students who contemplate pursuing a doctoral degree in Communication Disorders. The credit hours associated with the master's thesis are in addition to all other coursework and practicum requirements. Thus, the student who completes a master's thesis must plan on additional time in the program.

During the final quarter of the graduate program, the student completes a full-time internship in a carefully selected hospital or rehabilitation setting. For students planning to qualify for employment in the schools, an additional full-time practicum experience is required, if student teaching was not completed during the student's undergraduate program. For further information, write: Chair, Department of Communication Disorders, McKee 27, University of Northern Colorado, Greeley, Colorado 80639, or call (303) 351-2734.

## Master of Arts in Communication Disorders: Audiology

Following is the required program for the MA in Communication Disorders: Audiology

CMDS 542	Research Writing in Communication Disorders	2
CMDS 567	Auditory Processing Disorders	2
CMDS 570	Adult/Geriatric Audiology and Aural Rehabilitation	3
CMDS 571	Speech and Hearing Science (or equivalent)	4
CMDS 572	Noise and Noise Control	3
CMDS 573	The Auditory Mechanism	3
CMDS 574	Advanced Clinical Practicum in Audiology	4-8
CMDS 575	Pediatric Audiology: Etiology and Assessment	3
CMDS 576	Electrophysiological Audiometry	4
CMDS 578	Pediatric Aural Rehabilitation	3
CMDS 580	Advanced Practicum in Rehabilitative Audiology	4-8
CMDS 582	School Audiology	3
CMDS 671	Psychoacoustics	3
CMDS 674	Externship in Audiology	15
CMDS 675	Differential Diagnosis of Auditory Problems	3
CMDS 678	Hearing Aids and Uses of Amplification	3
CMDS 685	Neuroanatomy and Neurophysiology of Communication (or equivalent)	3
HRS 610	Interpretation and Evaluation of Behavioral Research	3
	Hours credit	68-76

Advisement on Speech-Language Pathology courses and practicum experiences needed to meet certification requirements is recommended.

For those students desiring to complete certification requirements in Educational Audiology, the following additional courses are required:

CMDS 568	Counseling in Communication Disorders	3
CMDS 673	Practicum in School Audiology	2

The following courses are highly recommended as electives:

CMDS 565	Aphasia and Related Disorders of Adults	4
CMDS 568	Counseling in Communication Disorders	3

Enrollment in the master's degree program in Audiology is limited,

in order to provide students individual attention in coursework and practica. For information regarding admission procedures, contact: Chair, Department of Communication Disorders, McKee Hall 27.

Students applying for the master's program in Audiology will be selected according to the following criteria: a) undergraduate academic achievement, b) promise of academic achievement on the graduate level, c) two letters of reference from persons familiar with the applicant's academic/clinical performance, d) Graduate Records Examination scores, e) writing skills, and f) personal interview (recommended, but not required).

Admission to the UNC Graduate School does not guarantee admission to the Audiology graduate program. Separate application procedures are required. For information regarding Graduate School admission, contact the Graduate School office in Carter Hall.

Application deadline, both to the Graduate School and to this department, is April 15 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 on or about April 30. Official notice is sent by the University of Northern Colorado Graduate School. Decisions regarding assistantships are also made on or about April 30 for the next academic year. Because the program is sequenced, one half of the admitted class must begin the program during summer quarter and one half during the fall quarter immediately following notification of acceptance.

Students who wish to obtain certification from the Colorado Department of Education as Educational Audiologists must complete additional requirements, as indicated by his or her advisor. Students seeking initial Colorado endorsement for a Type E certificate in Audiology should contact the Teacher Education Center in McKee Hall for state proficiency examination requirements.

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 externship 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. Placement in an externship during the final quarter of the master's program is possible only by permission of the Audiology faculty.

## Master of Arts in Communication Disorders: Speech-Language Pathology

The MA degree program in Speech-Language Pathology is accredited by the Educational Standards Board of BESPA; the Colorado Department of Education has accredited the program for the preparation of Speech-Language Specialist, K-12 (Type E certificate).

Following is the required program

CMDS 532	Clinical Report Writing (or equivalent)	2
CMDS 542	Research Writing	2
CMDS 560	Public School Speech-Language Pathology	2
CMDS 561	Voice Disorders and Cleft Palate	4
CMDS 563	Clinical Supervision	2
CMDS 565	Aphasia and Related Disorders in Adults	4
CMDS 567	Auditory Processing Disorders	2
CMDS 568	Counseling in Communication Disorders	3
CMDS 569	Advanced Laboratory in Diagnostics	6
CMDS 571	Speech and Hearing Science (or equivalent)	4
CMDS 583	Basic Graduate Practicum in Speech-Language Pathology	2
CMDS 584	Intermediate Graduate Practicum in Speech-Language Pathology, minimum	2
CMDS 585	Advanced Graduate Practicum in Speech-Language Pathology minimum	2
CMDS 586	Basic Clinical Strategies in Speech-Language Pathology/Audiology (or equivalent)	4
CMDS 643	Pragmatic Aspects of Language Functioning	2
CMDS 660	Articulation Disorders II	3
CMDS 661	Neurological Motor Speech Disorders	4
CMDS 662	Stuttering II	4

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 681	Experimental Phonetics	3
CMDS 685	Neuroanatomy and Neurophysiology of Communication (or equivalent)	3
CMDS 697	Advanced Diagnosis in Speech-Language Pathology	2
HRS 610	Interpretation and Evaluation of Behavioral Research	3
Hours credit		85-87

A student's program must include courses and practicum experiences which allow him or her to meet American Speech-Language-Hearing Association requirements for the Certificate of Clinical Competence: Speech-Language Pathology (CCC-SLP). These are minimum requirements and assume an adequate undergraduate background in Speech-Language Pathology and related areas. Students who do not have this background must fulfill additional academic requirements as determined by their major advisor.

Prerequisite courses are 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 17½ hours in audiological assessment, and 17½ hours in aural rehabilitation. All eligible graduate Speech-Language Pathology majors, either full- or part-time, are required to register for one of the graduate practicum courses (CMDS 583, 584 or CMDS 585) each quarter.

A thesis option is available and is recommended for students who contemplate pursuing a doctoral degree in Communication Disorders. The credit hours for the thesis are in addition to those required for the degree, so students who complete a thesis must plan to spend more time in the program in order to do so.

Students who complete the master's degree program are eligible for the Type E teaching certificate 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. Students seeking initial Colorado endorsement for a Type E certificate as Speech-language Specialist K-12 should contact the Teacher Education Center in McKee Hall for state proficiency examination requirements.

The following courses are highly recommended as electives:

CMDS 575	Pediatric Audiology: Etiology and Assessment	3
EDSE 604	Principles & Practices of Measurement of the Handicapped	3
EDSE 605	Appraisal of Exceptional Children	5
CMDS 668	Selected Topics in Communication Disorders	1-3
CMDS 691	Real-Time Laboratory Applications in the Behavioral Sciences	2
CMDS 697	Advanced Diagnosis in Speech/Language Pathology	2
CMDS 699	Thesis: Communication Disorders	1-9
PSY 624	Human Neuropsychology	4
PPSY 647	Psychological Aspects of Learning Disabilities	3
EDEC 648	Psycholinguistics in Early Childhood	3

The master's program in Speech-Language Pathology is limited in its enrollment in order to provide individual attention to both academic and clinical preparation. For information about admission procedures, contact the Chair, Department of Communication Disorders, McKee Hall 27. Students applying for this program will be selected according to the following criteria: a) record of academic achievement on the undergraduate level; b) promise of academic achievement in graduate work; c) minimum of two letters of recommendation from persons familiar with their academic/clinical performance; d) Graduate Records Examination scores, e) personal interview (desired, but not required). Admission by the Graduate School is required for admission to the Speech-Language Pathology master's degree program but does not guarantee admission to the program.

Application deadline both for the Graduate School and the department is April 15 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. Official notice is sent by the University of Northern Colorado Graduate School. Decisions regarding assistantships are also made on or about April 30. Prospective students are advised to begin application procedures during the fall preceding the quarter they wish to enter the program.

It is possible for a student who is not accepted into the program unconditionally to enroll in certain courses as an unclassified student. Successful performance as an unclassified student may result in the student's being admitted to the degree program. Interested persons should contact the Speech-Language Pathology office for specific information.

The master's degree program is sequenced, so students who are accepted must begin either summer or fall quarter following notification of admission. Approximately one half of the students admitted for a given academic year must begin during summer quarter; the other half must begin fall quarter. Although an attempt is made to admit students for the quarter requested (summer or fall), it may be necessary to begin the other quarter.

## Community Health Education

Administered by the Department of Community Health  
Location: Michener L136  
Telephones: 351-2755, 351-2757  
James Robinson III, Chair

### Faculty

Bryan E. M. Cooke, PhD, Prof.  
Mary F. Davis, DPA, Asst. prof.  
Larry R. Harrison, MS, Asst. Prof.  
Randy M. Page, PhD, Asst. Prof.  
William G. Parkos, PhD, Prof.  
James Robinson III, EdD

The Department of Community Health at the University of Northern Colorado is the only department in Colorado to offer the following undergraduate and graduate degree programs:

Bachelor of Science: Community Health Education  
Minor in Community Health Education  
Minor in School Health Education

Master of Arts in Health Education: Emphasis in Community Health  
Students in these programs are prepared to work with people in all ages—helping them prevent disease and developing positive healthy lifestyles. Students take a broad range of courses covering health and disease processes, effective educational strategies and community resources in health. Coursework in Community Health Education is supported by classes from the behavioral, natural and social sciences. Both undergraduate and graduate programs include pre-professional experiences through practica and internships. In addition, the College of Health and Human Services Clinic provides students with opportunities to practice health education skills as part of regular classroom activities.

Careers in community health are people-oriented, with employment opportunities available for working with people in all age groups. Examples of such opportunities include: community-wide health promotion programs, smoking cessation programs, employee fitness seminars, adolescent health programs, child abuse prevention, and wellness programs for the elderly.

## Bachelor of Science in Health: Community Health Education

Students pursuing the B.S. degree with a major in Health: Community Health Education must plan to fulfill the following requirements:

- Complete General Education requirements.
- Complete the following required courses:

### Foundation Courses

SOC 100 Principles of Sociology \*

ENG 122	Elementary Composition: Exposition *	4
COMM 110	Public Speaking I *	3
PSY 120	General Psychology *	5
ANT 170	Intro to Biocultural Anthropology	4
CH 205	Issues in Health	3
ZOO 220	Intro to Human Anatomy and Physiology *	5
PSY 240	Principles of Learning	3
STAT 303	Statistics for Health Sciences *	4
	Hours credit	35

\* May be met through G.E. requirements

#### Professional Courses

CH 110	Introduction to Health Promotion/Health Education	1
CH 209	Health Behavior	3
CH 220	Introductory Epidemiology	4
CH 254	Sophomore Practicum in Community Health	3
CH 299	Community Health Systems	3
CH 330	Health Promotion/Health Education Strategies I	3
CH 331	Health Promotion/Health Education Strategies II	3
CH 342	Modern Concepts of Health and Disease	3
CH 350	Introduction to Environmental Health	3
CH 410	Program Planning & Evaluation	4
CH 440	Principles of Health Program Management	3
CH 454	Internship in Health	15
CH 455	Senior Seminar in Community Health	1
	Hours credit	49
	Total hours credit	84

Students are encouraged to consult their advisor regarding the possible completion of a minor program.

### Minor in Community Health Education

Students pursuing a minor in Community Health Education must complete the following core courses:

CH 110	Introduction to Health Promotion/Health Education	1
CH 209	Health Behavior	3
CH 299	Community Health Systems	3
CH 330	Health Promotion/Health Education Strategies I	3
CH 331	Health Promotion/Health Education Strategies II	3
CH 342	Modern Concepts of Health and Disease	3
CH 350	Introduction to Environmental Health	3
Electives selected with approval of student's minor advisor		15
	Hours credit	34

### Minor in School Health Education

Students pursuing a minor in School Health Education must complete the following core courses:

CH 110	Introduction to Health Promotion/Health Education	1
CH 209	Health Behavior	3
CH 238	Contemporary Issues in Drug Abuse	3
CH 299	Community Health Systems	3
CH 303	Health Education in the Elementary School	2
CH 336	Human Sexuality	3
CH 342	Modern Concepts of Health and Disease	3
CH 343	Methods and Observations of Health Education	5
Electives selected with approval of student's minor advisor		11
	Hours credit	34

### Graduate Programs

The graduate program is designed to accommodate students who wish to earn the Master of Arts degree in Health Education: Community Health on either a part-time or full-time basis. Because of our open enrollment policy, student applications are received throughout the year. Graduate tuition scholarships and teaching assistantships are available to students on a competitive basis.

Careers in the field are multifaceted, requiring skills in communication, organization, and administration. Recent graduates have found employment opportunities in administrative and coordinating positions in official and voluntary health agencies, hospitals, health promotion units, schools and industry. Graduates in the health field earn a better than average income, and the short and long term job prospects are promising.

### Master of Arts in Health Education: Emphasis in Community Health

#### Required Courses

EPRE 505	Elements of Statistics	4
CH 509	Seminar in Health Behavior	4
CH 510	Program Planning and Evaluation	4
CH 515	Community Health Analysis	3
CH 520	Epidemiology	3
CH 525	Public Health Administration and Policy	3
CH 540	Principles of Health Program Management	3
CH 550	Environmental Health	4
CH 560	Scientific Foundations of Health Promotion/Disease Prevention	3
HRS 610	Interpretation and Evaluation of Behavioral Research	3
CH 630	Seminar in Health Promotion Strategies	3
CH 652	Graduate Internship in Health Ed.	12
	Electives	7
	Hours credit	56

### Computer Science

(See Mathematics)

### Counseling

(See Professional Psychology)

### Dietetics, Food and Nutrition

Administered by the School of Nursing

Location: McKee Hall

Telephone: 351-2293

Marie Miller, Director

#### Faculty

Philomena Lomena, EdD, RD, Asst. Prof.

Elisabeth Wirick, MA, MS, RD, 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 as specified in this *Bulletin*.
- Take courses in the selected major.
- Select electives to complete the 180 quarter hours of academic credit required for graduation.
- Students are charged a laboratory fee when enrolled in FND 241, FND 242 and FND 249.

### Bachelor of Arts in Dietetics

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 community, clinical, private practice and management aspects of nutrition in 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 entry level careers in community, clinical, consultative dietetics and management positions in business and industry.

At the senior level, a student may apply for a dietetic internship or a three-year work experience under the supervision of a registered dietitian. After completion of the internship or work experience, the student is eligible to take the examination required to become a registered dietitian.

The following courses are required to meet departmental requirements and are listed in the recommended sequence.

#### Required Courses

MIS 180	Information Systems	4
CHEM 104	Principles of Chemistry I	5
CHEM 105	Principles of Chemistry II	5
CHEM 130	Introductory Organic Chemistry	5
ENG 103	Basic Technical Writing	3
ZOO 105	Human Biology	4
ACCT 220	Principles of Accounting I	4
ZOO 221	Human Anatomy	4
FND 241	Principles of Food Science I	4
FND 242	Principles of Food Science II	4
FND 249	Meal Management	2
ZOO 250	Human Physiology	5
FND 251	Nutrition I	3
FND 259	Nutrition Module: Medical Terminology	1
BIO 261	Medical and Public Health Microbiology	3
BIO 265	Medical & Public Health Microbiology Lab	1
<i>or</i>		
BIO 361	Microbiology	5
CHEM 281	Fundamentals of Human Biochemistry	5
MGT 350	Principles of Management	4
FND 351	Nutrition for the Older Adult	3
FND 353	Clinical Nutrition	5
FND 356	Infant and Child Nutrition	3
FND 358	Developmental Nutrition	3
FND 362	Demonstration Techniques	2
CHEM 395	Food Chemistry	3
NURS 405	Nursing Theory & Research	3-4
FND 408	Senior FND Seminar	2
FND 446	Food Service Administration	4
FND 447	Quantity Food Purchasing & Preparation	5
FND 451	Nutrition II	3
FND 452	Community Nutrition	3
FND 453	Nutritional Intervention Practicum	1-3

The following courses should be chosen to meet Plan IV ADA requirements:

MATH 101	Fundamental Mathematical Skills	3
MATH 123	Intermediate Algebra	5
PSY 120	General Psychology	5
<i>or</i>		
SOC 100	Principles of Sociology	4
ANT 100	General Anthropology	4
<i>or</i>		
SOC 232	The Community	5
<i>or</i>		
SOC 315	Sociology of Medicine	4
MGT 453	Human Resources Management	4
<i>or</i>		
PSY 366	Industrial Psychology	3
ECON 110	Principles of Economics: Microeconomics	4
<i>or</i>		
ECON 120	Principles of Economics: Macroeconomics	4
PSY 240	Principles of Learning	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.

## Bachelor of Arts in Food and Nutrition: Food Service Management Emphasis

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 entry level food service management positions in restaurants, schools, colleges and universities, industrial plants, flight kitchens, military and governmental agencies.

The student, with the guidance of an advisor, will select electives to supplement major requirements and to allow for individual needs and interests.

#### Required Courses

ECON 110	Principles of Economics: Micro	4
CHEM 108	Fundamentals of General Chemistry	5
CHEM 109	Fundamentals of Organic Chemistry	5
MIS 180	Information Systems	4
BUS 205	Business Communications	4
BIO 205	Biology of Food	3
ACCT 220	Principles of Accounting I	4
FND 241	Principles of Food Science I	4
FND 242	Principles of Food Science II	4
FND 249	Meal Management	2
FND 251	Nutrition I	3
MGT 350	Principles of Management	4
FND 362	Demonstration Techniques	2
BIO 363	Food Microbiology	5
CHEM 395	Food Chemistry	3
FND 408	Senior FND Seminar	2
FND 409	Food & Nutrition Internship	5-15
FND 446	Food Service Administration	3
FND 447	Quantity Food Purchasing & Preparation	4
ACCT 221	Principles of Accounting II	4
BUS 231	Business Law I	4
BAQA 291	Business Statistics I	4
MGT 354	Human Organizational Behavior	4
MKT 360	Marketing	4
MKT 365	Marketing Strategy	4
FIN 370	Business Finance	4
ECON 110	Principles of Economics: Micro-Economics	4

## Earth Sciences

(Astronomy, Geology, Meteorology, Oceanography)

Location: Ross 332  
Telephone: 351-2647  
William D. Nesse, 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.



## Bachelor of Arts in Earth Sciences

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. A 2.0 grade point average must be maintained in these courses.
- Electives to complete the requirements for graduation.

### Geology Program

- General Education requirements as specified in this *Bulletin*.
- The following science and mathematics courses in which a 2.0 grade point average must be maintained.

#### 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 421	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 & Light	5
PHYS 262	Introductory Physics — Electricity & Magnetism	5
	Geology elective	3
	Hours credit	94

- An advisor-approved summer geology field camp is strongly recommended and can substitute for GEOL 480.

- Additional preparatory mathematics such as MATH 124 and MATH 125 may be required depending on the student's background.

- 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 in which a 2.0 grade point average must be maintained.

MET 200	General Meteorology	4
MET 301	Elements of Meteorology	4
MET 302	Dynamic Meteorology	4
MET 315	Meteorological Instruments, Observations & 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
STAT 203	Introduction to Statistical Analysis	3
CS 114	Computer Programming in FORTRAN 77	4
PHYS 265	General Physics — Mechanics	5
PHYS 266	General Physics — Sound, Light & Heat	5
PHYS 267	General Physics — Electricity	5
	Hours credit	91

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

- Additional preparatory mathematics such as MATH 124 and MATH 125 may be required depending on the student's background.

### 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. A 2.5 grade point average must be maintained in these courses. 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, Sound & Light	5
PHYS 262	Introductory Physics — Electricity & Magnetism	5
SCED 441	Methods of Teaching Secondary Science	3
	Elective	3
	Hours credit	75

- Required courses for Professional Teacher Education as described in this *Bulletin*, 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.

## Minor in Earth Sciences

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 in Earth Sciences

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.

**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 L130  
Telephone: 351-2739  
John W. Green, Chair

### Faculty

James F. Anderson, PhD, Assoc. Prof.  
Ann J. Garrison, MA, Asst. Prof.  
John W. Green, PhD, Assoc. Prof.  
Marie L. Livingston, PhD, Asst. 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 College of Business Administration.

Economics major and minor students usually take not only other social science courses such as political science and sociology, but also supporting and elective courses in business, mathematics and computer science.

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.

## Bachelor of Arts in Economics

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 supporting courses in mathematics, business and computer science.

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 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 452 Introduction to Econometrics 4  
ECON 470 History of Economic Thought 3  
Hours credit 31

#### II. Mathematics Supporting Courses

MATH 175 Mathematics for Business Decisions I 4  
MATH 130 Analytic Geometry 4  
MATH 131 Calculus I 5  
MATH 221 Elementary Linear Algebra 4  
Hours credit 17

#### III. Business Supporting Courses

BAQA 291 Business Statistics I 4  
BAQA 390 Business Statistics II 4  
Hours credit 8

#### IV. Computer Science Supporting Courses

Computer programming courses to include two different programming languages, either CS or MIS prefix, but not duplicative courses, selected with consent of Economics Department advisor.  
Hours credit 8

#### V. Electives in Economics

Numbered 200 or higher 12  
Total hours credit in Economics & supporting courses 76

## Minor in Economics

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. Two of the following

GEOG 100, ANT 100, PSCI 100 or SOC 100.  
Hours credit 8-10

#### 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 12  
Total hours credit in Economics 34

## Educational Administration

Administered by the Division of Professional Studies  
Arthur R. Partridge, Director  
Location: McKee Hall 419  
Telephone: 351-2861  
Donald B. Montgomery, Coordinator of Educational Administration Programs

### Faculty

Thomas J. Gavin, PhD, Asst. Prof.  
Lawrence W. Goslin, EdD, Asst. Prof.  
Kenneth Humphrey, EdD, Asst. Prof.  
Donald M. Luketich, EdD, Prof.  
Donald B. Montgomery, EdD, Prof.

Norma Nutter, EdD, Assoc. Prof.  
 Arthur R. Partridge, EdD, Prof.  
 Glenn B. Schroeder, PhD, 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 recommendation 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 seeking Colorado endorsement for initial Colorado certification should contact the Teacher Education Center in McKee Hall for state proficiency examination requirements and minimum requirements related to mainstreaming of special education students.

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 a written essay responding to questions related to a desire for a career in administration. (Specific questions are available from the Division Office.)
- Submit a self-rating of dimensions of leadership on forms available in the Division Office.
- Have on file in Division Office rating forms completed by present (or immediate past) supervisor.
- Have on file in Division Office a current vita.
- Complete a satisfactory interview. The interview will be scheduled by the program office and will be held during the first few weeks of each quarter.

## Master of Arts in Educational Administration

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	Law & the Administrator	5
EDAD 630	Methods of Comprehensive Educational Planning	3
EDAD 650	School Personnel Administration	3
	Courses related to curriculum planning, evaluation and change implementation	6
	Foundations of Education	3

In addition to the above common requirements, each emphasis has unique course requirements, as follows:

### Emphasis in Elementary School Administration

#### Requirements

EDAD 670	Elementary School Organization, Administration & Supervision	3
PPSY 603	Guidance in the Elementary School	3
	<i>or</i>	
PPSY 608	Organization and Administration of Guidance Services	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.

### Emphasis in 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	

### Emphasis in Secondary School Administration

#### Requirements

PPSY 602	Foundations of Guidance	3
	<i>or</i>	
PPSY 608	Organization and Administration of Guidance Services	3
EDAD 671	Secondary School Organization, Administration & Supervision	3
	Electives in Psychology	3-6
	Additional electives to complete graduation requirement of at least 45 hours.	

### Emphasis in Community College Administration

#### Requirements

EDAD 625	Organization and Administration of Community Colleges	3
EDAD 673	Personnel Management in Higher Education	3
EDAD 675	Finance and Resource Management in Higher Education	3
EDAD 632	The Administrator and Evaluation	3
	<i>or</i>	
VTE 612	Programs and Process in Vocational Education	3
EDAD 621	Law in Higher Education	5
VTE 530	Vocational Education for Learners with Special Needs	3
CSPA 656	Student Services in the Community College	3
EDAD 654	Adult Education and Lifelong Learning	3
	<i>or</i>	
VTE 632	Adult Methods and Materials in Vocational Education	3
EDAD 653	Curriculum in Higher Education	3
	<i>or</i>	
VTE 623	Curriculum Planning and Evaluation	3

## Educational Specialist in Educational Administration

### General School Administration

The following is the required program:  
 • Completion of the common requirements for the M.A. in Educational Administration.

#### Required Courses

EPRE 505	Elements of Statistics	4
EPRE 700	Introduction to Doctoral Research	3
EDAD 670	Elementary School Organization Administration & Supervision	3
EDAD 671	Secondary School Organization Administration & Supervision	3
EDAD 641	Seminar in Decision Theory	4
EDAD 642	Seminar in Communication Theory	3
EDAD 643	Seminar in Management Systems & Analysis	3
EDAD 701	Specialist Degree Practicum	8
	Courses related to curriculum planning, evaluation, and change implementation.	

Two of the following:

EDF 665	Sociological Foundations of Education	3
EDF 685	Philosophical Foundations of Education	3
EDF 640	Psychological Foundations of Education	3
	Two methods courses in elementary education	6

• Additional electives to complete graduation requirement of at least 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 in Educational Administration

Students in the doctoral program may pursue one of three emphases.

### General School Administration Emphasis

Students preparing for careers at the school district administrative level (e.g., superintendent, assistant superintendent, etc.) should select this emphasis.

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.

### Requirements

EDAD 655	Seminar on Initiating and Managing Change	3
EDAD 682	Policy Analysis and Development	3
EDAD 744	Seminar in Administrative Theory & Research	3
EDAD 745	Seminar in Executive Leadership	3
EDAD 746	Cases in Educational Administration (Seminar)	3

### Field Experiences

(Advisor approval necessary. EDAD 655 should be completed before change project is planned or started.)

Internship(s) (minimum)	6
Practicum (minimum)	3
Change Project (minimum)	3

### Research

EPRE 700	Introduction to Doctoral Research	3
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At least two other courses in statistical concepts or data interpretation.

EDAD 797	Doctoral Proposal Research	6
EDAD 799	Doctoral Dissertation in Administration	18

Additional electives to complete graduation requirement of 96 hours with a master's degree, including at least 12 quarter hours of graduate work outside the field of education.

Up to 6 hours of electives may be in short term courses related to current issues in administration. Students seeking endorsement for administrative certification may include required courses for certification as part of their electives. At least 6 hours of electives and the field experience must reflect the institutional environment appropriate to the emphasis.

### Administration of Higher Education Emphasis

Students planning administrative careers in four year institutions or universities should choose this emphasis.

EDAD 621	Law & Higher Education	5
EDAD 652	History of Higher Education in the United States	3
EDAD 641	Seminar in Decision Theory	4
EDAD 643	Seminar in Management Systems & Analysis	3
EDAD 655	Seminar in Initiating and Managing Change	3
EDAD 673	Personnel Management in Higher Education	3
EDAD 675	Finance & Resource Management in Higher Education	3
EDAD 682	Policy Analysis and Development	3
EDAD 744	Seminar in Administrative Theory & Research	3
EDAD 745	Seminar in Executive Leadership	3
EDAD 653	College & University Curriculum	3

One of the following courses, depending on background:

EDAD 630	Methods of Comprehensive Educational Planning	3
	or	
EDAD 663	Seminar in Higher Education Data Systems	2

Two of the following courses, depending on background:

EDF 640	Psychological Foundations of Education	3
EDF 665	Sociological Foundations of Education	3
EDF 685	Philosophical Foundations of Education	3

### Research

EPRE 700	Introduction to Doctoral Research	3
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At least two other courses in statistical concepts or data interpretation.

EDAD 797	Doctoral Proposal Research	6
EDAD 799	Doctoral Dissertation in Administration	18

### Electives

(Must take at least two of the following)

EDAD 642	Seminar in Communication Theory	3
EDAD 651	Collective Bargaining in Education	3
EDAD 654	Adult Education and Lifelong Learning	3
VTE 632	Adult Methods and Materials in Vocational Education	3
CSPA 652	Enrollment Management Services	3
CSPA 658	Organization Models for Resource Management	3

### Field Experiences

(Advisor approval necessary. EDAD 655 should be completed before change project is planned.)

Internship(s) (minimum)	6
Practicum (minimum)	3
Change Project (minimum)	3

### Administration of Community College Emphasis

Students preparing for careers in administration at the community college level should select this emphasis.

### Course requirements:

EDAD 641	Seminar in Decision Theory	4
EDAD 642	Seminar in Communication Theory	3
EDAD 643	Seminar in Management Systems and Analysis	3
EDAD 745	Seminar in Executive Leadership	3
EDAD 682	Seminar in Policy Analysis and Development	3

### Field experiences

(Advisor approval required. EDAD 655 should be completed before change projects are planned.)

Internship(s) (minimum)	6
Change Project(s) (minimum)	3
Practicum(s) (minimum)	3

### Research

EPRE 700	Introduction to Doctoral Research	3
	Additional 6 hours of coursework related to statistical concepts or data interpretation.	
EDAD 797	Doctoral Proposal Research	6
EDAD 799	Doctoral Dissertation in Administration	18

### Additional Requirements

- Required courses of MA not yet completed are required to be a part of the doctoral program.
- Up to 6 hours of electives may be in short-term courses relating to current issues in administration.
- Dissertation and field experiences must be related to administration of community colleges or related institutions.

### 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		13
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.

Students seeking initial Colorado endorsement for a Type D certificate (Educational Administration Principal's) should contact the Teacher Education Center in McKee Hall for state proficiency examination requirements.

### 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, 642, 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.

Students seeking initial Colorado endorsement for a certificate should contact the Teacher Education Center in McKee Hall for state proficiency examination requirements and requirements for course on mainstreaming special education students.

## Educational Field Experiences

Administered by the Teacher Education Center, College of Education  
 Location: McKee Hall 282

Telephone: 351-2430

Donald K. Adams, Program Facilitator

### Faculty

Donald K. Adams, EdD, Prof.

Robert C. Richardson, PhD, Prof.

Early and continuous educational field experiences are available through a variety of courses for undergraduate and graduate students. Application forms are available in the Professional Teacher Education packet. Additional information is available in the Educational Field Experiences office.

Student teaching assignments are made with the approval of the Program Facilitator of Educational Field Experiences under the policies of the Professional Educational Committee and in cooperation with academic departments.

Student teaching forms must be purchased at the University Center Bookstore as part of the Professional Teacher Education Packet. The application due dates are: winter applications must be returned by November 1; spring and summer, February 1; 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. Clinical experience must be completed two quarters prior to student teaching.

## Educational Media Endorsement

(See Educational Technology)

## Educational Psychology

Administered by the Division of Research, Evaluation and Development

Kyle R. Carter, Director

Location: McKee Hall 101

Telephone: 351-2807

### Faculty

Kyle R. Carter, PhD, Prof.

Kathryn F. Cockran, PhD, Asst. Prof.

John B. Cooney, PhD, Assoc. Prof.

Eugene D. Koplitz, PhD, Prof.

Randy J. Lennon, PhD, Assoc. Prof.

Teresa McDevitt, PhD, Asst. Prof.

Jeanne E. Ormrod, PhD, Assoc. Prof.

Dale Shaw, PhD, Prof.

H. Lee Swanson, PhD, Prof.

Educational Psychology offers programs and service courses at both the graduate and undergraduate levels. The program faculty provide courses on psychological principles and theories and research methodologies as applied to the educational process. These applications range from everyday concerns in the public school classroom to research on basic learning mechanisms and theory.

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:

M.A. in Educational Psychology

Ed.D. in Educational Psychology

## Master of Arts in Educational Psychology

Applications for admission to the M.A. program in Educational Psychology, will be considered only after the applicant has made application to and met the requirements of the UNC Graduate School. Applications are processed by the program faculty twice a year, once in April and once in October. All application materials must be received no later than April 1 or October 1, whichever applies. Decisions regarding admissions for summer and fall quarters will be made by April 15. For winter and spring quarters the deadline is October 15.

Applications require a description of educationally-related work experience, statement of career goals, three letters of reference, GRE scores, and transcripts from previous undergraduate work. Minimum criteria for acceptance include:

- GRE combined score of 1,500 on the verbal, quantitative and analytical sections with no section falling below 450. The GRE must have been taken within the last 5 years.
- GPA of 3.0 in the last 100 quarter hours of academic work.
- Three 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 505	Elements of Statistics	4
EPRE 530	Human Growth & Development	4
EPRE 540	Principles of Learning	4
	or	
EPRE 542	Learning Applied to Classroom Teaching	3
EPRE 570	Tests & Measurement for Educators	4
	or	
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	27-29
	Emphasis electives	16-18
	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 603, ANOVA and Multiple Regression, 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 during spring or summer quarters.

## Doctor of Education in Educational Psychology

Applications for admission to the Ed.D. Program in Educational Psychology will be considered only after the applicant has made application to and met the requirements of the UNC Graduate School. Applications are processed by the program faculty twice a year, once in April and once in October. All application materials must be received no later than April 1 or October 1, whichever applies. Decisions regarding admissions for summer and fall quarters will be made by April 15. For winter and spring quarters the deadline is October 15.

Applications require 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 combined score of 1650 on the verbal, quantitative and analytical sections with neither section falling below 450. The GRE must have been taken within the last 5 years.
- Educationally-related work experience is desirable.
- A GPA of 3.5 in the last 90 hours of academic work.
- Three letters of recommendation indicating a high potential for academic success and interpersonal competency.
- Congruency between the applicant's 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

The overall goal of the program is to produce scholars capable of undertaking original basic and applied research in psychological processes as they apply to education. 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. M.A. core courses that will not count toward the doctoral degree requirements include EPRE 600, EPRE 505, EPRE 530, EPRE 542, EPRE 570, and EPRE 674. The remaining core courses may count as electives in the doctoral program: EPRE 661, EPRE 670, EPRE 640 and EPRE 663.

Doctoral candidates are required to take a common doctoral core and then specialize in one of the following emphasis areas: learning and cognition, human development, or educational research and evaluation. A minimum of 96 hours is required for the doctorate. More hours may be required depending on the student's background and program of study.

There is considerable emphasis on research training within the program. Research topics of the faculty pertain to fundamental processes in learning and development, to research design and statistics and to applications of the findings from Educational Psychology to educational settings.

Program emphasis areas are distinguished on three criteria: course emphasis, dissertation focus, and practicum experience. For example, a student selecting the learning and cognition emphasis would take the required course work in the learning and cognition area, write a dissertation on a problem related to learning and cognition, and do a practicum related to that specialty area. Student competencies in the core and specialty areas are examined by both oral and written examinations. Written exams are administered twice a year during spring and summer quarters. Specific procedures on comprehensives are available from the divisional secretary.

### Core Requirements for All Emphasis Areas

#### Learning and Cognition

EPRE 541	Human Information Processing	4
EPRE 641	Theories of Learning	4
	Hours credit	8

#### Human Development

EPRE 630	Child Psychology	3
EPRE 631	Adolescent Psychology	3
EPRE 632	Adult Development & Aging	3
	Hours credit	9

#### Research, Measurement and Evaluation

EPRE 603	ANOVA & Other Methods of Analysis	4
STAT 604	Advanced Experimental Design	3
STAT 605	Multivariate Analysis	3
STAT 606	Multiple Regression	3
EPRE 610	Statistical Packages for Educational Research	3
EPRE 700	Introduction to Doctoral Research	3
EPRE 675	Measurement II: Questionnaires and Scaling	3
	Hours credit	22

### Professional Development

#### Required

EPRE 663	Apprenticeship	3
EPRE 654	Seminar in College Teaching	3
EPRE 661	Orientation to Graduate Programs	1
EPRE 640	Topics in Educational psychology	3

#### Electives

The student in consultation with the advisor must select 9 additional hours of professional development classes. Courses may include (but are not limited to):		
EDAD 510	Developing Grants and Contracts	3
EDF 640	Psychological Foundations of Education	3
EDF 665	Sociological Foundations of Education	3



EDF 685	Philosophical Foundations of Education	3
	Required hours	19
	Total hours of core requirements	61

In addition to the core requirements, students are expected to take a minimum of 38 credit hours in their declared area of emphasis. These credit hours are obtained through coursework, practica, a doctoral proposal, and dissertation. Students interested in the doctorate in Educational Psychology should contact the Director of the Division of Research, Evaluation and Development to obtain a complete listing of courses and requirements for each emphasis area.

## Educational Technology

Administered by the Division of Research, Evaluation and Development

Kyle R. Carter, Director  
Location: McKee Hall 101  
Telephone: 351-2807

### Faculty

Andrew H. Gibbons, EdD, Assoc. Prof.  
David L. Jelden, EdD, Prof.  
Ellen D. Wagner, PhD, Asst. Prof.

## Educational Technology Degrees

A proposal to establish M.A. and Ed.D. degrees in Educational Technology was under review at the time the catalog went to press. Students desiring information about these degree programs should contact the Educational Technology program area administered by the Division of Research, Evaluation and Development. In addition, students are encouraged to read about the Interdisciplinary Degree: Educational Technology described elsewhere in this catalog. This degree is currently in effect and will function until the formal degrees are approved.

## Media Endorsements

The Educational Technology faculty administer four educational media endorsement programs: elementary school media and the educational media specialist at three levels (K-12, K-6, and 7-12). The following sections describe the requirements and coursework for each endorsement.

### Elementary School Media Endorsement

To be endorsed in Elementary School Media by the state of Colorado Department of Education, an applicant must meet the following criteria:

- Hold a bachelor's degree from an accredited 4 year institution.
- Have completed an approved teacher preparation program and be endorsed in Elementary Education.
- Have completed 2 years of successful teaching experience or Media/Library experience while holding a valid elementary teaching certificate.

The University of Northern Colorado Elementary School Media Endorsement Program has been designed to meet UNC Graduate School program requirements and to meet and/or exceed competency requirements dictated by the state of Colorado for endorsement. This is a 27 quarter hour graduate non-degree program. Candidates must complete 20 hours of required coursework, and must also complete a minimum of 7 quarter hours of elective coursework in Educational Media, Educational Technology, Elementary Reading/Literature or a related discipline.

Endorsements are granted by the Colorado Department of Education. The University of Northern Colorado certification officer recommends students for endorsement upon the completion of the Graduate Educational Media Program. Courses taken at other accredited institutions may be accepted in lieu of course requirements at UNC. However, these courses will be assessed by the UNC Graduate Evaluator prior to acceptance. Students should be prepared to present evidence of course appropriateness (e.g., a copy of the course description from the University course catalog) if any questions arise regarding the content, scope and/or focus of a course taken at another university. Courses taken at other universities must have

been taken within ten years of the time a student is accepted into the UNC Graduate Elementary School Media Program in order to meet UNC program requirements.

## Elementary School Media: Program of Study

### Required Courses

ET 410	Introduction to Educational Media	2
ET 420/520	Media Design and Production	3
ET 530	Cataloging and Classification of Media	4
ET 533	Reference Materials: Basic School Reference Service	3
ET 536	Evaluation and Selection of Educational Materials (3)	5
ET 575	Administering Educational Media	7
	Elective course work	27
	Hours credit	

### Educational Media Specialist Endorsements

#### K-12, Elementary, Secondary Levels

To be endorsed as an Educational Media Specialist by the State of Colorado Department of Education, an applicant shall hold or be eligible for a Colorado Type A (or equivalent) certificate, and shall have completed the following requirements:

- Hold a Master's or higher degree from an accredited institution of higher education.
- Have completed three years of teaching experience and/or school media experience while holding a valid type A or equivalent certificate.
- Have completed an approved graduate program in Educational Media in an accepted institution of higher education, including field experience appropriate for the desired level of endorsement.

The University of Northern Colorado Educational Media Specialist Program of Study has been designed to meet the Graduate School program requirements and to meet and/or exceed competency requirements dictated by the State of Colorado for endorsement. Students who do not already hold an M.A. degree who are interested in obtaining an Educational Media Specialist Endorsement should investigate the Program of Study described in the Interdisciplinary Studies/Instructional Media Program described below.

Endorsement as a Media Specialist may be obtained at three levels. The Educational Media Specialist K-6 (Elementary) Endorsement qualifies the endorsee to work as a media specialist only at the elementary educational level. The Educational Media Specialist 7-12 (Secondary) Endorsement qualifies the endorsee to work as a media specialist only at the secondary educational level. The Educational Media Specialist K-12 endorsement enables the endorsee to work at either the elementary level, the secondary level or both levels. Programs of Study are available at the University of Northern Colorado for all three endorsements. Coursework, field experience and practica are oriented toward the level of endorsement desired by the student.

Endorsements are granted by the Colorado Department of Education. The University of Northern Colorado certification officer recommends students for endorsement upon the completion of the Graduate Educational Media Program. Courses taken at other accredited institutions may be accepted in lieu of course requirements at UNC. However, these courses will be assessed by the UNC graduate evaluator prior to acceptance. Students should be prepared to present evidence of course appropriateness (e.g., a copy of the course description from the university course catalog) if any questions arise regarding the content, scope and/or focus of a course taken at another university. Courses taken at other institutions must have been taken within ten years of the time a student is accepted into the UNC graduate media endorsement programs in order to meet UNC program requirements.



# Educational Media Specialist Program of Study

## Prerequisites

These courses must be completed if you have no prior coursework in Educational Media. They are *not* available for graduate credit, but are upper level courses.

ET 410	Introduction to Educational Media	2
EDRD 314	Improvement of Instruction in Literature in the Elementary School	3

## Required courses

ET 516	Utilization of Educational Resources	3
ET 520	Media Design and Production	3
ET 521	Design and Construction of Audio Visual Materials	3
ET 526	Orientation to Computer-Assisted Instruction	3
ET 530	Cataloging and Classification of Media	4
ET 533	Reference Services: Basic School Reference	3
ET 536	Evaluation and Selection of Audio Visual Materials	3
ET 575	Administering Educational Media	5
ET 610	Instructional Technology: Philosophy, Theory and Practice	3
EPRE 600	Introduction to Graduate Study and Research	3
EDF 667	Modern Curricular Trends and Issues	3

Educational Media Specialist endorsement may be obtained at the K-12 level, the K-6 level or the 7-12 level. The courses noted below must be taken according to the level of endorsement desired by the student.

EDFE 610	Field Experience	
	At the elementary level for K-6 endorsement	3
	At the secondary level for 7-12 endorsement	3
	At both levels for K-12 Endorsement	6
EDRD 614	Literature in the Elementary School For K-6, K-12 endorsement	3
EDRD 615	Seminar in Children and Young Adult Literature	3
	or	
EED 602	Seminar in Literature for Adolescents For 7-12, K-12 endorsement	4

## Program Hours

All endorsement levels: 36	
K-12 endorsement	12-13
K-6 endorsement	6
7-12 endorsement	6-7
Total credits required for each endorsement level	
K-12 endorsement	48-49
K-6 endorsement	42
7-12 endorsement	42-43

## M.A. in Educational Media

Students interested in obtaining a media specialist endorsement who do not already hold a master's degree may enroll in the master's degree in Educational Media. This program has been designed to meet the requirements for an M.A. degree as well as to meet the graduate program requirements and competency requirements dictated by the state of Colorado for Educational Media Specialist (K-12) endorsement.

### Admission to the M.A. in Educational Media

Any student interested in pursuing an M.A. degree in conjunction with completing the graduate program for Media Specialist endorsement must apply to the UNC Graduate School for admission. Students must have an undergraduate GPA of 3.0 and must have a combined verbal, quantitative and analytical GRE score of 1500. GRE scores should not be more than 5 years old. Students must be sure to submit a written statement of career objectives. Upon admission to the M.A. program, students will be assigned to an advisor who will assist them in the development of a specific program of study. Students have five years to complete their program.

## Transfer Credits

Student may transfer up to 6 semester or 9 quarter hours of approved graduate level credit to the program from other institutions. Any coursework to be transferred must have been taken within five years of the time of transfer.

Up to 15 quarter hours of coursework taken while an unclassified graduate student at UNC may be used toward a graduate degree program. None of the coursework taken by an unclassified graduate student may be used toward meeting residence requirements in a degree program. These courses must have been taken within five years of the time that the student is accepted for admission.

All coursework to be transferred or applied to meet graduate course requirements which was completed prior to a student's acceptance into a graduate degree program must be approved by the UNC Graduate School.

Students wishing to obtain an M.A. who have no interest in applying for state of Colorado Media Specialist endorsement may apply for admission to the Educational Media program or the Educational Technology M.A. degree program.

## Program of Study

This program requires 55-61 quarter credits depending on the endorsement level selected. A student may complete the program within four quarters if attending classes full time. It is a highly structured program meant to accommodate both degree requirements of UNC and endorsement criteria of the State of Colorado. Since students elect to pursue the endorsement track within this program, there is no need for students to pursue additional elective coursework.

The following courses are required of all students pursuing an M.A. degree in conjunction with completing Graduate Media program requirements for endorsement as an Educational Media Specialist:

## Core Courses

EPRE 505	Elements of Statistics	4
EPRE 541	Human Information Processing	4
EPRE 570	Tests and Measurement for Educators	4
EPRE 600*	Introduction to Graduate Study and Research	3
EPRE 661	Orientation to Educational Psychology/Technology	1
ET 520*	Media Design and Production	3
ET 526	Survey of Educational Computing	3
ET 610*	Instructional Technology: Philosophy, Theory and Practice	3
Total hours credit		25

## Endorsement: All Levels

The following courses are required of all students wishing to obtain Educational Media Specialist endorsement at any one of the three levels of endorsement:

ET 516	Utilization of Educational Resources	3
ET 521	Design and Construction of Audio Visual Materials	3
ET 530	Cataloging and Classification	4
ET 533	Reference Materials: Basic School Reference Service	3
ET 536	Evaluation and Selection of Educational Materials	3
ET 575	Administering Educational Media	5
EDF 667	Modern Curricular Trends and Issues	3
Total hours credit		24

## Requirements for specific endorsement levels

Educational Media Specialist endorsement may be obtained at the K-12 level, the K-6 level, and the 7-12 level. The courses noted below must be taken according to the level of endorsement desired by the student.

EDFE 610	Field Experience	
	At the elementary level for K-6 endorsement	3
	At the secondary level for 7-12 endorsement	3
	At both levels for K-12 endorsement	6
EDRD 614	Literature in the Elementary School (For K-6 and K-12 endorsement)	3

EED 602	Seminar in Literature for Adolescents (For 7-12 and K-12 endorsement)	3
or		
EDRD 615	Seminar in Children's and Young Adult Literature <sup>3</sup> (For 7-12 and K-12 endorsement)	
Total credit hours		
	K-6	6
	7-12	6
	K-12	12

**Total number of program hours for each endorsement level**

	K-12	K-6	7-12
Core:	25	25	25
Endorsement: Basic	24	24	24
Endorsement: Level	12	6	6
Total	61	55	55

## Elementary Education and Reading

Administered by the Division of Educational Studies  
 J. Melvin Lane, Director  
 Location: McKee Hall 227  
 Telephone: 351-2702  
 John Swaim, Program Coordinator  
 Debbie Powell, Coordinator, Reading Center

**Faculty**

Dennis M. Adams, PhD., Assoc. Prof.  
 Bruce W. Broderius, EdD, Prof.  
 Arnold H. Burrton, EdD, Prof.  
 Douglas S. Burrton, EdD, Prof.  
 Jose E. Cordova, MA, Assoc. Prof.  
 Nicholas A. Glaser, EdD, Prof.  
 Jo-Ann M. Mullen, EdD, Assoc. Prof.  
 Richard L. Needham, EdD, Asst. Prof.  
 Marcia L. Oreskovich, MA, Asst. Prof.  
 Fredrick L. Silverman, EdD., Assoc. Prof.  
 Deborah A. Powell, EdD., Asst. Prof.  
 John H. Swaim, EdD, Prof.  
 Phillip M. Wishon, PhD, Prof.  
 Elaine V. Wolfe, PhD, Prof.

The Division of Educational Studies administers programs in Elementary Education, Early Childhood 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 these programs 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 include instruction 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 Reading Center, the UNC Preschool, the Laboratory School (K-12), and public as well as private schools.

Completion of degrees in specific program areas lead to career opportunities as preschool, elementary, and middle school teachers; directors of child care centers; supervisors of preschool, elementary, middle school; specialists in developmental or remedial reading from pre-kindergarten to adult levels; and diagnosticians in preschool preventive/early intervention programs.

Specific programs and minors in Elementary Education, Early Childhood, Middle School and Reading include:  
 Bachelor of Arts degree in:  
 Elementary Education  
 Elementary Education: Early Childhood Education  
 Middle School Education  
 Dual Undergraduate Certification in Elementary Education and Middle School Education  
 Graduate Certification and/or Endorsement in Elementary Education, Middle School, and Reading  
 Master of Arts degree in:  
 Elementary Education  
 Elementary Education: Early Childhood Education  
 Elementary Education: Early Childhood Special Education  
 Elementary Education: Middle School Education  
 Reading: Elementary  
 Reading: Secondary  
 Doctor of Education Degree in  
 Elementary Education  
 Elementary Education: Early Childhood Education  
 Reading

## Bachelor of Arts Programs

Entering undergraduate students may declare a major in Elementary Education and/or Middle School Education at the time they apply 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 Division must have a minimum grade point average of 2.50 in that work to be admitted to the program. Degree requirements include:

- Meet the General Education requirements as specified in this *Bulletin*.
- Demonstrate appropriate literacy and competency in computer applications.
- If pursuing dual certification in Elementary Education and Middle School Education, the student must complete courses common to those programs and those courses unique to each.
- Complete Professional Teacher Education as described in this *Bulletin*.
- Complete sufficient electives, chosen in consultation with advisor, for a minimum of 180 quarter hours of academic credit.

## Bachelor of Arts in Elementary Education

In addition to the requirements listed under the general B.A. requirements, the student pursuing a B.A. degree with an Elementary Education major must complete: the general requirements; the improvement of instruction block (Strand I or II); and the liberal arts block (Option A, B, C). Program requirements are based upon current Colorado Department of Education certification standards which are subject to change. The student is responsible for assuring that his/her program meets certification standards.

**General Requirements**

• 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 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.

• Recommended elective courses in Elementary Education for students in Strands I and II:

EDEL 101	Introduction to Multiculturalism	3
EDEL 312	Introduction to Elementary School Curriculum	3
EDEL 412	Senior Seminar in Elementary Education	3

• Also select a minimum of one non-pedagogical course from physical education.

## Improvement of Instruction Block

### Strand I:

EDEL 100	Orientation to Education	2
EDEL 320	*Improvement of Instruction In Mathematics in the Elementary School	4
EDEL 330	*Teaching Handwriting & Spelling in the Elementary School	2
EDEL 340	*Improvement of Instruction in English in the Elementary School	4
EDEL 350	*Improvement of Instruction in Social Studies in the Elementary School	4
EDLS 360, 361 or 362*	Clinical Experience	2
EDRD 310	*Improvement of Instruction in Reading in the Elementary School	4
EDRD 314	Improvement of Instruction in Literature in the Elementary School	3
EDRD 411	Approaches to Reading Instruction (Pre req. EDLS 360, 361 or 362)	3
ART 344	Methods of Teaching Art in the Elementary School	3
CH 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	40

\*Must be completed at UNC

### Strand II

Same as Stand I, except enroll in blocked sections of EDEL 320 and EDRD 310 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 314-7 hrs.

Students selecting this option should seek consistent advisor counsel.

Note that methods courses in Elementary Education are open only to students who have been fully admitted to Professional Teacher Education.

### Liberal Arts Requirements

• Students must complete either a liberal arts major listed in this *Bulletin* or a specially-designed broad-field interdisciplinary major (for elementary education majors only). Students are required to work closely with their advisors in planning this component of their program and in selecting one of the three options listed below.

In addition to options A, B, C listed below, all students must take the following core courses.

MATH 191	Mathematics for Elementary School Teachers I	3
MATH 192	Mathematics for Elementary School Teachers II	3
HIST 176	American Experience, 1607-1861	4
PSCI 100	American National Government	5
GEOG 100	World Geography	5
	or	
GEOG 110	Geography of the United States and Canada	5
SCI 260	Earth Science Concepts for Elementary Teachers	4
SCI 261	Biological Science Concepts for Elementary Teachers	4
SCI 262	Physical Science Concepts for Elementary Teachers	4
MUS 204	Music Fundamentals and Experiences	3
ART 190	Art Appreciation	4
ECON 120	Principles of Economics: Micro-Economics	4

The following options (A, B, C) are available:

### Option A: Major in Liberal Arts Field

Students selecting this option will meet all requirements for a single field major in the College of Arts and Sciences.

If the student completes the sequence of courses required for secondary teaching plus an additional student teaching experience at the secondary level, both elementary and secondary certification will be awarded. Specific course requirements are listed in this *Bulletin* under the major. Students should discuss their alternatives with their advisor.

### Option B: One Concentration Field

These Interdisciplinary Options are for Elementary Majors only

Students take 45 hours in a content field. Requirements for specific courses are available from the Undergraduate Advising Center (McKee 227).

#### 1. Language Arts

45 hours which include a balance of courses in the areas of English Language, Speech and Mass Communications, Literature, and Foreign Language.

#### 2. Social Science

45 hours including HIST 176, American Experience (4), PSCI 100, American National Government (5), GEOG 100 World Geography (5) or GEOG 110 Geography of the United States and Canada (5) and additional courses representing one or a combination of the following fields: History, Political Science, Geography, Economics, Anthropology, Sociology, and Psychology.

#### 3. Science

45 hours including SCI 260, Earth Science Concepts for Elementary Teachers (4), SCI 261, Biological Science Concepts for Elementary Teachers (4), SCI 262, Physical Science Concepts for Elementary Teachers (4) and additional courses representing one or a combination of the following fields: Life Science, Earth Sciences, and Physical Sciences.

#### 4. Mathematics

45 hours including MATH 191, Mathematics for Elementary School Teachers I (3), MATH 192, Mathematics for Elementary School Teachers II (3) and additional courses in the areas of mathematics and computer science.

#### 5. Humanities

A 45 hours Humanities major. See Elementary Education advisement sheet for requirements.

#### 6. Bilingual/Hispanic Studies

45 hours of coursework from Spanish Language, Hispanic Studies, Bilingualism, and Multiculturalism courses.

#### 7. Human Development

45 hours of coursework from Psychology, Sociology, and Early Childhood.

#### 8. Health

A 45 hours Health major. See Elementary Education advisement sheet for requirements.

### Option C: Two Concentration Fields

Interdisciplinary Elementary Teaching Major

Students take 27 hours in each of two content fields. Requirements for specific courses are available in the Undergraduate Advising Center (McKee 227).

#### 1. Language Arts

27 hours which include courses in the areas of English Language, Communications, Literature or Foreign Language.

#### 2. Social Science

27 hours including HIST 176, American Experience (4), PSCI 100, American National Government (5), GEOG 100 World Geography (5) or GEOG 110 Geography of the United States and Canada (5) and additional courses representing one or a combination of the following fields: History, Political Science, Geography, Economics, Anthropology, Sociology, and Psychology.

### 3. Science

27 hours including SCI 260, Earth Science Concepts for Elementary Teachers (4), SCI 261 Biological Science Concepts for Elementary Teachers (4), SCI 262, Physical Science Concepts for Elementary Teachers (4) and additional courses representing one or a combination of the following fields: Life Sciences, Earth Sciences, and Physical Sciences.

### 4. Mathematics

27 hours including MATH 191, Mathematics for Elementary School Teacher I (3), MATH 192, Mathematics for Elementary School Teachers II (3) and additional courses in the areas of mathematics and computer science.

### 5. Humanities

27 hours including courses in Western Civilization, Asian Civilization, and African Civilization, with electives from a range of disciplines.

### 6. Bilingual/Hispanic Studies

29 hours in Spanish and Hispanic Studies courses and demonstrated competence in the Spanish language.

### 7. Health

27 hours in health courses.

### Elementary Education: Bilingual Bicultural Certification

Please see Hispanic Studies (College of Arts and Sciences) for a description of this program.

### Early Childhood Education Emphasis

In addition to completing all requirements for the major in Elementary Education, the following Early Childhood Education courses are required.

EDEC 136	Introduction to Early Childhood Education	3
FND 250	Principles of Human Nutrition	3
EDEC 231	Development of Infants & Toddlers	4
EDEC 333	Development & Guidance of Young Children	4
EDEC 334	Preschool/Kindergarten Curriculum & Methods	3
EDEC 460	Primary Curriculum & Methods (Taken concurrently with EDLS 360)	3
EDEC 462	Classroom Management in Early Childhood	3
EDEC 463	Diagnostic Teaching in Early Childhood	3
EDRD 419	Reading & Writing Development of Preschool Children	2
EDEC 437	Administration of Programs for Young Children	3
EDEC 439	Parent Involvement in Early Childhood Education	3
	Hours credit	34

Complete sufficient electives, chosen in consultation with the advisor, for a minimum of 180 quarter hours of academic credit.

## Reading Minor

The Reading minor allows students to develop additional competencies in the teaching of reading.

- EDRD 310 and 411, (Elementary Education Majors) or 420, (Secondary Education Majors) will be counted within the required 30 hours of credit to complete the minor.

- Additional courses should be selected from the following elective courses:

EDRD 308	Reading Workshop	1-5
EDRD 401	Practicum	1-4
EDRD 412	Applied Reading in the Elementary & Middle School	4
EDRD 413	Adolescent and Young Adult Literature	3
EDRD 415	Trends & Issues in Reading Instruction	3
EDRD 416	Reading for the Special Child	3
EDRD 418	Communication Skills in a High-Tech Society	3
EDRD 419	Reading & Writing Development of Preschool Children	2

Elective courses are to be chosen in consultation with advisor.

## Bachelor of Arts in Middle School Education-Junior High 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 grade 5-9). The students selecting this program will be assigned an advisor in Middle School Education.

Students pursuing such a program must plan their programs to meet the following: the general requirements, the improvement of instruction block requirements and the liberal arts block requirements.

### General Requirements

- The PTE program which accompanies the Middle School major involves the following modifications: either EDRD 420 or EDRD 310 may be taken. The 18 hours of student teaching, EDFE 444, must be at the middle school level.

- EDMS 302, EDEL 100, EDLS 361 or 362 and the appropriate methods classes must be completed before applying for student teaching.

- Students are also encouraged to take EDEL 101, Introduction to Multiculturalism.

### Improvement of Instruction Block

#### Required Courses

EDEL 100	Orientation to Education	2
EDMS 302	Orientation to Middle School	3
EDRD 420	Reading in the Secondary School	3
	<i>or</i>	
EDRD 310	Improvement of Instruction in Reading in the Elementary School	4
EDRD 412	Applied Reading in the Elementary and Middle School	4
PSY	Elective in Adolescent Psychology (Recommended courses are PSY 330 or 230)	
EDLS 362	Clinical Middle School	2
	<i>or</i>	
EDLS 361	Clinical Intermediate Grades	2

### Liberal Arts Block

- Students must complete either an established liberal arts major or a specifically designed broad fields interdisciplinary major (for middle school majors only). Students are urged to work closely with their advisor in planning this component.

The following options are available and should be selected in consultation with the advisor:

#### Option A

Students selecting this option will meet all requirements for a single field major in the College of Arts and Sciences. In addition, they will complete a minor or courses toward another area of concentration. If the student completes the sequence of courses required for secondary teaching plus an additional secondary student teaching experience, both middle school and secondary certification will be awarded.

#### Option B

Minimum of 48 hours of departmentally designated courses in a major field with a supporting minor in another field.

#### Option C

(for Double Major Middle School/Elementary Education only)

Students selecting this option must complete the requirements as stated in Option C of the elementary liberal arts requirements.

#### Option D

Minimum 36 hours of departmentally designated courses in two major fields.

### Double Major Middle School/Elementary

Students who double major in middle school and elementary education will receive elementary (K-6) and middle school certification (5-9).

They must complete the following requirements:

- Combination of improvement of instruction classes in middle school and elementary education.
- Option C which will meet both elementary and middle school liberal arts requirements.
- PTE requirement with extended student teaching experience in middle school and elementary.

### 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 must apply and be admitted to the Graduate School. Upon admission by the Graduate School, professional education courses are evaluated by the College of Education. The Elementary Education Program area evaluates specific 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, music fundamentals and physical activity.

Additionally, a student must have sufficient academic hours in one or a combination of the following fields: Language Arts, Humanities, Mathematics, Science, Social Science or Health.

- Demonstration of appropriate literacy and competency in computer applications.

• Elementary teacher education courses:

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
ART 644	Methods of Teaching Art in the Elementary School	3
PE 288	Physical Education Activities for the Elementary School	2
CH 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

*\*Must be taken at UNC*

- 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 of pupils. 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, applicants are carefully evaluated by faculty on the basis of demonstrated scholarship and professional promise.

The scope of graduate degree programs includes programs with a focus from infancy to adult maturity. The curricula in graduate degree programs 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. or Ed.D. programs 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.

## Master of Arts in Elementary Education

A student whose undergraduate major was not in Elementary Education must have evaluations by the College of Education and by the Division of Educational Studies.

### Core Course 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 620	*Mathematics in the Elementary School	3
EDEL 640	*English in the Elementary School	3
EDEL 650	*Social Studies in the Elementary School	3
EDEL 679	Appraisal & Evaluation of Teaching in Elementary & Middle Schools	3
EDRD 612	*Reading in the Primary Grades	3
	<i>or</i>	
EDRD 613	*Reading in the Intermediate Grades	3
EPRE 600	Introduction to Graduate Study & Research	3
SCED 671	Science Curriculum in the Elementary School	3
	Hours credit	27

*\*Must be taken at UNC*

Complete one of the following:

EDEC 663	Educational Assessment, Evaluation & Prescription for the Young Child	3
EDRD 617	Remedial Reading in the Elementary School	4
EPRE 505	Elements of Statistics	4
EPRE 570	Tests & Measurements for Educators	4

Complete any two or more of the following for a minimum of five credits:

EDEL 609	Practicum in Multiculturalism	1-4
EDEL 613	Practicum in Curriculum Assessment	1-4
EDEL 616	Practicum in Instructional Assessment	1-4
EDEL 621	Practicum in Mathematics Curriculum	1-4
EDEL 641	Practicum in English Curriculum	1-4
EDEL 651	Practicum in Social Studies Curriculum	1-4
EDRD 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 Work Shops (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

Electives may be taken in general Elementary Education, and within the division (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.

Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program.

## Master of Arts: Early Childhood Education/Primary Education

The Master's degree program in Early Childhood/Primary Education is designed to meet the specific needs and interests of professional teachers in the primary grades.

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 Division of Educational Studies.

- Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program.

### Core Course Requirements:

EDEC 648	*Psycholinguistics in Early Childhood	3
EDEC 660	*Critical Issues in Nursery-Kindergarten Education	3
EDRD 612	*Reading in the Primary Grades	3
EPRE 600	Introduction to Graduate Study & Research	3
EDEC 536	Seminar in Child Development	3
EDEC 662	*Research in Early Childhood Education	3
EDEL 619	Pluralism in Education	3
EDEC 601	Practicum in Early Childhood	1-4
EDEC 670	Teaching in the Primary Grades	3
EDEC 675	The Value of Play in Early Childhood	3
	Total credits	28

\*Must be taken at UNC

Choose a minimum of three of the following courses:

EDRD 614	Literature in the Elementary School	3
EDRD 617	Remedial Reading in the Elementary School	4
EDEL 620	Mathematics in the Elementary School	3
EDEL 630	Handwriting & Spelling	3
EDEL 640	English in the Elementary School	3
EDEL 650	Social Studies in the Elementary School	3
EDSE 617	Assessment & Methods of Teaching Intellectually Impaired	3
SCED 671	Science in the Elementary School	3

### Background course requirements

The following courses may be waived for a student who has had comparable courses at the undergraduate level.

EDEC 460	Primary Curriculum & Methods	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.

Select approved electives for a total of at least 45 hours

### Recommended

EDEC 664	Seminar in Early Childhood	3
EDEC 508	Early Childhood Workshop	3

## Master of Arts: 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 Division of Educational Studies.

- Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program.

### 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	5
	<i>and</i>	
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
EDSE 306	Identification of Handicapped & High Risk Children in Early Childhood (credit hours will not count toward graduate degree)	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
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.

## Graduate Certification in Middle School Education

A student holding a baccalaureate degree in an area other than middle school who wishes to pursue the Graduate Certification Program in Middle School applies to the Graduate School for admission. Upon admission, professional education courses are evaluated by the College of Education. The Middle School Program area evaluates required subject matter courses and middle school education courses.

The following are required:

- Subject matter background. Undergraduate or graduate credit in at least two content fields which total 72 hours. These courses must be taken in accordance with one of the four options mentioned under the liberal arts requirements for the middle school undergraduate program.

- Demonstration of appropriate literacy and competency in computer application.

- Middle school teacher education courses.

- EDMS 663 Middle School/Junior High Curriculum

*or*

- EDMS 664 Seminar in Middle School/Junior High Instruction

- EDRD 521 Reading in the Content Fields

- PSY Elective in Adolescent Growth and Development

- Appropriate methods classes in at least two content fields.

- Professional Education courses: See PTE section of this *Bulletin*.

- Eighteen hours of Student Teaching EDFE 444, must be at the middle school or junior high levels.

- EDLS 362 and the requirements stated in the Graduate School Information section of this *Bulletin* must be completed before 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*.

## Master of Arts in Elementary Education: Middle School Emphasis

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 Curriculum	3
EDMS 664	Seminar in Middle School/Junior High Instruction	3
EDMS 601	Practicum	3
EPRE 600	Introduction to Graduate Study & Research	3

One of the following:

EDRD 521	Reading in the Content Fields	3
EDRD 613	Reading in the Intermediate Grades	3
EDRD 620	Developmental Reading in The Secondary School	3

**Recommended**

EPRE 631	Adolescent Psychology	3
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**Electives**

These are determined by the candidate's need to develop or strengthen understanding and competency in areas related to his/her 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 Processes in Elementary Education, Early Childhood, Middle School & Reading	3
EDRD 615	Seminar in Literature for Children & Young Adults	3
EDRD 627	Remedial Reading in the Secondary School	4
EDMS 508	Middle School Workshops (Maximum quarter hours)	6

Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program.

**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.

**Master of Arts 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 requirements for institutional recommendation for endorsement as an Elementary Reading Teacher or a Secondary Reading Teacher. 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 arranged by the Reading Center.

**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 Division of Educational Studies.

- Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program. (EPRE 518 is a recommended course. This will increase the minimum hours to 48.)

**Core Course Requirements**

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	4

EDRD 645	*Seminar in Research and the Analysis of Reading Programs (Substitute for EPRE 600, Introduction to Research)	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
	Hours credit	27

*\*Must be taken at UNC*

Additional courses may be taken from the following electives to earn a minimum of 30 quarter hours in reading.

EDRD 508	Reading Workshop	1-6
EDRD 513	Teaching Reading to the Gifted Reader	3
EDEL 610	Research & Analysis Processes in Elementary Education, Early Childhood, Middle School & Reading	3
EDRD 521	Reading in the Content Fields	3
EDRD 615	Seminar in Literature for Children & Young Adults	3
EDRD 620	Developmental Reading in the Secondary School	3
EDRD 640	Linguistic Foundation of Reading Instruction	3
EDRD 654	Reading Center Internship: Reading Clinic, College Reading Adult Literacy (Consent of Instructor)	3-9

- In consultation with advisor, select 15 quarter hours of electives in English or speech courses for an emphasis in developmental reading, or psychology and special education courses for an emphasis in remedial 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 program coordinator in which certification is sought.

- Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program (EPRE 518 is a recommended course. This will increase the minimum hours to 45.)

**Core Course Requirements**

EDRD 521	Reading in the Content Fields	3
EDRD 615	Seminar in Literature for Children & Young Adults	3
EDRD 620	*Developmental Reading in the Secondary School	3
EDRD 627	*Remedial Reading in the Secondary School	4
EDRD 645	*Seminar in Research & the Analysis of Reading Programs (Substitute for EPRE 600 Intro. to Graduate Study)	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
	Hours credit	27

*\*Must be taken at UNC*

• Additional courses in reading may be taken from the following electives to earn a minimum of 30 quarter hours in reading:

EDRD 508	Reading Workshop	1-6
EDRD 513	Teaching Reading to the Gifted Reader	3
EDEL 610	Research & Analysis Processes in Elementary Education, Early Childhood, Middle School & Reading	3
EDRD 640	Linguistic Foundations of Reading Instruction	3
EDRD 654	Reading Center Internship: Reading Clinic, College Reading, Adult Literacy (Consent of Instructor)	3-9
EED 602	Seminar in Literature for Adolescents	4



- In consultation with advisor, select 15 quarter hours of electives in English or speech courses for an emphasis in developmental reading, or psychology and special education courses for an emphasis in remedial reading.

## Doctor of Education in Elementary Education

The following are required:

- EPRE 505 is required and is to be taken concurrently with the required course EDEL 710, Seminar in Research Planning (2). EPRE 603 is also required and must be taken concurrently with the required course, EDEL 711, Advanced Seminar in Research Planning.
- Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program.

### Core Course Requirements

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

*\*Must be taken at UNC*

### Background Course Requirements

The advisor may waive the following courses for a student who has appropriate background; however, the student is held responsible 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 619	Pluralism in Education	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
EDEL 679	Appraisal & Evaluation of Teaching in Elementary & Middle Schools	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 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 505	Elements of Statistics	4
EPRE 603	ANOVA and Multiple Regression	4
EPRE 599	Special Topics: Qualitative Methods in Research & Evaluation	3

Choose one of the following:

- Anthropology
- Biological Sciences
- Chemistry
- Earth Science
- Economics
- English
- General Science
- Geography

- History
- Humanities
- Mathematics
- Music
- Philosophy
- Physics
- Political Science
- Social Sciences
- Sociology
- Speech Communication
- Statistical and Research Methods
- Visual Arts

- Sufficient electives to complete 96 quarter hours of graduate credit.

## Early Childhood Education Emphasis

The following are required:

- EPRE 505 and an Early Childhood Education course with the major advisor are required the first quarter, and EPRE 603 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.
- Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program.

### Core Course Requirements

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	Child Development	3
EDEC 536	Seminar in Child Development	3
EDEC 622	Research in Early Childhood Education	3

#### C. Compensatory Programs

EDEC 664	Seminar in Early Childhood Education	3
EDEC 667	Cultural Diversity in Early Childhood Education	3
EDEL 619	Pluralism in Education	3

#### D. Research Track

EDEC 797	Doctoral Proposal Research	6
EDEC 799	Doctoral Dissertation	18

*(Must be taken at UNC)*

EPRE 505 is required and is to be taken concurrently with the required course EDEL 710. EPRE 603 is also required and must be taken concurrently with required course EDEL 711.

### Educational Field Experiences

EDEC 601	Practicum	3-9
EDEC 755	Supervised Practicum in College Training	3-9

- Electives to complete a total of 96 quarter hours. To be selected in consultation with the advisor.

## Doctor of Education 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 8 quarter hours of educational 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 program coordinator, at the level alternate to the existing endorsement.

- Supervised practicum experiences and research are facilitated by the Reading Center.

- Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program. (EPRE 518 is a recommended course.)

- EPRE 505 is required and is to be taken concurrently with the required course EDEL 710. EPRE 603 is also required and must be taken concurrently with the required course EDEL 711.

- In consultation with advisor, select 72 quarter hours from among the following courses:

EDRD 521	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 Grades	3
EDRD 615	Seminar in Literature for Children & Young Adults	3
EDRD 617	Remedial Reading in the Elementary School	4
EDRD 620	Developmental Reading in the Secondary School	4
EDRD 622	Directed Studies: Reading	3
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 Instruction	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, Adult Literacy (Consent of Instructor) Maximum	9
EDRD 672	Teaching Reading in a Pluralistic Society	3
EDRD 745	Topical Seminar in Reading	3-6
EDRD 755	Supervised Practicum in College Teaching	3-9
EDRD 797	Doctoral Proposal Research	6
EDRD 799	Doctoral Dissertation	18
EPRE 505	Elements of Statistics	4
EPRE 603	ANOVA	4

- In consultation with advisor, select 24 quarter hours of course work in educational administration, English, speech communication, psychology and special education.

## English

Location: Michener L50  
Telephone: 351-2971  
Edward A. Kearns, 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.

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, 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, 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 in English

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

- General Education requirements as specified in this *Bulletin*.
- One minor of at least 27 quarter hours.
- ENG 106, 122, 123, 125 and 127 may not be counted toward the English major.
- Qualified students may be exempted by examination from ENG 131 and 134.

The program is built on three components: core requirements (32 hrs), elective groups (20 hrs), and the student's chosen emphasis area (16-17 hrs): 68-69 hrs. total.

### Core Requirements

Lower Division (24 hours)

ENG 130	Introduction to Language	4
ENG 131	Introduction to Poetry	4
ENG 132	Introduction to Fiction	4
	or	
ENG 133	Introduction to Drama	
	or	
ENG 134	Introduction to Fiction and Drama (Teaching majors should take ENG 134)	
ENG 160	Masterpieces of English Literature	4
ENG 161	Masterpieces of American Literature	4
ENG 162	Masterpieces of World Literature	4

Upper Division (8 hours)

ENG 250	The English Language	4
ENG 319	Advanced Expository Techniques	4

Hours credit 32

### Elective Groups (20 hours)

**Group I — English Literature** (8 hours)

A. Any one of these three:

ENG 361	Medieval Literature (4)	
ENG 362	Renaissance Literature (4)	
ENG 363	Restoration & Eighteenth Century (4)	4

B. Any one of these four:

ENG 364	The Romantic Movement (4)	
ENG 365	Victorian Prose & Poetry (4)	
ENG 370	English Literature: 1900-1939 (4)	4
ENG 371	English Literature: 1940 to the Present (4)	4
	Hours credit	8

**Group II — American Literature** (4 hours)

Any one of these four:

ENG 366	American Literature to the Civil War (4)	
ENG 367	American Literature: Civil War to 1914 (4)	
ENG 375	American Literature: 1914-1939 (4)	
ENG 376	American Literature: 1940-to the Present (4)	4
	Hours credit	4

**Group III — World Literature** (4 hours)

Any one of these seven:

ENG 232	Great Writers of the World (4)	
ENG 235	World in Literature (4)	
ENG 335	World Literature by and about Women (4)	
ENG 414	Greek and the Comparative Mythology (4)	
ENG 415	Major Themes of the Old Testament (4)	
ENG 430	Studies in World Literature (4)	4
ENG 450	Studies in Russian Literature (4)	4
	Hours credit	4

**Group IV — Genre, Theme, or Figure** (One course required)

Any one of the following:

ENG 230	Lectures on Literary Themes (4)	
ENG 231	Great Writers in England or America (4)	
ENG 232	Great Writers of the World (4)	
ENG 238	Introduction to Folklore (4)	
ENG 260	Women's Biography (4)	
ENG 310	Shakespeare: Early Plays (4)	
ENG 311	Shakespeare: Later Plays (4)	
ENG 325	Studies in Science Fiction (4)	
ENG 326	Advanced Studies in Science Fiction (4)	
ENG 327	Women and Sex in Science Fiction (4)	
ENG 360	Chaucer (4)	
ENG 402	The Short Story (4)	
ENG 403	Techniques of the Novel (4)	
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 410	History of Ideas in Literature (4)	
ENG 411	Biography and Autobiography (4)	4
	Hours credit	4

**Emphasis Courses** (16 or 17 hours)

The student chooses either A, B, or C.

A. Liberal Arts (16 hours in English to be chosen with the help of the student's advisor. Any of the courses in the four groups of electives not taken to meet the requirements may be taken in this emphasis.)

B. Teaching (17 hours)

ENG 240	Creative Writing: Introduction to Poetry	4
	or	
ENG 241	Creative Writing: Introduction to Fiction	4
ENG 302	Writing About Language	4
ENG 318	Traditional Grammar for the Teacher	4
EED 402	Literature and Materials in the Secondary School	5

C. Writing (16 hours in English writing courses to be chosen with the help of the student's advisor.)

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.

• The student must meet all requirements for the Professional Teacher Education program, as described in this *Bulletin*, including:

EDLS 363	Clinical Experience: Secondary	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	17

**Recommended Courses (One or more)**

PSY 230	Human Growth & Development	5
COMM 251	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.

**Minor in English**

• ENG 106, 122, 123, 125 and 127 may not be counted toward the English minor.

**Required Courses**

ENG 131	Introduction to Poetry	4
ENG 130	Introduction to Language	4
ENG 134	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 department's writing courses. 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	History of 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 in English**

• As a minimum requirement in a 48-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.

- Students should do either: a. written comprehensives, or b. a thesis, or c. a creative project.

a. If the student chooses to do written comprehensives, the comprehensives will be taken during the quarter in which the student plans to graduate and will cover a knowledge of English and American literature and literary research.

b. If the student chooses to do a thesis, the thesis will be submitted during the quarter in which the student plans to graduate. The thesis must meet guidelines specified by the Department of English. In addition, the student will take a written examination over the research area involved in the thesis and an oral examination over the thesis.

c. If the student chooses to do a creative project, the project will be submitted during the quarter in which the student plans to graduate. The creative project must meet guidelines specified by the Department of English. In addition, the student will take a written examination over the genre involved (poetry, fiction, etc) and take an oral over the project.

Students who choose to take the thesis or project option will do 40 hours of coursework and at least 8 hours of ENG 699.

- 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.

### Certification

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 in English

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 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

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
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 of English: Literature & Composition	3-9
EED 502	The Teaching of Composition	4

- 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.

1. The student may choose any three of the four following areas in which to write papers:

- 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.

2. 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).

3. 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 6 hours of ENG 797, Doctoral Proposal Research. The dissertation will be 18 hours credit.

- When the dissertation is complete, the student will be examined orally over his research study.

#### Emphasis 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 EPRE 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 EPRE 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 18 hours credit.

- After the dissertation has been submitted, the candidate will be examined orally over the contents of his/her research study.

## Environmental Studies

Location: Michener L21

Telephone: 351-2004

Charles E. Olmsted, Coordinator, Associate Professor

### Minor in Environmental Studies

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	Introduction to Environmental Studies	3
ENST 400	Senior Seminar	3

At least two courses from the following group:

ENST 120	Human Attitudes Toward Physical & Social Environments	3
ENST 230	Economics of Natural Resources	3
ENST 240	Politics & the Environment	3
ENST 270	Social Implications of Ecology	3
ENST 304	Environment & the Law	3
GEOG 315	Resource Management	3

At least two courses from the following group:

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 250	Atmospheric Environment of Humans	3
ENST 260	Ecological Interpretations	3
ENST 280	Natural Resources & Technology	3
ENST 300	General Systems Approach	4
ENST 309	Solar & Alternative Power Systems	3
ENST 350	Environmental Health	3

At least two courses from the following group:

ENST 130	History of the Environmental Movement	3
ENST 281	Politics of the Nuclear Age	3

ENST 362 Literature & the Environment	4
ENST 363 Art & the Environment	3

The remaining hours may be completed through formal course work, directed study or participation in an internship.

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.

## Evaluation

(See Educational Psychology)

## Foreign Languages

(See also French, German, and Hispanic Studies)

Administered by the Department of Foreign Languages

Location: Candelaria 32

Telephone: 351-2040

Kathleen Y. Ensz, Chair

### Faculty

Glenda Brown, PhD, Prof.

David Caldwell, MA, Asst. Prof.

Kathleen Ensz, PhD, Prof.

Frank Keppeler, MA, Assoc. 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 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.

The department has two tracks — one for lower division students with at least some background in the language, and the other for majors and minors with at least the background of FR 202 or GER 202 or the equivalent.

## Master of Arts in Foreign Languages — Teaching

The degree of Master of Arts is offered in Foreign Language Teaching. Applicants must possess a B.A. in Foreign Languages or the equivalent, and should already have achieved a spoken and written command of the language they have 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 at the graduate level (numbered 500 or above).

- 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 it is deemed 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 practica.

- Students are required to complete 15 quarter hours of courses in other disciplines to be chosen from the following groups. A minimum of two courses in each group is required. (Other courses may be substituted for the courses listed here, with the consent of the major advisor.)

### Group I

EDEM 516	Utilization of Educational Resources	3
EDEM 520	Introduction to Media & Production	3
EPRE 540	Principles of Learning	4
EDEC 648	Psycholinguistics in Early Childhood	3
PPSY 670	Psychological Testing & Measurement	4

### Group II

HIST 506	Seminar in Latin American History	3
HIST 566	Seminar in the French Revolution & Napoleon	3
HIST 570	Seminar in Modern German History	3
HIST 592	Seminar in Southwest History	3
ANT 537	Seminar in Cultural Anthropology	3
ANT 600	Introduction to the Concept of Culture	3

Total of possible hours to be accumulated in interdisciplinary culture 15

- All students are required by the Graduate School to take Introduction to Graduate Study or any approved substitute (ANT 600).

- Successful completion of written and oral comprehensive examinations.

- For admission to the Graduate School, you must fill out an application form and provide all requested transcripts. Your request for these forms should be made directly to the Graduate School at the University of Northern Colorado. After they have received the completed forms and transcripts, this information will be forwarded to the Foreign Languages Department for final approval. You will then be notified by the Graduate School if you have been accepted into our program.

*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.

## Foundations of Education

Administered by the Division of Research, Evaluation and Development

Kyle R. Carter, Director

Location: McKee Hall 101

Telephone: 351-2807

### Faculty

Michael Jacobs, EdD, 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 inter-



pretive, 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.

## French

Administered by the Department of Foreign Languages

Location: Candelaria 32

Telephone: 351-2040

Kathleen Y. Ensz, 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.

A professional area emphasis is also offered in the liberal arts major and minor in French for those planning business or professional careers.

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.

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.

In addition to our conventional classroom program, we offer a number of extracurricular programs and activities for our students.

Conversation hours are held regularly 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.

## Bachelor of Arts in French

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

- General Education requirements as specified in this *Bulletin*. Students should consult their assigned advisors about particularly appropriate General Education courses.

- All work to be counted toward the B.A. degree in French must be beyond the first year level.

- A minor approved by the student's advisor in 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.

### Core Requirements for All Programs

FR 201	Intermediate French Grammar I	3
FR 211	Intermediate French Conversation & Culture I	2
FR 202	Intermediate French Grammar II	3
FR 212	Intermediate French Conversation & Culture II	2

FR 203	Intermediate French Grammar III	3
FR 213	Intermediate French Conversation & Culture III	2
FR 301	Intermediate French Conversation	4
FR 302	Intermediate French Composition	4
FR 311	French Civilization I	3
FR 312	French Civilization II	3
FR 400	Problems in Oral French	3

### Teaching Emphasis

In addition to the foregoing required core courses, the following are required for students who plan to teach in public schools.

FR 318	Survey of French Literature I	3
FR 319	Survey of French Literature II	3
FR 320	Survey of French Literature III	3
	Electives	10
	Hours credit	51

### Professional Teacher Education

Students must meet all requirements for the Professional Teacher Education program as described in this *Bulletin*, including:

FL 341	Methods of Teaching in the Secondary School	3
EDLS 363	Clinical Experience	2

Before application may be made for student teaching, a French major must have successfully passed the departmental oral proficiency examination.

### Liberal Arts Emphasis

In addition to the required major core courses, the following are required for students with a liberal arts major.

FR 318	Survey of French Literature I	3
FR 319	Survey of French Literature II	3
FR 320	Survey of French Literature III	3
	Electives	10
	Hours credit	51

### Liberal Arts with Professional Emphasis

In addition to the foregoing required core courses, the following are required for students desiring a liberal arts major/professional emphasis:

FR 316	Modern France	3
FR 405	French for the Professional I: Reading & Vocabulary	3
FR 406	French for the Professional II: Correspondence	3
	Electives	10
	Hours credit	51

## Minor in French

### Required Core Courses

FR 201	Intermediate French Grammar I	3
FR 211	Intermediate French Conversation & Culture I	2
FR 202	Intermediate French Grammar II	3
FR 212	Intermediate French Conversation & Culture II	2
FR 203	Intermediate French Grammar III	3
FR 213	Intermediate French Conversation & Culture III	2
FR 301	Intermediate French Conversation	4
FR 302	Intermediate French Composition	4

### Teaching Emphasis

In addition to the required core courses, the following are required for a French teaching minor:

FR 311	French Civilization I	3
FR 312	French Civilization II	3

And one of the following:

FR 318	Survey of French Literature I	3
	or	
FR 319	Survey of French Literature II	3
	or	
FR 320	Survey of French Literature III	3
	Electives	3
	Hours credit	51



### Liberal Arts Emphasis

In addition to the required core courses, the following are required for a French liberal arts minor:

FR 311	French Civilization I	3
FR 312	French Civilization II	3

And one of the following:

FR 318	Survey of French Literature I	3
	<i>or</i>	
FR 319	Survey of French Literature II	3
	<i>or</i>	
FR 320	Survey of French Literature III	3
	Electives	3
	Hours credit	35

### Liberal Arts with Professional Emphasis

FR 316	Modern France	3
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And one of the following:

FR 405	French for the Professional I: Reading & Vocabulary	3
	<i>or</i>	
FR 406	French for the Professional II: Correspondence	3
	Electives	6
	Hours credit	35

### Electives

FR 210	French Civilization and Culture	4
FR 235	Conversational French	4
FR 280	Seminar in French Drama	3
FR 401	Intensive French	5
FR 402	Contemporary Life in France	3
FR 403	France of the Ancien Regime	4
FR 404	Modern France	4
FR 420	Topics in Advanced Conversation	1-3
FR 421	Problems in Advanced Grammar	1-3
FR 422	Directed Studies	1-4
FR 450	Twentieth Century French Theater	3
FR 451	Twentieth Century French Prose	3
FR 455	Nineteenth Century French Prose	3
FR 459	Trends in French Poetry	3

## Geography

Administered by the Department of Geography  
Location: Candelaria 214  
Telephone: 351-2715  
Charles O. Collins, Chair

### Faculty

David B. Cole, PhD, Prof.  
Charles O. Collins, PhD, Assoc. Prof.  
John L. Dietz, PhD, Prof.  
Kevin C. Kearns, PhD, 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, and the Master 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 pro-

grams 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, including liberal arts and applied emphases. Students interested in being certified for teaching Geography must take a major in Social Sciences.

## Bachelor of Arts in Geography

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

- General Education requirements 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 105, PSY 120 or SOC 100.

B. Complete at least one minor of 27 quarter hours.

C. Complete the following required course:

GEOG 110	Geography of the United States & Canada	5
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D. Complete elective courses in Advanced Regional Geography courses from the following: (minimum)

GEOG 318	Australia	2
GEOG 326	Africa	5
GEOG 336	Geography of Mexico & Central America	4
GEOG 337	The Caribbean Region	2
GEOG 343	Western Europe	3
GEOG 344	Asia	3
GEOG 350	Geography of Colorado	3
GEOG 365	The Soviet Union	5
GEOG 438	South America	3
GEOG 448	Physical Geography of the United States	4
GEOG 453	Geography of the Great Plains	2

### Electives

From the following Advanced Systematic Geography courses: (minimum)

GEOG 312	Economic Geography	5
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 370	Urban Geography	4
GEOG 402	Cartography	4
GEOG 405	Evolution of Geographic Thought	3
GEOG 448	Physical Geography of the United States	4
GEOG 450	Urban-Social Geography	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. Elective substitutions must have departmental approval.

**A. Required Courses**

GEOG 312 Economic Geography	5
GEOG 402 Cartography	4
GEOG 475 Quantitative Techniques in Geography	3

**B. Elective Courses**

(1) Skills and tools (two courses)	6-8
CS 112 Beginning Computer Programming in Basic	3
CS 114 Computer Programming in FORTRAN 77	4
CS 116 Computer Programming in PASCAL	4
STAT 203 Introduction to Statistical Analysis I	4
STAT 304 Basic Statistical Inference	3

**Urban & Regional Planning Option**

Advanced Geography Electives (minimum)	15
GEOG 355 Population Geography	3
GEOG 357 Transportation Geography	3
GEOG 360 Political Geography	3
GEOG 370 Urban Geography	4
GEOG 422 Directed Studies	1-4
GEOG 450 Urban-Social Geography	4
GEOG 470 Urban & Regional Planning	3

**Associated Electives (minimum)**

PSCI 208 Introduction to Public Administration	15
SOC 232 The Community	3
ENST 240 Politics & the Environment	4
ENST 260 Ecological Interpretations	3
ECON 241 Public Finance	3
ECON 245 Urban Economics	4
CH 299 Community Health	3
HISP 300 Social Stratification in the Mexican-American Community	3
ENST 304 Environment & the Law	3
ECON 332 Planning Economics	3
PSCI 350 Comparative Public Policy	3
ECON 360 Economics of Growth & Development	3
FIN 372 Principles of Real Estate	4
PSCI 402 Urban Politics	4
GERO 410 Community Resources for the Elderly	5
BLS 420 Black Urban Politics	3
REC 451 Administration of Community, Park & Recreation	5

Hours credit 66

**Environmental Planning and Resource Management Option**

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 422 Directed Studies	1-4
GEOG 470 Urban & Regional Planning	3

**Associated electives: (minimum)**

BIO 240 General Ecology	15
BOT 306 Economic Botany	4
CHEM 393 Environmental Chemistry	3
ECON 332 Planning Economics	4
ECON 360 Economics of Growth & Development	3
BIO 402 Conservation of Natural Resources	3
ECON 403 Economics of the Environment	4
ENST 211 Chemistry & the Environment	3
ENST 230 Economics of Natural Resources	3
ENST 240 Politics & the Environment	3
ENST 250 Atmospheric Environment of Humans	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 Directed Studies	5-9
GEOG 425 Economic Geography	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

**Economic Applications Option**

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 422 Directed Studies	1-4
GEOG 450 Urban-Social Geography	4
GEOG 470 Urban & Regional Planning	3

**Associated electives: (minimum)**

BUS 231 Business Law I	15
MKT 360 Marketing	4
MKT 365 Marketing Strategy	4
MKT 366 Consumer Behavior	4
FIN 372 Principles of Real Estate	4
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
GEOG 425 Economic Geology	3
SOC 278 Sociology of Mass Communications	3
SOC 330 Social Organization	4
SOC 411 Industrial Sociology	4
SOC 274 Sociology of Work & Leisure	4

Hours credit 66

General electives to complete requirements for graduation.

**Minor in Geography**

**Required Courses**

GEOG 100 World Geography	5
or	
GEOG 110 Geography of the United States & Canada	5
GEOG 123 Cultural Geography	4
or	
GEOG 200 Location and Human Behavior	4
GEOG 364 Maps & Their Uses	2

Hours credit 11

**Emphasis Areas**

Students must complete the following requirements for their selected emphasis: Courses taken in the required core cannot be counted in an emphasis area.

**Liberal Arts Emphasis**

A. Take one of the following courses as a lower division elective.	
GEOG 100 World Geography	5
GEOG 110 Geography of the United States and Canada	5
GEOG 120 Physical Geography I	3
GEOG 121 Physical Geography II	3
GEOG 123 Cultural Geography	4
GEOG 200 Location and Human Behavior	4
B. Advanced Systematic Electives 5 (minimum)	
C. Advanced Regional Electives 5 (minimum)	
D. Additional Electives from above categories (A, B, or C) to meet total hour requirement.	

Minimum total hours 27

**Applied Emphasis**

A. Take one of the following courses:	
GEOG 402 Cartography	4
GEOG 475 Quantitative Techniques in Geography	3
B. Electives selected from the following list (or substitute with departmental approval) to meet total hour requirements.	

GEOG 120	Physical Geography I	3
GEOG 121	Physical Geography II	3
GEOG 312	Economic Geography	5
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 370	Urban Geography	4
GEOG 402	Cartography	4
GEOG 450	Urban-Social Geography	4
GEOG 470	Urban and Regional Planning	3
GEOG 475	Quantitative Techniques in Geography	3
Minimum total hours		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	3
GEOG 575	Seminar in Quantitative Geography	3
GEOG 578	Seminar in Research Methodology	3
GEOG 580	Advanced Research Seminar	3
GEOG 600	Introduction to Graduate Study	3
Hours credit		15

### Electives

Elective courses in Geography and related fields, chosen with approval of advisor, to meet hour requirements of MA program.

Total hours 45

## Geology

(See Earth Sciences)

## German

Administered by the Department of Foreign Languages

Location: Candelaria 32

Telephone: 351-2040

Kathleen Y. Ensz, 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 Languages 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.

A professional area emphasis is also offered in the liberal arts major and minor in German for those planning business or professional careers.

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.

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.

In addition to our conventional classroom program, we offer a number of extracurricular programs and activities for our students. Conversation hours are regularly held 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 others, and are now involved in careers such as international business, world affairs, social work and the arts.

## Bachelor of Arts in German

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

- General Education requirements as specified in this *Bulletin*. Students should consult assigned advisors about particularly appropriate General Education courses.

- All work to be counted toward the B.A. degree in German must be beyond the first-year level.

- A minor approved by the student's advisor in 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.

### Core Requirements for Major Programs

GER 201	Intermediate German Grammar I	3
GER 211	Intermediate German Conversation & Culture I	2
GER 202	Intermediate German Grammar II	3
GER 212	Intermediate German Conversation & Culture II	2
GER 203	Intermediate German Grammar III	3
GER 213	Intermediate German Conversation & Culture III	2
GER 301	German Conversation	4
GER 302	German Composition & Grammar	4
GER 311	German Civilization from Its Beginnings to 1848	3
GER 312	German Civilization from 1848 to Present	3
GER 400	Problems in Oral German	1-3

### Teaching Emphasis

In addition to the preceding required major core courses, the following are required for students who plan to teach in the public schools:

GER 318	18th Century Literature	3
GER 319	19th Century Literature	3
GER 320	20th Century Literature	3
GER 345	German Phonetics & Pronunciation	3
Elective courses in German chosen with advisor's consent		7
Hours credit		51

### Professional Teacher Education

Students must meet all requirements for Professional Teacher Education, as described in this *Bulletin*, including:

FL 341	Methods of Teaching in the Secondary School	3
EDLS 363	Clinical Experience	2

Before application may be made for student teaching, a German major must have successfully passed the departmental oral proficiency examination.

### Liberal Arts Emphasis

In addition to the preceding required major core courses, the following courses are required for students with a liberal arts major.

GER 318	18th Century Literature	3
GER 319	19th Century Literature	3
GER 320	20th Century Literature	3
GER 345	German Phonetics & Pronunciation	3
Electives in German chosen with consent of advisor		7
Hours credit		51

### Liberal Arts with Professional Emphasis

GER 316	Modern Germany	3
GER 405	German for the Professional I: Reading & Vocabulary	3
GER 406	German for the Professional II: Correspondence	3
Electives in German chosen with advisor's consent		10
Hours credit		51

## Minor in German

### Core Requirements for Minor Programs

GER 201	Intermediate German Grammar I	3
GER 211	Intermediate German Conversation & Culture I	2
GER 202	Intermediate German Grammar II	3
GER 212	Intermediate German Conversation & Culture II	2
GER 203	Intermediate German Grammar III	3
GER 213	Intermediate German Conversation & Culture III	2
GER 301	German Conversation	4
GER 302	German Composition & Grammar	4

### Teaching Emphasis

In addition to the required core courses, the following are required for a German teaching minor:

GER 311	German Civilization from Its Beginnings to 1848	3
GER 312	German Civilization from 1848 to Present	3

And one of the following:

GER 318	18th Century Literature	3
	or	
GER 319	19th Century Literature	3
	or	
GER 320	20th Century Literature	3
Electives in German chosen with advisor's consent		3
Hours credit		35

### Liberal Arts Emphasis

In addition to the required core courses, the following are required for a German liberal arts minor:

GER 311	German Civilization from Its Beginnings to 1848	3
GER 312	German Civilization from 1848 to the Present	3

And one of the following:

GER 318	18th Century Literature	3
	or	
GER 319	19th Century Literature	3
	or	
GER 320	20th Century Literature	3
Electives in German chosen with advisor's consent		3
Hours credit		35

### Liberal Arts with Professional Emphasis

In addition to the required core courses, the following are required for a German liberal arts minor/professional emphasis:

GER 316	Modern Germany	3
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And one of the following:

GER 405	German for the Professional I: Reading & Vocabulary	3
	or	
GER 406	German for the Professional II: Correspondence	3
Electives in German chosen with advisor's consent		6
Hours credit		35

### Electives

GER 105	Tirolean Folk Dance	1
GER 106	Contemporary German Drama	2
GER 325	Post-War Literature Since 1945	3
GER 340	German Drama	3
GER 345	German Phonetics & Pronunciation	3
GER 355	German Literary Masterpieces in Translation	4
GER 400	Problems in Oral German	1-3
GER 401	Intensive German	5
GER 402	Contemporary Life in Germany	3
GER 403	Practicum in Germany	4
GER 404	Modern Germany	4
GER 422	Directed Studies	1-4
GER 430	German Poetry	3

## Gerontology

Administered by the Department of Human Services  
Location: McKee Hall 41

Telephone: 351-2403

Vincent A. Scalia EdD, Chair

Karen A. Roberto, PhD, Coordinator

Priscilla J. Kimboko, PhD.

The Gerontology program provides the student the opportunity to study the human aging processes and to learn skills needed in working directly with the older population. A broad spectrum of courses are offered covering the social, psychological and biological aspects of aging. Individuals who hold a bachelor of science degree in Gerontology are prepared to work as service providers in social service agencies, senior centers, long term care facilities, adult day care, and other community organizations.

## Bachelor of Science in Gerontology

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 as specified in this *Bulletin*.
- Complete a minor or supporting area selected with the approval of the major advisor, with a minimum of 30 credit hours.
- Complete the following courses in the major with a minimum of 71 credit hours.

GERO 205	Introduction to Gerontology	3
GERO 235	Middle Age and Aging	4
CH 236	Introduction to Health Aspects of Gerontology	3
HRS 290	Introduction to Human Rehabilitative Services	3
GERO 294	Practicum in Gerontology	6
REC 330	Leisure, Recreation and the Older Adult	3
FND 351	Nutrition for the Older Adult	3
SOC 371	Sociology of Aging	4
GERO 397	Practice Skills in Aging Services	4
GERO 410	Community Resources for the Elderly	5
GERO 415	Biology of Aging	3
PSY 430	Maturity & Aging	3
GERO 434	Management Concepts in Aging Services	3
CMDS 470	Introduction to Communication Disorders of the Aging	3
GERO 485	Senior Seminar	3
GERO 496	Issues in Long Term Care	3
GERO 495	Internship in Gerontology	15-18
Hours credit		71-74

## Minor in Gerontology

The minor in Gerontology is designed to provide students who are majoring in other areas a broad overview of the aging process to help facilitate employment opportunities in occupations which may serve the older adult. Students pursuing the minor in Gerontology must meet with Gerontology advisor to outline their program. The following courses are required:

GERO 205	Introduction to Gerontology	3
GERO 235	Middle Age and Aging	4
CH 236	Introduction to Health Aspects of Gerontology	3
GERO 294	Practicum in Gerontology	2
FND 351	Nutrition for the Older Adult	3
SOC 371	Sociology of Aging	4
	or	
PSY 430	Maturity & Aging	3
GERO 397	Practice Skills in Aging Services	4
GERO 410	Community Resources for the Elderly	5
GERO 434	Management Concepts in Aging Services	3
CMDS 470	Communication Disorders of the Aging	3
Hours credit		33-34

## Master of Arts in Gerontology

Administered by the Department of Human Services

The Master of Arts program in Gerontology prepares students for professional responsibility in counseling-related, administrative positions, or similar professional endeavors within the aging network. Graduates find employment in health related or long term care facilities, senior centers, recreation programs, community college teaching, pre-retirement educational programs, mental health related

activities, industrial settings or private practice/consultation.

All students are required to complete the core curriculum in Gerontology, and then choose one of the three degree options: Management/Administration, Counseling/Direct Practice or the Generalist Program.

### Requirements

Criteria for students pursuing the M.A. in Gerontology include:

- Development of a plan of study in consultation with their major advisor.
- Completion of a minimum of 63 credit hours in Gerontology.
- When there are previous academic and professional deficiencies in Gerontology, the student may be required to complete additional course work. The leveling courses should be selected in conjunction with a gerontology faculty member. Note, however, that no course numbered below 500 can be counted toward the number of credit hours required for the degree.
- Pass a written comprehensive examination.
- Thesis is optional. For those students who elect to complete a thesis, certain course requirements will be waived.

### Required Core Courses

GERO 510	Community Resources for the Elderly	5
GERO 515	or 415 Biology or Aging	3
GERO 525	Issues & Concepts in Gerontology	4
GERO 534	Management Concepts in Aging Services	3
GERO 540	Professional Intervention with the Elderly	3
GERO 586	Social Policies of Aging	3
GERO 591	Health Aspects of Gerontology	3
HRS 610	Interpretation & Evaluation of Behavioral Research	3
GERO 652	Graduate Internship in Gerontology	15-18
	Hours credit	42-45

### Management/Administration Emphasis

GERO 541	Social Planning for Aging Services	3
GERO 543	Grant Development & Administration	3
GERO 544	Evaluation of Aging Programs	3
GERO 594	Financial Management and Budgeting for Aging Programs	3
GERO 595	Personnel Management in Aging Programs	3
GERO 596	Issues in Long-Term Care	3
	GERO Elective	3
	Hours credit	21

### Counseling/Direct Practice Emphasis

GERO 537	Helping Skills for Gerontologists	3
HRS 630	Human Services Counseling: Theories & Techniques	3
HRS 631	Practicum in Rehabilitation Counseling	6
	GERO Elective	3
	Elective (GERO, PPSY, REC)	6
	Hours credit	21

### Generalist Emphasis

This emphasis area requires 21 hours of course work selected by the student in conjunction with his/her major advisor. This option allows the student to tailor the master's program to help him/her to meet their specific career goals and objectives.

## Graduate Certificate in Gerontology

The certificate in Gerontology at the graduate level provides the individual with a broad overview of the field of Gerontology. The certificate is designed for those individuals with a Masters degree in a different discipline or other professional designation (i.e., R.N., B.S.W.) or a Bachelor's degree and several years of experience in the Human Services area.

Application to the certificate program is made to the Graduate School and the Gerontology Program. Courses required for a graduate certificate are:

GERO 510	Community Resources for the Elderly	5
GERO 525	Issues & Concepts in Gerontology	4

GERO 534	Management Concepts in Aging Services	3
GERO 540	Professional Intervention with the Elderly	3
GERO 586	Social Policies of Aging	3
GERO 591	Health Aspects of Gerontology	3
	Hours credit	21

## Health Occupations — Vocational Teacher Education

Administered by the Division of Educational Studies  
Location: McKee Hall 425  
Telephone: 351-2939  
Robert Welch, Program Facilitator

### Faculty

Pat McGuire, BA, Inst.

## Minor in Health Occupations — Teacher Education

The Health Occupations — Vocational Teacher Education program provides for the 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.

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 course work completed in the health practitioner area will be evaluated by Admissions and the Health Occupations faculty. A minimum of 15 quarter hours can be added, based on competency evaluation.

Associated with the Health Practitioner preparation needed for the degree program are required work hours in a health field for a vocational credential.

Students pursuing a minor in Health Occupations Teacher Education must complete the following:

### Required Courses

VTE 107	Computer Literacy	1
VTE 303/503	Instructional Design: Performance Objectives, Analysis and Evaluation	3
VTE 304	Instructional Design" Instructional Methods	1
VTE 453	Clinical Teaching Evaluation in Health Occupations Evaluation	3
VTE 491	Practicum	1-15
	Health practitioner preparation (minimum of 15 hours credit)	15

### Electives

(Selected with approval of minor advisor)

VTE 307	Computer Software Use	2
VTE 310	Vocational Education Foundations	3
VTE 430	Vocational Education for Learners with Special Needs	3
VTE 430	Human Relations in Vocational Education	3

### Secondary only

VTE 410	Cooperative Education and Coordination Techniques	3
VTE 412	Vocational Student Organizations	2

### Post Secondary Only

VTE 418	Adult Vocational Education	3
	Hours credit	39

## 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.

Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program.

#### Suggested courses

VTE 503	Instructional Design: Classroom Evaluation	3
VTE 504	Instructional Design: Instructional Methods	1
VTE 553	Clinical Teaching & Evaluation in Health Occupations Education	3
VTE 690	Field Experiences: Health Occupations Education Teaching	1-12

## 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 the Health Occupations Teacher Educator in Vocational Teacher Education.

## Hispanic Studies

Location: Candelaria 33  
Telephone: 351-2811  
Carlos Leal, Chair

#### Faculty

James K. Bachmann, PhD, Asst. Prof.  
Roberto H. Cordova, PhD, Assoc. Prof.  
Ester Gimbernat de Gonzalez, PhD, Assoc. Prof.  
Maria Lopez, PhD, Assoc. Prof.  
Carlos Leal, EdS, Assoc. Prof.  
Alfonso Rodriguez, PhD, Prof.  
Teresa B. Rodriguez, MA, Asst. Prof.  
Lynn A. Sandstedt, PhD, 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 program has been established, and majors and minors are encouraged to participate in this spring quarter intensive program in 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.

## Bachelor of Arts in Hispanic Studies

Students pursuing the B.A. degree with a major in Hispanic Studies must fulfill the following requirements:

- General Education requirements 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
	or	
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, 1469 to Present	4

After completing major core requirements, student may select one of two major emphases:

#### Mexican American Studies Emphasis

HISP 101	Introduction to Mexican American Studies	4
HISP 300	Social Stratification in the Mexican American Community	3
HISP 302	Bicultural Systems	3
HISP 350	Contemporary Chicano Literature	3
HISP 365	Mexican American Art	3
HISP 385	Mexican American Thought	3
Electives		4
	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
GEOG 336	Geography of Mexico & Central America	4
HISP 255	Music of the Hispanic World	3
HISP 260	Hispanic Folklore	2
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 Emphasis

ANT 320	Ethnology of Hispanic Peoples	4
GEOG 336	Mexico & Central America	4
GEOG 338	South America	3
PSCI 411	Government & Politics of Latin America	4
SPAN 331	Latin American Culture & Civilization	4
Electives		4
	Hours credit	58

Electives for the Latin American Studies are to be selected from the following:

ANT 329	Peoples & 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 460	Economic Colonialism & Imperialism	3
HISP 255	Music of the Hispanic World	3
HISP 260	Hispanic Folklore	2
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	Cuban & Puerto Rican Literature	3

## Minor in Mexican American Studies

Students pursuing a minor in Mexican American Studies must obtain required advising and fulfill the following requirements:

### 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 217	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 & Central America	4
HISP 255	Music of the Hispanic World	3
HISP 260	Hispanic Folklore	2
HISP 302	Bicultural Systems	3
HISP 370	Chicano Psychology	3
HISP 375	Women in Hispanic Society	3
HISP 385	Mexican American Thought	3
HISP 440	Mexican Literature	3

## Bachelor of Arts in Spanish

Students pursuing the B.A. with a major in Spanish must fulfill the following requirements:

- General Education requirements as specified in this *Bulletin*.
- Spanish majors are required to take HIST 372, and either HIST 314 or HIST 315.
- 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 Culture & Civilization	4

After completion of the major core requirements, students may select one of two major emphases:

### Liberal Arts/Teaching Emphasis

SPAN 205	Introduction to Hispanic 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

Electives for both emphasis areas are to be selected from the following courses:

HISP 101	Introduction to Mexican American Studies	4
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	2
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	4
HISP 430	Cervantes: Don Quixote	3
HISP 435	Latin American Short Story	3
HISP 440	Mexican Literature	3
HISP 445	Cuban & 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 meet all requirements for the Professional Teacher Education program, as described in this *Bulletin*, including:

EDLS 363	Clinical Experience	2
FL 341	Methods of Teaching in the Secondary Classroom	3

In order to gain permission to apply for student teaching, a Spanish major must successfully pass the Department's oral proficiency exam.

## Minor in Spanish

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: HIST 220, HIST 218, HIST 314, HIST 315, or HIST 372.

### 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

After completion of the minor core requirements, students 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 Culture & Civilization	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 Culture & Civilization	4
One elective—see list under Spanish major		2
		Hours credit 36

## Elementary Education: Bilingual Bicultural Certification

Dr. James Bachmann, 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.

#### 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	Hispanic Cultures of the United States	4
HISP 302	Bicultural Systems	3
HISP 400	First & Second Language Skills in Bilingual Bicultural Settings	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

## Master of Arts in Spanish — Teaching

This program is especially designed for those desiring to pursue a career in the teaching of Spanish. This graduate program stresses the language and culture of the Hispanic world. It provides the opportunity to apply this knowledge in a practical manner through numerous methodology courses.

The program combines a 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 the Spanish language.

In addition to the classroom program during the academic year, a series of workshops or institutes is offered to provide the student with 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 with a guest lecturer from off-campus. Students are also encouraged to speak Spanish 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.

#### Admission and General Requirements

- An applicant must possess a B.A. in Spanish or the equivalent, and should already have achieved a spoken and written command of the language. 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 Teaching (Spanish).
- The candidate must have completed one year of experience before admission into the program.
- Related courses outside the immediate field of Spanish 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 department's Study Abroad Program if desired, especially if the candidate has never been in a country where the language is spoken.
- Students are required to complete 30 quarter hours of coursework within the Department of Hispanic Studies. 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. 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.

#### Category I

EDF 565	Social & Cultural Differences in Education	3
EDEM 516	Utilization of Educational Resources	3
EDEM 521	Design & Construction of Audio-Visual Materials	3
EDEC 648	Psycholinguistics in Early Childhood	3
EPRE 540	Principles of Learning	4
PPSY 670	Psychological Testing & Measurement	4
Other courses may be taken with permission of the major advisor.		

#### Category II

ANT 537	Seminar in Cultural Anthropology	3
HISP 540	Mexican Literature	3
HISP 555	Contemporary Latin American Writers	3
HISP 565	Mexican American Art	3
HIST 506	Seminar in Latin American History	3
HIST 592	Seminar in Southwest History	3
GEOG 580	Seminar in Latin America	3

- 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 does not meet all the College of Education PTE requirements for certification in the teaching of Spanish. Please consult with departmental advisor and/or PTE office if interested in elementary or secondary certification.

## History

Location: Michener L97  
Telephone: 351-2905  
Barry Rothaus, Chair

#### Faculty

Benjamin Byerly, PhD, Prof.  
Marshall Clough, PhD, Assoc. Prof.  
Alfred Cornebise, PhD, Prof.  
Ronald Edgerton, PhD, Prof.  
Alexander Knott, PhD, Assoc. Prof.  
Robert Larson, PhD, Prof.  
Stephen Powers, PhD, Prof.  
Barry Rothaus, PhD, Prof.

Gail Rowe, PhD, Prof.  
Janet Worrall, PhD, 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 three programs — a liberal arts B.A.; a B.A. with an emphasis in teacher training; and Master of Arts.

Graduates from our programs enter the teaching and legal professions. Many others go into government service and into the business world.

## Bachelor of Arts in History

Students pursuing either B.A. degree in History must complete the following program requirements:

### Required Core 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
HIST 399	Introduction to Historical Research	4
HIST 499	Interdisciplinary Readings in History	3
	Hours credit	34

- University General Education requirements.
- Electives sufficient to complete the 180 hours required for graduation. The History Department recommends that all majors take a foreign language.

### Liberal Arts Emphasis

#### Core Requirements

Students must complete the core courses specified above.

	Hours credit	34
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#### Third World Course Requirements

One of the following elective courses:

HIST 110	African Civilization	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

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.

	Hours credit	28
Total hours in Liberal Arts major		66

#### Minor Requirements

Students must complete a minor of 27 hours, preferably within the College of Arts and Sciences.

#### Teaching Emphasis

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:

#### Core Requirements

Students must complete the core courses specified here.

	Hours credit	34
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### History Electives

Students must complete two courses in Third World History (Asian, African or Latin American). In addition, they must complete one course numbered 200 or above in both United States and European History. Additional hours may be chosen by the student from any area.

Hours credit	20
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### Social Science Core

ANT 100	General Anthropology	4
ECON 100	Introductory Economics	5
	<i>or</i>	
ECON 110	Principles of Economics: Microeconomics	4
	<i>or</i>	
ECON 120	Principles of Economics: Macroeconomics	4
GEOG 100	World Geography	5
PSCI 100	American National Government	5
SOC 100	Principles of Sociology	4
	Hours credit	22-23

### Social Science Electives

These electives must be numbered 200 or above.

Hours credit	10
Total hours in teaching major	86-87

### Professional Teacher Education

Students in the Teacher Preparation program are required to complete PTE requirements as specified in this *Bulletin*, subject to the following modifications:

- Prior to application for admittance to the PTE program, students must have completed 20 hours of History, 8 hours of which must have been taken at UNC, with a minimum GPA of 2.30 (computed from UNC courses only).

- Prior to enrolling in SSED 341, Methods of Teaching Social Science in the Secondary School, and EDLS 363, Clinical Experience (both of which must be taken concurrently), students must have completed the following courses:

EDF 364	Foundations of Education	4
EDF 385	Law & the Classroom Teacher	2
	<i>or</i>	
EDAD 385	Law & the Classroom Teacher	2
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
	Two introductory Social Science courses	9-10
	Hours total	49-50

- Prior to registering for EDFE 444, Supervised Teaching, students must have completed 41 hours *in the major*.

## Minor in History

Students minoring in history who intend to teach Social Studies should take two of the following courses to fulfill their General Education requirements: ANT 100, ECON 100, (or ECON 110 or 120), GEOG 100, PSCI 100, SOC 100, PSY 120. These courses may not be counted toward fulfilling the 37-hour 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 in History

## 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.

## 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, Directed Studies, without obtaining prior approval from the Department chair.

- 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:

- 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.

- 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
- 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 Master's program should consult with his or her advisor regarding the advisability of writing a master's thesis and preparing oneself in foreign language. Candidates are eligible for consideration for Oliver M. Dickerson Assistantships of \$500 per quarter after one quarter's attendance.

# Honors Program

(See Chapter 3, Undergraduate Information)

## Human Rehabilitative Services

Administered by the Department of Human Services

Location: McKee Hall 41

Telephone: 351-2403

Vincent A. Scalia, Chair

### Faculty

David A. Adams, MS, Inst.

Garth Eldredge, PhD, Prof.

Juliet H. Fried, EdD, Asst. Prof.

Dennis Gay, PhD, Prof.

Priscilla J. Kimboko, PhD, Asst. Prof.

Catherine A. Marshall, PhD, Asst. Prof.

Raymond E. Nelson, PhD, Asst. Prof.

Karen A. Roberto, PhD, Asst. Prof.

Vincent A. Scalia, EdD, Assoc. Prof.

Richard R. Wolfe, PhD, Prof.

## Bachelor of Science in Human Rehabilitative Services

The Department of Human Services offers a Bachelor of Science degree in Human Rehabilitative Services with emphasis areas in Public Offender Rehabilitation Services, Chemical Dependency, private Sector and General Rehabilitation. Students are prepared for careers in a variety of human services settings or for entry into Graduate School.

Students pursuing the B.S. degree in Human Rehabilitative Services must satisfy the following requirements before graduation:

- Complete the General Education requirements as required by the University of Northern Colorado.

- Complete the required courses listed in the Human Rehabilitation Core, plus the requirements of one area of emphasis or minor in Gerontology.

- Complete advisor approved electives to satisfy the 180 quarter credit hours required for graduation.

- Maintain a 2.00 cumulative grade point average in the course work taken in the Department of Human Services.

### Major Core Requirements

HRS 290	Introduction to Human Rehabilitative Services	3
HRS 370	Rehabilitation Services in the Private Sector	3
HRS 390	Introduction to Social Rehabilitation Services	3
HRS 392	Medical and Psychological Aspects of Disability	4
HRS 395	Working with Families in Rehabilitation	3
HRS 450	Independent Living for Rehabilitation Services	3
HRS 460	Microcounseling in Rehabilitation	4
HRS 490	Introduction to Vocational Evaluation	3
HRS 491	Interviewing and Casework Techniques	4
HRS 494	Supervised Field Practice	18
HRS 495	Vocational Development & Job Placement	3
HRS 496	Client Assessment	3
GERO 205	Introduction to Gerontology	3
GERO 235	Middle Age and Aging	4
STAT 203	Introduction to Statistical Analysis	4
	or	
STAT 303	Statistics for Health Sciences	4
	Total core credits	65

### Emphasis Area I — Public Offender Rehabilitation

#### Required Courses

VTE 107	Computer Literacy	1
SOC 120	Marriage & the Family	4
SOC 340	Juvenile Delinquency	4
COMM 344	Juries, Justice & Jurisprudence	4
SOC 346	Criminology	4

SOC 347	Sociology of Corrections	4
REC 250	Therapeutic Recreation	3
HRS 394	Practicum in Human Rehabilitative Services	6
	Total credits	30

### Emphasis Area II — Chemical Dependency

#### Required Courses

SOC 120	Marriage and the Family	4
CH 238	Contemporary Issues in Drug Abuse	3
FND 459	Foods: Facts and Fallacies	3
HRS 380	Alcohol and Drug Rehabilitation: Basic Counseling Skills	4
HRS 381	Alcohol and Drug Rehabilitation: Client Treatment and Record Management	4
HRS 394	Practicum in Human Rehabilitative Services	6
HRS 461	Rehabilitation of Persons with Psychiatric Disabilities	3
REC 250	Therapeutic Recreation	3
	Total credits	30

### Emphasis Area III — Private Sector

#### Required Courses

BUS 100	American Business Systems	3
ECON 110	Principles of Economics: Micro-economics	4
ECON 120	Principles of Economics: Macro-economics	4
VTE 430	Voc. Ed. for Learners with Special Needs	3
HRS 370	Rehabilitation Services in the Private Sector	3
HRS 391	Rehabilitation of Special Populations	4
HRS 394	Practicum in Human Rehabilitative Services	6
HRS 461	Rehabilitation of Persons with Psychiatric Disability	3
	Total credits	30

### Emphasis Area IV — General Rehabilitation

#### Required Courses

SOC 120	Marriage and the Family	4
VTE 107	Computer Literacy	1
VTE 430	Voc. Ed. for Learners with Special Needs	3
VTE 310	Vocational Education Foundations	3
CH 336	Human Sexuality	3
HRS 391	Rehabilitation of Special Populations	4
HRS 394	Practicum in Human Rehabilitation Services	6
FND 459	Foods Facts and Fallacies	3
REC 472	Recreation Leadership	4
	Total credits	30

## Minor in Gerontology

A minor in Gerontology is offered to complement other majors students may be pursuing such as: psychology, sociology, health education etc. The minor in Gerontology can be taken in lieu of an emphasis area for Human Rehabilitative Services majors.

#### Required Courses

GERO 205	Introduction to Gerontology	3
GERO 235	Middle Age and Aging	4
CH 236	Introduction to Health Aspects of Gerontology	3
GERO 294	Practicum in Gerontology	2
FND 351	Nutrition for the Older Adult	3
	or	
PSY 430	Maturity and Aging	3
SOC 371	Sociology of Aging	4
GERO 397	Practice Skills in Aging Services	3
GERO 410	Community Resources for the Elderly	5
GERO 434	Management Concepts in Aging Services	3
CMDS 470	Communication Disorders of the Aging	3
	Hours credit	33-34

## Minor in Human Rehabilitative Services

A minor in Human Rehabilitative Services is offered to complement other majors students may be pursuing such as: psychology, sociology, gerontology, exercise physiology, health education, physical education, special education, etc.

#### Required Courses

HRS 290	Introduction to Human Rehabilitative Services	3
HRS 370	Rehabilitation Services in the Private Sector	3
HRS 390	Introduction to Human Rehabilitation	3
HRS 394	Practicum in Human Rehabilitative Services	2
HRS 395	Role of the Family in Rehabilitative Services	3
HRS 460	Microcounseling in Rehabilitation	4
HRS 495	Vocational Development & Job Placement	3
HRS 496	Client Assessment	3
HRS 490	Introduction to Vocational Evaluation	3
GERO 205	Introduction to Gerontology	3
	Hours credit	30

## 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	

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.

## Rehabilitation Counseling

Administered by the Department of Human Services  
Location: McKee Hall 41  
Telephone: 351-2403  
Vincent A. Scalia, Chair

#### Faculty

David Adams, MS, Inst.  
Garth M. Eldredge, PhD, Prof.  
Juliet H. Fried, EdD, Asst. Prof.  
Dennis A. Gay, PhD, Prof.  
Priscilla J. Kimboko, PhD, Asst. Prof.  
Catherine A. Marshall, PhD, Asst. Prof.  
Raymond E. Nelson, PhD, Asst. Prof.  
Karen A. Roberto, PhD, Asst. Prof.  
Vincent A. Scalia, EdD, Assoc. Prof.  
Richard R. Wolfe, PhD, Prof.

## Master of Arts in Rehabilitation Counseling

The Department of Human Services offers a Master of Arts Degree in Rehabilitation Counseling with an option for an emphasis in vocational evaluation. The program is designed to train rehabilitation counselors and vocational evaluators for wide variety of professional positions in public and private rehabilitation settings. The program is fully accredited by the Council of Rehabilitation Education (CORE) and qualifies student's application for national certification as a Rehabilitation Counselor and/or Vocational Evaluator.

### Required Core Courses

HRS 521	Principles of Vocational Evaluation	3
HRS 589	Rehabilitation Management	4
HRS 590	Rehabilitation Counseling and Community Resources	4
HRS 591	Rehabilitation Case Management	3
HRS 592	Psycho-Social Aspects of Disability	3
HRS 593	Medical Aspects of Disabilities	3
HRS 595	Occupation Information and Job Placement in Rehabilitation	3
HRS 610	Interpretation & Evaluation of Behavioral Research	3
HRS 611	Rehabilitation of Culturally Different	3
HRS 620	Assessment of the Handicapped	3
HRS 630	Human Services Counseling: Theories & Techniques	3
HRS 631	Practicum in Rehabilitation Counseling	6
HRS 632	Group Processes in Rehabilitation	3
HRS 694	Supervised Clinical Practice in Rehabilitation Counseling	30
	Total required core	74

Required core courses may be waived only by the department chair on the written recommendation of the student's advisor.

### Rehabilitation Counseling Electives

To complete requirements for rehabilitation counseling, select 16 advisor-approved credits from the following:

HRS 580	Alcohol & Drug Rehabilitation: Basic Counseling Skills	4
HRS 581	Alcohol & Drug Rehabilitation: Client Treatment Planning and Record Management	4
HRS 597	Role of the Family in Rehabilitation Services	3
HRS 602	Proprietary Rehabilitation	3
HRS 660	Seminar: Psychiatric Rehabilitation	3
GERO 540	Professional Intervention with the Elderly	3
GERO 543	Grant Development and Administration	3
VTE 530	Vocational Education for Learners with Special Needs	3
VTE 610	Vocational Education Foundations	3

Substitutions to electives may be made only by Department Faculty approval on the written petition of the student.

### Vocational Evaluation Emphasis

To complete the vocational evaluation emphasis area, 16 credits in the following courses are required beyond the 90 credits for the rehabilitation counseling requirements.

HRS 612	Computer Applications in Vocational Evaluation	3
HRS 613	Seminar in Vocational Evaluation Systems	3
HRS 615	Evaluation Planning and Report Writing in Vocational Evaluation	4
HRS 625	Practicum in Vocational Evaluation Systems	3
HRS 672	Advanced Seminar: Individual Assessment in Vocational Evaluation	3
PPSY 605	Employment/Career Counseling Utilizing the GATB	2
VTE 531	Vocational Assessment for Special Needs Learners	3

### Dual Competency in Rehabilitation Counseling and Vocational Evaluation

Students desiring training in Rehabilitation Counseling and Vocational Evaluation must complete 74 hours of required core courses; 16 credit hours of advisor-approved electives in rehabilitation counseling and; 16 credit hours of required courses in vocational evaluation for a total of 106 credits (7 quarters). Students seeking dual competency must apply to the Department and receive faculty approval prior to enrolling in the Vocational Evaluation emphasis.

### 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.

## Human Rehabilitation

Administered by the Department of Human Services  
Location: McKee Hall 41  
Telephone: 351-2403  
Vincent A. Scalia, Chair

### Faculty

Garth M. Eldredge, PhD, Prof.  
Juliet H. Fried, EdD, Asst. Prof.  
Dennis A. Gay, PhD, Prof.  
Priscilla J. Kimboko, PhD, Asst. Prof.  
Catherine A. Marshall, PhD, Asst. Prof.  
Raymond E. Nelson, PhD, Asst. Prof.  
Karen A. Roberto, PhD, Asst. Prof.  
Vincent A. Scalia, EdD, Assoc. Prof.  
Richard R. Wolfe, PhD, Prof.

## Doctor of Philosophy 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
	or	
STAT 715	Planning & Methodology of Research	3
GERO 543	Grant Development and Administration	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 759	Advanced Practicum in Rehabilitation Counseling Supervision	3
HRS 794	Advanced Clinical Internship	8
HRS 797	Doctoral Proposal Research	6
HRS 799	Doctoral Dissertation	18
STAT 503	Descriptive Statistics (or equivalent)	3

Required core courses may be waived *only* by the Department Chair on written request from the major advisor.

## Research and Statistical Requirements

All doctoral students are required to take a minimum of 15 credits in Statistics and Research and satisfactorily complete the Statistics and Research portion of the doctoral comprehensive exam. This satisfies one of the two required University research tools and these 15 credits may count toward the 96 credits required for doctoral course work.

Select 15 credits from the following:

STAT 504	Inferential Statistics (or equivalent)	3
EPRE 603	ANOVA & Other Methods of Analysis	3
STAT 604	Advanced Experimental Design	3
STAT 605	Multivariate Analysis	3
STAT 606	Multiple Regression	3
STAT 607	Non-parametric Statistics	3
STAT 608	Factor Analysis	3
STAT 609	Sampling Methods	3
EPRE 703	Seminar in Analysis of Research	3

All doctoral students must demonstrate competence in a second research tool by satisfactorily completing the criteria for one of the following University-approved research tools.

### Computer Applications:

Satisfactorily complete with a grade of "B" or better, a minimum of twelve (12) credit hours of advisor approved computer application courses.

or.

Prepare and demonstrate a computer program written to meet a specific application need in Human Rehabilitation. This program will be judged as "acceptable" by the student's doctoral program committee.

### Foreign Language

Pass the E.T.S. examination in any major modern foreign language (i.e., other than English) with a score not less than the 30th percentile. Students whose native language is other than English may be determined to have satisfied this requirement by unanimous vote of the student's Research Committee.

### 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 595	Occupational Information and Job Placement in Rehabilitation	3
HRS 630	Human Services Counseling Theories and Techniques	3
HRS 631	Practicum in Rehabilitation Counseling	6

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 credits 96

## Humanities

Administered by the Department of English

Location: Michener L50

Telephone: 351-2971

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.

### Minor in Humanities

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, Visual Arts, 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, etc.

• 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** - ANT 100, 140, 220, 223, 240, 320, 321, 323, 328, 331, 340, 345, 348, 380, 381, 382, 470, 480. ANT 100 or 470 recommended as prerequisites.

**Speech Communication** - COMM 170, 212, 220, 230, 250, 251, 312, 323, 344, 351, 353, 400, 411, 421, 431, 453, 456.

**English** - ENG 310, 311, 325, 360, 361, 362, 363, 364, 365, 366, 367, 370, 371, 375, 376, 402, 403, 405, 406, 407, 408, 410, 411, 414, 415, 416, 430, 441, 450.

**Visual Arts** - ART 181, 182, 183, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390.

**History** - HIST 110, 115, 130, 131, 132, 176, 177, 178, 266, 302. Any advanced electives in History may be taken with the approval of the student's advisor.

**Humanities** - HUM 111, 112, 113, 114, 115, 120, 121, 140, 210, 230, 235, 241, 250, 252, 253, 260, 320, 331, 410.

**Music** - MUS 140, 141, 142, 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** - PHIL 100, 300, 330, 335, 350, 355, 370, 400, 410, 420.

**Sociology** - SOC 145, 212, 217, 235, 274, 278, 332, 333, 351, 352, 371, 411.

**Theatre Arts** - THEA 130, 330, 331, 332.

## Individualized Education

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 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 Programs (Graduate)

Administered by the Graduate School  
 Location: Carter Hall 2007  
 Telephone: 351-2831

The purpose of the Graduate Interdisciplinary Degree Program is to offer students and faculty a method for developing innovative interdisciplinary programs to meet individual needs. 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. Guidelines for each degree and specific details regarding admission criteria and program requirements may be obtained from the Graduate School.

## Admission

For admission to an Interdisciplinary Degree Program, the student must:

- Follow the admission procedures outlined under "Admission to a Graduate Interdisciplinary Degree Program." (See "Special Admission: Procedures and Requirements.")
- Satisfy admission requirements of the Graduate School.
- Be recommended for formal acceptance by at least one department with a graduate degree program at the level the student is seeking, i.e. master's specialist, doctoral.

When a student is notified by the Graduate School of provisional admission, he/she is authorized to begin preparation of the program proposal in conjunction with two or more assigned faculty advisors. The student may be in provisional status (not over two quarters) 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 student's provisional admission quarter. (There is no guarantee that a provisionally-admitted student will be granted regular admission to a degree program.) All provisions of Graduate sections of this *Bulletin* apply to students in the Interdisciplinary Degree Program

Student proposals that have a teacher education component must be approved by a subcommittee of the Professional Education Committee. This committee will assess whether the proposal meets the NCATE standards. When a teacher education component is included, the student's advisory committee must include a member of the Teacher Education Faculty. The Graduate School will determine if a student has a teacher education component in his/her program.

Regular admission must be recommended by all departments/divisions 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:
1. individually designed programs; and
  2. standardized programs involving two or more disciplines.

## Educational Technology

The College of Education at the University of Northern Colorado is developing a comprehensive program and center for educational technology. A proposal to establish M.S. and Ed.D. degrees in Educational Technology was under review at the time this *Bulletin* went to press. Students desiring information about these degree programs

should contact the Educational Technology program area administered by the Division of Research, Evaluation and Development. Until those degrees are approved, students desiring to major in Educational Technology may elect to pursue the Interdisciplinary degree in Educational Technology administered by the Graduate School. Through the cooperation of the Graduate School, Interdisciplinary Programs relating educational 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; 3) plan, develop, and evaluate instructional systems; and 4) conduct experimental and developmental research regarding the use of educational technology for training and instruction.

Resources at the University that support the Interdisciplinary Program in Educational Technology include mainframe and microcomputer-based educational systems, a digital electronics laboratory and a television production studio.

Applications for admission to the master of arts and doctoral programs will be considered by the program faculty only after the student has met the requirements of the Graduate School. Applications are processed by the program faculty twice a year, once in April and once in October. All application materials must be received no later than April 1 or October 1, whichever applies. Decisions regarding admissions for summer and fall quarters will be made by April 15. For winter and spring quarters the deadline is October 15. In addition, applicants are required to submit a brief statement of previous work experience and their career goals. Graduate Record Examination scores must also be submitted by all applicants.

The minimum criteria for acceptance to the program include:

- A GPA of 3.0 for master's program applicants or 3.5 for doctoral program applicants during the last 100 quarter hours of academic work.
- Three letters of recommendation indicating a high potential for academic and professional success.
- Congruency between the applicant's statement of career goals and the goals of the program.
- GRE General Test combined score (verbal, quantitative, analytical) of 1,500 for master's program applicants and 1,650 for doctoral program applicants.

*Note:* In the case of the GRE scores and GPA, exceptions will be considered when warranted by special circumstances.

## Master of Arts

The master of arts program is designed as a foundation of knowledge and skills in educational 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 523	Technology and Its Impact on Society	3
ET 526	Orientation to Computer-Assisted Education	3
ET 585	Digital and Microprocessor Basics	3
ET 620	Educational Analysis Techniques	3
ET 629	Evaluation of CBE Software	3
ET 690	Research Storage & Retrieval Systems	2
EPRE 505	Elements of Statistics	4
EPRE 518	Microcomputer Applications in Psychology & Education	3
EPRE 540	Principles of Learning	4
EPRE 570	Tests and Measurement for Educators	4
EPRE 600	Introduction to Graduate Study & Research	3
	Required hours	34
	Elective hours	11
	Total hours	45

## Doctor of Education

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 629	Evaluation of CBE Software	3
ET 627	Computer-Assisted Instruction	3
ET 628	Computer-Managed Instruction	3
ET 637	Educational Analysis Techniques	3
ET 610	Instructional Technology: Philosophy, Theory & Practice	3
EPRE 518	Microcomputer Applications in Psychology & Education	3
EPRE 541	Human Information Processing	4
EPRE 603	ANOVA & Multiple Regression	4
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: Questionnaires & Scaling	3
EPRE 700	Introduction to Doctoral Research	3
ET 797	Doctoral Proposal Seminar	6
ET 799	Doctoral Dissertation	18
	Required hours	69
	Elective hours	27
	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  
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.

### Secondary Science Teaching

Under the direction of the Mathematics and Science Teaching Steering Committee, the University of Northern Colorado has established a Center for the Improvement of Mathematics and Science Education. Through this Center and the Interdisciplinary Studies Committee, the University offers a comprehensive, interdisciplinary master's degree program for the purpose of providing post-baccalaureate training primarily focused on science content. Students in this program have access to university resources available in its science departments (Biological Sciences, Chemistry, Earth Sciences, and Physics), Mathematics and Applied Statistics Department, and other appropriate departments/divisions (Educational Studies, Educational Technology, Professional Studies, Psychology, and Research, Evaluation, and Development).

Applicants must follow the admission procedures outlined under "Admission to a Graduate Interdisciplinary Degree Program" (see "Special Admission: Procedures and Requirements") and must meet the minimum admission requirements for the master's degree. In addition, an applicant should have an equivalent of a baccalaureate degree (teaching emphasis) in biological sciences, chemistry, earth sciences, or physics which includes a minimum of 10 quarter hours of approved courses in each of three supporting science areas (see below) and 10 quarter hours of approved courses in mathematics plus a professional teacher education core. Approved courses are the UNC courses listed below or courses equivalent to these UNC courses:

Biological Sciences, BIO 101 and 102 or 103; Chemistry, CHEM 104 and 105; Earth Sciences, 10 quarter hours chosen from AST 301,

AST 310, GEOL 201, GEOL 202, MET 200, MET 201, OCN 200, and OCN 301; Physics, PHYS 260 and 261 or 262.

If an applicant meets minimum Graduate School admission requirements, his/her application materials will be forwarded to the Mathematics and Science Teaching Steering Committee for admission recommendation to the Graduate School.

## Master of Science

The Interdisciplinary Master of Science in Secondary Science Teaching is a 50 quarter hour program. Subject to the approvals of the student's program advisors, the appropriate department/division chairs, the Steering Committee, and the Graduate School, students must select a minimum of 20 quarter hours of courses in each of two science disciplines and a minimum of 10 quarter hours of elective courses. A minimum of two Graduate School approved research courses must be part of the program of study.

The courses selected should build upon the student's background and contribute to the student's growth as a secondary level science teacher. Furthermore, the courses selected to satisfy the science discipline requirements must bear the appropriate course prefix. (Appropriate course prefixes are: Biological Sciences, BIO, BOT, or ZOO; Chemistry, CHEM or CHED; Earth Sciences, AST, ESCI, GEOL, MET, or OCN; Physics, PHYS and/or approved SCI.)

Students who have deficiencies in their educational backgrounds will be required to take additional course work to remove such deficiencies. All students are required to pass a written comprehensive examination covering the selected course work.

Students may write a master's thesis and will be allowed to count a maximum of 6 quarter hours of thesis work in the program. A student who writes a thesis is required to successfully defend the thesis. The thesis must be approved by the student's graduate committee.

This Master of Science degree does not result in Colorado teacher certification. A student who desires certification should consult with his/her program advisors.

All requirements for the graduate interdisciplinary master's degree program must be met. The degree awarded will be an Interdisciplinary Master of Science degree.

## Interdisciplinary Studies (Undergraduate)

Administered by the College of Arts and Sciences

Location: Michener L54

Telephone: 351-2707

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. To graduate, you must maintain at least a 2.6 grade point average in your Interdisciplinary Studies Program.

Interested students should consult with the College of Arts and Sciences.

# Journalism and Mass Communications

Location: Candelaria Hall 123  
Telephone: 351-2726  
Mort Stern, Chair

## Faculty

David L. Anderson, MA, Assoc. Prof.  
Louis G. Ceci, PhD, Asst. Prof.  
Robert A. Hess, MA, Asst. Prof.  
Charles Ingold, PhD, Asst. Prof.  
Wayne W. Melanson, EdS, Assoc. Prof.  
Dennis Morimoto, PhD, Assoc. Prof.  
Mort Stern, PhD, Prof.

Career preparation and understanding of the mass communications media are two significant benefits of majoring in this discipline. Undergraduates are able to choose from among three emphases: News-Editorial, Telecommunications, and Photocommunications. Professionally-experienced, academically-qualified faculty members in each sequence provide opportunities for instruction and skills enhancement. Modern facilities include a closed-circuit radio station, a color TV studio, and photography labs with both color and black-and-white capability.

## Admission to the BA degree Program

Effective September 1, 1986

**Prejournalism major** Freshman are admitted to the Department of Journalism and Mass Communications as Prejournalism majors. Prejournalism majors will be assigned an advisor in the Department of Journalism and Mass Communications who will assist students during their freshman and sophomore years in planning their programs and will advise students needing assistance in preparing for application to a degree program in Journalism and Mass Communications.

Any students meeting the admission requirements of the University of Northern Colorado may be admitted to the prejournalism major program.

**Journalism major (all emphases)** Students will be admitted to the Journalism major at the beginning of their junior year (completion of 90 quarter hours).

Students may apply for admission after completion of a minimum of 54 credit hours (60 recommended).

The following courses must be completed with a grade of "C" or better *prior* to admission to the JMC major.

ENG 122	Elementary Composition: Exposition	4
JMC 100	Introduction to Journalism and Mass Communications	3
JMC 210	News writing	4

**Grade point average** Students must have a minimum of a 2.3 GPA for all courses completed at the University of Northern Colorado.

**Completion of General Education requirements** UNC intends that students will take General Education throughout their undergraduate years. Because the JMC department wants its majors to have the thinking skills and experience that taking a variety of General Education courses can provide, the department expects its new majors to have already made significant progress toward completion of General Education requirements. Applicants must identify General Education courses in progress and with their applications must present a plan for completing remaining courses during their junior and senior years.

**Letter of application** Students must complete a letter of application. The letter should address the applicant's reasons for wishing to major in JMC and should state what qualities the student possesses

that will contribute to his/her success in this major. Letters must be typewritten and must not exceed one page, single spaced.

**Other considerations for admission** Admission to each emphasis area is competitive and will be based on the following criteria:

- Overall grade point average
- Grade point average in courses completed in the Department of Journalism and Mass Communications.
- Letter of application
- Progress on completion of General Education requirements

**Transfers (from within the university)** Students may transfer from any University of Northern Colorado major including "undeclared" to the Prejournalism program simply by completion of a university "Change of Major Form."

Students wishing to be admitted to the Journalism major are not required to be classified Prejournalism majors to be considered.

**Transfers (from other institutions)** Any transfer student accepted to the University of Northern Colorado may be classified as a Prejournalism major.

Students may apply for admission to the Journalism major provided that he or she has:

- been admitted to the University of Northern Colorado
- completed the requirements outlined in 2.1, 2.2, (or the equivalent) 4.1, 5.1, and 6.1.
- completed the equivalent of the courses listed in 2.3 with a "C" or better.
- a minimum 2.3 cumulative grade point average in all college or university-level work completed.

**Deadlines and procedures for admission to major status** Admission decisions will be made by a departmental admissions committee.

The admissions committee will consider applications once per quarter in the fall, winter, and spring.

Deadline for applications for admission:

- for fall quarter, 1986, May 15, 1986.
- for winter quarter 1987, October 15, 1986.
- for spring quarter 1987, February 15, 1987.
- for summer quarter 1987, April 15, 1987.

Students who leave (drop out of) the university during the academic year (summer quarter is excluded) must reapply for admission upon return to the university.

Close ties are maintained between the department and the professional media. Students are able to pursue internship opportunities in this and other subfields throughout Colorado and the Rocky Mountain region.

Undergraduates in JMC at UNC take only about one-fourth of their university courses in the department; about one-half of these courses are taken in junior and senior years.

## Bachelor of Arts in Journalism

### Program Requirements

- Complete the General Education requirements.
- Complete the Journalism and Mass Communications core; all requirements in one of the emphases; 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. The Advertising/Public Relations cognate may be taken in place of a minor.
- Select additional electives to complete the 180 hours 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.

### Journalism and Mass Communications Core

#### Required Courses

JMC 100	Introduction to Journalism & Mass Communications	3
JMC 171	Introduction to Graphics Communication	3
JMC 210	News writing	4
JMC 350	News Editing	4
JMC 390	Impact of Mass Communications on Society	3

JMC 492	Mass Communications Law	3
	Hours credit	20

### News-Editorial Emphasis

#### Required Courses

JMC 215	Advanced Newswriting	4
JMC 255	Publications Layout	4
JMC 310	Feature Writing for News Media	4
	or	
JMC 410	Analytical Reporting	4
JMC 371	Basic Photography	3
JMC 377	Photojournalism	3
JMC 397	Outstanding Journalists & Their Times	3
JMC 460	Newspaper Management	3

#### Electives

Additional courses in Journalism and Mass Communications; recommend internship		4-6
	Hours credit	28-30

### Telecommunications Emphasis

#### Required Courses

JMC 241	Radio Production and Announcing	3
JMC 342	Television Production	4
JMC 345	Broadcast Advertising & Promotion	3
JMC 442	Advanced Television Production	4
JMC 465	Broadcast Management	3

#### Electives

Additional Journalism and Mass Communications courses		12
	Hours credit	29

### Photocommunications Emphasis

#### Required Courses

JMC 371	Basic Photography	3
JMC 375	Publications Production	3
JMC 377	Photojournalism	3
JMC 475	Color Photography: Transparencies	3
JMC 476	Advanced Black & White Photography	3
JMC 477	Photographic Illustration and Light Tech	5

#### Electives

Additional Journalism and Mass Communications courses		4-6
	Hours credit	24-26

### Advertising/Public Relations Cognate

*Note:* The cognate is open to JMC majors only. It may be taken in addition to one of the three emphases noted above. JMC majors electing this cognate are not required to complete a minor.

#### Required Courses

JMC 284	Techniques of Advertising	3
JMC 380	Public Relations	3
JMC 385	Media Planning	3
JMC 481	Public Relations Techniques	3
COMM 230	Organizational Communications	4
MGT 350	Principles of Management	4
MKT 360	Marketing	4
MKT 362	Advertising	4
	Hours credit	28

## Minor in Journalism and Mass Communications

#### Required Courses

JMC 100	Introduction to Journalism & Mass Communications	3
JMC 210	Newswriting	4

JMC 342	Television Production	3
	or	
JMC 371	Basic Photography	3
	(JMC 342 will require either JMC 241 prerequisite or instructor consent; JMC 241 could count as JMC elective)	
JMC 350	News Editing	4
JMC 390	Impact of Mass Communications on Society	3
JMC 492	Mass Communications Law	3

#### Electives

Additional Journalism and Mass Communications courses		7
	Hours credit	27

**Honors** — The Department of Journalism and Mass Communications participates in the Honors Program. See Honors Program section of this *Bulletin*.

## Master of Arts in Communication: Journalism and Mass Communications Emphasis

The Master of Arts in Communication with an emphasis in Journalism and Mass Communications provides students with a broad-based knowledge of mass media in the United States. The program draws upon the varied backgrounds of a knowledgeable faculty, and also makes use of the resources of faculty in other programs in the University. The program allows students to pursue interests in both critical coursework and practical applications.

The main objective of the program is to provide specialized learning opportunities that will prepare students for working in mass media industries or careers, or for pursuing additional graduate study. All programs lead to the thesis, but each program can be individualized to focus on the particular interests of the student, such as newspaper reporting, magazine writing, broadcast media, media applications, advertising and public relations, and photojournalism.

The program is structured so that regardless of the individual focus, all students secure a solid foundation in Journalism and Mass Communications theory and methodology, and a critical awareness of the processes and institutions in the mass media industries.

#### Admission

Applicants should possess a baccalaureate degree from an accredited college or university and meet all the requirements of the Graduate School. In addition, the Department requires that the applicant's undergraduate degree be in journalism, mass communications or some related field (i.e., communication, media technology, graphic arts or any of the social sciences). Students who do not possess a baccalaureate in an approved field may be required to take some undergraduate courses in the Department, unless they possess extensive professional experience in mass communications. In either case, the determination of which courses would be required will be made and communicated to the student at the time of admission.

When applying for admission, the applicant should submit to the Department a statement of purpose outlining the student's academic or career goals and experience. The applicant should also request two persons to submit letters of recommendation to the Department providing relevant information including the applicant's potential for academic success or professional growth, initiative and working relations with colleagues and supervisors.

#### Requirements for Graduation

Students accepted into the Master of Arts in Communication program with an emphasis in Journalism and Mass Communications must complete a minimum of 47 hours of coursework. Eighteen of these hours must be in the Journalism and Mass Communications emphasis core, 10 must be electives within the Department of Journalism and Mass Communications, between 9 and 12 hours must be in coursework taken outside the Department of Journalism and Mass Communications, and 9 must be thesis credit hours. With the exception of the thesis, most students are expected to complete the course requirements in three quarters. Additional time may be required in

preparation for the comprehensive examination and in writing the thesis.

The 9 to 12 hours of electives taken outside the Department should be taken in departments with strong theoretical bases, such as History, Political Science, Psychology, Sociology, Business, Economics, English and Speech Communication. Students should secure approval from their advisors for all coursework taken to fulfill this requirement.

All students must take a written comprehensive examination upon the completion of at least 30 hours and with the approval of the student's program advisor. The comprehensive will be administered and evaluated by a committee of three faculty members chosen by the student in consultation with his or her program advisor. At least two members of the comprehensive examination committee must be from the Department of Journalism and Mass Communications. The examination will comprehensively test the student's knowledge of the discipline with particular focus on the student's coursework.

Upon successful completion of the comprehensive, the student should choose a three-member graduate faculty thesis committee in consultation with his or her advisor. With the advice and approval of this committee, the student should propose a thesis which demonstrates a capacity for intensive investigation and independent thought. Upon completion, the thesis must be defended in oral examination before the student's thesis committee.

### Advising

All students should secure a program advisor from among the graduate faculty of the Department by the end of the first quarter in residence. Before the beginning of the second quarter in residence, the student, in consultation with his or her advisor, should prepare a full program of courses for completion of the degree. Once this plan is approved, any modifications in it are subject to the program advisor's consent.

At the close of each quarter, the progress of each graduate student will be evaluated by the Department's graduate faculty. Each student's overall progress will be assessed as satisfactory or unsatisfactory. Progress may be deemed unsatisfactory because of low GPA, insufficient progress toward completion of the degree, or low probability of successful program completion. The graduate faculty of the Department may recommend that the student's program be closed if progress is consistently assessed as unsatisfactory.

### Required Courses

COMM 600	Graduate Study in Communication	4
COMM 603	Seminar in Research	4
JMC 593	Media Freedom & Censorship	3
JMC 596	Seminar in Mass Communications	3
JMC 597	Professional Perspectives	4
Total core hours		18

### Elective Courses in Journalism & Mass Communications

Select 10 additional hours from Journalism and Mass Communications courses. Courses marked with an asterisk are double-numbered.

JMC 501	Seminar in Photojournalism	3
JMC 508	Workshop	1-4
JMC 534	Photography for Education	3
JMC 583	Philosophy & Procedures of Public Relations	3
JMC 566	Public Telecommunications Management	3
JMC 594	Literary Aspects of Journalism	3
JMC 601	Practicum	3-12
JMC 622	Journalism & Mass Communications Directed Studies	1-4
JMC 542	*Advanced Television Production	3
JMC 543	*Electronic Field Production	3
JMC 544	*Cable Television Production	3
JMC 575	*Color Photography: Transparencies	3
JMC 576	*Advanced Black & White Photography	3
JMC 577	*Photographic Illustration	3
JMC 578	*Portrait Photography	3
JMC 580	*Public Relations	3
JMC 581	*Public Relations Techniques	3
JMC 590	*The Impact of Mass Communications on Society	3
JMC 591	*International Mass Communications	3

### Additional Electives Outside the Department

Select 9 to 12 hours from a discipline with a strong theoretical base, such as History, Political Science, Psychology, Sociology, Business, Economics or Speech Communication

9-12

### Thesis Hours

DS 699 Thesis

9

Total Hours 47-50

## Kinesiology

Location: Butler Hancock Hall

Telephone: 351-2535

Faculty:

Jerry Barham, EdD, Prof.

Jeff Broida, EdD, Asst. Prof.

Catherine Jackson, EdD, Asst. Prof.

Daniel Libera, MA, Assoc. Prof.

Theresa Malumphy, PhD, Prof.

George Sage, EdD, Prof.

Kinesiology, the study of human movement, provides a foundation for teacher preparation in physical education and those entering the professions of dance, coaching, athletic training, and fitness and exercise kinesiology. In all classes, the scientific basis of physical activity is explained — both the "whys" and "hows" are explained carefully. Focus is not only on theory but also 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 kinesiology provide students an opportunity to go into greater depth in the study of human movement, and both theory and professional applications are emphasized.

Many research opportunities are available in the kinesiology laboratories. 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.

### Non-Teaching Emphasis — Athletic Training

This program is designed for the undergraduate who wishes to prepare for a career as a Certified Athletic Trainer. Preparation for this allied health profession focuses on the areas of prevention, management and rehabilitation of injuries that occur in sport. Upon successful completion of this program, the student will have met the requirements to take the National Certification Examination under the internship section of the National Athletic Trainer's Association.

### 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 & Personal Safety	1
PE 270	Analysis & Movement of Weight Training & Conditioning	2
PE 380	Prevention & Care of Sports Injuries	2

PE 381	Practical Experiences in Care of Athletic Injuries (Repeat for 12 hours)	2
PE 422	Directed 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
CH 299	Community Health	3
	or	
CH 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 Emphasis — Fitness and Exercise Specialist

This program is designed to develop individuals qualified to work in industrial, community and business settings. Students pursuing this degree program will develop competencies in the areas of fitness development, human movement, human relations and management.

### 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	Prevention & Care of Sports 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

## Master of Arts in Physical Education

The department offers a master's degree in physical education. See the program listing under the Physical Education and Dance Department or contact this department for details.

## Doctor of Education 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	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	ANOVA & 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 College of Human Performance and Leisure Studies.

## Mathematics

Administered by the Department of Mathematics and Applied Statistics

Location: Ross 322

Telephone: 351-2820

Rex R. Schweers Jr., Chair

### Faculty

William W. Bosch, PhD, Prof.  
Timothy D. Cavanagh, PhD, Prof.  
Donald D. Elliott, PhD, Prof.  
Martin Granier, MS, Asst. Prof.  
Robert L. Heiny, PhD, Prof.  
Samuel R. Houston, PhD, Prof.  
Peter C. Isaacson, MA, Asst. Prof.  
Charles R. Mc Nerney, PhD, Prof.  
William D. Popejoy, EdD, Prof.  
Fred K. Rumford, MS, Assoc. Prof.  
Rex R. Schweers Jr., MA, Prof.  
Terry A. Scott, PhD, Asst. Prof.  
Donald T. Searls, PhD, Prof.  
Ann Thomas, PhD, Asst. Prof.  
Robert A. Tolar, PhD, Prof.

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.

## Bachelor of Arts in Mathematics

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

- General Education requirements as specified in this *Bulletin*.
- No minor is required in this program.

### Core Requirements

MATH 130 Analytic Geometry

4

MATH 131	Calculus I	5	MATH 221	Elementary Linear Algebra	4
MATH 132	Calculus II	5	MATH 341	Introduction to Modern Geometry I	4
MATH 133	Calculus III	4	MATH 402	Foundations of Arithmetic	3
MATH 221	Elementary Linear Algebra	4	MATH 464	Introduction to History of Mathematics	3
STAT 350	Elementary Probability Theory	4		Approved electives	9
STAT 351	Elementary Statistics Theory	4			
					Hours credit 53
		Hours credit			30

**Liberal Arts Emphasis**

**Additional Requirements**

CS 114	Computer Programming in FORTRAN 77	4
	<i>or</i>	
CS 116	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

**Secondary Teacher Education Emphasis**

**Additional Requirements**

CS 112	Beginning Computer Programming in BASIC	3
CS 114	Computer Programming in FORTRAN 77	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 History of Mathematics	3
MED 341	Methods of Teaching Mathematics	3
		Hours credit 33
		Total credit 63

Students must meet all requirements for Professional Teacher Education, as specified in this *Bulletin*, including:

EDLS 363	Clinical Experience: Secondary	2
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**Computer Science Emphasis**

MATH 375	Elementary Numerical Analysis	3
CS 170	Computer Processing & Structured Programming	4
CS 180	Advanced Structured Programming	5
CS 182	Survey of Programming Languages	4
CS 270	Assembler Programming	4
CS 272	Data Structures	4
CS 280	Foundations of Computer Science I	4
CS 282	Foundations of Computer Science II	4
CS 370	Job Control Language	3
CS 372	Software Systems	4
	Approved electives	12
		Hours credit 79

**Elementary Teacher Education Emphasis**

Students majoring in Mathematics who plan to teach in the elementary school should meet the following requirements:

- General Education requirements 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
CS 112	Beginning Computer Programming in BASIC	3

**Applied Statistics Emphasis**

**Additional Requirements**

CS 170	Computer Processing and Structural Programming	4-5
CS 114	Computer Programming FORTRAN 77	
	<i>or</i>	
CS 115	Computer Programming in Pascal	
	<i>or</i>	
CS 180	Advanced Structured Programming	4-5
CS 311	Special Topics in Computer Science: Statistical Packages	3
MATH 228	Combinatorics	
	<i>or</i>	
MATH 305	Mathematics of Finance	4
MATH 375	Elementary Numerical Analysis	4
STAT 203	Introduction to Statistical Analysis I	
	<i>or</i>	
STAT 303	Statistics for Health Sciences	4
STAT 304	Introduction to Statistical Analysis II	4
STAT 411	Topics in Experimental Design	4
STAT 411	Topics in Multiple Linear Regression	4
STAT 411	Topics in Sampling	
	<i>or</i>	
STAT 411	Topics in Multivariate Analysis	4
		Hours credit 65-66

**Minor in Computer Science**

**Required Courses**

(Knowledge of algebra at MATH 124 level is assumed.)

CS 170	Computer Processing & Structured Programming	4
CS 180	Advanced Structured Programming	5
CS 182	Survey of Programming Languages	4
CS 270	Assembler Programming	4
CS 272	Data Structures	4
CS 370	Job Control Language	3
CS 372	Software Systems	4
	Approved electives	4
		Hours credit 32

**Minor in Mathematics**

**Liberal Arts Emphasis**

**Required Courses**

MATH 130	Analytic Geometry	4
MATH 131	Calculus I	5
MATH 132	Calculus II	5
MATH 133	Calculus III	4
	Approved electives	12
	(At least 22 hours must have a MATH or STAT prefix. One of MATH 124, 125, 127, if taken before MATH 130 and additional electives in Mathematics courses numbered 250 or higher. CS 112, MATH 395 and 402 may not be counted.)	
		Hours credit 30

**Computer Programming Emphasis**

**Required Courses**

MATH 124	College Algebra	5
CS 100	Computers & Their Impact Upon Society	3
CS 112	Beginning Computer Programming in BASIC	3
CS 114	Computer Programming in FORTRAN 77	4
CS 116	Computer Programming in Pascal	4

CS 330	Computer Operations & Facilities		
	<i>or</i>		
CS 110	Personal Computer Applications	3	
	Approved electives	8	
	(to be selected from MATH or CS prefixes and approved by computer science advisor)		
	Hours credit	30	

### Teaching Emphasis

#### Required Courses

MATH 130	Analytic Geometry	4	
MATH 131	Calculus I	5	
MATH 132	Calculus II	5	
MATH 221	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: Secondary	2	
	Approved electives	4	
	(in Mathematics or Mathematics Education courses numbered 124 or higher)		
	Hours credit	35	

#### Minor in Mathematics Education

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

## Minor in Applied Statistics

#### Required Courses

CS 180	Advanced Structured Programming		
	<i>or</i>		
CS 114	Computer Programming in FORTRAN 77		
	<i>or</i>		
CS 116	Computer Programming in Pascal	4-5	
CS 311	Special Topics in Computer Science: Statistical Packages	4	
STAT 203	Introduction to Statistical Analysis		
	<i>or</i>		
STAT 303	Statistics for Health Sciences	4	
STAT 304	Basic Statistical Inference	4	
STAT 411	Topics in Experimental Design	4	
STAT 411	Topics in Multiple Linear Regression	4	
STAT 411	Topics in Sampling	4	
	Electives with approval of advisor	5-6	
	Total hours	30	

## Master of Arts in Mathematics

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 Teaching Junior High Mathematics		
	<i>or</i>		
MED 674	Problems in Teaching Senior High Mathematics	4	
	Approved Electives	26	

(These will be selected so that the combined undergraduate and graduate programs of the student contain adequate course work in geometry, probability, statistics and computer science.)

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.

#### Certification

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 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 and II (MATH 535, 536).
- 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	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) 13-19

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.

MATH 797 Doctoral Proposal Research 6

MATH 799 Doctoral Dissertation 18

Hours credit 96

### Program Outline

#### Group A

MATH 525 6

& 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 & 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 in Applied Statistics and Research Methods

### 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.

- A working knowledge of a programming language or a course in statistical software.

### Course Requirements

STAT 504 Statistical Methods II 4

STAT 603 Statistical Methods III 4

STAT 606 Multiple Linear Regression Models 4

STAT 641 Seminar: Special Topics 9

Introduction to Graduate Study & Research Methods (or approved substitute) 3

Approved electives 24

Minimum credit hours 48

## Doctor of Philosophy in Applied Statistics and Research Methods

### 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.

- A working knowledge of a programming language or a course in statistical software.

### Required Core Courses — Both Emphases

STAT 603 Statistical Methods II 4

STAT 604 Advanced Experimental Design 4

STAT 605 Multivariate Analysis I 4

STAT 606 Multiple Linear Regression Models 4

STAT 607 Non-parametric Statistics 4

STAT 608 Multivariate Analysis II 4

STAT 609 Sampling Methods I 4

STAT 715 Planning & Methodology of Research 4

STAT 742 Seminar 12

STAT 797 Doctoral Proposal Research 6

STAT 799 Doctoral Dissertation 18

### Applied Statistics Emphasis

#### Additional Requirements

MATH 525 Linear Algebra I 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 36

Minimum credit hours 125

### Research Methods Emphasis

#### Additional Requirements

Research Methodology courses 9

Approved electives 48

Minimum credit hours 125

# Measurement

(See Educational Psychology)

## 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 in Medical Technology

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 courses will be earned during the senior year (12 months) at North Colorado Medical Center, Greeley or at any other 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 students who are unable to conveniently register because of the location of their clinical work, will be done by the program coordinator.

The number of positions available for the clinical year is limited; therefore, selection of students for these positions will be made from qualified juniors only. The minimum grade point that will be considered is 2.70. Application for clinical training will be made in the fall of the junior year. 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*.

### Program Requirements

Students admitted to the Medical Technology Program must include the following courses in their programs:

- General Education requirements as specified in this *Bulletin*. Advisors should be consulted about particularly appropriate General Education courses.
- The Medical Technology Pre-Professional Emphasis listed here.

### Major/Core Required Courses (Senior year)

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	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	3
BIO 361	Microbiology	5
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
	Biology elective	2-5
	Hours credit	37-40

#### Required Chemistry Courses

CHEM 104	Principles of Chemistry I	5
	or	
CHEM 114	General Chemistry I	4
	and	
CHEM 117	General Chemistry I Laboratory	1
CHEM 105	Principles of Chemistry II	5
	or	
CHEM 115	General Chemistry II	4
	and	
CHEM 118	General Chemistry II Laboratory	1
CHEM 106	Principles of Chemistry III	5
	or	
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)		
	Hours credit	5

#### 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 Humans	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)

## Middle School Education

(See Elementary Education)

## Military Science

Location: 101 Military Science Building

Colorado State University

Fort Collins, CO 80523

Telephone: (303) 491-6506/6507

UNC Location: Weber House

Telephone: 351-2296

LTC Richard L. Belt

### Faculty

LTC Richard L. Belt

MAJ Dorothy A. Clark

MAJ Charles P. Lambert

CPT Keith Cooper

CPT Roy McIntire

CPT Thomas Little

The Army Reserve Officer Training Corps program is designed to provide the professional and leadership education necessary to qualify the ROTC cadet for a commission as a second lieutenant in the United State Army. Upon completion of the program, the individual may serve on active duty for three years, or in the Reserve Forces for eight years.

The ROTC cadet is offered a choice of one of 24 career fields in the Army in accordance with academic major and/or individual preference. A list of these specialties may be obtained from the Department of Military Science.

### General Program

The Military Science program is subdivided into two levels. The Basic Course (MS 110, 115, 120, 210, 215, 220) is aligned with the freshman and sophomore years and consists of training in the fundamentals of leadership and management, land and navigation, and the organization of the National Defense Establishment. The Advanced Course (MS 310, 315, 320, 386, 415, 420, and HIST 241) is aligned with the junior and senior years and consists of training in leadership assessment, military history, and ethics and professionalism. During the summer between MS III and MS IV the cadet will attend a six-week Advanced Camp (MS 386) at Fort Lewis, Washington where all previously learned military skills are put into practice.

### Two-Year Program

A two-year program is available for students who have not taken the first two years of ROTC. (This includes both undergraduate and graduate students with at least two years remaining before graduation.) The student may receive credit for the Basic Course (MS 110, 115, 120, 210, 215, 220) by attending and successfully completing a six-week Basic Camp (MS 286) at Fort Knox, Kentucky.

Veterans and members of the Reserve Forces receive credit for the Basic Course and, with permission of the Professor of Military Science may enroll directly in the Advanced Course.

### Required Courses

MS 115	The United States Defense Establishment
MS 110	Introduction to Military Skills I

MS 120	Introduction to Military Skills II
MS 210	Contemporary Management Principles
MS 215	Dynamics of Military Operations I
MS 220	Dynamics of Military Operations II
MS 286	The Challenge of Leadership (With Instructors Permission)
MS 310	Leadership Assessment
MS 315	Applied Leadership I
MS 320	Applied Leadership II
MS 386	Practicum in Leadership and Military Operations (With Instructors Permission)
MS 415	Role and Ethics of the Officer
MS 420	Military Justice & Preparation for Active Duty
HIST 241	Modern War: U.S. Military History

### Flight Training

After commissioning, flight training is competitively available to those officers who qualify and who have taken and passed the flight physical and flight aptitude selection test. These tests are administered during the MS III (junior) year of ROTC. Once selected, training will be on rotary wing (helicopter) aircraft.

### Army ROTC Financial Aid and Scholarships

All students enrolled in the Advanced Course receive a living allowance of approximately \$1000 per academic year. Exceptional performance during the freshman and/or sophomore years, or at Basic Camp may qualify a student for a scholarship that also pays for tuition (in or out-of-state), fees, and a textbook allowance.

### Army ROTC Nursing Training

Special programs and scholarships are available to qualified nursing students.

### Commitment

When students enter the Advanced Course, they agree to finish the RPTC instruction, to accept a commission, and to accept an assignment in the Active Army, the Army National Guard, or the United States Army Reserves.

## Music

Administered by the School of Music

Location: Frasier Hall 105

Telephone: 351-2678

Shirley Howell, Director

Carl Gerbrandt, Associate Director

Robert Ehle, Assistant Director

### Faculty

A. Eugene Aitken, PhD, Prof.

Shari Anderson, MM, Assoc. Prof.

Edwin D. Baker, MM, Prof.

H. Gray Barrier, MM, Asst. Prof.

Loren W. Bartlett, PhD, Prof.

John Bell, MS, Asst. Prof.

Richard N. Bourassa, DA, Assoc. Prof.

R. Evan Copley, PhD, Prof.

Charmaine Coppom, MA, Assoc. Prof.

Elza L. Daugherty, EdD, Assoc. Prof.

Robert Ehle, PhD, Prof.

Kenneth G. Evans, PhD, Prof.

James Fittz, MDA, Assoc. Prof.

Richard C. Fuchs, MM, Assoc. Prof.

Carl Gerbrandt, DMA, Assoc. Prof.

Martha Giles, DME, Assoc. Prof.

Daniel Graham, DMA, Prof.

Roger Greenberg, MM, Assoc. Prof.

Donald L. Hamann, EdD, Assoc. Prof.

Errol Haun, DMA, Assoc. Prof.

Jack Herrick, MA, Assoc. Prof.

William R. Jamieson, MA, Assoc. Prof.

Sanford A. Linscome, DMA, Prof.

Kathy Bundock Moore, MA, Asst. Prof.

William A. Pfund, MM, Prof.

Thomas Poole, MAE, Asst. Prof.

Jack C. Robinson, MM, Assoc. Prof.  
Laura Rush, DA, Asst. Prof.  
Kenneth Singleton, DMA, Assoc. Prof.  
Howard M. Skinner, DM, Prof.  
Ronald Smith, MM, Assoc. Prof.  
Walter G. Smith, MFA, Assoc. Prof.  
James S. Upton, PhD, 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 30 performing ensembles, a number of which are nationally recognized.

The UNC School of Music, with 38 full-time and two 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, multicultural 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, prominent 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. Undergraduate students are required to attend all departmental recitals in their major area, plus a minimum of eight major recitals, concerts, or productions each quarter in residence for at least 11 quarters for Music Education majors and at least

12 quarters for all other undergraduate majors in music.

Attendance at School of Music Convocations is required of all undergraduate music students, unless excused by the appropriate department chair. Undergraduates failing to attend Convocations, unless excused, will receive an Unsatisfactory grade (U) for MUS 100 for that quarter. Additional quarters of attendance may be required to fulfill this graduation requirement.

All graduate students enrolling in the School of Music as majors are expected to attend major recitals, concerts, productions, and convocations on a regular basis as part of their course program.

"Residency," when stated in the Music section of this *Bulletin*, is interpreted to mean 10 credit hours or more per quarter.

### 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 Women's Glee Club, 1 hour credit.  
 283, 483, 683 Women's Concert Choir, 1 hour credit.  
 284, 484, 684 Men's Glee Club, 1 hour credit.  
 287, 487, 687 Summer Symphonic Band, 1 hour credit.  
 290, 490, 690 Chamber Winds, 1 hour credit.  
 291, 491, 691 Wind Ensemble, 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.  
 288, 488, 688 Opera Orchestra, 1 hour credit.  
 294, 494, 694 Jazz Ensemble, 1 hour credit.  
 297, 497, 697 Concert Orchestra, 1 hour credit.

**Honors** - The School of Music participates in the Honors Program. See Honors Program section in this *Bulletin*.

## Bachelor of Arts in Music — 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.

Requirements include:

- Complete General Education requirements as specified in this *Bulletin*. Music Education and liberal arts majors may use MUS 141, 142, Music Literature and Styles, I and II (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.
- Earn two quarter hours of individual performance (24 credit hour minimum) 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; Wind Ensemble, Summer Symphonic Band, Chamber Winds, Mixed Concert Choir, Women's Glee Club, 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.
- Complete electives to meet requirements for graduation.
- Complete 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 Music Literature & Styles I, II	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

The Bachelor of Music degree prepares specialists, including performers, theorists and composers, in the various music professions. 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 all General Education category requirements. MUS 152, Writing and Scholarship in the Performing and Visual Arts, may be elected to satisfy the intermediate composition requirement. Majors in any of the emphases in the Bachelor of Music degree program may use MUS 141, 142, Music Literature and Styles (6 hours) and MUS 243, 244, 245, Music History (9 hours) toward meeting the remaining hours of electives to complete the General Education requirements.
- 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 accepted in the performance program, carry four credit hours of individual performance (1 hour lesson) during each quarter in residence, culminating 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.
- Complete electives to meet requirements for graduation.
- If pursuing the Vocal Emphasis, complete 27-30 hours of study in foreign languages. Specifics will be determined in consultation with the major advisor.
- If pursuing the Vocal Emphasis, complete six quarters of piano study. The level of study will be determined by audition.
- If pursuing the Instrumental Emphasis, complete six credit hours of piano study. Placement in class piano or private lessons is determined by audition.
- If pursuing the Instrumental Emphasis (String), enroll in Orchestra each quarter in residence.
- If desiring to enter the Theory and Composition Emphasis in the freshman year, 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 Music Literature & Styles I, II	6
MUS 160,	161, 162 Beginning Class Piano I, II, III and/or	3
MUS 260,	261, 262 Intermediate Class Piano I, II, III and/or	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) or	3
MUS 428	Orchestral Excerpts (Brass) or	3
MUS 429	Orchestral Excerpts (WW)	3
MUS 449	History of Musical Instruments	3
	Individual Performance minimum	42
	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 Music Literature & Styles I, II	6
MUS 160,	161, 162 Beginning Class Piano I, II, III and/or	3
MUS 260,	261, 262 Intermediate Class Piano I, II, III and/or	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	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 Music Literature & Styles I, II	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	2
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 Key- board 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 Music Literature & Styles I, II	6
MUS 160,	161, 162 Beginning Class Piano I, II, III and/or	
MUS 260,	261, 263 Intermediate Class Piano I, II, III and/or	
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 & Conduct- ing 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	Directed Studies (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 all General Education category requirements. MUS 152, Writing and Scholarship in the Performing and Visual Arts, may be elected to satisfy the Intermediate Composition requirement. Music Education majors may use MUS 141, 142, Music Literature and Styles (6 hours) toward meeting the remaining hours of electives to complete the General Education requirements.
- Complete the Professional Teacher Education program as described in this *Bulletin*.
- Complete the required courses listed for the Instrumental Emphasis or the Vocal, Piano and General Emphasis.
- 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.
- 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, the student must earn one quarter hour in a major musical organization each quarter in residence, for a minimum of 11 quarters.
- If pursuing the Instrumental Emphasis (String), enroll in Orchestra each quarter in residence.

### Admission to PTE Program

Minimum requirements for application to Professional Teacher Education 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.

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.

- If pursuing the Instrumental emphasis, complete six quarters of piano study. The level of study will be determined by an audition and availability of staff.

- If pursuing the String major, substitute two quarters of private instruction on a secondary instrument for MUS 163, 164, and 165.

- If pursuing the Vocal, Piano and General emphasis, limit enrollment to a maximum of ten hours of MUS 285 and 485 applicable to the 16 required hours of electives.

- If pursuing the Piano major, 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.

- Attain upper-level proficiency in voice before enrolling in MUS 445, 446, and 447.

- If pursuing a Percussion major, the student is excused from MUS 366.

### Instrumental Emphasis

#### Required Courses

MUS 100	Recitals, Concerts, Productions	0
MUS 101,	102, 103 Sight Singing & Theory I, II, III	12
MUS 141,	142 Music Literature & Styles I, II	6
MUS 160,	161, 162 Beginning Class Piano I, II, III	3
	<i>or</i>	
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 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	2
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 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:

	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	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 Music Literature & Styles I, II	6
MUS 160,	161, 162 Beginning Class Piano I, II, III	3
	<i>and/or</i>	
MUS 260,	261, 262 Intermediate Class Piano I, II, III	3
	<i>or</i>	
MUS 271,	471 Individual Performance in Piano (Voice majors)6-12	
	<i>or</i>	
MUS 269,	469 Individual Performance in Voice (Piano majors)	10
	<i>and</i>	
MUS 410	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:

	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	1
MUS 316	Teaching Music Listening	3
MUS 317	Choral Literature for Elementary through High School Students	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 410	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

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 Music Literature & Styles I, II	6
	Electives	15
	Hours credit	33

## Bachelor of Music Education and Bachelor of Music Combined Degrees Program

This 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 Bachelor of Music 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 - Individual Performance | 3  |
|         | Ensembles   | 20 |
|         |   | 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  | 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

## Minor in Music — Liberal Arts

A student 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. A maximum of 6 hours of performance and 3 hours of ensemble participation may apply toward meeting elective requirements.

## 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 to 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.

**Residence Requirement.** Minimum residence for the Doctor of Arts in Music or the Doctor of Music Education is any three consecutive quarters. During each of those three consecutive quarters, candidates must satisfactorily complete a minimum of 10 weeks attendance and 10 quarter hours (eight weeks attendance and 10 quarter hours during summer quarter) of graduate course work on campus.

## Master of Music Education

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 curriculum has been 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 and Course Selection.** During their first quarter in residence, Master of Music Education students will be asked to take Advisory Examinations in Music Education, Music Theory, Music History and Literature, and writing skills. Students with instrumental emphases will be asked to take advisory examinations in instrumental techniques also. Applied departments may request an audition for placement purposes. Advisory Examinations are held on three consecutive evenings beginning the evening of registration. Students beginning their program in winter or spring quarter should see the Coordinator of Graduate Studies concerning Advisory Examinations.

Course selection for the student's plan of study will be based on the results of the Advisory Examinations with consideration given to the needs of the student and the stated purpose of the degree. Course selections will be through consultation with the student and between representatives of the major department and the departments of Music History and Literature and Music Theory.

Candidates for the Master of Music Education degree will normally take six quarter hours of Music History and Literature courses and six quarter hours of Music Theory. Fewer hours may be required, depending upon the results of the Advisory Examinations. Additional hours may be required if deemed necessary by the major department.

**Formative Evaluation.** The music education department will consider examinations, scholarly papers and musical performance in all areas of study to assess student progress throughout the program.

**Comprehensive Examinations.** At a time approved by the program advisor, the candidate will take the written comprehensive examination. The candidate must obtain a Comprehensive Permit and have it approved by the program advisor and the Graduate School before he or she will be allowed to take the comprehensive examination.

The examination will include questions in the student's major area of Music Education as well as in the cognate areas of Music Theory and Music History and Literature. The comprehensive examination will be given in a one-day, six-eight hour session. The exam date for each quarter will be published during spring quarter for the following

summer, fall, winter and spring quarters. The comprehensive examination will be evaluated by the appropriate departments. A review conference by the student's committee, chaired by the student's program advisor, will be held after the comprehensive evaluations.

The purpose of the comprehensive examination will be to provide opportunity for the student to demonstrate his/her ability to analyze, generalize and synthesize information in the major area of Music Education and the cognate areas of Music History and Literature and Music Theory deemed important in developing and maintaining excellence in a K-12 music curriculum.

### Plan of Study

#### I. Studies in Musical Scholarship and Research

MUS 600	Introduction to Musical Scholarship	3
MUS 612	Utilization of Statistics & the Computer in Classroom Problem Solving	1

#### II. Studies in Music Education (Major Emphasis)

MUS 519	Foundations of Music Education	3
MUS 533	Trends in Music Education	3
MUS 610	Principles of Music Learning	3
MUS 615	Historical Foundations of Music Education	2
MUS 618	Aesthetics and the Arts	3

#### III. Studies in Professional Education

To be selected from the following content areas:	6-9
Multi-cultural Education	
Educational Psychology	
Special Education	

#### IV. Studies in Music Theory, Music History and Performance

Music Theory	6
Music History	6
Performance	3
Individual Performance (2)	
Ensemble (1)	
Studies in Music	
To be selected by advisement based upon student needs — identified through advisory examination:	
Music Theory	
Music History	
Individual Performance	
Ensemble	

#### V. Related Studies

To be selected by advisement based upon special interests of the student:

- Music Education
- Music Theory/Pedagogy
- Music History
- Individual Performance
- Ensemble
- Conducting
- Jazz Studies
- Instrumental Techniques
- Vocal Pedagogy/Repertoire
- Piano Literature/Pedagogy

*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

The Master of Music degree is designed to assist the graduate student in developing professional competence in such areas of emphasis as performance, conducting, theory and composition, or music history and literature, and to broaden and deepen scholarly abilities, research and pedagogical techniques.

Performance emphases are available in bassoon, clarinet, flute, harp, horn, oboe, percussion, keyboard, 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. Voice students must pass a diction proficiency examination in German, French and Italian. Advisory examinations are held in summer quarter and fall quarter on three consecutive evenings beginning the evening of registration. Students beginning their program in winter or spring quarter should see the Coordinator of Graduate Studies about advisory examinations.

Master of Music students in Performance or Conducting must have an entrance audition. Voice applicants will be expected to perform one or more art songs in French, German, Italian and English, including one opera aria or oratorio aria and a contemporary art song. Candidates unable to audition in person may, with written permission from the chairman of the Voice Department, submit the above repertoire on a high quality tape recorded at 7 ½ ips. Include a resume of academic history, transcripts, a complete repertoire list, and a summary of vocal study and performance experience. 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 entrance audition (or composition examination) and advisory examinations.

Course selection for the student's plan of study will be based on the entrance audition or composition examination, the results of the Advisory Examinations, with consideration given to the needs of the student and the stated purpose of the degree. Course selection will be through consultation with the student and between representatives of the major department and the departments of Music History and Literature and Music Theory. Subsequent to the Advisory Examination the student's Master's committee will be chosen.

Candidates for the degree Master of Music in Performance, Conducting or Music Theory and Composition will normally take nine quarter hours of Music History and Literature courses. Candidates for the degree Master of Music in Performance, Conducting or Music History and Literature will normally take nine quarter hours of Music Theory. Fewer hours may be required depending on the results of the advisory examination. Additional hours may be required if deemed necessary by the major department.

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, theory and composition, or Music History and Literature.

At a time approved by the major advisor, the candidate will take written or oral comprehensive examinations covering the major area.

A Comprehensive Permit approved by the major advisor and the Graduate School is required before a candidate will be allowed to take the comprehensive examination.

The examination will include questions in the student's major area as well as the cognate areas of Music Theory and Music History and Literature. The comprehensive examination will be given in a one-day, six-eight hour session. The exam date for each quarter will be published during spring quarter for the following summer, fall, winter and spring quarters. The comprehensive examination will be evaluated by the appropriate departments. A review conference by the student's committee, chaired by the student's program advisor will be held after the comprehensive evaluations.

The purpose of the comprehensive examination will be to provide opportunity for the student to demonstrate broad and specific competencies in professional-level thought and action in the major area and cognate areas of Music History and Literature and Music Theory.

### Performance: Specific Requirements

In addition to the general requirements, performance majors must satisfy the following:

Master of Music students in Performance must have an entrance audition sometime during the first quarter of degree work; this is often accomplished at the first performance jury. Major works should be

performed. Candidates whose records do not show completion of a recital at the undergraduate level (actual program on file) will be required to perform an additional recital (no credit) during their degree residency.

Voice students must have completed one year each of German, French or Italian at the university level; diction competency in all three languages is required. A candidate may challenge any portion of the language requirements.

A recorded, public recital will constitute two-four quarter hours of 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. Students must make their own arrangements for the recording. The student will not be graduated until this material is on file. A correlative paper may be required at the discretion of each individual department. The paper is generally related to the composer(s) and compositions performed.

A minimum of three weeks before 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 by 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. A second recital, if deemed necessary, may be required at the discretion of any department.

The grade evaluation of the student's correlative paper, if required by the department, shall be determined by a faculty committee in the student's area of emphasis. The major performance professor will be the advisor.

Candidates for the degree may be accepted in the areas of voice, keyboard, band and orchestral instruments.

#### Required Core Courses for the Instrumental Performance Major

MUS	Individual Performance	12
MUS	Major Performing Organization	3
MUS 600	Introduction to Musical Scholarship	3
MUS 601	Practicum (Recital & Correlative Paper) Paper requirement determined by department	4
MUS 643	-648 Music History Courses	9
MUS	Music Theory Courses	9
MUS 657	Symphonic Literature	3

#### Required Courses for Vocal Performance Major

MUS 670	Individual Performance	12
MUS 601	Practicum (Recital & Paper)	2
MUS	Major Performing Organization	3
MUS 510	Vocal Pedagogy	
	or	
MUS 564	Problems in Teaching Voice	2
MUS 559	Opera & Oratorio Literature	3
MUS 536	-539 Vocal Literature I, II, III, IV	4
MUS 685	Opera Workshop (2 quarters)	4
MUS 600	Introduction to Musical Scholarship	3
MUS 502	-505 Music Theory Courses	9
MUS 643	-648 Music History Courses	9
MUS 653	History of Opera	
	or	
MUS 656	Choral Literature	3
	Electives in consultation with major advisor	6

Note: with sufficient justification, certain major department literature courses may be substituted for required Music History courses.

#### Conducting: Specific Requirements

In addition to the General Requirements, conducting majors must satisfy the following requirements.

The prospective wind conducting applicant should have had at least two years of experience in high school teaching or equivalent experience before making application. A personal audition is required.

- Write to the appropriate director for specific information concerning audition and interview procedures.
- A recorded public recital and correlative paper are required. The performance will consist of a concert, or its equivalent, conducted by the candidate and evaluated by the major advisor and instrumental

faculty. The organization used for this performance will need to be a group rehearsed regularly by the candidate. Additional performance opportunities will be arranged. It is the student's responsibility to file a printed program and 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 (lessons on major instrument)	6
MUS	Major Performing Organization	3
MUS 600	Introduction to Music Scholarship	3
MUS 601	Practicum (Performance & Paper)	0-4

Performance will consist of a concert, or series of appearances, conducted by the candidate and evaluated by the major advisor and instrumental faculty. A correlative paper or analysis is also required. The organization used for these performances will be a group rehearsed regularly by the candidate.

#### Choral Conducting Emphasis: Required Courses

MUS	Music Theory Courses	9
MUS 643	-648 Music History Courses	9
MUS 656	Choral Literature	3
MUS 685	Opera Workshop	4
MUS 551	Individual Performance in Conducting	4
MUS 601	Practicum (Performance & Paper)	4

#### Recommended Electives

MUS 559	Opera & Oratorio Literature	3
MUS 617	Psychology of Conducting	3
MUS 622	Directed Studies in Music	1-4
MUS 650	Seminar: Choral Music	3

Additional electives to satisfy graduation requirements through consultation with major advisor.

Note: choral conducting candidates will be required to take comprehensive examinations in the major area and in Music History and Theory.

#### Wind Conducting Emphasis: Required Courses

MUS 551	Individual Performance in Conducting (2 credits each quarter in residence)	6
MUS 643	-648 Music History Courses	9
MUS 501	-505 Music Theory Courses	9
MUS 511	History of the Wind Band & Its Literature	3
MUS 519	Foundations of Music Education	3
MUS 550	Score Reading & Analysis (2 credits each quarter in residence)	6
MUS 618	Aesthetics & the Arts	3
MUS	Instrumental Techniques & Materials (By advisement)	6
MUS 601	Practicum (Performance & paper)	0

#### Recommended Electives

MUS 565	Principles of Ensemble Intonation	2
MUS 525	20th Century Wind Literature/Conducting Techniques	3
MUS 512	Symphonic Repertoire & History of Conducting	2
MUS 580	String Technique for the Conductor	2
MUS 617	Psychology of Conducting	3
MUS 616	Aural Comprehension for the Conductor	2

Note: wind ensemble conducting candidates will take comprehensive examination in the major area and in Music History and Literature and Music Theory.

#### Orchestral Conducting Emphasis: Required Courses

MUS 551	Individual Performance in Conducting	6
MUS 550	Score Reading & Analysis	6
MUS 580	String Technique for the Conductor	2
MUS	Instrumental Techniques & Materials Courses (By advisement)	4
MUS 512	Symphonic Repertoire & History of Conducting	2
MUS 618	Aesthetics & the Arts	3
MUS 616	Aural Comprehension for the Conductor	2
MUS 643	-648 Music History Courses (By advisement)	9
MUS 501	-505 Music Theory Courses (By advisement)	9

MUS 601 Practicum (Performance & paper) 0

**Recommended Electives**

MUS 565 Principles of Ensemble Intonation 2  
 MUS 519 Foundations of Music Education 3  
 MUS 525 20th Century Wind Literature/Conducting Techniques 3  
 MUS 617 Psychology of Conducting 3

*Note:* orchestral conducting candidates will take comprehensive examinations in the major area and in Music History and Literature and Music Theory.

**Theory and Composition Emphasis**

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.

A piano proficiency equal to the undergraduate piano proficiency requirement of the School of Music, and the keyboard requirements of the Theory and Composition department, must be met prior to completing the master's degree requirements.

Advisories: MUS 502, 503 and 504 may be required if advisories indicate these will significantly increase the strength of the Master of Music program in Theory and Composition.

Students who are able to prove genuine competency in any of the required courses listed may substitute electives chosen in consultation with the advisor.

**Required Courses**

MUS 509 Electronic Music 3  
 MUS 603 Analytical Studies 3-9  
 MUS 648 Seminar: New Music 3  
 MUS 677 Individual Instruction in Composition 12  
 MUS Music History Courses 9  
 MUS 600 Introduction to Musical Scholarship 3  
 MUS 699 Thesis 8-12  
 MUS Major Performing Organization 3

Additional electives may be taken 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 and take a comprehensive examination in the Music Theory and Composition emphasis only.

The following list contains courses which would enhance studies in Theory and Composition.

MUS 507 Performance Practices 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 650 Seminar: Choral Music 3  
 MUS 657 Symphonic Literature 3

**Music History and Literature Emphasis**

Students entering this area of emphasis must have an equivalent of an undergraduate music major as outlined in this *Bulletin*.

- Student will be expected to demonstrate translational competency in German, French or Latin as a prerequisite to candidacy.
- Students who are able to demonstrate competency in any required course may substitute an elective chosen in consultation with the advisor.

**Required Core Courses**

MUS 600 Introduction to Musical Scholarship 3  
 MUS 643 Seminar: Medieval Music 3  
 MUS 644 Seminar: Renaissance Music 3  
 MUS 645 Seminar: The Baroque Period 3  
 MUS 646 Seminar: The Classic Period 3  
 MUS 647 Seminar: The Romantic Period 3  
 MUS 699 Thesis 8-12  
 MUS Music Theory Classes (Minimum) 6  
 MUS Individual Performance 6  
 MUS Major Performing Organization 3

Electives necessary to complete degree requirements.

*Note:* comprehensive examinations will be given in Music History and Literature and Music Theory.

**Interdisciplinary Programs with a Music Component**

When any member of the music faculty is approached by a potential candidate or by the Graduate School about a student's interest in an Interdisciplinary Program, the faculty member should review the request and the candidate's plan of study with the Music Council prior to agreeing to serve on the candidate's advisory committee.

**Doctor of Arts in Music**

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, harp, horn, oboe, percussion, keyboard, 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.

The candidate's program advisor will 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.

**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.

**Residency Requirement for Doctor of Arts in Music and Doctor of Music Education.** The applicant must complete a minimum of any three consecutive quarters of study. During each of the consecutive quarters, the candidate must satisfactorily complete a minimum of 10 weeks attendance and 10 quarter hours (eight weeks attendance and 10 quarter hours during the summer quarter) of graduate work on the Greeley campus.

**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 dissertation 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 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 to 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 after 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 major 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 797	Doctoral Proposal Research	6
MUS 799	Doctoral Dissertation (required)	18
	Electives	12
	Hours credit	96

**Comprehensive Examinations.** At a time approved by the program advisor, the candidate will take written and oral comprehensive examinations covering the primary and secondary areas of emphasis, plus Music History and Literature and Music Theory and Composition. The Oral Comprehensive Examination Committee will include the program advisor, the secondary emphasis advisor, and, if not already represented by the program or secondary emphasis advisor, one representative of the Music History and Literature Department

and one representative of the Music Theory and Composition Department. One faculty representative from outside the School of Music will be appointed by the Dean of the Graduate School. The music faculty of the committee will be recommended by the program advisor and approved and transmitted by the Director of the School of Music to the Dean of the Graduate School for appointment.

The departments represented by the above committee members will design, administer and evaluate the written comprehensive examination in their respective areas, in consultation with the Oral Comprehensive Examination Committee. Candidates should typically expect three and one-half days of examinations; one day each for the primary emphasis, Music History and Literature, Music Theory and Composition, and one-half day for the secondary emphasis. This time requirement may be adjusted to fit the individual emphasis area at the discretion of the committee.

The written comprehensive examination will be scheduled through the Coordinator of Graduate Studies and must be completed within one academic quarter. An oral comprehensive examination will be given by this committee only after successful completion of the written comprehensives.

**Foreign Language Requirements.** These vary with the program as follows:

**History and Literature Primary Emphasis —** A reading knowledge of one foreign language is 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 is 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 —** For the various areas the requirement is as follows:

**Brass —** Reading knowledge of one foreign language is required.

**Piano —** Reading knowledge of one foreign language is required.

**Strings —** Reading knowledge of one foreign language is required.

**Vocal —** Skills in translations of vocal literature in one foreign language (French, German or Italian) is required, as well as diction mastery of all three.

**Woodwind —** Reading knowledge of one foreign language is required. A substitute research tool may be permitted after consultation and approval by candidate's committee.

**Pedagogy —** Reading knowledge of one foreign language is required.

**Examination and Research Committees.** 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, with the list recommended by the major advisor, then approved and transmitted by the Director of the School of Music to the Dean of the Graduate School for appointment.

The Committee shall include the major advisor, the Secondary Emphasis advisor, and representatives of 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 the 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, with the list 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

The Doctor of Music Education (DME) program prepares students as comprehensively-oriented educator-musicians, and develops expertise in teaching, consulting and administration within public schools, college music education programs, and community cultural events.

### 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 technique 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.

- Assignment of a major adviser by the Director of the School of Music, after consultation with the chair of the Music Education Department.

**Residency Requirement for Doctor of Arts in Music and Doctor of Music Education.** The applicant must complete a minimum of any three *consecutive* quarters of study. During each of the consecutive quarters, the candidate must satisfactorily complete a minimum of 10 weeks attendance and 10 quarter hours (eight weeks attendance and 10 quarter hours during the summer quarter) of graduate work on the Greeley campus.

### 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, multi-media, 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 797	Doctoral Proposal Research	6
MUS 799	Doctoral Dissertation (Required)	18
	Three foundation courses required	9
	Electives	10
	Hours credit	96

**Comprehensive Examinations.** At a time approved by the program advisor, the candidate will take written and oral comprehensive examinations covering the primary and secondary areas of emphasis, Music History and Literature and Music Theory and Composition. The Oral Comprehensive Examination Committee will include the program advisor, secondary emphasis advisor, one other professor in the Music Education Department and, if not already represented by the secondary emphasis advisor, one representative of the Music History and Literature Department and one representative of the Music Theory and Composition Department. One faculty representative from outside the School of Music will be appointed by the Dean of the Graduate School.

The departments represented by the above committee members will design, administer and evaluate the written comprehensive examination in their respective areas, in consultation with the Oral Comprehensive Examination Committee. Candidates should typically expect three and one-half days of examinations, one day each for the primary emphasis, Music History and Literature, Music Theory and Composition, and one-half day for the secondary emphasis. This time requirement may be varied to fit the individual emphasis area at the discretion of the committee.

The written comprehensive examination will be scheduled through the Coordinator of Graduate Studies and must be completed within one academic quarter. An oral comprehensive examination will be given by this committee only after successful completion of the written comprehensives.

**Examination and Research Committees.** 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, with the list 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 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 the 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, with the list 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.

## Musical Theatre

Department of Theatre Arts  
Location: Frasier Hall 108  
Telephone: 351-2454  
Jeannette Triomphe, Coordinator

### Faculty

Shari Anderson, MM, Assoc. Prof.  
Charmaine Coppom, MA, Assoc. Prof.  
Carl Gerbrandt, PhD, Assoc. Prof.  
Jeannette Triomphe, MFA, Asst. Prof.  
John W. Willcoxon III, PhD, Prof.

## Bachelor of Arts in Musical Theatre

The Bachelor of Arts with a major in Music/Theatre is excellent preparation for students who aspire to work professionally in musical theatre. Because the program is interdisciplinary, the School of Music, the Department of Theatre Arts and the Dance Program offer their full resources.

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 108.

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 required 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 Music Literature & Styles I, II	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,	485 Opera Workshop	12
THEA 360	Acting III: Musical Theatre	3
THEA 370,	371, 372 Rhythmic & Dramatic Movement I, II, III	3
MUS 407	Individual Coaching in Musical Theatre Repertory I (take concurrently with THEA 465)	2
THEA 465	Musical Theatre Repertory I	2
THEA	Individual Performance in Theatre (technical only)	4
MUS	Music Performance (Vocal Ensembles)	12
PE 136	Ballet	1
A minimum of 5 additional hours of Dance chosen from PE 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 may be used as part of the 60 hours of General Education, thus allowing for 6 additional hours of electives.

Students contemplating graduate work should prepare to meet the requirements of graduate study in Music. This involves preparation in the disciplinary competencies as well as research requirements to enter Graduate School. See advisor.

## Nursing

Administered by the School of Nursing  
Location: McKee Hall 529  
Telephone: 351-2293  
Marie Miller, Director

### Faculty

Sandra Baird, MS, Asst. Prof.  
Agnes Biegel, MSN, Assoc. Prof.  
Virginia Kinnick, MSN, Asst. Prof.  
Judy Malkiewicz, MS, Asst. Prof.  
Majel Martin, MS, Asst. Prof.  
Marie Miller, PhD, Assoc. Prof.  
Nancy O'Donnell, MS, Inst.  
Judy Richter, PhD, Assoc. Prof.  
Patsy Stapleton, 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.

## Bachelor of Science in Nursing

Students pursuing the Bachelor of Science degree with a major in Nursing must plan their programs to fulfill the following requirements:

- Complete General Education requirements as specified in this *Bulletin*.

• Complete the following required courses:		
CHEM 108	Fundamentals of General Chemistry	5
CHEM 109	Fundamentals of Organic Chemistry	5
CHEM 281	Fundamentals of 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
<i>or</i>		
BIO 361	Microbiology	5
FND 251	Nutrition I	3
FND 357	Therapeutic Nutrition	3
STAT 303	Statistics for Health Sciences	4
PSY 230	Human Growth & Development	5
NURS 250	Metrology for the Health Professional	1
NURS 300	Conceptual Foundation of Nursing Practice Nursing Process, Adaptation Theory and Intervention Methodology	5
NURS 303	Techniques & Skills in Nursing Practice I	6
NURS 304	Health Promoting Behaviors	2
NURS 307	Parent-Infant Nursing	4
NURS 308	Mental Health Nursing	4
NURS 309	Nursing Care of the Hospitalized Adult	4
NURS 310	Leadership in Nursing	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 Nursing Care of Hospitalized Adult	8
NURS 395	Techniques & Skills of 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	3-4
NURS 410	Practice Issues on Nursing	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	5
NURS 450	Selected Professional Nursing Roles	7

Students seeking initial Colorado endorsement for a Type E Certificate in school nursing should contact the Teacher Education Center in McKee Hall for state proficiency examination requirements.

**For Registered Nurses Only**

NURS 305	Nursing Theory: Adaptation Model	3
NURS 328	Physical Assessment for RN's	3

• All students must take electives sufficient to complete the 180-hour graduation requirement.

**Admission Policy**

**Pre-Clinical Major.** 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 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 application 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 faculty 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 required support science courses CHEM 108, 109, 281, and ZOO 105, 221 and 250 will be considered.

• 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 depends upon the amount of transfer credit and successful completion of advanced standing credit examinations. RN's should contact the School of Nursing for information regarding the specifics of the RN program.

**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 Program**

**Progression.** Nursing majors must earn a minimum grade of "C" in all required Nursing courses for progression to the next level in the Nursing major. The Nursing program faculty reserves the right to place on probation, or to require the withdrawal from the Nursing program of, 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 the retiring UNC president. 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, the student must have met the University's requirements regarding immunizations, received any necessary update in immunizations (such as Rubella titer, PPD, Diphtheria, Tetanus, and Rubeola/Rubella/Mumps) and have on record a completed physical examination.

**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
Lab coat	25
Chest x-ray	20
White shoes	30
Name pin	2
Penlight	3
Scissors	3.50
Rubella Titer	8
Watch with second hand	30
Nursing Achievement Examinations	30
Stethoscope	35
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.

# Oceanography

(See Earth Sciences)

# Philosophy

Location: Michener L130  
Telephone: 351-2983  
Richard A. Blanke, Chair

## Faculty

Richard A. Blanke, PhD, Assoc. Prof.  
Paul F. Hodapp, JD, PhD, Assoc. Prof.  
Theodora J. Kalikow, PhD, Prof.  
Jack Tempkin, PhD, Assoc. 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 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 directed study of relevant philosophical topics for graduate students in other disciplines.

## Bachelor of Arts in Philosophy

The major is valuable both for students interested in philosophy in its own right, and for pre-professional students — especially those who intend to study law. Many students who fit either of these categories find philosophy a particularly valuable second major because of the ways in which its study can increase one's ability to investigate fundamental issues in any specific area of study or non-academic endeavor.

### Program Requirements

- General Education requirements 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.

The following are required courses:

### Introductory

A minimum of eight hours is required. Courses should be chosen in consultation with the major advisor.

PHIL 100	Introduction to Philosophy	4
PHIL 110	Figures in Western Philosophy	4
PHIL 120	Art of Philosophical Writing	4
PHIL 140	Basic Symbolic Skills	4
PHIL 250	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 260	Topics in the History of Philosophy (May be elected more than once with different subtitles)	4
PHIL 400	Advanced Studies in History of Philosophy (May be elected more than once with different subtitles)	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.

The following courses are required:

### 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 110	Figures in Western Philosophy	4
PHIL 120	Art of Philosophical Writing	4
PHIL 250	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 260	Topics in the History of Philosophy (May be elected more than once with different subtitles)	4
PHIL 400	Advanced Studies in History of Philosophy (May be elected more than once with different subtitles)	4

### Electives

Should be chosen in consultation with minor advisor 12  
Hours credit 28

# Physical Education and Dance

Location: Butler-Hancock Hall  
Telephone: 351-2535  
D. Allen Phillips, Chair

## Faculty

John Barnes, MA, Inst.  
Mary Behling, PhD, Prof.  
M. Dean Betts, EdD, Asst. Prof.  
Cynthia Carlisle, EdD, Prof.  
Carolyn Cody, PhD, Prof.  
Linda Delk, MA, Asst. Prof.  
Rosemary Fri, MA, Asst. Prof.  
Karen Genoff Campbell, MA, Asst. Prof.  
Larry Harrison, MA, Asst. Prof.  
Jean Hedberg, MA, Asst. Prof.  
Christy Howard, MS, Asst. Prof.  
Harold McKain, PhD, Prof.  
Sandra Minton, PhD, Prof.  
Carol Mosser, MA, Asst. Prof.

Robert Oliver, PhD, Assoc. Prof.  
 D. Allen Phillips, EdD, Prof.  
 Bobby Rollins, MA, Asst. Prof.  
 Janet Schafer, MA, Inst.  
 Gordon Shaw, MA, Inst.  
 Ron Simonson, MA, Inst.  
 Jeff Steffen, EdD, Inst.  
 Stan Zweifel, MA, Inst.

Physical Education and Dance is the study of human movement, and academic preparation in this field gives the student an in-depth understanding of pedagogy, kinesiology, and the analysis of sport and dance skills. Programs in this department prepare students for careers in teaching physical education, dance and athletic coaching.

The strength of 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.

Many laboratory research opportunities are available within the building used by the Department of Physical Education and Dance. Facilities are available for the study and analysis of teaching of physical education and dance. The teaching research laboratory is equipped with state-of-the-art video-taping and computer equipment which is available for student and faculty use. This laboratory is the focal point for the analysis of teaching physical education.

## Bachelor of Arts in Physical Education

Students pursuing the B.A. degree in Physical Education with or without the teaching emphasis must complete General Education requirements as specified in this *Bulletin*.

### Teaching Emphasis (K-12, K-6, 7-12)

Students pursuing the teaching emphasis, 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 Beginning Tumbling & 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 Analysis and Movement (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 A & M class in that motor activity. Passing the A & M class does *not* automatically mean that the competency requirement for that activity has been passed. The Competency Program and the A & M 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.

Competency examinations may not be taken more than twice a quarter. All competencies must be completed prior to student teaching or internship.

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 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 & Aquatic 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
- Basketball
- Dance Production
- Football
- Gymnastics
- Swimming
- Tennis
- Track & Field
- Volleyball
- 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

The following courses are also required in the teaching emphasis:

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 Educa& Sport	3
PE 450	Administration of Physical Education	3

### 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 the Elementary School	3
PE 345	Methods & Observation of Teaching Physical Education in the Secondary School	2
PE 346	Assistant Teaching	1
PE 426	Tests & Measurement in Physical Education	3
		Hours credit 70-75

Students must be accepted into PTE before taking the Methods Block courses.

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.

Students who wish to be certified in the State of Colorado must upon completion of their program make application. See information in this *Bulletin* (PTE) for procedure.

Students in physical education must have a 2.7 GPA in their major prior to student teaching or doing an internship. The accumulative GPA must reach a minimum of 2.5.

Any student receiving a "D" grade or lower in a major course must retake the course until a "C" grade or higher is achieved.

The Methods Block and *all* 9 required PE Analysis and Movements classes, and *all* six 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 College of Human Performance and Leisure Studies or from within the College in Dance. The Kinesiology non-teaching options of Athletic Training or Fitness and Exercise Specialist may be used in place of a minor.

### Minor in Physical Education: Coaching

This program is designed to prepare students to coach in public schools, private sport clubs and public and community programs. Students pursuing this degree will develop skills and competencies in conditioning and training, motor skill development and analysis, psycho-social aspects of competition and performance, and management and administration of teams, budgets and sport facilities.

A minimum of six courses selected from the following list 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 of 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, and 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
- Basketball
- Dance Production

- Football
- Gymnastics
- Swimming
- Tennis
- Track & Field
- Volleyball
- Wrestling

Students must successfully complete an officiating class (PE 366) in at least one of the following sports:

- Baseball or Softball
- Track & Field
- Football
- Gymnastics
- Swimming
- Tennis
- Basketball
- Volleyball
- Wrestling

Other required courses are:

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
	<i>or</i>	
PE 222	Physiological Kinesiology	3
	<i>or</i>	
PE 223	Psychological Kinesiology	3

Hours credit 35-38

### Minor in Physical Education: 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 Beginning Tumbling & 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.

Other required courses are:

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 Experiences Seminar	1
PE 344	Methods & Observation of Teaching Physical Education in the Elementary School	3
PE 345	Methods & Observations of Teaching Physical Education in the Secondary School	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.

## Minor in Physical Education: 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 Beginning Tumbling & Gymnastics	2
PE 290	A&M Folk & Square Dance	2

A student must attain competency in six of these nine required activities, but is 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.

Other required courses are:

PE 220	Anatomical Kinesiology	3
PE 224	Maturational Kinesiology	3
PE 262	Standard First Aid & Personal Safety	2
PE 291	Rhythmic Education in the Elementary School	2

### Methods Block Courses

(Must be taken concurrently and at UNC)

PE 235	Teaching Experiences Seminar	1
PE 344	Methods & Observation of Teaching Physical Education in the Elementary School	3
PE 345	Methods & Observation of Teaching Physical Education in the Secondary School	2
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 and Movement classes, and all of the Competencies *must* be completed before the student may teach in this field.

## Minor in Physical Education: Dance Education

Students completing the Dance minor are qualified to teach classes for health spas, dance studios and the YMCA. A Dance minor in combination with an appropriate educational major such as Physical Education or Drama can provide opportunities for teaching in the public schools; and those who select a Dance minor and a Recreation major can teach in a recreation department.

### Required Courses

PE 295	Modern Dance Theory & Technique	2
PE 297	Dance Composition	2
PE 256	Improvisation & Composition Forms	2
PE 255	Modern Dance Techniques & Composition	2
PE 456	Advanced Modern Dance Technique & Composition	3

The above courses should be taken in the order shown. Remaining minor courses required are:

PE 290	Analysis & Movements of Folk & Square Dance	2
PE 291	Rhythmic Education in the Elementary School	2
PE 296	Rhythmic Analysis & Dance Accompaniment	2
PE 326	Teaching of Dance	2
PE 457	Dance History & Philosophy	3
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

## Master of Arts in Physical Education

The Physical Education and Dance 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 will compare 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 must complete 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	4
	or	
PE 621	Advanced Mechanical Kinesiology	4
	or	
PE 623	Advanced Psychological Kinesiology	4
	or	
PE 624	Advanced Maturational Kinesiology	4
	or	
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.

### Emphasis in Teaching Physical Education

#### Required Courses

PE 614	Analysis of Teaching in Physical Education	4
PE 640	Curriculum in Health & Physical Education	4
PE 641	Advanced Elementary Physical Education	3
PE 650	Seminar in Physical Education (Take four hours)	4
PE 635	Seminar in Sports Psychology	3
	or	
PE 636	Seminar in Sports Mechanics	2
	or	
PE 637	Seminar in Sports Physiology	2

#### Electives

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 625	Laboratory Techniques in Kinesiological Research	3
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### Emphasis in Administration of Physical Education and Athletics

#### Required Courses

PE 640	Curriculum in Health & Physical Education	4
PE 635	Seminar in Sports Psychology	3
	or	
PE 636	Seminar in Sports Mechanics	2
	or	
PE 637	Seminar in Sports Physiology	2
PE 650	Seminar in Physical Education (take four hours)	4
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 <sup>4</sup>	
EDAD 610	School Finance	3
EDAD 626	School Community Relations	3
PE 670	Sociology of Sports & Physical Education	3

### Emphasis in Coaching

#### Required Courses

PE 650	Seminar in Physical Education (take four hours)	4
PE 580	Advanced Prevention, Care & Rehabilitation of Athletic Injuries	3
PE 635	Seminar in Sports Psychology	3
	or	
PE 636	Seminar in Sports Mechanics	2
	or	
PE 637	Seminar in Sports Physiology	2
PE 670	Sociology of Sports and Physical Education	3

#### Electives

PE 550	Administration of Physical Education	3
PE 570	Administration of Athletics	3
PE 660	Administration of Sport, Leisure, & 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

## Doctorate of Education in Physical Education

The department offers a doctorate with an emphasis in curriculum and administration. See the Kinesiology Department in this *Bulletin* or contact the department for details.

## Physics and Physical Science

Location: Ross Hall 43  
Telephone: 351-2961  
Paul A. Lightsey, Chair

### Faculty

Wallace Aas, MA, Prof.  
Willard 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 include a B.A. in Physics, B.A. in Physics teaching, B.A. in Physics with Applied Physics Emphasis, Computer Science Emphasis or Geophysics Emphasis and a B.A. in Physical Sciences. 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 Emphasis 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 with a Computer Science Emphasis is a powerful program for entrance into careers in physics and engineering, including positions in industry, government, laboratories, or teaching at the high school level. The successful student obtains a background in structure, design and electronics of computers, programming techniques for scientific applications, and the fundamentals of computer interconnections with data-taking instruments.

The B.A. in Physics with a Geophysics Emphasis concentrates on support courses in geology. The program combines strong backgrounds in physics and geology, preparing a student for career opportunities in engineering, energy fields, geophysical research or environmental studies. Also, the student is well prepared for graduate studies in geophysics or related fields.

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 nationwide 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 Emphasis B.A. program at UNC. They should then seek employment in engineering-related jobs or enter graduate engineering programs at other universities.

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 his or her 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/her skills at a pace compatible with needs. From the earliest Physics classes 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. 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 the program is attested by its 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*, theories of the submicroscopic structure of matter, 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.

## Bachelor of Arts in Physical Science — Teaching

This is a broad degree in Physical Science (teaching) under which programs can be tailored to the individual needs of the student. Students must:

- Meet all General Education requirements as specified in the *Bulletin*.

- Take the following required courses:

PHYS 260	Introductory Physics - Mechanics	5
PHYS 261	Introductory Physics - Heat, Sound and Light	5
PHYS 262	Introductory Physics - Electricity and Magnetism	5
CHEM 108	Fundamentals of General Chemistry	5
CHEM 109	Fundamentals of Organic Chemistry	5
CHEM 281	Fundamentals of Human Biochemistry	5
PHYS 495	Seminar in Teaching Physics	2
CHEM 495	Seminar in Teaching Chemistry	2
MATH 124	College Algebra	5
MATH 125	Plane Trigonometry	5
BIO 101	Principles of Biology	5
	Electives in Biology with consent of advisor	5
	Electives in Earth Science with consent of advisor	15
	Electives in courses related to physical science with consent of advisor	12
	Approved course in computer programming	4
	Hours credit	85

- Meet all requirements for the Professional Teacher Education program, as described in this *Bulletin*, including:

SCED 441	Methods of Teaching Secondary School Science	3
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## Bachelor of Arts in Physics

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

- General Education requirements as specified in this *Bulletin*.
- The following required courses:

PHYS 255	Applications of FORTRAN Programming	4
CS 114	Computer Programming in FORTRAN 77	4
PHYS 256	Computer Graphics for Science and Engineering	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
	or	
CHEM 114	General Chemistry I	5
CHEM 105	Principles of Chemistry II	5
	or	
CHEM 115	General Chemistry II	5

Mathematics Core consisting of 26 or more credits in mathematic courses including:

MATH 131	Calculus I	5
MATH 132	Calculus II	5
MATH 133	Calculus III	4
PHYS 310	Math Applications in Physics	4
	Electives in MATH, STAT, or PHYS (math)	8

MATH or STAT courses must have numbers of 321 or above, and MATH 381, 395, 422 and 464 are excluded. These must be chosen with the approval of the student's Physics Advisor. One of MATH 125 or 127 may be counted if taken before MATH 130 (if taken) and MATH 131. MATH 130 may be counted if taken before MATH 131.

## Bachelor of Arts in Physics — Liberal Arts

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:

Mathematics electives	4
Physics electives	8
Hours credit	104

### Applied Physics Emphasis

In addition to the core requirements, the following requirements must be fulfilled:

PHYS 361	AC & Electronics I	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
	or	
CHEM 451	Physical Chemistry I	4
PHYS 455	Applications of Computers in Science & Engineering	3
PHYS 465	Mechanics II	3
PHYS 466	Electricity & Magnetism II	4
PHYS 468	Nuclear Physics I	5
PHYS 469	Applied Optics	3
PHYS 490	Senior Research	6
MATH 335	Differential Equations I	4
	Machining Skills (Independent study)	2
	Hours credit	127

### Computer Science Emphasis

In addition to the core requirements, the following requirements must be fulfilled:

PHYS 361	AC & Electronics I	5
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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
Approved CS electives		9
	Hours credit	121

### Geophysics Emphasis

In addition to the core requirements, the following requirements must be fulfilled:

PHYS 361	AC & Electronics I	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
	Hours credit	134

## Bachelor of Arts in Physics — Teaching

In addition to the core requirements, the following requirements must be fulfilled:

PHYS 361	AC & Electronics I	5
PHYS 369	Condensed Matter	4
	or	
PHYS 468	Nuclear Physics I	5
CHEM 130	Introductory Organic Chemistry	5
PHYS 495	Seminar in Teaching Physics	2
BIO 101	Principles of Biology	5
AST 301	Principles of Astronomy	4
Electives in Biology with consent of advisor		5
Electives in Earth Science with consent of advisor		6
Electives in Physics with consent of advisor		4
	Hours credit	113

The student must also complete the Professional Teacher Education program requirements as described in this *Bulletin*, including:

SCED 441	Methods of Teaching Secondary School Science	3
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## Minor in Physics

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
	or	
PHYS 366	Electricity & Magnetism I	4
PHYS 268	Modern Physics	4
	or	
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

John T. Bookman, Chair

### Faculty

John T. Bookman, PhD, Prof.

Chris Carr, PhD, Asst. Prof.

Steve J. Mazurana, MA, Assoc. Prof.

Richard A. Perchlik, EdD, 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 and 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, the District Attorney, the City Manager, 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. Students can earn academic credit at this conference.

# Bachelor of Arts in Political Science

Students pursuing the B.A. with a major in Political Science must complete:

- General Education requirements as specified in this *Bulletin*.
- A 27-hour minor or a coherent bloc of advisor-approved courses totaling 27 hours.
- Up to 15 hours in the Political Science Internship Program, but only a maximum of 9 hours to apply toward the Political Science major, and only 6 hours 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.
- Two of the following courses required for majors: ANT 100, ECON 100, GEOG 100, SOC 100 as part of their general education.
- Electives to complete 180 hours of academic credit.
- Students interested in being certified for teaching Political Science must take a major in Social Sciences rather than in Political Science.

## General Education

Select two of the following General Education courses:

ANT 100	General Anthropology	4
ECON 100	Introductory Economics	5
GEOG 100	World Geography	5
SOC 100	Principles of Sociology	4
Hours credit		8-10

## Major Required Courses

PSCI 100	American National Government	5
PSCI 105	Introduction to Political Science	3
PSCI 150	Introduction to Research in Political Science	3

## Electives in Political Science

These must include at least two courses from each of the following groups: A, B, C, D, and must equal 49 hours of credit.

### Group A — United States Government

PSCI 104	Contemporary Political Issues	3
PSCI 200	Legislative Processes	3
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	Administration of Justice	3
PSCI 304	Citizen Politics	3
PSCI 306	Constitutional Law I: Civil Liberties	3
PSCI 307	Constitutional Law II: Governmental Powers	3
PSCI 340	Field Research & Study in Political Science	3-15
PSCI 400	Political Parties	3
PSCI 402	Urban Politics	4
PSCI 403	Problems in United States Government	3
PSCI 404	Minority Politics	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 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

## Minor in Political Science

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	American National Government	5
PSCI 105	Introduction to Political Science	3

### Electives

Electives in Political Science selected with the approval of the Department of Political Science

Hours credit 27

# Pre-Professional Programs

The following information is provided for those students whose goals will require studies in professional schools, such as law, engineering, dentistry, medicine, optometry, pharmacy, veterinary medicine and clinical, counseling and school psychology. 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 in the appropriate departments. For more information and for assignment of an academic advisor, students should contact the persons listed below by program.

## Pre-Professional Program in Psychology

Contact Charles Poston, Department of Psychology, Candelaria 30 (351-2957). The program requirements are listed under the Bachelor of Arts in Psychology, Pre-Professional Emphasis.

This program is designed for students planning careers in clinical psychology, school psychology, counseling and related mental health fields as well as academic and research areas such as experimental psychology. 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

Contact Richard J. Crawford, Department of Speech Communica-

tion, Candelaria 116A (351-2501) for a *Pre-Law Guide* and recommended course list.

UNC has an active Pre-Law Society as a chartered student organization and offers an excellent pre-law program and activities 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.

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 from the School of Business Administration.

## Pre-Engineering

Contact Paul Lightsey, Department of Physics, Ross 43 (351-2961) for more information.

This is a two-year program for engineers after which the student may elect to transfer to an engineering school to complete the degree, or to transfer to the Applied Physics Emphasis of the BA Physics Degree at UNC.

Course of study for pre-engineers is as follows:

- Two quarters 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).
- FORTRAN Programming (PHYS 255 or CS 114) and Computer Graphics (PHYS 256).
- 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 available from the student's advisor in the Department of Physics.

## Pre-Health Professions

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

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 114 and 117, 105 or 115 and 118, and 106 or 116; 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.

## Professional Psychology

Administered by the Division of Professional Studies  
Arthur R. Partridge, Director  
Location: McKee Hall 419  
Telephone: 351-2861

### Professional Psychology

Location: McKee Hall 248  
Telephone: 351-2731

Elizabeth J. Rave, Coordinator of School Psychology Programs  
Richard L. Bear, Coordinator of Counseling Psychology Programs

### Faculty

Richard L. Bear, EdD, Prof.  
Margaret T. Blake, PhD, Prof.  
David N. Bolocofsky, PhD, Assoc. Prof.  
Ellis P. Copeland, PhD, Assoc. Prof.  
Michael J. Gimmestad, PhD, Prof.  
Byron E. Norton, EdD, Prof.  
Wendell A. Osorno, PhD, Prof.  
Judith A. Praul, EdD, Prof.  
Elizabeth J. Rave, EdD, Prof.  
Anne W. Schenkman, EdD, Prof.  
Nancy A. Scott, PhD, Prof.  
Sarah F. Shaw, EdD, Prof.  
George A. Tate, ThD, Prof.  
Susan M. Vess, PhD, Asst. Prof.  
I. David Welch, EdD, Prof.

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, professional psychology offers 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 and the National Association of School Psychologists. The M.A. counseling programs and the Ed.D. program in Counselor Education are accredited by the Council for Accreditation of Counseling and Related Educational Programs.

### Degree Programs Offered

Master of Arts in Agency Counseling (Emphasis available in Marriage and Family Counseling)

Master of Arts in Elementary School Counseling

Master of Arts in Secondary and Post-Secondary School Counseling (Emphasis available in College Student Personnel Administration)

Specialist in Education in School Psychology

Doctor of Education in Counselor Education

Doctor of Philosophy in School Psychology

Doctor of Psychology in Counseling Psychology

### Admission

Applications for admission to graduate programs in 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.

### Master of Arts Programs in Elementary School Counseling, Secondary and Post-Secondary 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 Counseling Psychology programs described in this *Bulletin*. Attendance at a Pre-Admission Workshop is required for this 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 judgment 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 March 1. 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. (sent to the Graduate School by March 1)
- Three letters of recommendation from immediate supervisors or professors. These letters should be addressed to the Graduate School/School Psychology Program.
- A written statement regarding the relationship of the specialist program to the future career goals of the applicant. This statement should be forwarded to the coordinator of school psychology.
- 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.

### **Ph.D. Program in School Psychology**

Data listed here must be in the Professional Psychology office by March 1. 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. (Transcripts and GRE scores must be sent to the Graduate School before March 1.)
  - Three letters of recommendation from immediate supervisors or professors. These letters should be addressed to the Graduate School/School Psychology Program.
  - A written statement regarding the relationship of the doctoral program to the future career goals of the applicant. This statement should be forwarded to the coordinator of school psychology.
- 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.

### **Psy.D. Program in Counseling Psychology and Ed.D. Program in 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 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**

Students seeking initial Colorado endorsement for a Type B or E certificate (School Counseling) should contact the Teacher Educa-

tion Center in McKee Hall for state proficiency examination requirements.

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 512, 565, 602, 604, 606, 607, 608, 611, 612, 614, 657, 671.

*For elementary school endorsement:* PPSY 512, 565, 603, 604, 606, 608, 611, 612, 613, 657, 671.

*For K-12 endorsement:* PPSY 512, 565, 602, 603, 604, 606, 607, 608, 611, 612, 613, 614, 657, 671.

- Depending on previous coursework, the applicant may be required to take additional coursework in the areas of personality, development, and child abuse and neglect.
- 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; EPRE 542, Learning Applied to Classroom Teaching; or their approved equivalents. These students must also pass the California Achievement Test. Students who have a valid teaching certificate from another state must have their transcripts evaluated by the Teacher Education Center for the above courses.

### **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 education profession.

### **School Psychologist Certification**

Institutional recommendation for endorsement in School Psychology is based on the completion of the Ed.S. or the Ph.D. programs in School Psychology. No prior teaching experience is necessary.

Students seeking initial Colorado endorsement for a Type E certificate (School Psychology) should contact the Teacher Education Center in McKee Hall for state proficiency examination requirements.

### **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 Teacher Education Center. 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 seeking initial Colorado endorsement for Type B or E certificate (School Counseling/School Psychology) should contact the Teacher Education Center in McKee Hall for state proficiency examination requirements.

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.

## Master of Arts Programs in Counseling

**Philosophy** — The Counseling faculty views potential candidates as unique, with strengths and assets to be identified, encouraged and developed during their graduate education. 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 practice. 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	Theories of Counseling	3
PPSY 512	Introductory Supervised Practice in Counseling	2
PPSY 612	Supervised Practice in Counseling	5
PPSY 651	Theories of Personality	3
PPSY 662	Group Dynamics & Facilitation	3
PPSY 670	Psychological Testing & Measurement	4
EPRE 600	Introduction to Graduate Study & Research	3
EPRE 540	Principles of Learning	4
	or	
EPRE 641	Theories of Learning	4
PPSY 657	Legal/Ethical Aspects of Psychology	4
PPSY 660	Systems Analysis and Consultation Theory	3
	Comprehensive examination	

## Master of Arts in Elementary School Counseling

**Prerequisites:** See previous section on School Counselor certification. Courses listed, if not previously taken, must be added to the program.

The Elementary School Counseling program is designed at the master's level to develop a professional who counsels 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	Career Development and Occupational Information Systems	3
PPSY 606	Theories & Practices in Group Guidance	3
PPSY 608	Organization & Administration of Guidance Services	3
PPSY 611	Externship in Guidance Services	4
PPSY 613	Externship in Counseling with Children	4
PPSY 671	Testing: Analysis & Interpretation	3
PPSY 565	Psychology of Prejudice	3

One course selected from the following:

EPRE 630	Child Psychology	3
EPRE 631	Adolescent Psychology	3

One course selected from the following special areas:

PPSY 617 Play Therapy, PPSY 664 Therapeutic Parenting, PPSY 627 Counseling the Gifted and Talented, PPSY 650 Psychology of the Healthy Personality, PPSY 628 Behavioral Counseling, CH 503 Drug Abuse Education, HRS 592 Psycho-Social Aspects of Disability, PPSY 558 Abnormal Psychology, PPSY 618 Behavior Modification, PPSY 665 Family Systems, PPSY 647 Psychological Aspects of Learning Disabilities, EDSE 506 Seminar in Mainstreaming Handicapped Students in Regular Classrooms. 3-4

Elective courses are selected in consultation with the advisor. A minimum of 64 quarter hours are required in the program.

## Master of Arts in Secondary and Post-Secondary School Counseling

**Prerequisite:** See previous section on School Counselor Certification. Courses listed, if not previously taken, must be added to the program.

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	Career Development and Occupational Information Systems	3
PPSY 606	Theories & Practice in Group Guidance	3
PPSY 608	Organization & Administration of Guidance Services	3
PPSY 611	Externship in Guidance Services	4
PPSY 614	Externship in Counseling with Youth and/or Adults	4
PPSY 671	Testing: Analysis & Interpretation	3
PPSY 565	Psychology of Prejudice	3

One course selected from the following:

EPRE 631	Adolescent Psychology	3
EPRE 632	Adult Development & Aging	3

One course selected from the following:

PPSY 650 Psychology of the Health Personality, PPSY 628 Behavioral Counseling, PPSY 634 Death and Dying, PPSY 667 Human Sexuality, CH 503 Drug Abuse Education, HRS 592 Psycho-Social Aspects of Disability, HRS 661 Seminar: Rehabilitation of the Substance Abuser, HRS 580 Alcohol and Drug Rehabilitation: Basic Counseling Skills, HRS 581 Alcohol and Drug Rehabilitation: Client Treatment Planning and Records Management, PPSY 665 Family Systems, PPSY 558 Abnormal Psychology

Elective courses are selected in consultation with the advisor. A minimum of 64 quarter hours are required in the program.

### Emphasis in College Student Personnel Administration

This emphasis area is specifically designed for those who wish to counsel in a college setting.

The following courses are required in addition to the core requirements listed previously.



PPSY 604	Career Development and Occupational Information Systems	3
PPSY 606	Theories and Practice of Group Guidance	3
PPSY 565	Psychology of Prejudice	3
CSPA 651	Philosophical, Historical, and Cultural Foundations of Student Affairs in Higher Education	4
CSPA 658	Organization Models for Resource Management	3
	<i>or</i>	
CSPA 671	Leadership and Administrative Styles in Student Affairs	3
CSPA 675	Field Experience in Student Affairs (2 at 3 credits each)	6
CSPA 650	Student Development Theory	3

One course selected from the following:

PPSY 558	Abnormal Psychology	4
PPSY 650	Psychology of the Healthy Personality	3
PPSY 655	Community Mental Health	3

Elective courses selected in consultation with the advisor. A minimum of 64 quarter hours are required in the program.

## Master of Arts 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	4
PPSY 673	Individual Tests of Intelligence and Personality	3
PPSY 692	Externship	8
PPSY 655	Community Mental Health	3
EPRE 530	Human Growth and Development (4)	
	<i>or</i>	
PPSY 610	Human Growth and Development for Counselors (4)	4

One course selected from the following special populations:

PPSY 565	Psychology of Prejudice, PPSY 568 Psychology of Women, PPSY 623 Understanding and Counseling Minorities, EDSE 692 Psychological Aspects of Disability, GERO 588 Counseling the Aged.	3
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One course selected from the following special areas:

PPSY 628	Behavioral Counseling, PPSY 634 Death and Dying, PPSY 664 Therapeutic Parenting, PPSY 665 Family Systems, PPSY 667 Human Sexuality for Counselors, CH 503 Drug Abuse Education, HRS 580 Alcohol and Drug Rehabilitation: Basic Counseling Skills, HRS 581 Alcohol and Drug Rehabilitation: Client Treatment Planning and Record Management, HRS 592 Psycho-Social Aspects of Disability, HRS 661 Seminar: Rehabilitation of the Substance Abuser, GERO 525 Issues and Concepts in Gerontology, GERO 586 Professional Intervention with the Elderly	3-4
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Elective courses are selected in consultation with the advisor. A minimum of 64 quarter hours are required in the program.

## Emphasis in Marriage and Family Therapy

The Marriage and Family Therapy emphasis is a two-year program and requires the completion of 75 quarter hours above an earned baccalaureate degree. If a student has a previous master's degree in counseling, some of the coursework may be waived upon consultation with an advisor and approval of the Graduate School.

The program is understood to deal primarily with relationships, interpersonal interaction and systems theory. Specific program objectives include skill development in the following:

- Therapy for families and couples to facilitate strong family relationships and interpersonal commitments.
- Parent education and family communication to enhance the ability to work with parents and families.
- Consultation with and assistance to various community agencies in the development of prevention programs.
- Initiating research relative to community programs and family and couples interventions.

The following courses are required of all students in the program in Marriage and Family Therapy in addition to the core requirements:

PPSY 558	Abnormal Psychology	3
PPSY 655	Community Mental Health	3
PPSY 664	Therapeutic Parenting	3
PPSY 665	Family Systems	3
PPSY 666	Couple & Marriage Therapy	3
PPSY 667	Human Sexuality for Counselors	3
PPSY 668	Principles of Sex Therapy	3
PPSY 673	Individual Tests of Intelligence and Personality	3
PPSY 694	Practicum in Family Therapy	4
PPSY 695	Seminar: Contemporary Issues in Family Therapy (Maximum 6)	3
PPSY 692	Externship (in Family Therapy) (Maximum 16)	8
EPRE 530	Human Growth and Development (4)	
	<i>or</i>	
PPSY 610	Human Growth and Development for Counselors (4)	4

One course from the following special populations:

PPSY 565	Psychology of Prejudice, PPSY 623 Understanding and Counseling Minorities, PPSY 568 Psychology of Women, EDSE 692 Psychological Aspects of Disability, GERO 588 Counseling the Aged.
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One course from the following special areas:

PPSY 628	Behavioral Counseling, PPSY 634 Death and Dying, CH 503 Drug Abuse and Education, HRS 592 Psycho-Social Aspects of Disability, HRS 661 Seminar: Rehabilitation of the Substance Abuser, HRS 580 Alcohol and Drug Rehabilitation: Basic Counseling Skills, HRS 581 Alcohol and Drug Rehabilitation: Client Treatment Planning and Records Management, GERO 525 Issues and Concepts in Gerontology, GERO 586 Professional Interventions with the Elderly.
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Elective courses are selected in consultation with the advisor. A minimum of 75 quarter hours are required in the program.

## Educational Specialist 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. Successful completion of this program provides the candidate with the requirements for department recommendation for certification in School Psychology.

The following program is based on the student entering with a bachelor's degree. A student with a master's degree in psychology or professional psychology should meet with her or his advisor to develop a specific program. The following courses or areas of study are prerequisite to the program: Tests and Measurements, Abnormal Psychology, Descriptive and Inferential Statistics, and Theories of Personality. Students who have not had these courses will be

required to complete them upon entry into the program.

**Psychological Foundations**

PPSY 763	Introductory Seminar in School Psychology	3
EPRE 603	Analysis of Variance <i>and</i>	4
EPRE 700	Introduction to Doctoral Research <i>or</i>	3
PPSY 781	Evaluation of Psychological Services	3
PPSY 607	Theories of Counseling	3
PPSY 655	Community Mental Health <i>or</i>	3
PSY 664	Social Psychology	3
PPSY 660	Systems Analysis and Consultation Theory	3
EPRE 530	Human Growth and Development <i>or</i>	4
EPRE 630	Child Psychology	3
EPRE 540	Principles of Learning <i>or</i>	4
PPSY 638	Behavioral Applications to Professional Psychology	4
PPSY 657	Legal/Ethical Aspects of Psychology	4
		Hours credit 30-35

**Assessment and Intervention**

PPSY 512	Introductory Supervised Practice In Counseling	2
PPSY 612	Supervised Practice in Counseling	5
PPSY 675	Intelligence Assessment	4
PPSY 676	Personality Assessment	4
PPSY 677	Educational-Academic Assessment	3
PPSY 679	Diagnostic Practicum	4
PPSY 662	Group Dynamics and Facilitation	3
PPSY 779	School Psychology Practicum	4

Choose three of the following:

PPSY 617	Play Therapy	4
PPSY 618	Behavior Modification	4
PPSY 665	Family Systems	3
PPSY 664	Therapeutic Parenting	3
PPSY 681	Systems Intervention Practicum	4
		Total number of quarter hours 36-39

**Professional Education**

In consultation with the advisor, a student should select the number of hours and specific courses necessary to meet certification requirements, complete the program, and prepare the student to be a professional school psychologist. (Minimum of 12 to 15 hours.)

PPSY 647	Psychological Aspects of Learning Disabilities	3
PPSY 580	Computer Applications to Professional Psychology	3
PPSY 569	Violence Against Women and Children	3
EDRD 617	Remedial Reading in the Elementary School <i>or</i>	4
EDRD 612	Reading in the Primary Grades	3
EDAD 525	Intro to Organization and Administration of Public Schools <i>or</i>	3
EDAD 650	School Personnel Administration	3
EDSE 542	Meeting Educational Needs of Severely/Profoundly Handicapped Blind Children <i>or</i>	3
EDSE 602	Education and Psychology of Exceptional Children <i>or</i>	3
EDSE 580	Nature and Needs of Talented and Gifted <i>or</i>	3
EDSE 609	Basic Concept of Mental Retardation <i>or</i>	4
EDSE 611	Psychological Aspects of Mental Retardation <i>or</i>	4
EDSE 624	Seminar in Education of Emotionally Disturbed/Learning Disabled	3
PSY 624	Human Neuropsychology	4
		Total number of quarter hours 12-15 13-17

**Minority Understanding**

Choose one course from the following list:		
PPSY 565	Psychology of Prejudice	3
PPSY 568	Psychology of Woman	3
PPSY 623	Understanding and Counseling Minorities	3
		Total number of quarter hours 3

**Supervised Field Work**

PPSY 789	Internship in School Psychology (2 consecutive quarters full time — 8 credit hours per quarter)	16
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**Electives**

If additional hours are needed, students may choose those courses in consultation with their advisors.

**Doctor of Education 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**

- Required of all Ed.D. students
- 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 of all Ed.D. students		
PPSY 558	Abnormal Psychology	4
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 <i>or</i>	3
PPSY 759	Advanced Psychopathology: Adult	3
PPSY 657	Legal/Ethical Aspects of Psychology	4
PPSY 660	Systems Analysis & Consultation Theory	3

**Counseling Core**

All required		
PPSY 612	Supervised Practicum in Counseling	5
PPSY 712	Advanced Supervised Practicum in Individual Counseling	4
PPSY 707	Seminar on 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	4
PPSY 693	Supervised Practicum in Group Facilitation	4

PPSY 665	Family Systems	3
PPSY 792	Externship	8

### Statistics and Research

All required

PSY 700	Introduction to Doctoral Research	3
EPRE 505	Elements of Statistics	4
EPRE 603	ANOVA & Multiple Regression	4
Elective: Statistics/Research		3
PPSY 663	Professional Psychology Research Apprenticeship	3

### Psychology of Special Populations

Minimum of 3 hours

PPSY 565	Psychology of Prejudice	3
PPSY 568	Psychology of Women	3
PPSY 623	Understanding & Counseling Minorities	3

### Electives

Minimum 12

Any electives through the University approved by the student's advisor

### Dissertation

PPSY 797	Doctoral Proposal Research	6
PPSY 799	Doctoral Dissertation	18

## Doctor of Psychology 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 543	Theories of Motivation	3
	<i>or</i>	
PSY 743	Seminar in Motivation	3
PPSY 660	Systems Analysis & Consultation Theory	3

### Counseling Core

Minimum of 22 hours

PPSY 617	Play Therapy	4
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PPSY 618	Behavior Modification	4
PPSY 628	Behavioral Counseling	3
PPSY 655	Community Mental Health (Required)	3
PPSY 707	Seminar on Counseling Theories (Required)	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	Family Systems	3
PPSY 657	Legal/Ethical Aspects of Psychology (Required)	4

### Assessment

All required

PPSY 675	Intelligence Assessment	4
PPSY 676	Personality Assessment	4
PPSY 679	Diagnostic Practicum	4

### Statistics and Research

All required

EPRE 700	Introduction to Doctoral Research	3
EPRE 505	Elements of Statistics	3
EPRE 603	ANOVA & Multiple Regression	3
PPSY 663	Professional Psychology Research Apprenticeship	3

### Practica

Minimum of 28 hours

PPSY 612	Supervised Practicum in Counseling (required)	5
PPSY 681	Systems Intervention Practicum	4
PPSY 712	Advanced Supervised Practicum in Individual Counseling (required) maximum 8	4
PPSY 693	Supervised Practicum in Group Facilitation (required) (maximum)	8
PPSY 714	Practicum in Supervision of Counseling (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 713	Practicum in Supervision of Psychotherapy with Children	4
PPSY 694	Practicum in Family Therapy (maximum 8)	4
PPSY 773	Practicum in Supervision of Group Facilitation (maximum 8)	4
PPSY 774	Practicum in Supervision of Family Therapy (maximum 8)	4
PPSY 793	Intake Practicum	1
PPSY 794	Clinic Practicum	1

### Psychology of Special Populations

Minimum of 3 hours

PPSY 565	Psychology of Prejudice	3
PPSY 568	Psychology of Women	3
PPSY 623	Understanding & Counseling Minorities	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.

### 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	18

# Doctor of Philosophy in School Psychology

The principle 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.

The following program is based on the student's entering with a bachelor's degree. A student with a master's degree in psychology or professional psychology should meet with his or her advisor to develop a specific program.

## Psychological Foundations

PPSY 763	Introductory Seminar in School Psychology	3
PPSY 603	Theories of Counseling	3
PPSY 512	Intro. Supervised Practice in Counseling	2
PPSY 660	Systems Analysis & Consultation Theory	3
PSY 664	Social Psychology	4
	<i>or</i>	
PPSY 655	Community Mental Health	3
PPSY 657	Legal & Ethical Aspects of Psychology	4
PPSY 651	Theories of Personality	3
	<i>or</i>	
PPSY 751	Seminar in Personality Theories	3
PPSY 670	Tests and Measurements	4
PPSY 558	Abnormal Psychology	3
	<i>or</i>	
PPSY 758	Advanced Psychopathology: Children	3
EPRE 530	Human Growth and Development	3
	<i>or</i>	
EPRE 630	Child Psychology	3
EPRE 641	Theories of Learning	4
	<i>or</i>	
PPSY 638	Behavioral Applications to Professional Psychology	4
	<b>Total credits</b>	<b>35-36</b>

## Professional Education

Students must complete at least 12 quarter hours of classes from the following. Courses in remedial reading are required for Colorado certification in School Psychology.

PPSY 647	Psychological Aspects of Learning Disabilities	3
EDSE 602	Education & Psychology of Exceptional Children3	
	<i>or</i>	
EDSE 707	Trends in Special Education	3
EDRD 617	Remedial Reading in the Elementary School	4
	<i>or</i>	
EDRD 627	Remedial Reading in the Secondary School	4
EDEC 539	Issues in Parent Education	3
	<i>or</i>	
PPSY 665	Family Systems	3
PPSY 569	Violence Against Women and Children	3

## Assessment and Intervention

PPSY 675	Intelligence Assessment	4
PPSY 676	Personality Assessment	4
PPSY 677	Educational/Academic Assessment	3
PPSY 679	Diagnostic Practicum	4
PPSY 612	Supervised Practice in Counseling	5
PPSY 779	School Psychology Practicum	4
PPSY 662	Group Dynamics & Facilitation	3

Take any 2 of the following:

PPSY 617	Play Therapy	4
PPSY 618	Behavior Modification	4
PPSY 681	Systems Intervention Practicum	4
PPSY 694	Practicum in Family Therapy	4
	<b>Total credit</b>	<b>35</b>

## Minority Understanding

Choose any one course from the following: PPSY 565, PPSY 568 PPSY 623 3

## Research

The following courses are required by the Graduate School and may not be waived:

EPRE 700	Introduction to Doctoral Research	4
PPSY 797	Doctoral Proposal Research	6
PPSY 799	Doctoral Dissertation	18
	<b>Total credit</b>	<b>28</b>

Students should satisfactorily complete the research tools below. Satisfactory is defined as a grade of B or better.

## Applied Statistics (Cognate Area I)

EPRE 505	Elements of Statistics	3
EPRE 603	ANOVA and Other Methods of Analysis	3
PPSY 663	Professional Psychology Research Apprenticeship	3
	<b>Total credit</b>	<b>9</b>

## Applied Research (Cognate Area II)

PPSY 580	Computer Applications to Prof. Psychology	3
EPRE 674	Measurement I: Basic Principles	3
	<i>or</i>	
PPSY 770	Advance Psychometrics	3
PPSY 775	Supervision of Psychological Testing	3
PPSY 781	Evaluation of Psychological Services	3
	<b>Total credit</b>	<b>12</b>

## Supervised Field Work

PPSY 789	Internship in School Psychology (Three quarters full time, 8 hrs. per quarter)	23
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## Electives

Students are required to complete 9 to 15 hours of electives in consultation with their advisor. Students may want to focus these electives consistent with their career and certification/licensure goals. Students who wish to consider an administrative credential may wish to complete additional coursework through the Educational Administration program. Electives should be taken from the following courses:

PPSY 559	Introduction to Clinical Hypnosis	3
EPRE 610	Statistical Packages for Educational Research	3
PPSY 613	Externship in Counseling with Children (4)	
	<i>or</i>	
PPSY 614	Externship in Counseling with Youth and/or Adults (4)	4
PSY 624	Human Neuropsychology	4
PPSY 628	Behavioral Counseling	3
PPSY 666	Couple and Marriage Therapy	3
PPSY 680	Special Populations Practicum	4
PPSY 717	Practicum in Psychotherapy with Children	4
PPSY 751	Seminar in Personality Theories	3
PPSY 758	Advanced Psychopathology: Child & Adolescent	3

## Dissertation

PPSY 797	Doctoral Proposal Research	6
PPSY 799	Doctoral Dissertation	18

## 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	Family Systems	3
PPSY 680	Special Populations Practicum	2-4
PPSY 758	Advanced Psychopathology: Child & Adolescent	3
PPSY 782	Introduction to Rorschach Administration & Scoring	3
	<b>Hours credit</b>	<b>10</b>

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: Teacher Education Center, McKee Hall 282  
 Telephone: 351-2994

## Admission

PTE consists of a set of experiences, requirements, courses and proficiency examinations applicable to all students in a teacher education program. All teacher education majors, therefore, must apply for admission to PTE. The course Teacher Aide: Professional (EDFE 270) is the entry-level course in the PTE program. Immediately after completion of 45 quarter hours or, if a transfer student, upon entering UNC with 45 quarter hours, the student should enroll in EDFE 270 Teacher Aide: Professional. Students enrolled in EDFE 270 will be required to attend an information seminar during which they will be given instructions for completing the PTE application process. The *full application process* must be completed during the quarter the student is enrolled in EDFE 270.

The following are minimum requirements for *application* to PTE:

- 45 quarter hours of college study
- 2.50 cumulative grade point average

Following are requirements students must complete before being given *full admission* to PTE:

- Speech/hearing screening, self-assessment battery, and attendance at an information seminar.
- Documented evidence of 10 contact hours of *experience with children or young people* (use EDFE 170 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.

Competencies 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. Students who wish to take this test must register at the Professional Teacher Education Office in the Teacher Education Center at least one week prior to the test date. Students must take the test during the quarter in which they enroll in EDFE 270. Testing dates and more information are available from the PTE Office, Teacher Education Center.

Competency in oral English is demonstrated by attaining:

- 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.
- Students enrolled in a non-degree certification or graduate certification program and students who completed COMM 110 Public Speaking I or an equivalent but did not attain a grade of B or better may demonstrate competency in oral English by making an oral presentation before a panel of three qualified judges. Special arrangements to demonstrate oral English competency in this way 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 2.50 at UNC, in addition to other specified requirements listed above, to be fully admitted to PTE.

Application to the PTE program should be made at the beginning of the first quarter in which a student is eligible; that is, upon completion of 45 quarter hours or, if a transfer student, upon entering UNC with more than 45 quarter hours. The student must be enrolled in EDFE 270 Teacher Aide: Professional, which is the first course in the professional education sequence. The application form requires 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 major.

## Required Courses in PTE

Professional Teacher Education students must take at least *one* course (as noted) in each of the following areas.

### Oral Communication

COMM 110 Public Speaking I 3  
 (Fulfills oral English competency requirement if grade of at least B is earned.)

Multiculturalism (One of the following)

EDEL 101 Introduction to Multiculturalism (3)

or

EDEL 619 Pluralism in Education (3)

or

ID 330 Multicultural Issues in Education (4)

or

SOC 217 Sociology of Minorities (4)

The following required courses are open to students who have been fully or provisionally admitted to Professional Teacher Education.

EPRE 345 Educational Psychology 5

EDF 364 Foundations of Education 4

EDF 385 Law & the Classroom Teacher 2

or

EDAD 385 Law & the Classroom Teacher (Graduate students may substitute EDAD 520) 2

EDF 345 Foundations of Human Interaction 3

ET 410 Introduction to Educational Media 2

The following required courses are open only to students who have been fully admitted to Professional Teacher Education. Students who have not been fully admitted to Professional Teacher Education or who have received only provisional admission status may not enroll in these courses, in any methods course in any department, in clinical or field experience courses, in student teaching, or in directed studies or practicum courses in education.

EDSE 408 Handicapped Students in the Elementary Classroom (4)

or

EDSE 409 Handicapped Students in the Secondary Classroom (4)

or

EDSE 410 \*Handicapped Students in Regular Classrooms (K-12) (3)

\*(Available to students in K-12 certification programs—Art, Music, Physical Education—and those seeking vocational credentialing. Students in K-12 certification programs 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 (Elementary Education and Special Education majors take EDRD 310.) 3

EDLS 360, 361, 362, or 363 Clinical Experience (or departmental equivalent) 2-3

EDFE 370 Teacher Aide: Development (or the equivalent)

In partial fulfillment of a minimum of 100 contact hours of field experience required prior to student teaching

2

EDFE 444 Supervised Teaching 18

Total credit hours 50-54

The PTE program is designed to meet part of the Colorado state certification requirements and NCATE accreditation standards. Additional Colorado state certification requirements, including special "methods" courses, are addressed in the requirements of specific majors. Other states may have certification requirements different from Colorado requirements: in some cases, a teacher will be granted temporary initial certification for a specified period of time and will be required to satisfy the requirements unique to a specific state. If you intend to seek certification in a state other than Colorado, you should write to that state's Department of Education to find out

and, if so, build them into your program. The PTE office staff will assist you as much as possible.

Students who presently hold a Colorado teaching certificate and who wish to obtain a second endorsement should expect to be held for the clinical experience and student teaching requirements but not other requirements listed above.

### Substitutions and Electives

The Professional Education Council may determine that certain requirements listed here may be met by other means. Check with the PTE Office, Teacher Education Center, for special accommodations.

### Supervised Teaching

Application forms and information are available in the Teacher Education Center, 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-date is 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 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 (including demonstration of competencies in oral English and on the California Achievement Test) in the student's major field; 2.50 cumulative grade point average; 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

A student must have a minimum cumulative grade point average of 2.50 in order to graduate in a teacher education program and to receive institutional recommendation for certification.

Upon satisfactory completion of a teacher education program 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. Recommendations for certification are made only when students have successfully completed a teaching *major*. A recommendation for certification cannot be made when a student has completed a teaching *minor*. Near the end of the quarter in which the program is to be completed, the student should complete certification application forms available in the Teacher Education Center, McKee Hall. Applications are processed as soon as official transcripts, ordered by the applicant, are received from the Registrar.

### Exit Testing

After January 1, 1987, the Colorado Department of Education will implement the following requirements (as quoted from "Rules of the Colorado State Board of Education"): "To be eligible for the initial Colorado certification, candidates must present scores at or above the qualifying score as set by the State Board of Education on a board adopted general knowledge test and professional education knowledge test and any subject area assessment which may be adopted." For information, contact the Teacher Education Center, McKee Hall 282.

## Psychology

Location: Candelaria Hall 30  
Telephone: 351-2957  
Charles S.L. Poston, PhD, Chair

### Faculty

William A. Barnard, PhD, Assoc. Prof.  
Bill R. Brown, PhD, Prof.  
William J. Hudspeth, PhD, Assoc. Prof.  
Grant L. Morris, PhD, Prof.  
Susan Plock-Bromley, PsyD, Asst. Prof.  
Charles Poston, PhD, Prof.

John/Juan Ramirez, PhD, Assoc. Prof.

### Affiliate Faculty

Judith A. Greene, PhD  
Earl C. Hutchins, MD  
Robert Shellenberger, PhD

The goal of psychology is to understand 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.

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 microprocessing 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:

### General Psychology Emphasis

- All General Education requirements as specified in this *Bulletin*.

### Required Courses

PSY 101	Introductory Seminar in Psychology	1
PSY 120	Principles of Psychology	5
STAT 203	Introduction to Statistical Analysis	4
PSY 230	Human Growth & Development	5
PSY 240	Principles of Learning	3
PSY 375	Experimental Psychology	5
PSY 491	Field Experience (minimum)	5

### Electives

Total required 28

One course from each of the following groups:

**Group I** - PSY 467, PPSY 468, HISP 300, HISP 370, HISP 380, BLS 101 or BLS 240 3

**Group II** - PSY 265, 357, 366, or 369 3

**Group III** - PSY 343, 443, 480, 481, or 482 3-5

Psychology electives as needed to complete required minimum of 60 hours.

**Certification:** The Psychology major does not lead to teacher certification.

**Note:** PSY 491 credits beyond 5 minimum are counted as Psychology electives.

**Note:** A maximum of 6 hours of advisor-approved non-Psychology credits are optional as Psychology electives. A list of approved electives is available in the Psychology office.

### 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 (60 hours minimum).

### Required Courses

PSY 101	Introductory Seminar in Psychology	1
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PSY 120	Principles of Psychology	5
STAT 203	Introduction to Statistical Analysis	4
PSY 240	Principles of Learning	3
PSY 265	Social Psychology	3
PSY 271	Psychological Testing & Measurements	3
PSY 357	Theories of Personality	3
PSY 375	Experimental Psychology	5
PSY 475	Research Methodologies in Psychology	3
PSY 480	Physiological Psychology	5
PSY 490	History and Systems in Psychology	3
PSY 491	Field Experience	5

### Electives

One course from each of the following groups:

**Group I** - PSY 467, PPSY 468, HISP 300, HISP 380, BLS 101 or BLS 240 3

**Group II** - PSY 358, 366, or 407 3

**Group III** - PSY 343, 443, 481 or 482 3-4

Psychology electives necessary to complete required minimum of 60 hours.

**Certification:** The Psychology major does not lead to teacher certification.

**Note:** PSY 491 credits beyond 5 are counted as Psychology electives.

**Note:** A maximum of 6 hours of advisor-approved, non-Psychology credits are optional as Psychology electives (see Psychology Office for a list of the approved 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*.

## Minor in Psychology

### Required Course

PSY 120	Principles of Psychology	5
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### 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 as needed to complete 27 hours.

Total required including electives 27

## Master of Arts in Psychology

This program is designed for students planning to pursue: 1) further graduate study in specific areas such as clinical, school, industrial or experimental psychology; 2) the teaching of psychology at the junior college or college level; or 3) research in psychology. Central to each student's program is an individually designed master's project. This project will allow the student an in-depth investigation of an area of interest. The project may involve any of the following: an empirical research study, a comprehensive literature review related to a given topic, or a complete outline for an original college course.

### Required Courses

EPRE 505	Elements of Statistics	4
EPRE 603	Analysis of Variances and Multiple Regression	4
EPRE 641	Theories of Learning	4
PSY 543	Theories of Motivation	3
PSY 624	Human Neuropsychology	4
PPSY 651	Theories of Personality	3
PSY 664	Social Psychology	4
PSY 649	Master's Project in Psychology	6
Total required hours		32
Elective hours		18
Minimum total for degree		50

It is expected that all students will have completed courses in descriptive statistics and experimental psychology. If this has not been done, PSY 375 must be taken during the second quarter of the student's M.A. program after completing EPRE 505. The credit for PSY 375 will not be counted toward the 50 credit requirement for the M.A. degree in Psychology.

**Note:** Psychology Masters students do not take EPRE 600. There is a graduate school approved substitute contained within the requirements.

**Note:** Prerequisite for EPRE 641 is EPRE 540, Principles of Learning.

**Note:** A minimum of two quarters' involvement with the master's project is required. The final project defense includes a comprehensive oral examination.

### Strongly Suggested Electives

PSY 590	History & Systems in Psychology	3
PPSY 558	Abnormal Psychology	3
PPSY 618	Behavior Modification	4
EPRE 530	Human Growth & Development	4
PPSY 670	Psychological Testing & Measurements	4

Additional electives may be found in the *Bulletin*. A student's total program should be planned in consultation with the advisor.

## Master of Arts in Psychology: Emphasis in Clinical Biofeedback

This emphasis is designed to provide a foundation in basic psychology and research as well as training in biofeedback as a treatment modality. Students of this program will acquire the research and clinical skills requisite to becoming leaders in the field of biofeedback applications. The program will also provide students with the necessary preparation for more advanced clinical or research training at the doctoral level. The master's candidate may not enroll in this emphasis until they have been interviewed and approved by the biofeedback emphasis admissions committee. The admission interview will not take place until after the candidate has completed one training course at the Aims Biofeedback Institute. Specific emphasis area and certification training will be completed at the Aims Biofeedback Institute in affiliation with the University of Northern Colorado.

**Program Prerequisites:** Prior to being accepted for the Clinical Biofeedback Emphasis, students must demonstrate basic competency with biofeedback principles as well as knowledge in related areas of Psychology. Courses are available to provide students with the necessary prerequisite competencies in biofeedback principles, stress management, counseling theories, physiological and abnormal psychology during their first year of studies. An optional screening examination for the purpose of evaluating the adequacy of transfer biofeedback courses and/or determining the adequacy of the applicant's knowledge in the biofeedback area will be developed by the psychology affiliate faculty. The examination will be designed to cover material from the Biofeedback I, Biofeedback and Stress Management, and Biofeedback and Hypertension courses taught at Aims. The applicant may be required to take any of the three courses where deficiencies are uncovered. If no deficiencies are uncovered, the applicant will not be required to take these courses as prerequisites.

Prerequisites not waived by the examination may be satisfied by the completion of the following courses at UNC or Aims (Equivalencies from other institutions will be evaluated at the time of admission to the M.A. program).

### Biofeedback Prerequisites

Aims Community College	
PSY 138	Biofeedback and Stress Management
PSY 241	Biofeedback I
PSY 244	Biofeedback and Hypertension

### Other Prerequisites

PSY 407	Introduction to Counseling Theories	3
<i>or</i>		
PPSY 607	Counseling Theories	3
PPSY 358/558	Abnormal Psychology	3
ZOO 105	Human Biology	4
ZOO 221	Human Anatomy	4
ZOO 250	Human Physiology	5

## Master of Arts in Psychology: Emphasis in Neuropsychology

The neuropsychology emphasis is designed to provide a foundation in the basic neurosciences essential to research and clinical activities in neuropsychology.

Students will acquire the necessary skills to carry out neurophysiological and behavioral measurements to evaluate brain processes and functions. The emphasis is intended to provide neuropsychological training for students interested in advanced research or clinical training in any subspecialty within psychology.

### Admission Requirements

General admission requirements are the same as those for entry into the General Psychology M.A. program. In addition, students will have completed the following courses (or their equivalent at another college or university) prior to beginning the Neuropsychology emphasis:

PSY 358	Abnormal Psychology
PSY 480	Physiological Psychology
PSY 375	Experimental Psychology
STAT 203	Introduction to Statistics
ZOO 105	Human Biology
ZOO 221	Human Anatomy
ZOO 250	Human Physiology

### Required Courses for Core Program

EPRE 505	Elements of Statistics	4
EPRE 530	Human Growth and Development	4
EPRE 541	Human Information Processing	3
EPRE 603	Analysis of Variance and Multiple Regression	4
EPRE 641	Theories of Learning	4
PPSY 558	Abnormal Psychology	3
PPSY 647	Aspects of Learning Disabilities	3
PPSY 670	Psychological Tests and Measurements	4
PPSY 675	Intelligence Assessment	4
PSY 543	Theories of Motivation	3
PSY 620	Assessment and Behavioral Medicine	3
PSY 622	Directed Studies (in neuropsychology)	6
PSY 625	Principles of Neuropsychology	5
PSY 626	Introduction to Neuropsychological Assessment	5
PSY 627	Neuropsychology Practicum	5
PSY 649	Master's Project in Psychology	9
PSY 664	Social Psychology	4
ZOO 553	Central Nervous System and Special Senses	3
	<b>Total</b>	<b>73</b>

### Recommended Electives

#### Psychology

PSY 524	Physiological Aspects of Biofeedback
PSY 526	Principles of Biofeedback Control

#### Communication Disorders

CMDS 565	Aphasia and Related Disorder in Adults
CMDS 567	Auditory Processing Disorders
CMDS 576	Electrophysiological Audiometry
CMDS 660	Articulation Disorders
CMDS 661	Neurological Motor Speech Disorders
CMDS 669	Language, Learning and the Brain

#### Early Childhood Education

EDEC 648	Psycholinguistics in Early Childhood
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#### Special Education

EDSE 609	Basic Concepts of Mental Retardation
EDSE 624	Seminar in Education of Emotionally Disturbed/Learning Disabled
EDSE 661	Introduction to Issues and Concepts in Education of Learning Disabled Students
EDSE 709	Problems of Assessment in Special Education

#### Human Rehabilitative Services

HRS 593	Medical Aspects of Disabilities
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HRS 620	Assessment and Evaluation of the Handicapped
HRS 673	McCarron-Dial Work Evaluation System

## Reading

(See Elementary Education)

## Recreation

Location: Gunter Hall  
Telephone: 351-2596  
TBA, Chair

### Faculty

Gerald R. Gustafson, PhD, Asst. Prof.  
Larry A. James, MA, Asst. Prof.  
Norbert Van Dinter, EdD, Prof.

The Department of Recreation Education is housed within the College of Human Performance and Leisure Studies. 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 researching current recreation and leisure behavior patterns of all groups in society. Refining and updating the curriculum to keep pace with these changes occurs every three years.

## Bachelor of Science in Recreation

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 three primary settings, commercial, community, and therapeutic.

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. In addition, students with a therapeutic emphasis must complete the 41 hour core as identified below.

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.

- 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 as specified in this *Bulletin*.

### Major Core

REC 203	Introduction to Recreation	4
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 369	Management of Recreation Facilities	3
REC 468	Programs in Recreation	4
REC 451	Administration of Community, Park & Recreation	5
REC 452	Internship in Recreation	18
REC 472	Recreation Leadership	4
REC 495	Senior Seminar	2
ART 248	Art for the Handicapped	3

MUS 315	Music & Recreation	2
THEA 280	Creative Dramatics	3
	Hours credit	67

### Therapeutic Recreation Emphasis

EDSE 100	Education of Exceptional Children	3
PSY 230	Human Growth and Development	5
PSY 344	Group Process and Human Relations	3
PSY 255	Principles of Emotional Adjustment	3
PE 220	Anatomical Kinesiology	3
PE 438	Physical Education for the Mentally Impaired	3
PE 439	Physical Education for the Physically Handicapped	3
REC 410	Clinical Aspects in Therapeutic Recreation	3
REC 411	Client Assessment in Therapeutic Recreation	3
REC 412	Goal Achievement in Therapeutic Recreation	3
REC 420	Therapeutic Recreation Service	3
REC 425	Seminar in Recreation Program Development for Special Populations	3
	Total	41

- One minor of a minimum 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 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.

## Master of Arts in Recreation

The graduate program provides academic study in the core area of Recreation and Parks Administration; academic study leading to certification in therapeutic recreation is also provided; 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 and Parks 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 curriculum in therapeutic recreation is also offered.

Career opportunities are varied. Graduates are being employed in mid-management positions in federal, state and local government, schools, colleges, industry, hospitals, the armed services, private clubs and resorts.

Students with this major may select courses in Therapeutic Recreation to acquire certification competencies.

### 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

### Courses in Therapeutic Recreation

REC 511	Client Assessment in Therapeutic Recreation	3
REC 512	Goal Achievement in Therapeutic Recreation	3
REC 520	Therapeutic Recreation Service	3

REC 525	Seminar in Recreation Program Development for Special Population	3
REC 530	Recreation for the Older Adult	3
REC 652	Graduate Internship in Recreation	4-16

Selected courses from other departments may be taken with advisement to meet the student's professional objectives.

## Research and Evaluation

(See Educational Psychology)

## Research Methods

(See Mathematics)

## School Psychology

(See Professional Psychology)

## Science Education

Administered by the Department of Earth Sciences under the direction of the Science Education Committee. For information, contact Biology, Chemistry, Earth Sciences or Physics.

Location: Ross Hall 332

Telephone: 351-2647

Jay Hackett, Coordinator

## Bachelor of Arts in Junior High Science

This degree program is designed for those wishing to teach junior high science or multiple science at the high school level. Majors in this program will receive a broad general science background with course work in Biology, Chemistry, Earth Sciences, Physics and Mathematics.

Students majoring in Junior High Science who plan to teach in the public schools are required to include the following courses in their programs.

### Program requirements:

- General Education requirements as specified in this *Bulletin*.
- One minor of at least 27 quarter hours.
- Professional Teacher Education program requirements, as specified in this *Bulletin*. A student must complete SCED 151, Introductory Science Field Experiences (2 hours), or an approved teacher aid experience, before full admission into the PTE program.
- To meet certification standards in Colorado, the student must plan a program which will develop knowledge and skills in Mathematics, Biology, Chemistry, Earth Sciences and Physics.

### Required courses:

BIO 101	Principles of Biology	5
BIO 102	Principles of Botany	5
BIO 103	Principles of Zoology	5
CHEM 104	Principles of Chemistry I	5
	or	
CHEM 114	General Chemistry I	5
CHEM 105	Principles of Chemistry II	5
	or	
CHEM 115	General Chemistry II	5
GEOL 201	Physical Geology	5
MATH 124	College Algebra	5
PHYS 260	Introductory Physics — Mechanics	5
PHYS 261	Introductory Physics — Heat, Sound & Light	5
PHYS 262	Introductory Physics — Electricity & Magnetism	5

### Electives:

Electives should be chosen with advisor's approval from courses in Biology, Chemistry, Earth Sciences and Physics that build on core requirements.

## Minor in Elementary Science

This program is designed for those Elementary Education Majors who wish to reinforce or strengthen a subject matter area. This is an excellent program for those with strong interests in the sciences who wish to be elementary school science specialists.

### Required courses:

SCI 260	Earth Science Concepts for Elementary Teachers	4
SCI 261	Biological Science Concepts for Elementary Teachers	4
SCI 262	Physical Science Concepts for Elementary Teachers	4

A balance of Biology, Chemistry, Earth Sciences and Physics for a total of 27 credit hours are to be selected with the advice of the Program Coordinator.

## Graduate Programs

Students interested in a graduate degree in the area of science education should refer to the Interdisciplinary Programs (Graduate) section of this *Bulletin*.

## Social Science

Location: Candelaria Hall 217

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 is 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 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.

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.

## Bachelor of Arts in Social Science

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

- General Education requirements as specified in this *Bulletin*.
- No minor is required for this major.

### Required Courses

ECON 110	Principles of Economics: Microeconomics	4
PSCI 100	American National Government	5
PSY 120	Principles of Psychology	5
		Hours credit 14

- Complete the following requirements for the major chosen:

## Liberal Arts Emphasis

### 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	4
		or
ANT 100	General Anthropology	4
		or
GEOG 100	World Geography	5
CS 112	Beginning Computer Programming in BASIC	3
		or
PHIL 240	Formal Logic	4
STAT 203	Introduction to Statistical Analysis	3
ID 308	Integrative Seminar in the Social Sciences	6
		Hours credit 31-33

Note: SOC 362 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, and ANT 480;  
 ECON 300 and 451;  
 GEOG 200 and 475;  
 HIST 399 and 499;  
 PSCI 150 and 330 or 331 or 332;  
 PSY 240 or 265 or 357, and 375;  
 SOC 351 or 352, and 361.

Hours credit 7-8

### Electives

Remaining requirements for major in two of the following areas: Anthropology or Sociology, Economics, Geography, History, Political Science, Psychology 22-55  
 Advanced Electives Courses numbered 300 or above in Anthropology, Economics, Geography History, Political Science, Psychology, and/or Sociology. (Courses must be in addition to major requirements listed here)

Total hours credit 86-122

## Teaching Emphasis

### Required Courses

ANT 100	General Anthropology	4
ECON 120	Principles of Economics: Macroeconomics	4
GEOG 100	World Geography	5
GEOG 200	Location & Human Behavior	4
PSCI 203	Colorado Government	4
SOC 100	Principles of Sociology	4
SOC 332	Social Psychology	4
		or
PSY 265	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	4
		Non-U.S. History
		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 59-60

### Additional Coursework

Either ANT 140 or 381 or 382		4
Two of the following:		
HISP 300	Social Stratification in the Mexican-American Community	3
BLS 240	Dynamics of Racism	3
WS 120	Women and Men in Perspective	3
		Hours 10
		Hours credit 83-84

• All requirements for the Professional Teacher Education programs, as described in this *Bulletin*, must be met. 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 364 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*.

## Sociology

Location: Candelaria Hall 228

Telephone: 351-2315

John A. Vonk, Chair

### Criminal Justice Office

Location: Candelaria Hall 226

Telephone: 351-2107

Philip Reichel, Director

### Family Studies Office

Location: Candelaria Hall 232

Telephone: 351-2421

Pamela Loy, Director

### Faculty

Ford Cleere, PhD, Prof.

John Fox, PhD, Assoc. Prof.

Karen Jennison, PhD, Assoc. Prof.

Zahi Kamal, PhD, Assoc. Prof.

Pamela Loy, PhD, Assoc. Prof.

James Marshall, PhD, Assoc. Prof.

David Musick, PhD, Assoc. Prof.

Daniel O'Connor, PhD, Asst. Prof.

Philip Reichel, PhD, Assoc. Prof.

Robert O. Schulze, PhD, Prof.

Robert B. Stein, PhD, Prof.

Richard G. Trahan, PhD, Prof.

John A. Vonk, PhD, Prof.

Gary Willoughby, MA, Assoc. Prof.

The Sociology Department offers an undergraduate major and minor with three possible areas of emphasis: General Sociology, Criminal Justice and Family Studies. A master of arts degree in Sociology is also available. Students selecting a major or minor in Sociology should contact the department and be assigned an advisor.

Sociology, as the study of social relations and institutional arrangements, is fundamental to the social sciences. Undergraduate courses are designed to prepare students with basic principles, theories, and methods of Sociology. The coursework is arranged so that students may emphasize General Sociology, Criminal Justice or Family Studies. Each emphasis area consists of core requirements, as well as a specialized curriculum for that area. Concentration in an emphasis area will prepare students for employment and advanced studies.

Internships are available for students who choose either the Criminal Justice or Family Studies emphasis area.

## Bachelor of Arts in Sociology

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

- A minor of 33 quarter hours. Students selecting the Criminal Justice or Family Studies emphasis are not required to complete a minor. Instead, these students will complete support area requirements associated with the emphasis area.

- 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.

### Core Requirements for All Majors:

SOC 100	Principles of Sociology	4
SOC 350	Introduction to Social Theory	4
SOC 351	Classical Social Theory	4
SOC 352	Contemporary Social Theory	4
SOC 360	Computer Applications in the Social Sciences	4
SOC 361	Social Research	4
SOC 362	Social Statistics	4
	Hours credit	28

### Supplemental Requirements for All Majors

Select two:

SOC 235	Social Change	4
SOC 330	Social Organization	4
SOC 332	Social Psychology	4
SOC 333	Social Class & Inequality	4
	Hours credit	8

In addition to the completion of the core and supplemental requirements, students may select one of three major emphases: General Sociology, Criminal Justice or Family Studies.

### General Sociology Emphasis

#### Emphasis Area Requirements

Select one from each area:

Criminal Justice: SOC 247, 340, 346, 347	4
Family Studies: SOC 120, 221, 322, 324, 326, 423	4
	Hours credit 8

#### Additional Requirement

SOC 499	Senior Seminar in Sociology	4
	Hours credit	4

#### Electives

Select from remaining Sociology courses	12
General Sociology Emphasis: Total hours credit	60

### Criminal Justice Emphasis

#### Emphasis Area Requirements

SOC 141	Introduction to Criminal Justice	4
SOC 340	Juvenile Delinquency	4
SOC 346	Criminology	4
SOC 347	Sociology of Corrections	4
SOC 444	Sociology of Criminal Law	4
	Hours credit	20

#### Emphasis Area Electives

Select two:

SOC 217	Sociology of Minorities	4
SOC 247	Social Deviance	4
SOC 490	Internship	4
	Hours credit	8

#### Support Areas

(To be taken instead of a minor)

Depending on area chosen, these will range from 33 to 47 credit hours.

Criminal Justice Emphasis: Total hours credit 64

### Family Studies Emphasis

#### Emphasis Area Requirements

SOC 120	Marriage & the Family	4
SOC 324	Issues in the Family	4
SOC 423	Violence & the Family	4
SOC 490	Internship	4
	Hours credit	16

**Emphasis Area Electives: Sex Roles**

Select one:		
SOC 221	Sociology of Sex Roles	4
SOC 322	Women & Aging	4
	Hours credit	4

**Emphasis Area Electives: Socialization**

Select one:		
SOC 326	Sociology of Childhood & Adolescence	4
SOC 340	Juvenile Delinquency	4
SOC 515	Seminar in Socialization	3
	Hours credit	3-4

**Support Areas**

(To be taken instead of a minor)

Select a support area and appropriate electives to total 33 credit hours.

Family Studies Emphasis: Total hours credit 60

**Minor in Sociology****Core Requirements for All Minors**

SOC 100	Principles of Sociology	4
SOC 351	Classical Social Theory	4
SOC 361	Social Research	4
	Hours credit	12

In addition to the completion of the Core Requirements, students may select one of three minor emphases:

**General Sociology Emphasis****Supplemental Requirements**

Select two:		
SOC 235	Social Change	4
SOC 330	Social Organization	4
SOC 332	Social Psychology	4
SOC 333	Social Class & Inequality	4
	Hours credit	8

**Electives**

Select from remaining Sociology courses	12
General Sociology Emphasis: Total hours credit	32

**Criminal Justice Emphasis****Supplemental Requirements**

Select one from those in General Sociology minor	4
Hours credit	4

**Emphasis Area Requirements**

SOC 141	Introduction to Criminal Justice	4
SOC 340	Juvenile Delinquency	4
SOC 346	Criminology	4
SOC 347	Sociology of Corrections	4
	Hours credit	16

**Emphasis Area Electives**

Select one:		
SOC 145	Social Problems	4
SOC 247	Social Deviance	4
SOC 423	Violence & the Family	4
SOC 444	Sociology of Criminal Law	4
	Criminal Justice Emphasis: Total hours credit	36

**Family Studies Emphasis****Supplemental Requirements**

Select one from those stated in General Sociology Minor	4
Hours credit	4

**Emphasis Area Requirements**

SOC 120	Marriage & the Family	4
SOC 324	Issues in the Family	4
SOC 423	Violence & the Family	4
	Hours credit	12

**Emphasis Area Electives**

Select two:		
SOC 217	Sociology of Minorities	4
SOC 221	Sociology of Sex Roles	4
SOC 322	Women & Aging	4
SOC 326	Sociology of Childhood & Adolescence	4
SOC 515	Seminar in Socialization	3
	Hours credit	7-8
	Family Studies Emphasis: Total hours credit	35-36

**Master of Arts in Sociology****General Sociology Emphasis**

The Master of Arts in Sociology, General Emphasis, is a flexible program that permits a student to design a terminal program or provide a foundation for further graduate work. Required courses in this program include SOC 650, Sociological Theory, 4 credit hours, and SOC 660, Seminar in Advanced Social Research, 4 credit hours. To supplement the required courses, the student must take a minimum of 15 hours from other graduate level sociology courses. After consulting with his/her advisor, the student may take courses outside the department in order to obtain the 45 credit hours required for the program.

**Criminal Justice Emphasis**

The emphasis in Criminal Justice prepares students for careers in criminal justice or for further graduate work in either Sociology or Criminal Justice. Individuals currently employed in a criminal justice position will find the emphasis area provides an opportunity to gain additional knowledge and skills helpful in carrying out their career duties. The coursework is not intended to provide the student with specific treatment skills associated with therapeutic personnel. Rather, it will develop in the student a knowledge and appreciation of those skills thereby enabling him/her to perform in such supervising positions as probation/parole officer, court administrator, classification officer, police officer, etc. Similarly, the emphasis on research will prepare students for program analysis and evaluation, an increasingly important task in all criminal justice agencies.

**Emphasis Prerequisites**

SOC 340	Juvenile Delinquency	4
	or	
SOC 346	Criminology	4
	Hours credit	4

**Sociology Core**

SOC 650	Sociological Theory	4
SOC 660	Seminar in Advanced Social Research	4
	Hours credit	8

**Emphasis Core**

SOC 544	Sociology of Criminal Law	4
SOC 554	Criminological Theories	3
SOC 602	Seminar in Perspectives in Sociology: Issues in Criminal Justice	3
	Research Internship	5
MGT 550	Concepts in Personnel Management	4
HRS 590	Introduction to Rehabilitation Counseling	3
	Hours credit	22

**Supplemental Courses**

15 hours of electives, including a maximum of 10 hours of thesis if that option is chosen.

Total credit hours 15

Total hours 45

**Family Studies Emphasis**

The family studies emphasis prepares students for careers in family studies or for further graduate work in either sociology or family studies. Individuals currently employed in social agencies in the family service sector will find this emphasis provides an opportunity to gain additional knowledge and skills helpful to their career interests. The coursework is not intended to provide the student with specific treatment skills associated with therapeutic personnel. Rather, it will develop an understanding of the perspectives used, and



provide research and policy analysis skills designed to facilitate administrative duties.

#### Emphasis Prerequisites

SOC 120	Marriage & the Family	4
	or	
SOC 324	Issues in the Family	4
	Hours credit	4

#### Sociology Core

SOC 650	Sociological Theory	4
SOC 660	Seminar in Advanced Social Research	4
	Hours credit	8

#### Emphasis Core

SOC 515	Seminar in Socialization	3
SOC 520	Seminar in the Family	3
SOC 523	Violence & the Family	4
SOC 681	Research Internship	5
MGT 550	Concepts in Personnel Management	4
GERO 543	Grant Development & Administration	3
	Hours credit	22

#### Supplemental Courses

15 hours of electives, including a maximum of 10 hours of thesis if that option is chosen.

Total credit hours	15
Total hours	45

## Spanish

(See Hispanic Studies)

## Special Education

Administered by the Division of Educational Studies

J. Melvin Lane, Director

Location: McKee Hall 318

Telephone: 351-2691

Elaine Uhrig, Coordinator — Low Incidence Handicapped and General Special Education

Allen Huang, Coordinator — Mental Retardation, Learning Disabilities and Emotional Disturbance

#### Faculty

Clifford Baker, EdD, Prof.

George Betts, EdD, Asst. Prof.

Tony Carvajal, EdD, Prof.

James DeRuiter, PhD, Prof.

Terry Deniston, MED, Asst. Prof.

Carmella Gates, MED, Assoc. Prof.

Carol Gearheart, EdD, Assoc. Prof.

Judy Gilbert, EdD, Assoc. Prof.

B. Robert Gonzales, EdD, Prof.

Allen Huang, EdD, Assoc. Prof.

Lyman Hunter, PhD, Asst. Prof.

Deanna Iceman, DES, Asst. Prof.

David Kappan, MA, Assoc. Prof.

Elizabeth Kozleski, EdD, Asst. Prof.

J. Melvin Lane, EdD, Prof.

Wilbur Millslage, EdD, Prof.

Grace Napier, EdD, Prof.

LeAnn Olson, MS, Asst. Prof.

H. Robert Reinert, EdD, Prof.

Norman Resnick, PhD, Assoc. Prof.

Harvey Rude, EdD, Asst. Prof.

Dean Tuttle, EdD, Prof.

Elaine Uhrig, EdD, Assoc. Prof.

Mel Weishahn, EdD, Prof.

Bachelor of Arts degrees are offered in Mental Retardation (EMH), with optional 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, Socially and Emotionally Disturbed (ED), Learning Disabilities (LD), Visually Handicapped (VH), Special Education/Early Childhood 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 ED, LD, VH and MH areas.

Typically, an undergraduate at UNC will have a double major in Special Education and regular education, either elementary or secondary. Such a student 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.

Program requirements are based upon current Colorado Department of Education certification standards which are subject to change from time to time. The student is responsible for assuring that his/her program meets certification standards.

A special five-year program can enable a student to complete an undergraduate degree and a master's degree where this degree is required for certification. As a master's graduate, a student will be 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.

Special Education program offerings at UNC are among the largest in the nation. UNC is the only institution in a six-state region that offers degree programs in Special Education in all areas of exceptionality. Special programs associated with Special Education 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.

Special Education 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 Special Education are nationally recognized, have published in their respective areas, presented 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.

#### Bachelor of Arts Programs In Special Education

Special Education 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 pre-professional 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. There is also a minor in Special Education.

Junior and senior students may take course work in the areas of teaching the visually 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.

#### Bachelor of Arts in Mental Retardation

Students may declare a major in Mental Retardation at any time, but candidacy for a degree is dependent upon departmental acceptance at the time a student applies for PTE. Students with a declared major in Mental Retardation who have not been accepted into PTE are considered tentative candidates. Departmental recommendation for PTE acceptance is based upon: 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 2.50.

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 or Emotionally Disturbed (both of which lead to Colorado certification in educationally 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 Director of the Division of Educational Studies.

### EMH Certification Program

#### Core Requirements

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 Educably Mentally Handicapped: Elementary Level	4
EDSE 417	Curriculum Development & Methodology for Educable Mentally Handicapped: Secondary Level	4
EDSE 421	Introduction to Classroom Management	3
EDRD 310	Improvement of Instruction in Reading in the Elementary School	4
ART 248	Art for the Handicapped	3
EDFE 270	Teacher Aide	1-4
EDSE 404	Resource Program Teacher	3
EDSE 309	Introduction to Special Education Student Teaching	2
	Hours credit	48-51

Note: EDSE 309 requires 30 hours of in-classroom field experience. Check with advisor.

Students will be required to demonstrate appropriate literacy and competency in computer applications as part of these programs.

### Secondary Educable Mentally Handicapped Emphasis

#### Required Courses

EDSE 417	Curriculum Development & Methodology for 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
	or	
VTE 532	Methods & Materials for Special Needs Students	3

These courses are the requirements for vocational certification in handicapped (WES-AVE PH program) for special education teachers.  
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 Children	3
EDSE 326	Introduction to Teaching Learning Disabled Children	3
EDSE 330	Care & Pathology of the Physically Handicapped	3
EDSE 350	Introduction to the Hearing Impaired	3
EDSE 440	Survey of Visually Handicapped Education	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 Multiculturalism	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 Teaching (both elementary & secondary levels in Special Education)	18-36

## Bachelor of Arts in Special Education: Emphasis in Acoustically Handicapped

The bachelor of arts is pre-professional 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.

Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program.

#### Required Courses

EDSE 100	Education of Exceptional Children	3
EDSE 250	Structure of Language	3
CMDS 260	Introduction to Phonetics	3
CMDS 265	Acoustics of Speech	3
CMDS 270	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	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 & Speechreading	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.

#### Early Childhood

- Meet all General Education requirements as specified 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 63 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 as specified 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 as specified 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 Emphasis

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 Visually Handicapped Education	3
EDSE 441	Listening Skills for Learning	3
EDSE 442	Rehabilitation Teaching for the Visually Handicapped	3
EDSE 443	Teaching Daily Living to the Visually Handicapped	2
EDSE 444	Adaptations 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.

Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program.

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.

### Minor in Special Education

The Special Education minor is designed to provide students with the basic elements for dealing with the needs of exceptional children in the educational setting and to prepare students who plan to enter master's degree programs in the areas of Learning Disabilities, Emotional Disturbance, Acoustically Handicapped, Visually Handicapped, Gifted and Talented Education and Mental Retardation, which will then lead to a Colorado teaching certificate.

Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program.

#### Required Courses

EDSE 408	Handicapped Students in the Elementary Classroom	4
	or	
EDSE 409	Handicapped Students in the Secondary Classroom	4
EDSE 250	Structure of Language	3
EDSE 305	Educational Prescription & Programming for Exceptional Children	4
EDSE 201	Undergraduate Practicum	1-4
Two of the following courses:		
EDSE 310	Introduction to Mental Retardation	4
EDSE 320	Introduction to the Education of Socially & Emotionally Disturbed Children	3
EDSE 326	Introduction to Teaching Learning Disabled Children	3

One of the following courses:

EDSE 412	*Curriculum Development & Methodology for Educable Mentally Handicapped: Elementary Level	4
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EDSE 419	Methods of Teaching Learning Disabilities and Emotional Disturbance	4
* EDSE 100 or 408 or 409, 250, 305, 201 and/or 320, 326 are prerequisite to EDSE 412.		
Two of the following courses:		
EDSE 330	Care & Pathology of the Physically Handicapped	3
EDSE 350	Introduction to the Hearing Impaired	3
EDSE 440	Survey of Visually Handicapped Education	3
EDSE 380	Introduction to Gifted & Talented Student Education	3
VTE 430	Vocational Education for Students with Special Needs	3

## Vocational Special Needs Credentials

Students earning special education degrees who are interested in secondary programming should obtain a vocational special needs credential.

### WES/AVEP-H Programs Credential

Work Experience and Study (WES) Programs and Alternative Vocational Education Programs for the Handicapped (AVEP-H) offer high school credit for job training opportunities. This credential may only be obtained by certified special education teachers.

### Required Courses

VTE 410/		
510	Cooperative Education and Coordination Techniques	3
VTE 430/		
530	Vocational Education for Learners with Special Needs	3
VTE 532	Methods and Materials for Special Needs Learners	3
	Hours credit	9

Occupational Experience: Two years (4,000 hours) verified occupational experience outside of the teaching profession during the last ten years. (1,000 hours in the last five years)

### Supplemental Services Credential

Supplemental Services provide assistance to handicapped and disadvantaged students enrolled in vocational education programs at the secondary and post-secondary level.

### Required Courses

VTE 430/		
530	Vocational Education for Learners with Special Needs	3
VTE 531	Vocational Assessment for Special Needs Learners	3
VTE 532	Methods and Materials for Special Needs Learners	3
	Hours credit	9

Occupational Experience: Two years (4,000 hours) of verified occupational experience outside of the teaching profession during the last ten years. (1,000 hours during the last five years)

\* A portion of these hours may be earned by enrollment in VTE 290 or VTE 690, Supervised Work Experience Program.

## 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  
Learning Disabilities  
Mentally 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

## Master of Arts in Special Education: Teaching the Acoustically Handicapped

### Required Courses

EDSE 556	Advanced Manual Communication Skills	3
EDSE 555	Diagnosis of Language&Reading Behaviors of the Hearing Impaired	3
CMDS 575	Pediatric Audiology: Etiology & Assessment (or equivalent)	3
EDSE 605	Appraisal of Exceptional Children	5
EDSE 606	Practicum in Appraising Exceptional Children	4
EDSE 613	Parent Conferencing for 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 Hearing Impaired K-12	15
EPRE 600	Introduction to Graduate Study & Research	3

Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program.

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

- 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**

- Maintain a 3.0 GPA for retention in the UNC Graduate School and the Acoustically Handicapped program.
- Satisfactorily complete pre-professional 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 judgment, 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.

**Teaching the Mentally Handicapped**

**Required Courses**

CMDS 562	Language Characteristics of Exceptional Children	3
EDSE 602	Education & Psychology of Exceptional Children	3
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**

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
VTE 610	Vocational Education Foundations	3
VTE 612	Programs & Process in Vocational Education	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 will be required to demonstrate appropriate literacy and competency in computer applications as part of this program.

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.

**Master of Arts: 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 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 ongoing 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 program 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 in Emotionally Disturbed & Learning Disabled Children	3
EPRE 600	Introduction to Graduate Study & Research	3
EDSE 602	Education & Psychology of Exceptional Children	3
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 613	Parent Conferencing for Exceptional Children	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

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 per quarter)	15

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 Students with Severe Emotional Disturbances	4
EDSE 628	Practicum with Severely Emotionally Disturbed Children, K-12 (maximum per quarter)	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

### Elective Courses

(strongly recommended)

EDRD 650	Remedial Reading Case Study: Elementary (Consent of instructor)	5
EPRE 540	Principles of Learning	4
PPSY 607	Theories of Counseling	3
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
SQC 645	Seminar in the Sociology of Mental Health & Illness	3

Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program.

## Master of Arts: 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 in 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 ongoing 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 program 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 & Research	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 in Learning Disabled Children, K-12 (maximum per quarter)	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
EDRD 617	Remedial Reading in the Elementary School	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 Students with Severe Emotional Disturbances	4
EDSE 628	Practicum with Severely Emotionally Disturbed Children, K-12 (maximum per quarter)	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 660	Introduction to Issues & Concepts in Education of Emotionally Disturbed Students	3
EDSE 661	Introduction to Issues & Concepts in Education of Learning Disabled Students	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

### Elective Courses (Strongly Recommended)

EDRD 650	Remedial Reading Case Study: Elementary (Consent of instructor)	5
CMD5 663	Language Disorders in Children II	3
EPRE 530	Human Growth & Development	4
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

Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program.



## Master of Arts: Teaching the Visually Handicapped (V.H.)

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.
- Students with certification from a state other than Colorado may be required to take additional course work to meet Colorado Professional Teacher Education standards.
- 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, 12 hours in Severely, Profoundly Handicapped Blind (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 should enter fall quarter, except those enrolled summer only.

### Required Courses

EPRE 600	Introduction to Graduate Study & Research	3
EDSE 541	Early Developmental Needs of Severely/Profoundly Handicapped Blind	3
EDSE 542	Meeting Educational Needs of 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 549	Survey of Severely/Profoundly Handicapped Blind **	3
EDSE 602	Education & Psychology of Exceptional Children **	3
EDSE 605	Appraisal of Exceptional Children (Section for V.H. majors)	5
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 649	Assessment of Severely/Profoundly Handicapped Blind	3
EDSE 670	Practicum with Visually Handicapped K-12*	12-15

*Note:* Each course marked with a \*\* is required for endorsement to teach V.H. children.

\*Practicum sites are often located outside Greeley. Students are responsible for providing their own transportation.

Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program.

### Electives (or any other courses, with advisor approval)

CMDS 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
HRS 592	Psycho-Social Aspects of Disability	3

### Additional Emphases in Visually Handicapped

With *special program application* and *program faculty 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 beyond the basic 60 quarter hour program.

*Students may not enroll in either the Orientation and Mobility Emphasis or the Severely and Profoundly Handicapped Blind Emphasis until they have been approved by the Area Admissions Committee.*

### Orientation and Mobility

Students earning certification in Orientation and Mobility through the Association for the Education and Rehabilitation of the Blind and Visually Impaired and the Colorado Department of Education must complete the following additional requirements. Students must enter fall quarter. Total programs are 75 hours minimum, including V.H. core requirements.

#### Required Courses

EDSE 547	Independence in Orientation & Mobility	3
EDSE 548	Advanced Independence in Orientation & Mobility	3
EDSE 647	Applied Methodologies in Orientation & Mobility	4
EDSE 672	Practicum in Orientation & Mobility for the Blind, K-12	12

Practicum sites are often located elsewhere than in Greeley. Students are responsible for providing their own transportation.

### Severely and Profoundly Handicapped Blind (SPHB)

Students desiring training in SPHB must complete the following requirements in addition to the 12 hours listed above as part of the Visually Handicapped core. Students must enter Fall quarter. Total programs are 75 hours minimum, including VH core requirements.

#### Required Courses

EDSE 640	Functional Academics, Career & Living Strategies for Severely/Profoundly Handicapped Blind	3
EDSE 671	Practicum in Severely/Profoundly Handicapped Blind*	6-12

\*Practicum sites are often located elsewhere than in Greeley. Students are responsible for providing their own transportation.

Proficiency in manual communication through course work or proficiency test is required.

### 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 emphases. The total program is a minimum of 90 quarter hours. Students must enter fall quarter.

## Master of Arts: Special Education/Early Childhood

(See Early Childhood/Special Education)

## Master of Arts: 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 Teaching the 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 Gifted & Talented	3
PPSY 627	Counseling Interventions & Techniques for Talented & Gifted Students	3
EDSE 506	Seminar in Mainstreaming Handicapped Students in Regular Classrooms	4
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	Child Development	3
EDEC 539	Issues in Parent Education	3
EDAD 520	Law & the Teacher	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 & Measurement for Educators	4
CMSD 562	Language Characteristics of Exceptional Children	3
SCED 674	Instructional Problems in Teaching Science	3
SCED 671	Science Curriculum in the Elementary School	3
PPSY 651	Theories of Personality	3
PPSY 607	Theories of Counseling	3

Total hours credit (minimum) 60

Forty-five of the 60-hour total must be taken on the UNC campus in Greeley, Colorado.

Students will be required to demonstrate appropriate literacy and competency in computer applications as part of this program.

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.

## 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.

## Educational Specialist in Special Education

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 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 Emphases

Students will be required to demonstrate literacy and competency in computer applications as part of these programs.

#### General Special Education Component

EDSE 706 Advanced Seminar in Research in Special Education

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	Teacher in the College Community (or approved substitute)	3
EDSE 714	Seminar in 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 Evaluation in Special Education	3
EDSE 705	Internship in Special Education (4-15 credits minimum)	12
EDAD 610	School Finance	3
EDAD 620	Law & the Administrator	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 <i>two</i> 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 541	Introduction to Information Processing	3
EPRE 603	Analysis of Variance & Covariance	4
STAT 606	Linear Models	3
STAT 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	Directed Studies: Research	6
EDSE 714	Seminar in Professional Writing	3
In addition to the above courses, the student must select <i>three</i> 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
STAT 715	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, acoustically 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.

## Speech Communication

Location: Candelaria Hall 121

Telephone: 351-2045

Robert Trapp, Chair

#### Faculty

Richard J. Crawford, PhD, Prof.  
 Idahlynn Karre, PhD, Assoc. Prof.  
 Martin Remland, PhD, Assoc. prof.  
 Robert Ross, PhD, Assoc. Prof.  
 Robert Trapp, PhD, Assoc. Prof.  
 Dennis Warnemunde, PhD, Assoc. Prof.  
 Julia Yingling, PhD, Asst. Prof.

The focus of the Speech Communication discipline is on the process of human communication. 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), 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 human communication processes. 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 in Communication: Speech Communication

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

- General Education requirements 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, an approved emphasis area, or additional major from any other related discipline approved by advisors.

- Students may count no more than 10 hours of combined internship (COMM 401) and/or directed 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.

### Speech Communication Emphasis

#### Required Courses

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
	Hours credit	20
Electives in Communication		27
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 (40) and any remaining General Education credit.

### Professional Teacher Education Emphasis

#### Required Courses

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	Secondary School Teaching Methods — Communication	4
COMM 370	Interpreter's Theatre	4
COMM 486	Directing Forensic Activities	1
THEA 240	Beginning Stage Directing (Prerequisite: Beginning Acting)	4
JMC 210	Newswriting	4
	Hours credit	36
Electives in Communication should be selected with advisor		24
	Hours credit	60

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*.

## Minor in Communication

### I Communication Minor — Professional Teacher Education

#### Required Courses

COMM 210	Laboratory Forensics	3
COMM 251	Small Group Communication	4
COMM 312	Argumentation Theory	4
COMM 323	Interpersonal Communication Theory	4
COMM 341	Secondary School Teaching Methods — Communication	4
COMM 370	Interpreter's Theatre	4
COMM 486	Directing Forensic Activities	1
	Hours credit	24
Electives in Communication		12
	Total hours credit	36

### II Communication Minor: Elementary Education/PreSchool

#### Required Courses

COMM 251	Small Group Communication	4
COMM 271	Oral Interpretation of Children's Literature	3
THEA 281	Creative Movement & Drama for Children	3
	Hours credit	10
Electives in Communication		20
	Hours credit	30

### III Communication Minor: Non-Communication Majors

#### Required Courses

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
	Hours credit	20
Electives in Communication		3-10
	Hours credit	30

## Master of Arts in Communication: Speech Communication

### 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. Students may choose one of three options: a thesis option, a non-thesis option with a graduate project, or a non-thesis option with additional coursework. 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. The option selected must be approved by the student's graduate committee.

#### Required Core

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	Seminar in Rhetorical Criticism	4
	Hours credit	20
Electives in Communication		16-23
Electives in Communication or related fields		9
	Hours credit	45-52

### 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.

**Certification:** 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.

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.

#### Required Core

COMM 521	Seminar in Speech Communication: Education	3
COMM 532	Interpersonal Communication Theory	4
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
	Hours credit	20

Electives in Communication	16-23
Electives in Communication or related fields	9

Hours credit 45-52

Master's candidates in either the Speech Communication Emphasis or the Teaching Emphasis must select one of the two options outlined here:

**Graduate Project Non-Thesis Option**—The master's candidate must complete a minimum of 45 quarter hours with a thesis or graduate research project or 52 quarter hours without a thesis or graduate research project.

- A maximum of 5 hours of intern experience (COMM 501) may be counted for graduate credit.
- All candidates selecting this option are required to take and satisfactorily complete COMM 681, Graduate Project.
- The master's candidate must take and satisfactorily pass written comprehensive examinations.

**Thesis Option**—The student planning to do a thesis shall complete 45 quarter hours plus a thesis or graduate research project. In addition, the student should complete the requirements outline here:

- The Master's candidate must satisfactorily complete a thesis (COMM 699) or a graduate research project (COMM 681) for up to 9 hours of credit.
- The thesis candidate must take and satisfactorily complete written comprehensive examinations. The candidate will defend his/her thesis or graduate research project before his/her committee and advisor.

## Statistics

(See Mathematics or Educational Psychology)

## Teaching English as a Second Language

Administered by the Department of Hispanic Studies  
Location: Candelaria Hall 33  
Telephone: 351-2811  
Lynn Sandstedt, Coordinator

## Minor in Teaching English as a Second Language

The English as a Second Language Program has been designed to prepare students 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

ENG 130	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 & Production	3
TESL 325	Methods in Teaching English as a Second Language	3
TESL 330	Language through Culture	3

### Required 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

## Theatre Arts

Location: Frasier Hall 108  
Telephone: 351-2454  
Jeannette Triomphe, Chair

### Faculty

Ronald B. Gloekler, MA, Assoc. Prof.  
Lloyd A. Norton, MA, Prof.  
Jeannette Triomphe, MA, Asst. Prof.  
Barrett W. Van Loo, MA, Assoc. Prof.  
~~John W. Willcox III, PhD, Prof.~~

The Department of Theatre Arts, comprised of six 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.

## Bachelor of Arts in Theatre Arts

### Required Core 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 Directing	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 areas of emphasis

## 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: Electives in Theatre Arts	6
Hours credit	26

## General Theatre

### Required Courses

THEA 210 Stagecraft	3
THEA 260 Acting II: Externals	3
THEA 411 Stage Lighting	3
THEA 430 Dramatic Theory I	3
THEA 431 Dramatic Theory II	3

### Two of the following:

THEA 340 Directing Period Plays	3
THEA 341 Directing Experimental Plays	3
THEA 342 Directing Musical Theatre	3

### One of the following:

THEA 310 Beginning Scene Design	3
THEA 320 Stage Costume Design I	4
THEA 321 Stage Costume Design II	4
Electives: 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 280 Creative Dramatics	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

## Theatre Design/Technology

### 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 area of emphasis, 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 area of emphasis. 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.

**General Auditions** The Department of Theatre Arts conducts auditions 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 audition consists of two short monologues which are memorized and performed. For an assessment of your acting abilities, make an appointment with the member of the faculty from whom you wish to receive an evaluation.

## Bachelor of Arts in Theatre Arts: Teaching

Students planning to use this major as a certification program for teaching must complete the requirements of the Professional Teacher Education program (PTE) as defined in this *Bulletin*.

### Required Courses

THEA 110 Introduction to Stagecraft	3
THEA 130 Introduction to the Theatre	3
THEA 160 Acting I: Internals	3
THEA 170, 171, 172 Stage Movement I, II, III	3
THEA 210 Stagecraft	3
THEA 220 Beginning Stage Costuming	3
THEA 240 Beginning Stage Directing	3
THEA 260 Acting II: Externals	3
THEA 261 Stage Make-Up	2
THEA 280 Creative Dramatics	3
THEA 310 Beginning Scene Design	3
THEA 330, 331, 332 History of the Theatre I, II, III	9
THEA 380 Children's Theatre Production	3
THEA 385 Methods of Teaching Drama in the Secondary School	3
THEA 411 Stage Lighting	3
THEA 440 Directing the One-Act Play	2

### Two of the following:

THEA 340 Directing Period Plays	3
THEA 341 Directing Experimental Plays	3
THEA 342 Directing Musical Theatre	3
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.

## Minor in Theatre Arts

### Required Courses

THEA 105, 106, 107 Individual Performance in Theatre	6
THEA 110 Introduction to Stagecraft	3
THEA 130 Introduction to the Theatre	3
THEA 160 Acting I: Internals	3
THEA 205, 206, 207 Individual Performance in Theatre	6
THEA 240 Beginning Stage Directing	3



THEA 305, 306, 307 Individual Performance in Theatre Electives: Electives in Theatre Arts	6 12
Hours credit	30

## Minor in Theatre Arts: 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	6
THEA 110 Introduction to Stagecraft	3
THEA 130 Introduction to the Theatre	3
THEA 160 Acting I: Internals	3
THEA 205, 206, 207 Individual Performance in Theatre	6
THEA 210 Stagecraft	3
THEA 240 Beginning Stage Directing	3
THEA 260 Acting II: Externals	3
THEA 261 Stage Make-Up	2
THEA 305, 306, 307 Individual Performance in Theatre	6
THEA 310 Beginning Scene Design	3
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.

## Visual Arts

Location: Guggenheim Hall  
Telephone: 351-2143, 2477

Richard S. Munson, Chair  
Frederic L. Myers, Coordinator of Graduate Studies

### Faculty

Betty E. Carlisle, EdD, Assoc. Prof.  
William S. Cordiner, MA, Prof.  
Michael A. Coronel, MA, Asst. Prof.  
Susan L. Hoover, MFA, Asst. Prof.  
Richard C. Luster, MFA, Assoc. Prof.  
Donald A. Macfarlane, MFA, Assoc. 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, 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 in Visual Arts

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 foundation and many of the same sophomore core 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. Upon completion of freshman foundations and the appropriate required core courses, a student may elect to concentrate studies in art history or one of the following studio areas: ceramics, drawing, fiber arts, graphic 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.

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 foundations 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 sophomore core 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 foundation courses and required studio core 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 advising 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	4
ART 441	Readings in Art Education	3
ART 442	Curriculum in the Visual Arts	4
ART 443	Art Education Studio & Strategies	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, graphic arts, painting, printmaking or sculpture.

- Complete JMC 371 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
- Knowledge of and ability to talk about art
- Intentions of his/her art
- Knowledge of teaching art
- 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.

Eligibility to student teach is based on the satisfactory completion of the Art Education PTE review, required and elective art courses, required art education courses, PTE courses, C.A.T. examination, and exit/competency examinations as they pertain.

### 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 pre-professional 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 332	Water-Media Painting	3
ART 334	Interpretive Drawing	3
ART 370	Graphic Arts III	3
ART 374	Illustration I	3
ART 376	Typography	3
ART 378	Advertising Design	3
ART 470	Graphic Arts IV	3
	Hours credit	45

- Complete 20 credit hours of upper division Art and Graphic Arts electives, including one advanced (300 level) art history course, subject to advisement by the Graphic Arts advisor.

- Complete 5 credit hours of ART 401, Practicum in Art, as determined by advisor.

- Complete JMC 371 Basic Photography.
- Complete JMC 375 Publication Production.

- 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.

- A portfolio is required of all Graphic Arts majors as a professional placement aid.

### Minor in Art

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.

The Art minor is an academic (non-teaching) minor consisting of 36 quarter hours of Art course work.

### Required Courses

ART 180	Introduction to Art	3
ART 184	Drawing & Design I	3
ART 185	Drawing & Design II	3
ART 187	Three-Dimensional Design	3
	Hours credit	12

Take one Art History course from the following: 4

ART 181	History of Art I	
ART 182	History of Art II	
ART 183	History of Art III	

Take three studio courses from the following: 9

ART 211	Ceramics I	
ART 221	Fibers I	
ART 252	Printmaking I	
ART 261	Sculpture I	
ART 231	Painting I	
	Hours credit	13

• Elect 11 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 above. An Art advisor is required.

*Note:* An Art minor consisting of a minimum of 36 quarter hours of Art course work (including ART 180, 184, 185 and 187) can be designed to compliment a major in another discipline. This Art minor is developed in cooperation with the major department. For additional information, contact an Art advisor.

## Master of Arts in Visual Arts

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.

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 Visual Arts 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.

## Women's Studies

Headquartered in the Department of Anthropology, Black Studies and Women's Studies

Location: Candelaria Hall 12

Telephone: 351-2607

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. Graduate students may design individual programs with a Women's Studies emphasis through the Graduate School's Interdisciplinary Degree Program.

## Minor in Women's Studies

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 her or his program and to receive information about new developments and general meetings and programs scheduled.

Courses in Women's Studies are also designed for students to use toward fulfilling General Education and major and other area minor requirements.

### 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
ART 308	The Woman Artist	4
BLS 102	The Black Woman in America	3
BUS 418	Seminar: Women in Business	2
COMM 455	Rhetoric of Feminism	3
ECON 304	Women & the Economy	3
ENG 260	Women's Biography	4
ENG 327	Women & Sex in Science Fiction	4
ENG 335	World Literature By and About Women	4
HISP 375	Women in Hispanic Society	3
HUM 331	Images of Women in Literature & the Arts	4
ID 208	Feminism: An Interdisciplinary Analysis	5
ID 325	Human Sexuality	3
ID 330	Multicultural Issues in Education	4
MUS 344	Women in Music	2
NURS 200	Women's Health Care	3
PE 231	Women in Sport	2
PPSY 569	Violence Against Women	3
PPSY 468	Psychology of Women	3
PSCI 207	Women and Politics	3
SOC 221	Sociology of Sex Roles	4

SOC 322	Women and Aging	4
SOC 423	Violence in the Family	4
WS 120	Women & Men in Perspective	3
WS 308	Women's Studies Workshop	1-4
WS 310	Philosophy of Feminism	4
WS 401	Internship (Maximum)	15
WS 422	Directed Studies	1-4
Hours credit		27

A student may also, upon the approval of the Committee, include among her or his electives other pertinent courses offered throughout the University.

## Writing Minor

Administered by the Department of English

Location: Michener L-50

Telephone: 351-2971

Director: Sharon R. Wilson

Advisory Board: David L. Anderson, Journalism and Mass Communications; Carol J. Dierks, Finance; Richard D. Dietz, Earth Sciences; Paul Hodapp, Philosophy; Ellen Wagner, Educational Foundations

The Writing Minor is a cross-disciplinary, undergraduate minor designed to improve student writing abilities across a broad spectrum of disciplines.

The program aims to enhance student opportunities for success in a wide variety of careers, including professional writing.

In this program, students will study both the writing process theoretically and the particular requirements of writing in different disciplines across the arts and sciences, in business, in education, and in other professional fields. Each course in the minor will require substantial amounts of writing.

Both the prerequisites and the core requirements of the program will assure that students progress through a carefully selected hierarchy of writing skills and that those skills are mastered in practice as well as in theory.

This minor is open to any student who has completed the prerequisites and who designs course work with a program advisor.

### Prerequisites

Unless exempted by examination, ENG 122 and ENG 123 or equivalent

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(Note: any course counted as a prerequisite will not count as part of the program.)

### Core Courses

ENG 203	The Essay Content Area Course*	4
ENG 319	Advanced Expository Writing	4

\*Students should see the Director of the Writing Minor or an Advisory Board member for a current list of approved Writing Minor courses.

The remaining 16-20 hours of coursework must be designed with a Writing Minor advisor. The student will present course selections, along with the rationale for his or her choices, to the Writing Minor Advisory Board for approval. Only one Independent Study course will be permitted in this program.

Total hours for the minor 28-32

## Zoology

(See Biology)

# 8 Course Descriptions

## Accounting

ACCT courses are administered by the Department of 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 changes 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. No graduation credit for Accounting majors. Study accounting for management planning and control, emphasizing cost-volume-profit analysis, budgeting and responsibility accounting.

### **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 329 Introduction to Income Tax (4)**

Open to non-accounting majors only. No graduation credit for accounting majors. This course is not designed to train persons to prepare tax returns. This course is designed to introduce non-accountants to many of the more common tax rules, problem areas, and record keeping requirements relating to individuals, businesses, partnerships and corporations.

### **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)**

Prerequisites: 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 422 Accounting 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.

### **ACCT 425 Auditing I (5)**

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 320 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 528 Computer Applications in Accounting (4)** (Laboratory arranged) Overview of computer systems applications in accounting, including systems analysis and design, hardware and software controls, data base management and management information systems.

**ACCT 620 Seminar in Controllershship (4)** Prerequisite: Consent of instructor. In-depth study of principles and procedures used to provide data to assure efficiency of the organization and individuals.

**ACCT 622 Accounting Directed 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.

**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. In-depth study of some more complex areas of tax law.

## Anthropology

ANT courses are administered by the Department of Anthropology, Black Studies and Women's Studies.

**ANT 100 General Anthropology (4)** An introduction to Archaeology, Physical and Cultural Anthropology and Linguistics, emphasizing the comparative approach and an evolutionary perspective.

**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.

**ANT 170 Introduction to Biocultural Anthropology (4)** Learn the varied interactions between people and their cultural setting. Holistic study from an anthropological viewpoint of evolution as it applies to the human species. Practice techniques of scientific and naturalistic observation.

**ANT 220 World Ethnology (3-9)** Analyze selected ethnographies representing cultures from around the world. Learn to compare cultures from an anthropological perspective.

**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)** Prerequisite: ANT 140 or equivalent. Study selected prehistoric American Indian cultures (Paleo Indians, the Great Plains, the Mississippi Valley, the Chibcha, the Inca) in North and South America.

**ANT 284 Techniques of Cross Cultural Research (3)** Prerequisite: ANT 100 or equivalent. Learn basic techniques for investigating cultural patterns with worldwide ethnographic 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)** Prerequisite: ANT 100 or equivalent. 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)** Prerequisite: ANT 100 or equivalent. 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)** Prerequisite: ANT 100 or equivalent. Study the cultural development and dynamics of contemporary Third World countries in South and Southeast Asia.

**ANT 328 American Indians (4)** Prerequisite: ANT 100 or equivalent. Survey the various Native American cultural groups that inhabit the North and South American continents.

**ANT 329 Peoples and Cultures of the Caribbean (4)** Prerequisite: ANT 100 or equivalent. Study the development of an underdeveloped area in relation to its disappearing plantation systems, growing industry and tourist business.

**ANT 331 Urban Anthropology (4)** Prerequisite: ANT 100 or equivalent. 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 the Southwest (4)** Prerequisite: ANT 140 or equivalent. 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 345 Archaeology of Mexico (4)** Prerequisite: ANT 140 or equivalent. 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 348 Etruscan and Roman Archaeology (4)** Prerequisite: ANT 140 or equivalent. 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)** Prerequisite: ANT 140 or equivalent. 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 370 Human Evolution (4)** Learn how to interpret the fossil record of human evolution. Study the various forms of early human species. Apply the principles of evolution to the archaeological and paleontological record of the human race.

**ANT 380 Great Ideas in Anthropology (3-9)** Current important ideas in special fields of anthropology within a seminar.

**ANT 381 Cultural Patterns for Learning Lifestyles (4)** Prerequisite: ANT 100 or equivalent. 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.

**ANT 382 Anthropology of Modernization and Development (4)** Prerequisite: ANT 100 or equivalent. 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 383 Anthropology of Aging (4)** Identify universals of aging and aspects which vary from culture to culture. Examine the process of aging in cross-cultural perspective through comparative case studies.

**ANT 401 Internship (4-12)** Prerequisite: ANT 100 and at least two additional courses in cultural anthropology or archaeology. Anthropological field experiences in ethnology, museology, and teaching. Graded S/U.

**ANT 420 Anthropological Techniques in the Multicultural Classroom (3)** Prerequisite: ANT 100 or equivalent. 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 Directed Studies (1-4)** 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.

**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 (4)** Prerequisite: ANT 140 or equivalent. Review field methods and laboratory techniques utilized in prehistoric archaeology, especially stratigraphy, typological analysis, dating techniques and research publication.

**ANT 470 Human Nature (4)** Prerequisite: ANT 100 or equivalent. A senior seminar exploring humans as biocultural beings living within a technological and symbolic context.

**ANT 472 Health in Transcultural Perspective (4)** Prerequisite: ANT 100 or equivalent. 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.

**ANT 480 Survey of Anthropological Theory (4)** Prerequisite: ANT 100 or equivalent. 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 530 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 531 Urban Anthropology (4)** Prerequisite: ANT 100 or equivalent. 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 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 572 Health in Transcultural Perspective (4)** Prerequisite: ANT 100 or equivalent. 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.

**ANT 581 Cultural Patterns for Learning Lifestyles (4)** Prerequisite: ANT 100 or equivalent. 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.

**ANT 583 Anthropology of Aging (4)** Identify universals of aging and aspects which vary from culture to culture. Examine the process of aging in cross-cultural perspective through comparative case studies.

**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 Directed Studies (1-4)** 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

(See STAT)

## Visual Arts

ART courses are administered by the Department of 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.

**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.

**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.

**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.

**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. For non-majors only. Required for Elementary Education certification.

**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.

**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.

**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.

**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.

**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 silkscreen and stencil processes of printmaking, including the use of photo-sensitized screens and color.

**ART 256 Chinese Summi Painting 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.

**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 185. Learn drawing for graphic processes including basic drafting; technical drawing and rendering; tools and materials; and solutions for linear, pictorial and spatial problems.

**ART 290 Visual Thinking and Visual Images (3)** Explore concepts of visual thinking and communication, and the meaning of visual images as icons, signs and symbols. Analyze visual images and art objects for consideration of theme, subject matter, purpose and context. Learn and apply strategies for visual problem solving.

**ART 308 Workshop In Art (1-4)** 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. The investigation of aspects of glaze and clay body development that will provide the prospective potter with technical and practical knowledge applicable to advanced studio or teaching situations.

**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. Prerequisite: Full admission to PTE or certification at the undergraduate level. 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. Consent of instructor required.

**ART 344 Methods of Teaching Art in the Elementary School (3)** Prerequisite: Full admission to PTE or certification at the undergraduate level, ART 190. 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. Consent of instructor required.

**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 373 Graphic Technology I (3)** Prerequisite: ART 271. Work with copy preparation, layout and design, paste-up, and process camera procedures.

**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 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 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-Columbian Art (4)** Study the history and arts of Central America, emphasizing the Olmec, Maya, Mixtec, Zapotec, Aztec and Toltec civilizations and related subgroups.

**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 (1-5)** Majors only. 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. May be repeated for credit with different subtitles.

**ART 410 Senior Art Seminar (1)** Fall quarter.

**ART 411 Ceramic Design (3)** May be repeated once for credit. Prerequisite: ART 311. Apply various ceramic decorative processes to hand-built and wheel-thrown clay forms.

**ART 412 Ceramics IV (3)** May be repeated once for credit. 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)** May be repeated once for credit. 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 Directed Studies in Art (1-4)** Majors only. 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. May be repeated for credit with different subtitles.

**ART 423 Weaving (3)** May be repeated once for credit. Prerequisite: ART 323. Advanced study in weaving to develop personal design and mastery of the medium.

**ART 424 Non-Loom Fiber Construction (3)** May be repeated once for credit. 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)** May be repeated once for credit. Prerequisite: ART 331. Individual expression and mastery of painting media, particularly appropriate use of media toward creative ends.

**ART 432 Water-Media Painting (3)** May be repeated once for credit. Prerequisite: ART 332. Undertake advanced individual problems in water-media painting.

**ART 433 Life Drawing (3)** May be repeated once for credit. Prerequisite: ART 333. Study from life in this advanced studio; experiment and develop personal interpretations of the human form.

**ART 434 Interpretive Drawing (3)** May be repeated once for credit. 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)** Prerequisites: Full admission to PTE or certification at the undergraduate level, ART 181, ART 182, and ART 183. Study methods and learning activities for including art appreciation and the history of art in the elementary and secondary art curriculum using a contextual approach.

**ART 441 Readings in Art Education (3)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. Study curriculum development for appropriate learning and instruction in elementary and secondary Art education.

**ART 443 Art Education Studio and Strategies (3)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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)** May be repeated twice for credit. Consent of instructor required. Individualized, supervised study on specific topics in Art for Senior Art majors.

**ART 452 Intaglio and Relief Printmaking (3)** May be repeated once for credit. Prerequisite: ART 352. Intensively develop individual creative printmaking, emphasizing advanced technical processes.

**ART 454 Monoprints (3)** May be repeated once for credit. Prerequisite: ART 354. Apply and experiment with advanced monoprint techniques.

**ART 455 Silkscreen Prints (3)** May be repeated once for credit. Prerequisite: ART 355. Advanced application and experimentation in silkscreen printing techniques.

**ART 461 Sculpture: Modeling and Casting (3)** May be repeated once for credit. Prerequisite: ART 361. Apply modeling techniques for casting in metal and plastics on an advanced level.

**ART 462 Sculpture: Construction and Assemblage (3)** May be repeated once for credit. 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. Pursue comprehensive identity programs. Work must be suitable for implementation or publication.

**ART 473 Graphic Technology II (3)** Prerequisite: ART 373. Explore processes involving photographic procedures, photo mechanical reproduction and technological or computer assisted graphic design.

**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 478 Publication Design (3)** Study design concepts of posters, 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 (1-5)** 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. May be repeated for credit with different subtitles.

**ART 508 Workshop in Art (1-4)** 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. May be repeated twice for credit.

**ART 512 Ceramics V (3)** Develop an individual approach to pottery forms, decorative techniques, and firing methods to establish a unique mode of expression. May be repeated twice for credit.

**ART 513 Professional Renewal (1-5)** Enhance expertise in professional fields. Specific content designated by course title offered and number of hours. May be repeated for credit.

**ART 514 Glaze and Clay Body Formulation (3)** Prerequisites: ART 212, ART 312, ART 412 or equivalent. The investigation of aspects of glaze and clay body development that will provide the prospective potter with technical and practical knowledge applicable to advanced studio or teaching situations. May be repeated once for credit.

**ART 521 Design on Fabric (3)** Advanced design concept in textile surface treatment. May be repeated twice for credit.

**ART 523 Weaving (3)** Concentrate in a selected area of weaving on an advanced design concept. May be repeated twice for credit.

**ART 524 Non-Loom Fiber Construction (3)** Select a non-loom fiber technique for advanced concentration. May be repeated twice for credit.

**ART 531 Painting (3)** Special problems in oil painting, developing personal imagery and images in series. May be repeated twice for credit.

**ART 532 Water-Media Painting (3)** Water-soluble media, especially development of content based on a thematic approach. May be repeated twice for credit.

**ART 533 Life Drawing (3)** Develop personal imagery through special problems in life drawing. May be repeated twice for credit.

**ART 534 Interpretive Drawing (3)** Study in integrating personal philosophy through working in series of images. May be repeated twice for credit.

**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. May be repeated twice for credit.

**ART 550 Special Problems in Art (1-4)** May be repeated twice for credit. Consent of instructor required. Individualized, supervised study on specific topics in Art for beginning graduate students in Art.

**ART 552 Intaglio and Relief Printmaking (3)** Use color in relief and intaglio procedures for individual development in creative printmaking. May be repeated twice for credit.

**ART 555 Screen and Planographic Printmaking (3)** Intensive experience in selected techniques of screen printing, monoprint and lithography. May be repeated twice for credit.

**ART 561 Sculpture: Modeling and Casting (3)** Intensive experience in selected modes of indirect sculpture processes, especially form and meaning. May be repeated twice for credit.

**ART 562 Direct Sculpture (3)** Intensive experience in selected modes of direct sculpture, especially form and concept. May be repeated twice for credit.

**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 (1-5)** 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. May be repeated for credit with different subtitles.

**ART 611 Ceramic Design (3)** May be repeated twice for credit. Prerequisite: ART 511. Synthesize ceramic processes, showing a mature mode of expression with clay in a variety of forming, glazing, and firing methods.

**ART 612 Ceramics VI (3)** May be repeated twice for credit. Prerequisite: ART 512. Synthesize the ceramic processes using the potter's wheel. Stress high level of individual expression and aesthetic quality.

**ART 621 Design on Fabric (3)** May be repeated twice for credit. Prerequisite: ART 521. Continue advanced study of techniques and design concepts in textile surface treatment.

**ART 622 Directed 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. May be repeated for credit with different subtitles.

**ART 623 Weaving (3)** May be repeated twice for credit. Prerequisite: ART 523. Continue advanced study of techniques and design concept in a concentrated area of weaving.

**ART 624 Non-Loom Fiber Construction (3)** May be repeated twice for credit. Prerequisite: ART 524. Continue advanced study of non-loom fiber techniques and design concept.

**ART 631 Painting (3)** May be repeated twice for credit. Prerequisite: ART 531. Advanced special problems in oil painting. Develop personal imagery and work in series.

**ART 632 Water-Media Painting (3)** May be repeated twice for credit. Prerequisite: ART 532. Water-soluble medium on an advanced level.

**ART 633 Life Drawing (3)** May be repeated twice for credit. Prerequisite: ART 533. Advanced special problems in life drawing. Develop personal imagery.

**ART 634 Interpretive Drawing (3)** May be repeated twice for credit. Prerequisite: ART 534. Individual study in image development and inventive use of media.

**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)** May be repeated once for credit. Survey historical and contemporary literature on art education.

**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)** May be repeated for credit with different subtitles. 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.

**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)** May be repeated twice for credit. Consent of instructor required. Individualized, supervised study on specific topics in Art for advanced graduate students in Art.

**ART 652 Intaglio and Relief Printmaking (3)** May be repeated twice for credit. Prerequisite: ART 552. Intensive individually prescribed development and experiment with color in relief and intaglio processes.

**ART 655 Screen and Planographic Printmaking (3)** May be repeated twice for credit. Prerequisite: ART 555. Concentrate on selected and individually prescribed techniques of printmaking.

**ART 661 Sculpture: Modeling and Casting (3)** May be repeated twice for credit. Prerequisite: ART 561. Concentrate on selected and individually prescribed methods of creating sculpture by modeling and casting.

**ART 662 Direct Sculpture (3)** May be repeated twice for credit. Prerequisite: ART 562. Focus on selected and individually prescribed methods of constructing or fabricating works of sculpture.

**ART 680 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. May be repeated for credit with different subtitles.

**ART 699 Thesis (1-10)** Required for the master's degree.

## Aerospace Studies

AS courses are administered by the Department of 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.

**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.

**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.

**AS 112 The Air Force Today III (2)** Study the coordination between the Air Force, Army and Navy as these organizations are used to achieve national goals. Examine the roles of Air Force support commands.

**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.

**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 period prior to the Korean War.

**AS 212 Developmental Growth of Air Power III (2)** Analyze the development of military air power in the United States from the 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 Directed Study (2-3)** May be repeated. Approval of department chairman required. For students with practicum or other course conflicts which prevent attendance in normal Aerospace Studies program flow.

## Astronomy

AST courses are administered by the Department of Earth Sciences.

**AST 100 General Astronomy (4)** (3 lecture, 2 laboratory) The universe and our place in it. No mathematics background required.

**AST 301 Principles of Astronomy I (4)** (3 lecture, 2 laboratory) The dynamics and physical properties of the solar system.

**AST 302 Principles of Astronomy II (3)** Prerequisite: AST 100 or 301. Stars and stellar systems beyond the solar system.

**AST 310 Observational Astronomy (4)** (2 lecture, 6 laboratory) Course can be repeated for a maximum of 12 credit hours. Prerequisite: AST 100 or 301. Work with equipment, materials and techniques used in astronomical research. Conceive and carry out observational projects.

**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 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.

**AST 499 Special Topics in Astronomy (1-4)** Course may be repeated for a maximum of 9 credits. An opportunity to explore areas of astronomy beyond the scope of existing department offerings. Specific topics determined by interests of students and instructor.

**AST 510 Observational Astronomy (4)** (2 lecture, 6 laboratory) Course can be repeated for a maximum of 12 credit hours. Prerequisite: AST 100 or 301. Work with equipment, materials and techniques used in astronomical research. Conceive and carry out observational projects.

**AST 520 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 599 Special Topics in Astronomy (1-4)** Course may be repeated for a maximum of 9 credits. An opportunity to explore areas of astronomy beyond the scope of existing department offerings. Specific topics determined by interests of students and instructor.

**AST 622 Directed 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 the instructor before credit is given. Does not satisfy 500 level requirement unless student takes course in residence.

## Business Quantitative Analysis

BAQA courses are administered by the Department of Management.

**BAQA 291 Business Statistics I (4)** Prerequisites: MATH 176, MIS 180 or consent of instructor. Learn use of statistics in business affairs through techniques in statistical data description, sampling distribution, statistical estimation, and hypothesis testing.

**BAQA 390 Business Statistics II (4)** (Laboratory arranged) Prerequisite: BAQA 291 or equivalent. Build on foundations of BAQA 291, emphasizing trend analysis, simple and multiple regression, correlation analysis, ANOVA, Chi square and other statistical techniques.

**BAQA 391 Business Statistics III (3)** course may be repeated for a maximum of 12 hours. Prerequisite: BAQA 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.

**BAQA 395 Production Management (4)** Prerequisites: BAQA 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.



**BAQA 396 Management Science — Deterministic Models (4)** Prerequisite: BAQA 291. Make managerial decisions, using such techniques as optimality analysis, linear programming and inventory models.

**BAQA 397 Management Science — Probabilistic Models (4)** Prerequisite: BAQA 291. Make managerial decisions using Bayesian Decision Analysis, PERT, queuing theory, Markov analysis and simulation techniques.

**BAQA 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.

**BAQA 422 Quantitative Analysis 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.

**BAQA 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.

**BAQA 622 Quantitative Analysis Directed 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.

**BAQA 692 Seminar in Business Statistics (4)** Prerequisite: BAQA 291 or 592. Examine advanced topics in inferential statistics, especially sample design, multiple regression, correlation and time series analysis.

**BAQA 695 Seminar in Operation Analysis (4)** Prerequisites: BAQA 692, ECON 110, 120, MATH 175 or their 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.

**BAQA 697 Seminar in Business Decision Theory (4)** Prerequisites: BAQA 291, or 592, ECON 110, 120, or their 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.

## Biology

(Also see BOT, SCI, and ZOO.)

BIO courses are administered by the Department of Biological Sciences.

**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.

**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.

**BIO 103 Principles of Zoology (5)** (3 lecture, 4 laboratory) Prerequisite: BIO 101. Materials fee required. Survey animal diversity, including principles of structure and function, phylogeny, life cycles and systematics, stressing the relation of the animal kingdom to humans.

**BIO 104 Exploring Biology (3)** Credit not allowed for Biological Science majors or minors. Examine and consider the characteristics of living organisms: cells, tissues, communities.

**BIO 170 Laboratory in Biological Sciences (1)** (2 laboratory) Co-requisite: BIO 104. Gain laboratory experience with organismal structure, function, diversity and ecological relationships. No credit for Biological Science majors or minors.

**BIO 191 Seminar: Biology as a Profession (1)** For freshmen majors and undeclared majors. Examine specific disciplines within Biological Sciences, and learn how to prepare for a career in a particular area of biology.

**BIO 205 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.

**BIO 231 Genetics (3)** Prerequisite: BIO 102 or 103. Discover how the fundamental laws of heredity apply to all organisms. Majors electing BIO 231 must take BIO 232 also.

**BIO 232 Genetics Laboratory (2)** (4 laboratory) Prerequisites: BIO 102, 103, 231 (or concurrent) Materials fee required. 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.

**BIO 240 General Ecology (4)** (3 lecture, 3 laboratory) Field trip transportation fee required. Study plant and animal communities and their environmental relationships. Analyze biotic communities on field trips, and observe human effects on natural ecosystem.

**BIO 261 Medical and Public Health Microbiology (3)** 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. Materials fee required. Learn techniques and methods of medical diagnostic and public health microbiology. Not for Medical Technology students.

**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.

**BIO 291 Seminar in Scientific Writing (4)** Prerequisite: Sophomore classification, ENG 122. Learn to write in a scientific style. Delineate problems, survey biological literature and synthesize data.

**BIO 346 Aquatic Ecology (5)** (3 lecture, 6 laboratory) Field transportation fee required. Prerequisites: BIO 102, 103. Learn methods of collecting, classification, ecological relations and economic importance of fresh water biota in the Rocky Mountain region.

**BIO 350 Cell Physiology (5)** (3 lecture, 4 laboratory) Prerequisites: BIO 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 109 or 130 or 332; BIO 103 or ZOO 105. Materials fee required. 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. Materials fee required. 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 109 or 130 or 332 (recommend BIO 361). Materials fee required. 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) Co-requisite: BIO 261. Materials fee required. Advanced course primarily for Medical Technology students, covering diagnostic medical and public health microbiology.

**BIO 371 Teaching Strategies for Biology Teacher (2)** (1 lecture, 2 laboratory) Prerequisite: Full admission to PTE or certification at the undergraduate level. Learn strategies of teaching in biological laboratory investigations, lecture presentation, construction of equipment and approaches to controversial subjects.



**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 (1-3)** Course may be repeated but total may not exceed 3 credit hours. Consent of instructor and departmental PTE committee required. Gain experience teaching an introductory biological science laboratory, aid in lab preparation, tutor students individually, and instruct in lab.

**BIO 402 Conservation of Natural Resources (4)** (3 lecture, 2 activity) Field trips and fee required. 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.

**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 408 Workshop (1-10)** Study topic of biological interest for up to four weeks. Course may be repeated with different topics but total may not exceed 10 hours. Each workshop is subtitled and no subtitle may be repeated for credit.

**BIO 422 Directed Studies (1-4)** 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 two copies of a paper are filed, one with instructor and one with department chair.

**BIO 430 Behavioral Genetics (3)** Prerequisites: BIO 231 and PSY 120. 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 435 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 472 Biological Microtechnique (3)** (1 lecture, 6 laboratory) Prerequisites: BIO 102 and 103. Learn skills of preparing plant and animal tissues for microscopic study.

**BIO 475 Biological Photography (3)** (2 lecture, 3 laboratory) Materials fee required. Develop photographic techniques such as close-up, copying, slide duplication, wildlife, and photomicroscopy for producing audiovisual aids and for scientific publication.

**BIO 485 Topics in Field Biology (1-15)** After preparatory work on campus, study biology in the field on a state, national or international basis. May be repeated with different topics but total may not exceed 15 hours.

**BIO 491 Undergraduate Seminar (1)** Course may be repeated once with different topic. Survey current research and literature on selected biological topics.

**BIO 495 Internship in Biological Sciences (1-5)** Consent of instructor required. Practical or on-the-job experience in professional areas in the Biological Sciences that will expand or enhance academic classroom experience. S/U grading.

**BIO 499 Undergraduate Research (1-10)** Course may be repeated but total hours may not exceed 10 hours. 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)** Course may be taken up to three times with different topics. Study microbiology, cell biology or genetics at an advanced level.

**BIO 508 Workshop (1-10)** Study topic of biological interest for up to four weeks. Course may be repeated with different topics but total may not exceed 10 hours. Each workshop is subtitled and no subtitle may be repeated for credit.

**BIO 513 Professional Enrichment (1-15)** Course may be repeated with different topics but total may not exceed 15 hours. 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, cytochemistry and physiology.

**BIO 535 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 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 of Ecosystems (3)** Study structure, function, methods of analysis, and flow of energy through various ecosystems. Geographical information systems and computer modeling included.

**BIO 548 Limnology (4)** (3 lecture, 3 laboratory) Prerequisite: BIO 346. Field trip transportation fee required. Study the physical, chemical and biological interactions in lakes, and the factors affecting productivity of fresh water communities.

**BIO 550 Cell Physiology (5)** (3 lecture, 4 laboratory) Prerequisites: BIO 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 561 Microbiology (5)** (3 lecture, 4 laboratory) Prerequisite: CHEM 109, or 130 or 332; BIO 103 or ZOO 105. Materials fee required. 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 562 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 564 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 571 Teaching Strategies for Biology Teachers (2)** (1 lecture, 2 laboratory) Prerequisite: Acceptance in PTE. Learn strategies of teaching in biological laboratory investigations, lecture presentation, construction of equipment and approaches to controversial subjects.

**BIO 572 Biological Microtechnique (3)** (1 lecture, 6 laboratory) Prerequisites: BIO 102 and 103. Learn skills of preparing plant and animal tissues for microscopic study.

**BIO 575 Biological Photography (3)** (2 lecture, 3 laboratory) Materials fee required. Develop photographic techniques such as close-up, copying, slide duplication, wildlife, and photomicroscopy for producing audiovisual aids and for scientific publication.

**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 585 Topics in Field Biology (1-15)** After preparatory work on campus, study biology in the field on a state, national or international basis. May be repeated with different topics but total may not exceed 15 hours.

**BIO 595 Internship in Biological Sciences (1-5)** Consent of instructor required. Practical or on-the-job experience in professional areas in the Biological Sciences that will expand or enhance academic classroom experience. S/U grading.

**BIO 622 Directed Studies (1-4)** Qualified graduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Credit given only when two copies of a paper are filed, one 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)** Course may be repeated with a different topic. 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 (1-10)** Course may be repeated but total may not exceed 10 hours. 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 (1-15)** Course may be repeated but total may not exceed 15 hours.

**BIO 755 Doctoral Supervised Teaching (2-9)** Course may be repeated but total may not exceed 9 hours. Experience supervised college level biological sciences teaching. Develop course outlines and effective teaching techniques.

**BIO 797 Doctoral Proposal Research (1-6)** Course may be repeated but total may not exceed 6 hours. 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 (1-18)** Course may be repeated for total of 18 hours.

## Black Studies

BLS courses are administered by the Department of Anthropology, Black Studies and Women's Studies.

**BLS 100 Introduction to Black Studies (3)** Course reviews the emergence of Black Studies as an interdisciplinary field, and also presents a rudimentary panorama of Afro-American history. Methodological questions and intellectual debates within the field are introduced.

**BLS 101 Crisis of Identity (3)** Course addresses social conditions which lead to formation of Black identity in America. Of special interest are Negro-to-Black conversion experience, concept of racism, subordination and role of Afro-American culture.

**BLS 102 The Black Woman in America (3)** Make a psychodynamic historical and sociological analysis of the formation of self-concept and processes of identification relative to the Black woman using traditional research methods.

**BLS 105 Ancient African Civilization (3)** Investigates the development of the civilization of Ancient Egypt and its influences on the philosophical development of African countries and Ancient Greece. Emphasis is on religion and philosophy.

**BLS 201 Afro-American History I (3)** Survey the Black experience from the African homeland to initial capture, enslavement and emancipation —1619-1865.

**BLS 202 Afro-American History II (3)** Prerequisite: BLS 201. Examine the lives of Black Americans from Emancipation to the present.

**BLS 205 African and Native American Worldviews (3)** Investigates the religious and philosophical worldviews of traditional African and Native American people as they are reflected in these cultures: Cosmology, Ontological Hierarchy, Metaphysics, Morality, Panoramic Notions, Concept of History, etc.

**BLS 220 Socio-Cultural Institutions in Black America (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.

**BLS 240 Dynamics of Racism (3)** Racism, its social connection to human physical difference (i.e. race) studied. Reference made to African/European relations, development of racist thought, major sociological models used in U.S., re: race relations.

**BLS 255 Drama and Theatre in Black America (3)** Captures in dramatic expression the glories, vicissitudes, and triumphs of Black experience. Exemplars such as Childress, Baldwin, Hansberry and Baraka are studied, along with history of Black dramatic expression.

**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 280 Black People in Science (3)** The names Imhotep, the Namoratunga, mtepe, Jan E. Matzeliger, Charles Drew contain a record of scientific achievement that stretches from ancient Africa to modern-day America. These and other achievements and achievers are studied.

**BLS 290 Afro-American Movements, Organizations and Thought in the 19th Century (3)** Major movements of the 19th century in the struggle for freedom, human rights, civil liberties, etc. and their underlying ideologies and their relationship to other movements, e.g., the Woman's Rights Movement.

**BLS 291 Afro-American Movements, Organizations and Thought in the 20th Century (3)** The DuBois-Washington, DuBois-Garvey debates, the Garvey movement, Harlem Renaissance, Unionism, civil rights and protest, Black Liberation movement, electoral politics comprise some issues addressed. Ideological disputes and Second Reconstruction also analyzed.

**BLS 300 Comparative African-American Cultures (3)** Prerequisites: BLS 100, BLS 105, or permission of the instructor. Family patterns, labor market arrangements, cultural institutions, social structures, political patterns of selected groups in Africa, the Caribbean, Latin America, the U.S. reviewed. Brief histories of each community also presented.

**BLS 305 Survey of African-American Literature (3)** Literature by people of African descent receives selective attention: representative African, Afro-Latin American, Afro-Caribbean, Afro-American works. Genre such as political tract, novel, essay, autobiography, folk literature considered at various historical junctures.

**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.

**BLS 320 Economic Experience of Black America (3)** Afro-American underdevelopment in the context of American capitalism frames the basis for this offering. Labor market and entrepreneurial experience and political-economic ideology in Black America are also reviewed.

**BLS 322 Black Nationalism (3)** A study of the development of movements for self-determination in Afro-America and an analysis of various nationalistic conceptual frameworks in the Diaspora and on the Continent.

**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.

**BLS 360 Music and the Black Experience (3)** Learn the historical, thematic and stylistic development of Black music from ancient Africa to the present.

**BLS 370 Aesthetic Expression in Black America (3)** Survey cultural contributions of Black people to American life. Will include poetry, music, drama, and works by Alice Walker, Gwendolyn Brooks, James Baldwin, David Bradley, Coltrane and Claude McKay.

**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.

**BLS 385 African Colonialism and Decolonization (3)** A study of the social, psychological and philosophical dimensions of colonial oppression and the methods of decolonization.

**BLS 392 Black Language in 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 395 Philosophy of Afro-Americans (3)** Prerequisite: BLS 100 or permission of instructor. Examines both Afro-American Philosophy proper and the philosophical concerns of Afro-Americans generally through a treatment of their works.

**BLS 399 Community Study Project (1-4)** Do field work in a community-based project in housing, education or social services.

**BLS 410 Methodological Perspectives in Black Studies (3)** Tradition of Afro-American scholarship containing methodological approaches studied. Classics such as DuBois, *The Philadelphia Negro*, are analyzed with respect to content, method, and interpretation. Social science methods are also reviewed.

**BLS 420 Black Urban Politics (3)** Course examines concept of Black Power within the context of American government and laws. The case of the Black mayor in an urban environment is carefully assessed, presenting obstacles and opportunities.

**BLS 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.

**BLS 430 Law and 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.

**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 450 Philosophy and Theology of Martin L. King, Jr. and Malcolm X (3)** Critical study and analysis of the major ideas and doctrines that formed the conceptual framework of the two men: Cultural Pluralism, Self-Determination, Pan Africanism, Personalism, Satyagraha, Non-Violence, Civil Disobedience, Reform and Revolution.

**BLS 460 Black Religion (3)** Examines the development of the Black Church in America from the period of 1st Great Awakening and investigate and analyze the theological foundation, the nature and source of Afro-American religious expression.

**BLS 465 Black Media (3)** Analysis of relationship between Black people and mass communications—journalism, broadcasting, creative writing—especially concerned to uncover stereotypes. Television and motion pictures also investigated, with Black press an alternative medium.

**BLS 470 African Philosophy (3)** Prerequisite: BLS 105 or permission of instructor. Explores ancient, traditional and contemporary philosophical/theological concepts and doctrines of Africans through an investigation of their cosmological, metaphysical, ontological and ethical world view.

**BLS 480 Black Curriculum Development (3)** Examine curriculum development as it relates to minorities and affects sociological perspectives, and gain experience in developing curriculum.

**BLS 490 Seminar in Black Studies (3)** Prerequisites: BLS 100, 105, 201, 202, or permission of instructor. Preparation for advanced reading and research in Black Studies. Topics vary with instructor, but regularly address issues of current interest. Consultation on research project chosen by student is also required.

**BLS 495 Interpersonal Communication (3)** Understand styles and attitudes of different socioeconomic 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

BOT courses are administered by the Department of Biological Sciences.

**BOT 205 Plants for Humans (3)** May be taken with optional laboratory, BOT 206, concurrently. Develop an historical appreciation of human dependency on plants, and focus on the use of the scientific method to understand plants. Diversity, structure and function are correlated with their economic and aesthetic relationships.

**BOT 206 Plants for Humans Laboratory (2)** Optional laboratory for BOT 205; must be taken concurrently with BOT 205. Laboratory experiences which familiarize the student with the diversity, structure and function of plants, and demonstrate how knowledge of plants can be used to understand better the ways in which man uses plants. Focus on practical approaches.

**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. Field trip fee required. Recognize and identify plants at species and family levels, using keys and manuals. Native plant collection required.

**BOT 323 Morphogenesis of Non-vascular Organisms (5)** (3 lecture, 4 laboratory) Prerequisite: BIO 102. Field trip fee required. Study structure, morphogenesis and phylogenetic relationships of algae, fungi, and bryophytes.

**BOT 340 Plant Ecology (5)** (3 lecture, 6 laboratory) Prerequisite: BIO 102. Field trip fee required. Learn the interrelationships of plants in the ecosystem and how they are affected by environmental factors. Field trips to plains and mountains.

**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 Directed Studies (1-4)** 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. 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. Materials fee required. Survey the groups of fungi, including taxonomy, phylogeny, physiology, reproductive patterns and cultural techniques. No credit for both BOT 425 and BOT 525.

**BOT 461 Plant Pathology (5)** (3 lecture, 6 laboratory) Prerequisites: BOT 323, 350; BOT 425 recommended. Recognize plant diseases, the physical and biochemical processes involved in the establishment of diseases and their prevention and control.

**BOT 475 Plant Culture (5)** (2 lecture, 6 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)** (2 lecture, 4 laboratory) Course may be taken up to three times with different topics. Study taxonomy, physiology, ecology, vascular or non-vascular botany at an advanced level.

**BOT 510 Plant Taxonomy (5)** (3 lecture, 6 laboratory) Prerequisite: BIO 102. Field trip fee required. Recognize and identify plants at species and family levels, using keys and manuals. Native plant collection required.

**BOT 511 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 521 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 523 Morphogenesis of Non-vascular Organisms (5)** (3 lecture, 4 laboratory) Prerequisite: BIO 102. Field trip fee required. Study structure, morphogenesis and phylogenetic relationships of algae, fungi, and bryophytes.

**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 540 Plant Ecology (5)** (3 lecture, 6 laboratory) Prerequisite: BIO 102. Field trip fee required. Learn the interrelationships of plants in the ecosystem and how they are affected by environmental factors. Field trips to plains and mountains.

**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 550 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 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 425 recommended. Recognize plant diseases, the physical and biochemical processes involved in the establishment of diseases and their prevention and control.

**BOT 622 Directed Studies (1-4)** Qualified graduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Credit given only when two copies of a paper are filed, one 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 nonessential 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 (1-15)** Course may be repeated but total may not exceed 15 hours.

## Business

(Also see ACCT, BAQA, FIN, MGT, MIS and MKT.)

BUS courses are administered by the College of Business Administration.

**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.

**BUS 205 Business Communications (4)** Prerequisite: ENG 101. Study and apply basic principles and theory of business communications with application to business correspondence, reports, and oral communication in a high tech information and society.

**BUS 231 Business Law I (4)** Lay foundation for law study with the nature of law, aspects of criminal and constitutional law, and overlooking torts, civil procedure, administrative law, government regulations, consumer protection, bankruptcy, trusts and estates. Review contract law more completely.

**BUS 234 Legal Issues in Finance (4)** Prerequisite: BUS 231 or consent of instructor. One of three advanced courses, designed for finance students studying the law of bankruptcy, debtor-creditor relations, secured transactions involving both real and personal property, federal and state securities law and anti-trust and competition issues.

**BUS 307 Technical Business Reports (4)** Prerequisite: ENG 102 or BUS 205. Learn organization, preparation, and analysis of technical business reports, with emphasis on techniques of collecting, interpreting, and presenting information. Course should be taken with upper division courses in emphasis.

**BUS 332 Business Law II (4)** Prerequisite: BUS 231 or consent of instructor. The study of agency, partnerships, corporations, real property, personal property, bailments, wills, trusts and estates.

**BUS 400 Legal Environment of Business (4)** Prerequisite: BUS 231 or consent of instructor. Survey course including bankruptcy, debtor-creditor relations, federal and state securities regulations, constitutional law, administrative law, anti-trust and competition issues, and employer-employee law overview.

**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 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 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 Suretyship.

**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 530 Business Law (4)** Gives students an understanding of the principles of business law contracts, personal property, sales, security devices, commercial paper, agencies, corporations, partnerships, and real property and estates. Course not open to students with undergraduate business law courses.

**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.

## Community Health

CH courses are administered by the Department of Community Health

**CH 110 Introduction to Health Promotion/Health Education (1)** Course provides overview of profession of health education, including historical development, role of health educator, skills for practice, and current health promotion programs/priorities.

**CH 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 abuse, sexuality, family planning, venereal disease and consumer health.

**CH 205 Issues in Health (3)** Analyze the variety of forces which currently affect the well-being of human population groups on a national level.

**CH 209 Health Behavior (3)** Prerequisite: PSY 120, SOC 100 or consent of instructor. Review fundamental determinants of human behavior as they relate to current health issues. Health behavior models and underlying rationales for prevention and intervention strategies will be introduced.

**CH 220 Introductory Epidemiology (4)** An introductory course designed to analyze the scope and meaning of epidemiology, and to provide practical knowledge and skills regarding applications of epidemiological principles to diseases/conditions in the community.

**CH 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.

**CH 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.

**CH 254 Sophomore Practicum in Community Health (3)** Assignment to a community health setting. Application of basic skills, working directly with agency staff members to observe and participate in the health education program of the facility.

**CH 299 Community Health Systems (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.

**CH 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.

**CH 330 Health Promotion/Health Education Strategies I (3)** Examine individual/small group strategies for health behavior change. Application of learning theory including needs assessment, health risk appraisals, instructional strategies, development and evaluation of protocols for various settings.

**CH 331 Health Promotion/Health Education Strategies II (3)** CH 330 or consent of instructor. Examines effectiveness of large group and community strategies in changing health behavior. Applications include: mass media, health fairs, economic incentives, legislation/regulation, community action programs.

**CH 336 Human Sexuality (3)** Survey the psychosocial and biophysical dimensions of human growth and development toward optimal expression of sexual being.

**CH 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.

**CH 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.

**CH 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.

**CH 408 Workshop in Health 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.

**CH 410 Health Program Planning and Evaluation (4)** Prerequisites: CH 220, CH 330, CH 331 or consent of instructor. Focuses on major components of health education/health service planning and evaluation, including: needs assessment, goals and objectives, selection of strategies, evaluation design and implementation.

**CH 422 Directed Studies (1-4)** 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.

**CH 440 Principles of Health Program Management (3)** Prerequisite: CH 410 or consent of instructor. Focuses on major components of health program management, including planning, staff recruitment-motivation, evaluation, marketing human services, advisory boards, and budgeting/control.

**CH 454 Internship in Health (6-18)** 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 Community Health faculty. Submit written evaluation at conclusion of internship for purposes of evaluation and recording.

**CH 455 Senior Seminar in Community Health (1)** Emphasis on developing the student professionally, including networking the professional organizations, developing interview skills, clarifying role delineation, and developing a professional portfolio.

**CH 471 Safety Education (3)** Prepares teachers and administrators comprehensively to assume responsibility for safety education and accident prevention programming in schools and public service.

**CH 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.

**CH 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.

**CH 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.

**CH 508 Workshop in Health 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.

**CH 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.

**CH 510 Health Program Planning and Evaluation (4)** Prerequisite: CH 220, CH 330, CH 331 or consent of instructor. Focuses on major components of health education/health service planning and evaluation, including: needs assessment, goals and objectives, selection of strategies, evaluation design and implementation.

**CH 515 Community Health Analysis (3)** Methods of community health analysis/needs assessment including review of demographic data/health status indicators, analysis of existing resources/organizational networks. Applicable to community, school, worksite, and clinic settings.

**CH 520 Epidemiology (3)** Prerequisite: STAT 303 or EPRE 504 or equivalent. Epidemiological principles analyzed with an emphasis on selected topical issues, infectious and chronic/degenerative diseases, research design and analysis. Practical applications of statistical and epidemiological methods.

**CH 525 Public Health Administration & Policy (3)** Analyze administrative/organizational aspects of public health at the federal, state, and local levels including discussions of major public health problems, practices and health care planning currently affecting our population.

**CH 540 Principles of Health Program Management (3)** CH 510 or consent of instructor. Focuses on major components of health program management, including planning, staff recruitment-motivation, evaluation, marketing human services, advisory boards, and budgeting/control.

**CH 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.

**CH 560 Scientific Foundations of Health Promotion/Disease Prevention (3)** Examine epidemiological, physiological and intervention studies from the USA and other countries to develop a scientific basis for health promotion and disease prevention.

**CH 622 Directed Studies (1-4)** Qualified graduate students outline and spend a minimum of 25 clock hours per quarter on a problem. Two copies of the paper must be filed with the instructor and department chair. Does not satisfy 500-level requirement unless student is in full-time residence at UNC during quarter course is taken.

**CH 630 Seminar in Health Promotion Strategies (3)** Prerequisite: CH 560 or consent of instructor. Students will review literature and design program strategies in wide range of health promotion/disease prevention problem areas including: chronic communicable diseases, pregnancy/infant health, accidents/violence.



**CH 650 Seminar in Health 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.

**CH 652 Graduate Internship in Health Education (1-16)**

Put into practice knowledge and skills learned in a 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.

**CH 699 Thesis (1-15)** Optional for Master of Arts candidates in Health Education.

## Chemistry Education

CHED courses are administered by the Department of Chemistry.

**CHED 504 General Chemistry I: Concepts and Applications (4)**

(3 lecture, 2 laboratory) Prerequisites: CHEM 106 or CHEM 116. A discussion of the topics, pedagogy, laboratory experiments and instructional materials relating to the teaching of secondary chemistry. Not applicable to a graduate degree in Chemistry.

**CHED 505 General Chemistry II: Concepts and Applications (4)**

(3 lecture, 2 laboratory) Prerequisite: CHED 504. Continuation of CHED 504. Designed to strengthen the background of science teachers having one to two years of chemistry. Not applicable to a graduate degree in Chemistry.

**CHED 530 Organic Chemistry: Concepts and Applications (4)**

(3 lecture, 2 laboratory) Prerequisite: Colorado Teacher Certification in Sciences or the equivalent. Structure, properties and reactions of organic compounds will be explored. Applications of basic concepts in modern society will be presented. For teachers interested in improving their understanding of organic chemistry. Not applicable to a graduate degree in Chemistry.

**CHED 560 Physical Chemistry: Concepts and Applications (4)**

(3 lecture, 2 laboratory) Prerequisites: CHEM 106, CHEM 130, MATH 125 and one year Physics. The basic ideas of thermodynamics are presented in a manner appropriate to the needs of the science teacher. Applications will be made to the world about us. Not applicable to a graduate degree in Chemistry.

## Chemistry

(Also see SCI.)

CHEM courses are administered by the Department of Chemistry.

**CHEM 101 Consumer Chemistry I (3)** No previous Chemistry required. Physical and chemical principles, illustrated by demonstrations, to understand current topics in Chemistry such as polymers, farm chemistry, food additives and chemotherapy.

**CHEM 103 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.

**CHEM 104 Principles of Chemistry I (5)** (4 lecture, 3 laboratory) Atomic theory, mole concept, stoichiometry, states of matter, formulas, nomenclature and periodicity.

**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.

**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.

**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.

**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 (4)** Prerequisite: One year high school chemistry and two years high school algebra or equivalent. Co-requisite: CHEM 117. Enrichment course for the well-prepared student. Topics include structure and bonding, stoichiometry and states of matter.

**CHEM 115 General Chemistry II (4)** Prerequisite: CHEM 104 or 114. Co-requisite: CHEM 118. Continuation of CHEM 114. 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.

**CHEM 117 General Chemistry I Laboratory (1)** Prerequisite: CHEM 104 or taken concurrently. Enrichment laboratory for the well-prepared student. Topics include structure and bonding, stoichiometry and state of matters.

**CHEM 118 General Chemistry II Laboratory (1)** Prerequisite: CHEM 115 or taken concurrently. Continuation of CHEM 117. Topics include solution chemistry, equilibrium, kinetics and thermochemistry.

**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.

**CHEM 291 Scientific Writing in Chemistry (4)** Prerequisite: ENG 122. Use of the literature in chemistry and medical technology. Techniques of problem identification, literature survey, data interpretation and scientific writing.

**CHEM 320 Instrument Operation (1)** (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, radio chemistry 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 (5)** (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 taken 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 393 Environmental Chemistry (4)** (3 lecture, 3 laboratory) Prerequisite: CHEM 130 or 332. Field trip fee is required. Chemistry of the environment, including pesticides, fossil and nuclear fuels, and air, water and soil pollution.



- 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 Directed 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.
- CHEM 431 Identification of Organic Compounds (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) Co-requisite: 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. Co-requisite: 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; co-requisite CHEM 455. Continuation of CHEM 452. Liquid theory, phase equilibrium, solutions and electrochemistry.
- CHEM 454 Physical Chemistry I Laboratory (1)** (3 laboratory) Co-requisite: CHEM 452. Hands-on collection and treatment of experimental data by manual and computer methods.
- CHEM 455 Physical Chemistry II Laboratory (1)** (3 laboratory) Prerequisite: CHEM 454. Co-requisite: 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 481 General Biochemistry I (3)** Prerequisite: CHEM 333. Chemistry of biologically important compounds (nucleic acids, proteins, carbohydrates, and lipids), emphasizing structure and properties. Methods of isolation, identification and characterization. Protein synthesis. Kinetics and mechanisms of enzyme catalysis, multisubstrate kinetics.
- CHEM 482 General Biochemistry II (3)** Prerequisite: CHEM 481 or equivalent. A continuation of CHEM 481. Enzymes and mechanisms of catalysis; multisubstrate kinetics; bioenergetics and electron transport systems.
- CHEM 483 General Biochemistry III (3)** Prerequisite: CHEM 482. Continuation of CHEM 482. Metabolism of carbohydrates, lipids, proteins and nucleic acids.
- CHEM 484 Experimental Biochemistry I (1)** Prerequisite: CHEM 333. Techniques involved in the isolation and characterization of peptides, nucleic acids and carbohydrates.
- CHEM 485 Experimental Biochemistry II (1)** Prerequisite: CHEM 484. Continuation of CHEM 484. Techniques involved in the isolation and characterization of lipids and proteins, enzyme kinetics and characterization.
- CHEM 486 Experimental Biochemistry III (1)** Prerequisite: CHEM 485. Continuation of CHEM 485. Techniques involved in the study of metabolism.
- 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. Students are prepared to set up, organize and run a high school chemistry laboratory and classroom. S/U grading.
- 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)** Course may be taken no more than two times. 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)** Course may be taken up to three times. 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)** Course may be taken up to three times. 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 551 Physical Chemistry I (4)** Prerequisites: CHEM 333, MATH 132, PHYS 267; co-requisite: CHEM 321. The properties of matter, thermodynamics, thermochemistry, phase equilibrium and solutions.
- CHEM 552 Physical Chemistry II (4)** Prerequisite: CHEM 551. Continuation of CHEM 551. Quantum theory, chemical bonding, molecular structure and spectroscopy.
- CHEM 553 Physical Chemistry III (4)** Prerequisite: CHEM 552. Continuation of CHEM 552. Kinetic-molecular theory of gases, chemical kinetics, the microscopic properties of liquids and electrolytes.
- CHEM 555 Chemical Kinetics (3)** Prerequisite: CHEM 453 or 553. Factors determining the rate of chemical reactions and their mechanisms.
- CHEM 556 Chemical Spectroscopy (3)** Prerequisites: CHEM 322, 453 or 553. Theory and application of IR, NMR, UV and MS.
- CHEM 557 Special Topics in Physical Chemistry (2)** Course may be taken up to three times. Prerequisite: CHEM 453 or 553. Advanced topics, including states of matter and changes in states; kinetic-molecular theory, electrochemistry, molecular structure, heterogeneous catalysis, macromolecules, nuclear radiation and photochemistry.

**CHEM 558 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 559 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 568 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 569 Quantum Chemistry II (2)** Prerequisite: CHEM 568. Continuation of CHEM 568. Application of quantum mechanics to various atomic and molecular systems.

**CHEM 581 General Biochemistry I (4)** Prerequisite: CHEM 333. Chemistry of biologically important compounds (nucleic acids, proteins, carbohydrates and lipids), emphasizing structure and properties. Methods of isolation, identification and characterization. Protein synthesis.

**CHEM 582 General Biochemistry II (4)** Prerequisite: CHEM 581. A continuation of CHEM 581. Enzymes and mechanisms of catalysis; multisubstrate kinetics; bioenergetics and electron transport systems.

**CHEM 583 General Biochemistry III (4)** Prerequisite: CHEM 582. A continuation of CHEM 582. Metabolism of carbohydrates, lipids, proteins and nucleic acids.

**CHEM 585 Current Biochemical Literature (1)** May be repeated for a maximum of three credit hours. 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)** Course may be taken up to six times. Oral report and discussion on some topic of interest from current literature.

**CHEM 622 Directed Studies (1-4)** 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 699 Thesis (1-15)** Required of Master of Arts candidates in the Arts and Sciences Chemistry program.

**CHEM 755 Supervised Practicum in College Teaching (1-9)** 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 (1-18)** Required of all doctoral candidates. See Doctor of Arts — Minimum requirements for the major in the Graduate School section of this *Bulletin*.

## Communication Disorders

CMDS courses are administered by the Department of Communication Disorders.

**CMDS 160 Introduction to Human Communication Disorders (3)** Survey identifying characteristics, causes, diagnosis and treatment of common speech and language disorders.

**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.

**CMDS 265 Acoustics of Speech (3)** Prerequisite: MATH 117 or equivalent. Study the physics of sound as it relates to speech and hearing.

**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 the Speech Mechanism (3)** Investigation of the structure and function of the speech mechanism.

**CMDS 270 Structure and Pathology of Auditory and Vestibular Systems (3)** Concentrate on the structure, physiology and pathology of the auditory/vestibular mechanism.

**CMDS 301 Computers for Health and Human Services (3)** This course will provide students with an introduction to the workings of the computer, and the managerial, diagnostic, and clinical applications of computers in health-related and human services professions.

**CMDS 360 Articulation Disorders I (3)** Prerequisites: CMDS 160, 260. Examine causes, diagnosis and treatment of articulatory disorders.

**CMDS 361 Voice Disorders I (2)** Prerequisites: CMDS 160, 267. Study the causes, diagnosis and treatment of voice disorders.

**CMDS 364 Observation in Speech-Language Pathology (1)** *Customarily 2 hours earned for each of 2 consecutive quarters.* Prerequisite: CMDS 264. Observe diagnosis and therapy for communication disorders in University of Northern Colorado Speech-Language Pathology and Audiology Clinic and at other selected sites. Write reports of all observations. Minimum of ten observation hours required.

**CMDS 365 Language Disorders in Children I (5)** 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.

**CMDS 370 Introduction to Audiology (3)** *No one may take this course unless prerequisites are met.* 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.

**CMDS 371/571 Speech and Hearing Science (4)** The study of factors related to speech production and perception, with emphasis on acoustics of complex signals.

**CMDS 372 Advanced Audiology (5)** Prerequisite: CMDS 370. Learn theory and practice of advanced audiometric assessment techniques.

**CMDS 374 Advanced Observation in Audiology (1)** Course may be repeated for a maximum of 2 hours. Prerequisites: CMDS 264, CMDS 370. Make concentrated, guided observation of diagnosis and aural rehabilitation in Speech-Language Pathology and Audiology Clinic. Complete this sequence for a minimum of 25 clock hours of observation. S/U grading.

**CMDS 386/586 Basic Clinical Strategies in Speech-Language Pathology/Audiology (4)** Treatment models for communicatively-disordered clients; development and implementation of individual treatment programs; features of the client-clinician relationship; assessment of treatment outcomes.

**CMDS 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.

**CMDS 431 Organically-Based Communication Disorders (3)** A survey of current information regarding identification, causation, diagnosis and treatment of organically-based communication disorders, including cleft lip/-palate, cerebral palsy and aphasia.

**CMDS 432/532 Clinical Report Writing (2)** Lecture and practical writing experiences designed to improve ability to write clinical reports. Concurrent registration in undergraduate or graduate practicum is required.

**CMDS 461 Pre-Clinical Practicum in Speech-Language Pathology (1)** May be repeated twice for a maximum of 3 credits. Specialized experiences for students preparing to enter undergraduate practicum sequence who do not have a 3.0 GPA in major courses at that time.

**CMDS 462 Stuttering I (1)** Prerequisite: CMDS 160. Investigate the causes, diagnosis and treatment of stuttering.

**CMDS 463 Entry/Primary Speech-Language Pathology Practicum (2)** May be repeated once for a maximum of four credits. Learn general principals of the clinical process. Students with a minimum GPA of 3.0 in major courses provide supervised individual therapy to clients with communicative disorders. S/U grading.

**CMDS 464 Intermediate Undergraduate Speech-Language Pathology Practicum (2)** Prerequisite: CMDS 463 or consent of instructor. Supervised individual and/or group therapy with clients in the Speech-Language Pathology and Audiology Clinic. Letter grading.

**CMDS 465 Advanced Undergraduate Speech-Language Pathology Practicum (2)** Prerequisite: CMDS 464 or consent of instructor. May be repeated for credit. Supervised practicum with communicatively-disordered clients; for advanced undergraduate students. Student must have a GPA of 3.0 or higher in major courses in order to enroll. Letter grading.

**CMDS 467 Diagnosis in Speech-Language Pathology (4)** Majors only. 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 Observation of Speech-Language Diagnostics (1)** Take concurrently with CMDS 467. Receive introductory laboratory experiences with diagnostic evaluation procedures for communicatively impaired persons.

**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. 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 532 Clinical Report Writing (2)** Lecture and practical writing experience designed to improve ability to write clinical reports. Concurrent registration in undergraduate or graduate practicum is required.

**CMDS 542 Research Writing in Communication Disorders (2)** Adapt clinical writing skills to research writing (APA format); increase familiarity with reference materials in Communication Disorders and related fields; review selected computerized word-processing programs.

**CMDS 560 Public School Speech-Language Pathology (2)** 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 and Cleft Palate (4)** Advanced study in diagnosis and treatment of voice disorders including those based on cleft palate conditions.

**CMDS 562 Language of Special Children and Adolescents (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 (2)** For advanced clinicians interested in clinical supervision, with focus on both theoretical and practical aspects.

**CMDS 565 Aphasia and Related Disorders of Adults (4)** Consider the etiological factors, diagnosis, evaluation and remediation of adult language disorders.

**CMDS 567 Auditory Processing Disorders (2)** Analyze auditory processing disorders and implications for therapeutic and educational intervention.

**CMDS 568 Counseling in Communication Disorders (3)** Prerequisite: CMDS 464 or 584 concurrently. Recognize theory and practice of interaction with parents, teachers and others involved with communicatively impaired.

**CMDS 569 Advanced Laboratory in Diagnostics (2)** Must be taken for a minimum of six credits. Prerequisite: CMDS 584 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 Speech and Hearing Science (4)** The study of factors related to speech production and perception, with emphasis on acoustics of complex signals.

**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 (4)** Prerequisites: CMDS 372, 573. Learn electrophysiological techniques for measuring auditory and vestibular function, emphasizing Electronystagmography, Brain Stem Evoked Response Audiometry and Electrocochleography.

**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 580 Advanced Practicum in Rehabilitation Audiology (2)** Course may be repeated for a maximum of 8 hours. Perform supervised therapy in the rehabilitation of acoustically handicapped individuals.

**CMDS 582 School Audiology (3)** 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 583 Basic Graduate Practicum in Speech-Language Pathology (2)** Speech-language pathology practicum for students with fewer than 50 clock hours of supervised clinical experience. Work with clients under supervision in University Speech-Language Clinic. S/U grading.

**CMDS 584 Intermediate Graduate Practicum in Speech-Language Pathology (2)** Prerequisites: CMDS 465 or CMDS 583 or equivalent. May be repeated for credit. Supervised diagnosis and therapy with individual and group clients. Letter grading.

**CMDS 585 Advanced Graduate Practicum in Speech-Language Pathology (2)** Prerequisite: 150 clock hours of supervised practicum in Speech-Language Pathology. May be repeated for credit. Supervised individual and group therapy experiences with communicatively-disordered clients. Letter grading.

**CMDS 586 Basic Clinical Strategies in Speech-Language Pathology/Audiology (4)** Treatment models for communicatively-disordered clients; development and implementation of individual treatment programs; features of the client-clinician relationship; assessment of treatment outcomes.

**CMDS 622 Directed 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 643 Pragmatic Aspects of Language Functioning (2)** Prerequisite: CMDS 365 or its equivalent. Introducing pragmatic aspects of language including implications to remediation of communication disorders.

**CMDS 660 Articulation Disorders II (3)** Advanced study of articulation problems.

**CMDS 661 Neurological Motor Speech Disorders (4)** Prerequisite: CMDS 468. Consider the causation, diagnosis and treatment of speech and language disorders resulting from neurological dysfunction.

**CMDS 662 Stuttering II (4)** 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 583, CMDS 584 and CMDS 585; 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 grade.

**CMDS 665 Public School Practicum in Speech-Language Pathology (15)** Prerequisites: 45 graduate academic hours in Speech Language Pathology and Audiology; 6 hours in CMDS 583, CMDS 584 and CMDS 585; 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 668 Selected Topics in Communication Disorders (1-3)** 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.

**CMDS 669 Language-Learning and Cognition (3)** Investigate basic neurophysiology related to language-learning and cognition.

**CMDS 671 Psychoacoustics (3)** Prerequisite: CMDS 265 or equivalent. Acquire a sound foundation in psychoacoustics, including concepts of loudness, adaptation and fatigue, masking and the critical band, pitch perception, localization, temporal order and perceptual organization.

**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)** Prerequisite: EDSE 357 or equivalent. Study effective use of hearing aids and auditory trainers, including component parts, hearing aid orientation and counseling, and approaches to hearing aid evaluation.

**CMDS 681 Experimental Phonetics (3)** Prerequisites: CMDS 371/571. To provide students with advanced knowledge of the normal aspects of speech physiology and the physiology of select pathological systems.

**CMDS 685 Neuroanatomy and Neurophysiology of Communication (3)** Review basic neuroanatomy-physiology related to speech, language and hearing. Additionally, to describe neurological bases of diseases, neurological pathologies of the central nervous system and physiological results of neurological insult.

**CMDS 691 Real-Time Laboratory Applications in the Behavioral Sciences (2)** Prerequisite: Instructor's consent or a computer literacy course and/or experience in operating micro-or minicomputers. To provide students with understanding and experiences in the use of mini-and microcomputers for real-time applications in acoustics, perception, aerodynamics and physiology.

**CMDS 697 Advanced Diagnosis in Speech/Language Pathology (2)** Investigate developmental, psychological and motor assessment tools used by speech/language pathologists and other educators.

**CMDS 699 Thesis: Communication Disorders (1-9)** May be repeated for credit. Individual original research under the direction of faculty aimed at acquisition of research skills, appreciation of the scientific inquiry process, and knowledge of scientific writing style and dissemination. S/U grading.

# Speech Communication

COMM courses are administered by the Department of Speech Communication.

**COMM 110 Public Speaking I (1 lecture 2 laboratory)** Learn the principles and practices of platform speaking, including basic theory, purposes, planning, modes of proof, delivery and audience analysis.

**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.

**COMM 210 Laboratory Forensics (1-3)** Course may be repeated for a maximum of 8 credits. Experience intercollegiate forensics. Individual events or readers theater, one hour; debate, two hours; individual events and debate, three hours:

**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.

**COMM 220 Non-verbal Communication (3)** Gain insight into relationship between verbal and non-verbal communication associated with communication accuracy, attraction and influence. Investigate major categories of non-verbal communication including: kinesic, proxemic, tactile, artifactual, olfactory and vocalic communication.

**COMM 230 Organizational Communication (4)** Investigate the dynamics of communication within organizations.

**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.

**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.

**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: Full admission to PTE or certification at the undergraduate level. 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 (4)** Prerequisite: COMM 251. Current theory and knowledge concerning discussion processes.

**COMM 401 Undergraduate Internship (1-15)** Juniors and seniors only. Supervised work experience in area of specialization. Submit a proposal to the coordinator of internships six weeks prior to registration. 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 421 Seminar in Speech Communication (4)** Investigate issues of current concern, with subjects varied according to faculty expertise and student need. No subtitle may be repeated for credit.

**COMM 422 Directed Studies (1-4)** 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 426 Interpersonal Communication and Mass Media (4)** Examine how interpersonal skills and theory are enacted in the media and how interpersonal communication in TV and film serves as models for "real" life communication behavior.

**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.

**COMM 486 Directing Forensic Activities (1)** Study philosophy, principles, methods and problems of directing debate and individual events at secondary school levels.

**COMM 500 Theories of Group Process (4)** Prerequisite: COMM 251 or consent of instructor. Current theory and knowledge concerning discussion processes.

**COMM 501 Internship in Speech Communication (1-10)** Receive interdisciplinary and inter-professional communicative experience. Submit a proposal to the Coordinator of Internships six weeks prior to registration. Hours may not be credited to 30 basic-hours in speech communication graduate program. S/U grading.

**COMM 521 Seminar in Speech Communication (4)** Investigate issues of current concern, with subject varied according to faculty expertise and student need. No subtitle may be repeated for credit.

**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 534 Communication Consulting (4)** Learn step-by-step about the communication consulting process, and the communication theories and concepts which have application to communication consulting.

**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)** Course may be repeated for a maximum of 8 credits. Systematically review rhetorical theory for its probable impact on communication. Periods include: Homer to Quintilian, and Campbell to present theorists.

**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 Directed 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 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 666 Seminar in Persuasion (4)** Investigate the implications of research methodologies in the study of persuasion, particularly attitude research.

**COMM 681 Graduate Project (4-6)** Prerequisite: COMM 600. Under direction of an advisor, students will complete a project related to the field of communication. Projects must be approved by the student's graduate committee.

**COMM 699 Thesis (1-9)** Optional for Master of Arts candidates on recommendation of major advisor. S/U grading.

## Computer Science

CS courses are administered by the Department of Mathematics and Applied Statistics.

**CS 100 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.



**CS 110 Personal Computer Applications (3)** (2 lecture, 2 laboratory) Operate and use microcomputers for personal applications such as word processing, spelling correction processing, mailmerging processing, electronic spreadsheet processing, and database processing. Emphasize one specific microcomputer for "hands-on" experience.

**CS 111 Special Topics (1-4)** Consent of instructor. Topics which reflect the specific interests of available professors and the specific needs of interested undergraduates.

**CS 112 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.

**CS 114 Computer Programming in FORTRAN 77 (4)** (3 lecture, 3 laboratory) Prerequisite: MATH 124. Learn the FORTRAN 77 computer language.

**CS 116 Computer Programming in Pascal (4)** (3 lecture, 3 laboratory) Prerequisite: MATH 124. Structured programming introducing Pascal language.

**CS 170 Computer Processing and Structured Programming (4)** (3 lecture, 2 lab) Primarily for the beginning computer science student. Learn batch and interactive processing, text editing, file manipulation, programming job control; top-down design, data and control structures, introduction to structured programming in a target language (currently Pascal).

**CS 180 Advanced Structured Programming (5)** (4 lecture, 2 lab) Prerequisite: CS 170. Study argument passing of function and procedure, multidimensional arrays, records, files, sets, pointers, linked lists, recursion, basic searching, basic sorting, and external routines.

**CS 182 Survey of Programming Languages (4)** (3 lecture, 2 lab) Prerequisite: CS 180. Study several currently used languages, their syntax, structure and uses. Possible languages would be FORTRAN, COBOL, BASIC, C, Ada, and Modula II.

**CS 270 Assembler Programming (4)** (3 lecture, 2 lab) Prerequisite or co-requisite: CS 182. Study basic computer organization, machine language programming, and the use of a specific assembler language programming system (currently MACRO II).

**CS 272 Data Structures (4)** Prerequisite: CS 270. 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.

**CS 280 Foundations of Computer Science I (4)** (3 lecture, 2 laboratory) Prerequisite: CS 270 or concurrently. Introduction 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.

**CS 282 Foundations of Computer Science II (4)** (3 lecture, 2 laboratory) Prerequisite: CS 280. Continuation of CS 280.

**CS 311 Special Topics in Computer Science (3-4)** Consent of instructor required. Topics in computer science which reflect the specific interests of available instructors and the specific needs of the students.

**CS 330 Computer Operations and Facilities (3)** (2 lecture, 2 lab) Prerequisite: CS 372. Hands-on opportunities in a computer center setting to become familiar with operations of micro, mini, and maxi computers.

**CS 360 Microcomputer Interfacing (3)** (2 lecture, 2 lab) Prerequisite: CS 282. Study how a microcomputer interfaces with its peripheral devices from both a hardware and a software viewpoint.

**CS 370 Job Control Language (3)** (2 lecture, 2 lab) Prerequisite: CS 182. Study the language of the computer's operating system for the currently available systems (PDP-11/44 and IBM 3031).

**CS 372 Software Systems (4)** (3 lecture, 2 lab) Prerequisites: CS 270, CS 370. Study how programs interact to form software systems. Will include both intra-language and inter-language communications.

**CS 400 Computer Telecommunications (4)** (3 lecture, 2 lab) Prerequisite: CS 372. Study the basics of computer telecommunications, transmission systems, and networking.

**CS 402 Graphics (4)** (3 lecture, 2 lab) Prerequisite: CS 380. Study graphics theory and applications. Interactive graphics will be emphasized.

**CS 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 the instructor and one with the chairperson of the department.

**CS 470 Systems Programming (4)** (3 lecture, 2 lab) Prerequisites: CS 372, CS 380. Study writing program translation system software. Write a simple assembler.

**CS 472 Operating Systems (4)** (3 lecture, 2 lab) Prerequisites: CS 372, CS 380. Study problems encountered in multiple user computer systems. Cover both multiprogramming and multiprocessing concepts.

**CS 474 Concepts of Programming Languages (4)** (3 lecture, 2 lab) Prerequisite: CS 470. Study programming language concepts and design. Examine a wide variety of languages with an emphasis on their structure and use.

**CS 482 Analysis of Algorithms (3)** Prerequisite: CS 380. 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.

**CS 490 Seminar (1)** For juniors and seniors in Computer Science. Each student will research a current topic of interest and present it as a seminar. A term paper on the topic will also be required.

**CS 497 Senior Project (1-8)** For seniors only. A significant application in computer science will be researched, developed and implemented under the guidance of a computer science professor.

## College Student Personnel Administration

CSPA courses are administered by the Division of Professional Studies.

**CSPA 150 New Student Seminar (2)** A course designed to assist entering freshmen in making a transition from their previous academic environment to a University environment at UNC. S/U grading.

**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. Emphasizes student development and its application to the residence hall environment.

**CSPA 308 Workshop (1-5)** Special short course for undergraduates on topics or issues in College Student Personnel Administration. Offered during summers and other quarters as need arises and resources are available. S/U grading.

**CSPA 360 Training for Paraprofessionals in Student Affairs (2)** Prerequisite: Consent of instructor. May be repeated for credit under different subtitles. Comprehensive training and support for students working as paraprofessionals in Student Services at UNC. Includes basic skills and development of sensitivity in meeting students' developmental needs.

**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. S/U grading.

**CSPA 583 Crisis Intervention (1)** One hour credit for each 3 hours of lab work. Prerequisites: PPSY 344 or PPSY 607 or CSPA 683. A theoretical and practical approach to intervention in crises common to college students. Emphasis will be on individual, group and environmental interventions.

**CSPA 622 Directed Studies (1-4)** Receive an individual learning experience in an area of student personnel or higher education not regularly covered in academic courses.

**CSPA 650 Student Development Theory (3)** Examines theories of human development specifically applicable to college student populations. Explores the need for and use of theory in student affairs. Provides a theoretical base for understanding college student development.



**CSPA 651 Philosophical, Historical and Cultural Foundations of Student Affairs in Higher Education (4)** Philosophies of education and epistemology as applied to higher education/student affairs. Designed to outline history of higher education in the U.S. and role of student affairs in higher education.

**CSPA 652 Enrollment Management Services (3)** Examines and reviews the purposes, history, functions, organization and administration of: admissions, financial aid, records and registration, advising and orientation.

**CSPA 653 Services for Environmental/Student Development (3)** Examines and reviews the history, purposes, functions, organization and administration of: dean of students, counseling, career development and planning, health services, placement, student activities, residence life and food service.

**CSPA 654 Specialized Programs and Services for Specific Populations (3)** Examines and reviews the history, purposes, functions, organization and administration of: Discipline, security, religion, ombudsman, multi-cultural, specialized services, non-traditional, resources for disabled, and study skills.

**CSPA 656 Student Services in the Community College (3)** By understanding the unique educational mission and philosophy of the community college, analyze and evaluate the student service needs of community college students, design and implement systems to deliver these services.

**CSPA 658 Organizational Models for Resource Management (3)** Focuses on organizational models for CSPA. Uses case studies to apply management functions to problems in CSPA. Special emphasis on skill development in financial planning and budgeting.

**CSPA 661 Practicum in College Student Personnel Administration—College Teaching (2)** Prerequisite: Consent of Instructor. S/U grading.

**CSPA 668 Practicum in College Student Personnel Administration—Community College Personnel Work (2)** Prerequisite: Consent of Instructor. S/U grading.

**CSPA 669 Practicum in College Student Personnel Administration—International Education (2)** Prerequisite: Consent of instructor. 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. S/U grading.

**CSPA 670 Internship in College Student Personnel Administration (6)** Prerequisite: Consent of Instructor. 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. S/U grading.

**CSPA 671 Leadership and Administrative Styles in Student Affairs (3)** Class participants are introduced in depth to literature concerning administrative theory and leadership style. Individual topics are: job role, leadership, communication, authority, power. Culminating topic is change agency.

**CSPA 675 Field Experience in Student Affairs (3)** Practical, field based skill building and experiential training. Each site provides overview of a student service which relates to a general understanding of college student personnel work. (Repeatable, with different subtitles, to maximum of 12 credit hours.) S/U grading.

**CSPA 682 Legal Issues in Student Affairs (2)** An examination of the legal implications for College Student Personnel Administration and the student-institutional relationship.

**CSPA 683 Interpersonal Skills for Student Affairs Professionals (2)** Learn non-verbal and verbal attending and listening skills, crisis intervention, and referral skills appropriate to a college setting, and survey major counseling perspectives. Theory and practice are emphasized.

**CSPA 684 Group Leadership in Student Affairs (3)** Learn theories underlying group dynamics and their application to student affairs settings. Topics of group norms, pressure, standards and membership and leadership issues. Experience in leading a group will be included.

**CSPA 700 Introduction to Doctoral Research (4)** Prerequisite: EPRE 505. Critical examination of research reported, consideration of needed research and problems in evaluating student personnel services in higher education and preparing a research design. Assist students in planning research.

**CSPA 750 College Environments and Student Development (3)** Knowledge and understanding of the impact the college environment has on college students. Emphasis is placed on how non-class factors influence women, minorities, and non-traditional students.

**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)** Prerequisite: 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 (1)** A seminar course designed to complement and expand the current CSPA curriculum. Emphasis is placed upon discussion among CSPA students and faculty on relevant topics. S/U grading.

**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. S/U grading.

**CSPA 799 Doctoral Dissertation (1-18)** Required of all doctoral candidates. A student may register for 1 to 18 hours of dissertation credit after admission to candidacy. 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. S/U grading.

## Directed Studies

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 422 Directed Studies (1-4)** 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. Two copies of a critiqued and graded paper will be filed in the department office.

**DS 622 Directed 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 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 (1-15)** 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 (1-9)** 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 (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 course in partial fulfillment of requirements for any doctoral degree prior to admission to candidacy.

**DS 799 Doctoral Dissertation (1-18)** Required of all doctoral candidates. A student may register for 1-18 hours of dissertation credit in any quarter after admission to candidacy. All students must earn a minimum-maximum of 18 hours of credit for the dissertation in partial fulfillment of requirements for all doctoral programs.

## Early Childhood Education

(See EDEC)

## Earth Science

(See ESCI)

## Economics

(Also see BUS)

ECON courses are administered by the Department of Economics.

**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.

**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.

**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.

**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.

**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, socioeconomic 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.

**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.

**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.

**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.

**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.

**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; BAQA 291, BAQA 390. Elementary but comprehensive introduction to econometrics. Analyze problems frequently encountered in economic research, and use computer packages.

**ECON 453 Economics of Project Evaluation (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 502 Advanced Economics (5)** 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 504 Advanced Microeconomic Theory (4)** For graduate students in Business. Prerequisites: ECON 502 or consent of instructor. Build on techniques, tools from undergraduate and graduate studies. Concentrate on theories, practices leading to private market-oriented and government policy decisions.

**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 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 551 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 552 Introduction to Econometrics (4)** Prerequisites: ECON 110, 120, 300 or 350; BAQA 291, BAQA 390. Elementary but comprehensive introduction to econometrics. Analyze problems frequently encountered in economic research, and use computer packages.

**ECON 553 Economics of Project Evaluation (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 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 570 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 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 578 Advanced Managerial Economics (4)** Prerequisites: ECON 504 or equivalent; graduate students only. Economics of decision-making, optimization behavior, policy formulation for the manager. Concepts from different business fields integrated with microeconomic and price theoretic tools.

## Educational Administration

EDAD courses are administered by the Division of Professional Studies.

**EDAD 385 Law and the Classroom Teacher (2)** Prerequisite: Provisional or full admission to PTE or certification at the undergraduate level. 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 Developing Grants and Contracts (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 Directed Studies in Educational Administration (1-4)** 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. Instructor, advisor and department chair/program director approval required.

**EDAD 625 Organization and Administration of Community Colleges (3)** Presents administrative problems and provides an overview of a community college system. The purpose of the course is to relate key issues surrounding the governance of a community college to educational personnel and agencies at all levels of government.

**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 Administrator and Evaluation (3)** Introduce, examine, develop and apply knowledge and strategies relating to personnel and program evaluation as functions of the administrator. Also develop the competencies to evaluate teachers, programs and students.

**EDAD 641 Seminar in Decision Theory (4)** 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)** 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)** 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 (3)** Gain a basic understanding of collective bargaining in educational organizations, 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, non-traditional 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)** Instructor approval required. 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.

**EDAD 656 Practicum on Management of Change (1-5)** Course may be repeated for credit. 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 663 Seminar in Higher Education Data Systems (2)** Discuss the definition, rationale and interrelationships of higher education systems, with examples of subsystems, 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 multicultural 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 subsidation. Review alternatives of financing. Study resource management within institutions.

**EDAD 680 Internship in Educational Administration (1-6)** Course may be repeated for credit. Advisor and department chair approval required. 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. S/U final mark.

**EDAD 682 Policy Analysis and Development (3)** Develop strategies for identification of the organization's social and political environments. Develop strategies for developing, modifying and influencing public policies.

**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)** Permission of instructor required. 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. S/U grading.

**EDAD 781 Development of Information Systems: Practicum (4)** Permission of instructor required. 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. S/U grading.

**EDAD 782 Development of Facility Plans: Practicum (4)** Permission of instructor required. 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. S/U grading.

**EDAD 783 Long-Range Program Planning and Budgeting: Practicum (4)** Permission of instructor required. Assist a selected educational agency in the development of long-range plans for program improvement, program budgeting, and cost analysis of an existing budget. S/U grading.

**EDAD 784 Operations Analysis for Educational Agencies: Practicum (4)** Permission of instructor required. 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. S/U grading.

**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. S/U grading.

**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 18 hours of credit for the dissertation in partial fulfillment of requirements for all doctoral degrees. S/U grading.

## Early Childhood Education

EDEC courses are administered by the Division of Educational Studies.

**EDEC 136 Introduction to Early Childhood Education (3)** Learn the philosophies, goals and purposes of early childhood programs, the role of the teacher, curriculum and physical facilities. Current issues are investigated.

**EDEC 231 Development of Infants and Toddlers (4)** (3 lecture, 2 laboratory) Prerequisite: EDEC 136. 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.

**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.

**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.

**EDEC 333 Development and Guidance of Young Children (4)** (3 lecture, 2 laboratory) Prerequisite: EDEC 231. Approach the physical, intellectual, social and emotional growth of young children from developmental point of view. Discuss theory, observation, and appropriate guidance as approaches to primary child study.

**EDEC 334 Preschool/Kindergarten Curriculum and Methods (3)** PTE Juniors and seniors only. Prerequisite: EDEC 333 or instructor consent. Study curriculum development, including selecting art, literature, music and science for preschool and kindergarten children. Plan lessons and study specific methods and techniques of teaching.

**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 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.

**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. Full admission to PTE. Learn student teaching through observation, demonstration and participation with preschool children under an experienced preschool teacher.

**EDEC 439 Parent Involvement in Early Childhood 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 Primary Curriculum and Methods (3)** PTE Juniors and seniors only. Prerequisite: EDEC 333 or consent of instructor. Taken concurrently with EDLS 360. Theories and practices for the education of primary aged children, with an emphasis on curricular organization, content, methodology, and scheduling.

**EDEC 462 Classroom Management in Early Childhood (3)** PTE. Juniors and seniors only. Examine those components of effective classroom management procedures with young children. Topics include theoretical perspectives on discipline, the selection of rules and procedures, maintenance of appropriate behavior, and management of student work.

**EDEC 463 Diagnostic Teaching in Early Childhood (3)** Full admission to PTE. Juniors and seniors only. Discover the tools appropriate for measuring a young child's progress in learning and with techniques of individualizing instruction.

**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 Directed 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 Early Childhood Education (3)** Investigate trends and issues concerning the young child, stressing curriculum and sound education policies.

**EDEC 662 Research and Development in Early Childhood (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 exceptionality. Focus on educational consideration for meeting needs based on diversity.

**EDEC 670 Teaching in the Primary Grades (3)** Examine components of effective classroom organization/management. Student assessment, behavior management, facilitating home/school relations, and maintaining collegial professional interrelationships emphasized. Dynamics of effective instructional practice explored.

**EDEC 675 The Value of Play in Early Childhood (3)** Focus on theories of play in socio-drama, therapy, cognition. Motor, emotional and psycho-social development explored. Play of successive developmental phases and individual meaning for each child emphasized.

**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)** May be repeated for a maximum of 9 quarter hours. Receive experiences in observation and supervised practice in college teaching to be used as basis for analysis of learning experiences.

**EDEC 797 Doctoral Proposal Research (1-6)** 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 (1-18)** 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.

## Elementary Education

EDEL courses are administered by the Division of Educational Studies.

**EDEL 100 Orientation to Education (2)** Visit and participate in classroom activities (pre-school through high school) to determine probable level of degree program emphasis. Engage in diagnostic writing and speaking activities for personalized evaluation.

**EDEL 101 Introduction to Multiculturalism (3)** Prerequisites: Provisional or full admission to PTE. Acquaints students with concepts, content, strategies and resources needed in a multicultural, pluralistic environment. Enables students to integrate content on pluralism into educational settings. Personal attitudes and insights emphasized.

**EDEL 308 Elementary 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)** Prerequisite: Full admission to PTE or certification at undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at undergraduate level, 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 of Instruction in Social Studies in the Elementary School (4)** Prerequisite: Full admission to PTE or certification at undergraduate level. 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: Full admission to PTE or certification at the undergraduate level, 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 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.

**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. 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 616 Practicum in Instructional Assessment (1-4)** Consent of instructor required. Practicum in the development, analysis, and/or improvement of instruction. This field-based experience will culminate in a written report and concluding seminar. S/U grading.

**EDEL 619 Pluralism in Education (3)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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.



# Foundations of Education

EDF courses are administered by the Division of Research, Evaluation and Development.

**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.

**EDF 345 Foundations of Human Interaction (3)** Prerequisite: Provisional or full admission to PTE or certification at the undergraduate level. 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)** Prerequisite: Provisional or full admission to PTE or certification at the undergraduate level. 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 385 Law and the Classroom Teacher (2)** Prerequisite: Provisional or full admission to PTE or certification at the undergraduate level. 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.

**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 Directed 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 513 Professional Renewal (1-12)** Various topics offered, depending on interests of instructor and students. Each course is subtitled, and 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.

**EDEL 620 Mathematics in the Elementary School (3)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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 Directed 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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 680 Beginning Clinical Supervision: Assessing and Improving the Instructional Process (2)** Teacher, supervisors or administrators can profit equally from this objective review of the processes used to give constructive feedback to those responsible for the supervision and improvement of instruction.

**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 505 and 600. 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 (1-6)** 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 (1-18)** 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.

**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 Directed 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 640 Psychological Foundations of Education (3)** The purpose of this course is to identify, analyze, relate and compare basic psychological concepts pertinent to understanding human behavior, learning theory, and the teaching/learning process.

**EDF 662 Foundations of Instructional Practice (3)** This course surveys and analyzes the development of instructional practices through stages of American educational growth to the present. Particular attention is paid to models of teaching and the teaching/learning process.

**EDF 664 Foundations of Education (3)** Designed to explore the philosophical, historical, sociological and psychological foundations of education. This course will critically examine the concerns and issues fundamental to the goals of educational practice within a democratic society.

**EDF 665 Sociological Foundations of Education (3)** Examine education and the teaching/learning process in relation to sociological realities of American and world societies. Focus on examination of process of socialization, role schools play in process, and social perceptions of teaching.

**EDF 666 Foundations for Curriculum Development (3)** This course is designed to explore and analyze theories and practice of curriculum development as determined by social and cultural change, learning theory, and the nature of knowledge. Particular focus on contemporary curriculum trends and issues.

**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 685 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.

**EDF 686 Seminar in Existentialism and Education (3)** Investigate existential, humanistic, and transpersonal thought in terms of the conceptual and pedagogical problems posed for the educational enterprise and the teaching/learning process.

**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.

## Educational Field Experiences

(Also see EDLS)

EDFE courses are administered by the Teacher Education Center, College of Education.

**EDFE 170 Teacher Aide: Introduction (1-4)** May be repeated. Prerequisite: Instructor consent. Practical experience for those wishing to explore a career in teaching. Placement in most public or private schools, agencies, preschool through high school. Experience is to coordinate practice with theory. S/U final mark.

**EDFE 270 Teacher Aide: Professional (1-4)** May be repeated. Prerequisite: Instructor consent. Entry into the teaching profession. Attend orientation presentation and apply for admission to PTE. Aide assignment in school or agency at preschool-12 level. S/U final mark.

**EDFE 370 Teacher Aide: Development (1-4)** May be repeated. Prerequisites: Full admission to PTE or certification at the undergraduate level, instructor consent, EDFE 270. Practical experience in teacher preparation programs. Assignments to assist personal or professional development in public or private school, preschool through high school. S/U final mark.

**EDFE 401 Practicum (1-4)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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 program facilitator. S/U final mark.

**EDFE 422 Directed Studies (1-4)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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 program facilitator.

**EDFE 444 Supervised Teaching (1-18)** Prerequisite: Full admission to PTE or certification at the undergraduate level. Meets student teaching requirement for certification. Supervision by university 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level, 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. Prerequisite: Full admission to PTE or certification at undergraduate level. 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. Two copies of a well-written paper must be filed before credit is given; one with instructor and one with program facilitator. S/U final mark.

**EDFE 601 Practicum (1-4)** Prerequisite: Full admission to PTE or certification at undergraduate level. 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 program facilitator. S/U final mark.

**EDFE 610 Field Experience (1-15)** Prerequisite: Full admission to PTE or certification at undergraduate level. 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 Directed Studies (1-4)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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 facilitator.

**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 Field Experiences: Laboratory School

(Also see EDFE)

EDLS courses are administered by the Teacher Education Center, College of Education.

**EDLS 360 Clinical Experience: Primary (2-4)** May be repeated. Prerequisite: Full admission to PTE or certification at the undergraduate level, instructor consent. For Early Childhood/Elementary Education majors. Minimum of 25 contact hours with level K-3 children for each hour of credit. Weekly seminar at 3:20 p.m. Thursday. Students video-taped.

**EDLS 361 Clinical Experience: Intermediate (2-4)** May be repeated. Prerequisite: Full admission to PTE or certification at the undergraduate level, and instructor consent. Professional development for Intermediate Elementary Education majors. Minimum of 25 contact hours with level 4-6 children for each hour of credit. Weekly seminar at 3:30 p.m., Tuesday. Students video-taped.

**EDLS 362 Clinical Experience: Middle School (2-4)** May be repeated. Prerequisite: Full admission to PTE or certification at the undergraduate level, and instructor consent. Professional development for Middle School majors. Minimum of 25 contact hours with level 6-8 children in a specific area for each hour of credit. Weekly seminar. All students video-taped.

**EDLS 363 Clinical Experience: Secondary (2-4)** Prerequisite: Full admission to PTE or certification at the undergraduate level, instructor consent. Professional development for secondary majors. Minimum of 25 contact hours with level 7-12 children in a specific areas for each hour of credit. Weekly seminar. Students video-taped.

**EDLS 365 Advanced Clinical Experience (2-4)** Prerequisites: Full admission to PTE or certification at the undergraduate level, previous clinical experience and instructor consent. Enhance personal and professional development through selected classroom experiences. Minimum of 25 contact hours with children for each hour of credit. Weekly conference. Available videotaping.

## Middle School Education

EDMS courses are administered by the Division of Educational Studies.

**EDMS 302 Orientation to Middle Schools (3)** Prerequisite: Full admission to PTE or certification at undergraduate level. 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 308 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 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.

**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 Directed 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.

## Reading

EDRD courses are administered by the Division of Educational Studies.

**EDRD 103 Introduction to College Reading (3)** Prerequisite: Consent of instructor. 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)** 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)** Prerequisite: Full admission to PTE or certification at undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at undergraduate level. Consider interests and abilities governing the choice of literature appropriate for kindergarten through sixth grade, and survey this literature. Emphasize modern selections, and use of literature, individualizing reading instruction and use in content fields.

**EDRD 401 Undergraduate Practicum (1-4)** Supervised professional activity in reading. 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.

**EDRD 411 Approaches to Reading Instruction (3)** Prerequisites: Full admission to PTE or certification at undergraduate level, EDRD 310, 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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 415/515 Trends and Issues in Reading Instruction (3)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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 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.

**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 515 Trends and Issues in Reading Instruction (3)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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 521 Reading in the Content Fields (3)** Prerequisite: Full admission to PTE or certification at undergraduate level. 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)** Prerequisite: 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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 Directed 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 disabled 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, 612, 613, or 620. 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)** Separate practicums in these subjects may be taken for 3 credits each, for a maximum of 9 credit hours. Prerequisites: EDRD 617, or 627 and consent of instructor. 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 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)** May be repeated for maximum of 9 quarter hours. 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.

**EDRD 797 Doctoral Proposal Research (1-6)** 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 (1-18)** 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.

## Special Education

EDSE courses are administered by the Division of Professional Teacher 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.

**EDSE 250 Structure of Language (3)** Approach language from a syntactical and morphological view as it applies to children, stressing the understanding of the structure of the English language as well as how language is learned.

**EDSE 302 Counseling Parents of Exceptional Children (3)** Students in special education, general education, nursing, counseling and related professions receive techniques for working with parents of exceptional children.

**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: Full admission to PTE or certification at the undergraduate level, 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 (2)** PTE 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: Full admission to PTE or certification at the undergraduate level, 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.

**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.

**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 others 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.)

**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: CMDS 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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 410. 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 410. 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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 secondary level.

**EDSE 412 Curriculum Development and Methodology for Educable Mentally Handicapped: Elementary Level (4)** Prerequisites: Full admission to PTE or certification at the undergraduate level, EDSE 100 or 602, 310, EDRD 310. Develop integrated experience units and gain knowledge of teaching strategies and materials appropriate to elementary level educable mentally handicapped youngsters.

**EDSE 413 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 414 Problems in Teaching Moderately Mentally Handicapped Children (4)** Prerequisites: Full admission to PTE or certification at the undergraduate level, 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: Full admission to PTE or certification at the undergraduate level, EDSE 310, 311, 414 or permission of instructor. Investigate prevocational 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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: Full admission to PTE or certification at the undergraduate level, 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 Severe/Profound Mentally Handicapped (1-18)** Prerequisite: Full admission to PTE or certification at the undergraduate level. Receive clinical programming experience in an institutional or community center setting with severe/profound 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 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.

**EDSE 440 Survey of Visually Handicapped Education (3)** Investigate educational, social and emotional implications of visual impairment. Survey history, current education, rehabilitation planning and 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.

**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 and 358 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; 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; 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, including 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 Severe Emotional Disturbance (3)** Orientation toward issues surrounding the education of the severely disturbed child and adolescent. Emphasis on the specific psychotic disorders of Autism and Childhood Schizophrenia.

**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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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 Blind Children (3)** Prerequisites: Full admission to PTE or certification at the undergraduate level, 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. Auditory or visual materials and use of special devices and equipment. Two hour lab.

**EDSE 544 Media and Methods for Visually Handicapped I (3)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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: Full admission to PTE or certification at the undergraduate level, 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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: Full admission to PTE or certification at the undergraduate level, 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: EPRE 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 students 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: Full admission to PTE or certification at the undergraduate level, EDSE 605 or consent of instructor. Receive supervised experience in administering and interpreting specialized tests to handicapped students.

**EDSE 608 Directed Case Study with ED/LD Children (4)** Prerequisites: Full admission to PTE or certification at the undergraduate level, 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: Full admission to PTE or certification at the undergraduate level, 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 613 Parent Conferencing for Exceptional Children (4)** Study in-depth strategies, concepts and issues surrounding the parenting of the exceptional child. Direct use of concepts and strategies required to prepare students to devise comprehensive home/school programs.

**EDSE 614 Practicum with the Mentally Handicapped, K-12 (3-15)** Prerequisite: Full admission to PTE or certification at the undergraduate level, 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 pre-school 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: EDEC 533, EDEC 648, 662, EDSE 306, 617, 618 and consent of instructor. 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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 Directed Studies (1-4)** Qualified graduate student outline and spend a minimum of 25 clock hours per quarter on a problem. Three 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 Emotionally 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 665, 666 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: Full admission to PTE or certification at the undergraduate level, EDSE 320, 602, 623, 665. Individual observation and supervised practice in education of the socially and emotionally 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 emotionally disturbed and learning disabled children and adolescents.

**EDSE 628 Practicum with Severely Emotionally Disturbed Children, K-12 (9-15)** Prerequisites: Full admission to PTE or certification at the undergraduate level, EDSE 632, 665, 666. 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: Full admission to PTE or certification at the undergraduate level, 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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: Full admission to PTE or certification at the undergraduate level, EDSE 100, 330 or 602. Individual observation and supervised practice in education of the physically handicapped.

**EDSE 640 Functional Academics, Career and Living Strategies for Severely/Profoundly Handicapped Blind (3)** Prerequisites: Full admission to PTE or certification at the undergraduate level, EDSE 549 and 649. Emphasize strategies for SPHB in functional academics, prevocational and daily living skills. Discuss alternative living environments, career planning via Vocational Education, community-based work training, Vocation Rehabilitation and Social Services.

**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, as presented by an ophthalmologist.

**EDSE 642 Low Vision and Its Educational Implications (3)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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)** Prerequisites: Full admission to PTE or certification at the undergraduate level, 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. Learn methodologies in orientation skills for totally blind, low vision and multihandicapped children. Address program, curricula and professional issues; work individually with a visually handicapped person, providing O & M instruction.

**EDSE 649 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: Full admission to PTE or certification at the undergraduate level, 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: Full admission to PTE or certification at the undergraduate level, 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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 660 Introduction to Issues and Concepts in Education of Emotionally Disturbed Students (3)** Prerequisite: EDSE 602, 100 or equivalent. Provides knowledge of the major theoretical issues in the area of emotional disturbance. Introduces appropriate classroom instructional techniques.

**EDSE 661 Introduction to Issues and Concepts in Education of Learning Disabled Students (3)** Prerequisite: EDSE 602, 100 or equivalent. Addresses the major issues and concerns relating to identification and education of students with learning disabilities.

**EDSE 665 Methods of Teaching Socially and Emotionally Maladjusted (4)** Prerequisites: Full admission to PTE or certification at the undergraduate level, EDSE 100 or 602, 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 Emotional Disturbances (4)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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: Full admission to PTE or certification at the undergraduate level, 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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, to 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 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. S/U final grade.

**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. S/U final grade.

## Educational Psychology

(See EPRE)

## Educational Technology

(See ET)

## English Education

EED courses are administered by the Department of English.

**EED 301 Tutoring Strategies for Composition (2)** Prerequisites: Sophomore standing, consent of instructor. After training in tutoring strategies, forty class hours of tutoring in a composition class or writing center will prepare the student for clinical and student teaching experience. May be repeated twice.

**EED 341 Methods and Materials for Teaching Language and Composition in the Secondary School (4)** Prerequisite: Full admission to PTE or certification at undergraduate level. 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 (5)** Prerequisite: Full admission to PTE or certification at undergraduate level. 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 (3-4)** Prerequisite: Full admission to PTE or certification at the undergraduate level. Course may be repeated for a maximum of 9 credits. 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 (4)** Prerequisite: Full admission to PTE or certification at undergraduate level or consent of instructor. Methods of improving composition. The organization of paragraph and theme. The improvement of sentence structure.

**EED 541 Methods and Materials for Teaching Language and Composition in the Secondary School (4)** Prerequisite: Full admission to PTE or certification at undergraduate level. Prerequisite to student teaching. Methods and materials for teaching language and composition in the secondary schools. Teaching techniques are a point of emphasis.

**EED 602 Seminar in Literature for Adolescents (4)** (PTE or certification at undergraduate level) 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 (4)** Prerequisite: Full admission to PTE or certification at undergraduate level. The place of English in the curriculum of the secondary school, with a consideration of appropriate materials and their use.

**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.

## Elementary Education

(See EDEL)

## English

(Also see BLS)

ENG courses are administered by the Department of English.

**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.

**ENG 120 Composition Skills I (4)** Prerequisite: Consent of instructor. Practice all stage of the composing process, review conventions of standard edited English, and learn several rhetorical patterns important for college writing.

**ENG 121 Composition Skills II (3)** Prerequisite: ENG 120 and consent of instructor. Continue practicing essential writing skills, learn new rhetorical patterns, and study concepts of language change as a means toward spelling and vocabulary improvement.

**ENG 122 Elementary Composition: Exposition (4)** Introduction to basic expository writing, with emphasis on functional grammar, sentence structure, punctuation, paragraph organization and the essay.

**ENG 123 College Research Paper (4)** Prerequisite, ENG 122. 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.

**ENG 125 Communications on a Theme (4)** Prerequisite: ENG 122. Topics for writing chosen from ideas of historical influence and/or contemporary problems. Readings and class discussions will serve as background for writing essays.

**ENG 127 Basic Technical Writing (4)** Prerequisite: ENG 122. 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.

**ENG 130 Introduction to Language (4)** The methods and conclusions of language study. Covers phonology, grammar, semantics; stylistic, cultural, and dialectical variations; spelling; and sociopolitical problems in language. Not a remedial course.

**ENG 131 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.

**ENG 132 Introduction to Fiction (4)** Critical approaches to short stories and novels, emphasizing themes, characterization and techniques. Qualified students may be exempted by examination.

**ENG 133 Introduction to Drama (4)** Selected plays, ancient and modern, to develop the student's skills in dealing with drama as literature.

**ENG 134 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 132 or ENG 133.

**ENG 138 Modernism in Literature (4)** Study movements and ideas (e.g., Freudianism, existentialism, magic realism, postmodernism) in twentieth-century American and/or British literature.

**ENG 160 Masterpieces of English Literature (4)** Prerequisite: ENG 122. Study English literature from the beginning to the present. Emphasize the appreciation, through close reading, of selected major works and the contribution of the literature to contemporary life and thought.

**ENG 161 Masterpieces of American Literature (4)** Prerequisite: ENG 122. Study American literature from the beginning to the present. Emphasize the appreciation, through close reading, of selected major works and the contribution of the literature to contemporary life and thought.

**ENG 162 Masterpieces of World Literature (4)** Course may be repeated under different subtitles for a maximum of 12 credits. Study the riches of world literature in translation. Course content will be designated by one of the following subtitles: Continental Masterpieces, Masterpieces of Russian literature, Masterpieces of the Orient.

**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.

**ENG 203 The Essay (4)** Prerequisite: ENG 122, 123 or equivalent. An intermediate writing course treating audience, strategies, and cohesion. In-depth study of the essay through various modes, disciplines (arts, sciences), and periods will complement student compositions.

**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.

**ENG 208 Bible as Literature (4)** Course may be repeated under different subtitles for a maximum of 8 credits. Study the Bible as literature. Content will be designated by either of the following subtitles: Literature of the Old Testament; Literature of the New Testament.

**ENG 209 Introduction to Shakespeare (4)** Introduce the plays of William Shakespeare with emphasis given to the enjoyment of selected major works and to the appreciation of Shakespearean play production.

**ENG 210 Major Themes in Literature (4)** Course may be repeated under different subtitles for a maximum of 12 credits. Examine a literary theme that has universal applicability. Specific themes will be designated by subtitles such as heroism, futurism, and others.

**ENG 230 Lectures on Literary Themes (2-4)** Course may be repeated for a maximum of 8 credits. Several works of literature centered around a specific them. Topics designated by subtitle. No subtitle may be taken than once for credit.

**ENG 231 Great Writers in England or America (4)** Course may be repeated for a maximum of 12 credits. 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.

**ENG 232 Great Writers of the World (4)** Course may be repeated for a maximum of 12 credits. 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.

**ENG 235 World in Literature (4)** Course may be repeated for a maximum of 12 credits. 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.

**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.

**ENG 240 Creative Writing: Introduction to Poetry (4)** The techniques involved in writing poetry.

**ENG 241 Creative Writing: Introduction to Fiction (4)** The techniques involved in writing fiction.

**ENG 242 Creative Writing: Introduction to Theater, Film and Television (4)** The techniques involved in writing for the theater, films and TV.

**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.

**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.

**ENG 302 Writing About Language (4)** Prerequisites: ENG 122, 130. 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 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.

**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.

**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.

**ENG 319 Advanced Expository Techniques (4)** Prerequisite, ENG 122. 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.

**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: Solzhenitsyn, Wright, Kazantzakis, and Levortov.

**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.

**ENG 326 Advanced Studies in Science Fiction (4)** Course may be repeated for a maximum of 12 credits. 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.

**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 335 World 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 will be studied.

**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.

**ENG 360 Chaucer (4)** An introduction to the language and literature of Geoffrey Chaucer.

**ENG 361 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*.

**ENG 362 Renaissance Literature (4)** English poetry and prose of the Renaissance. Selections from such authors as Spenser, Jonsen, Marlowe, Bacon, the Metaphysical poets, Milton, and the chroniclers.

**ENG 363 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.

**ENG 364 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.



**ENG 365 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.

**ENG 366 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.

**ENG 367 American Literature: Civil War to 1914 (4)**

Selected readings from authors such as Howells, James, Crane, Dickinson, Dreiser, Sinclair and London.

**ENG 370 English Literature: 1900 to 1939 (4)**

Selected readings from authors such as Lawrence, Wells, Woolf, Joyce, Auden, Eliot, Forster, Kipling, Shaw and Conrad.

**ENG 371 English Literature: 1940 to the Present (4)**

Selected readings from authors such as Lessing, Beckett, Thomas, Pinter, Spark, Burgess and Fowles.

**ENG 375 American Literature: 1914-1939 (4)**

Selected readings from authors such as Robinson, Frost, Hemingway, Fitzgerald, Cather, O'Neill, Steinbeck and Faulkner.

**ENG 376 American Literature: 1940 to the Present (4)**

Selected readings from authors such as Lowell, Updike, Cheever, Bellow, Malamud, Albee, Warren, O'Connor.

**ENG 402 The Short Story (4)**

Analysis of modern short stories.

**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.

**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.

**ENG 405 Contemporary American Drama (4)**

A comprehensive view of the best dramatic literature of the modern American theatre.

**ENG 406 Modern Drama Since Ibsen (4)**

The developments in modern European and American drama since the time of Ibsen.

**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.

**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.

**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.

**ENG 410 History of Ideas in Literature (4)**

An intensive chronological study of a number of significant themes in literature.

**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.

**ENG 415 Major Themes of the Old Testament (4)**

Study themes in the evolution of Israel's relationship with Yahweh, with an emphasis on Israel's uniqueness in ancient world religion and her sense of moral purpose.

**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.

**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.

**ENG 422 Directed Studies (1-4)**

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.

**ENG 430 Studies in World Literature (4)**

Course may be repeated for a maximum of 12 credits. 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.

**ENG 441 Colloquium in Literature (4)**

Course may be repeated for a maximum of 12 credits. 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.

**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 535 World 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 will be studied.

**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 Directed Studies (1-4)**

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 sub-title 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 (4)**

Course may be repeated for a maximum of 16 credits. 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 (4)**

Course may be repeated for a maximum of 16 credits. 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 (4)**

Course may be repeated for a maximum of 16 credits. Seminars in various ideas of the period. Genres (drama, prose, and poetry), and representative authors (e.g., Shakespeare, Milton, Spenser, Donne, Jonsen and Marlowe).

**ENG 626 Studies in Restoration and 18th Century (4)**

Course may be repeated for a maximum of 16 credits. 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 (4)**

Course may be repeated for a maximum of 16 credits. 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 (4)**

Course may be repeated for a maximum of 16 credits. 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 (4)**

Course may be repeated for a maximum of 16 credits. 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) (4)**

Course may be repeated for a maximum of 16 credits. 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) (4)** Course may be repeated for a maximum of 16 credits. 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) (4)** Course may be repeated for a maximum of 16 credits. 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 (4)** Course may be repeated for a maximum of 16 credits. 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 (4)** Course may be repeated for a maximum of 16 credits. Seminars in dialectology, syntax, semantics, stylistics, grammatical analysis, sociolinguistics, psycholinguistics.

**ENG 635 Studies in World Fiction (4)** Course may be repeated for a maximum of 16 credits. 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 (4)** Course may be repeated for a maximum of 16 credits. 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 (4)** Course may be repeated for a maximum of 16 credits. 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 (4)** Course may be repeated for a maximum of 16 credits. 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 (4)** Course may be repeated for a maximum of 16 credits. 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 699 Thesis/Creative Project (1-15)** Proposals must be approved by the student's major advisor and the Dean of the graduate School.

**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 (1-18)** Required of all doctoral candidates.

## English Education

(See EED)

## Environmental Studies

ENST courses are administered by the Environmental Studies Program.

**ENST 110 Introduction to Environmental Studies (4)** 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.

**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?

**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.

**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.

**ENST 210 Nuclear, Solar and Alternative Power (3)** Basic principles and applications of nuclear and solar power conversion, including fission, fusion and solar to electric. Solar heating of businesses and residences. Alternative power possibilities. Taught by Physics.

**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.

**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.

**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.

**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.

**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.

**ENST 260 Ecological Interpretations (3)** Discuss the existence of functional and structural ecosystems, and interpret these in relation to human survival.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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?

**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 Directed Studies (1-4)** 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. 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.

## Educational Psychology

EPRE courses are administered by the Division of Research, Evaluation and Development.

**EPRE 300 Research Analysis and Report Writing (4)** Prerequisite: ENG 101. Receive orientation to research methods, with emphasis on developing skills in library usage, basic research methods, critical analysis and report writing. Training on word processing system is also provided.

**EPRE 345 Educational Psychology (5)** Prerequisite: Provisional or full admission to PTE. Study basic principles of learning and human development as they relate to the teaching-learning process, (pre-school - 12th Grade). Topics include: learning theory, educational measurement, teaching strategies and classroom management. Required lab.

**EPRE 349 Practicum in Educational Psychology (1-5)** Prerequisites: EPRE 345. An opportunity to apply learning, measurement or developmental principles in field-based or research settings. Students are required to work 25 clock hours for each hour of credit.

**EPRE 370 Educational Tests and Measurements (3)** Introduces testing and measurement concepts to prospective teacher or individuals interested in education related applications. Explores the use and interpretation of standardized tests, basic concepts of reliability, validity and norms; construction of teacher made tests.

**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 422 Directed 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.

**EPRE 447 Developmental Psychology for Teachers (3)** Prerequisite: EPRE 345 recommended. 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 448 Learning Processes in Education (3)** Prerequisite: EPRE 345 recommended. Study major theoretical approaches to learning and basic principles of learning. Apply theories and principles to applied settings.

**EPRE 450 Motivation and Discipline in the Classroom (3)** Explore theories of environmental and personality factors involved in human motivation and apply these to classroom situations. Includes operant conditioning, punishment, achievement motivation, attribution theory and anxiety.

**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 505 Elements of Statistics (4)** Introduction to statistics. Topics include descriptive indices, transformed scores, correlation, hypothesis testing for two groups, and one factor ANOVA.

**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 513 Professional Renewal (1-12)** Various topics offered, depending on interests of instructor and students. Each course is subtitled, and no subtitle may be repeated for credit.

**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 Analysis of Variance (4)** Prerequisite: EPRE 505 or equivalent. A continuation of EPRE 505. Topics include 1 - factor analysis of variance, multiple comparisons, factorial designs, analysis of covariance and multiple regression.

**EPRE 610 Statistical Packages for Educational Research (3)** Prerequisite: EPRE 504. Learn the use of statistical software packages by analyzing data sets collected in a variety of research settings. An orientation to data management procedures, job control language, and the use of the PDP 11/44 for editing and remote job entry is also provided.

**EPRE 613 Seminar in Applied Behavioral Analysis (3)** Prerequisite: EPRE 540 & EPRE 600 or equivalents. Review assumptions of and research utilizing single subject research designs in the context of behavioral technology.

**EPRE 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. 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.

**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. Examines the processes of learning and memory from a theoretical perspective. Major theories from past to present are considered.

**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 and Technology (1)** Majors only. Required for all Educational Psychology and Technology graduate students. Survey current topics and issues, faculty interests, program opportunities and policies. Develop professional study plan. 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. May be taken multiple times up to 12 hours credit.

**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 multilevel 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 505 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.

**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 Advanced Research Methods (3)** Prerequisites: EPRE 505, and 600 or equivalent. 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.

## Earth Science

(Also see AST, GEOL, MET and OCN)  
ESCI courses are administered by the Department of Earth Sciences.

**ESCI 291 Scientific Writing (4)** Prerequisite: ENG 122. Achieve clarity and precision in expository writing as it is used in the sciences.

**ESCI 484 Earth Sciences Field Experiences (1-15)** 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.

**ESCI 499 Seminar in Earth Science (2)** A survey of 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)** Consent of instructor required. 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)** No credit for Earth Sciences majors. A practical course dealing with the origin, classification, recognition, and uses of minerals and rocks. Field trip and outside reading are required.

**ESCI 584 Earth Sciences Field Experiences (1-15)** 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.

**ESCI 599 Seminar in Earth Science (2)** A survey of earth science curriculum materials, field experiences and teaching strategies to develop major concepts and principles in the secondary classroom.

## Educational Technology

ET courses are administered by the Division of Research, Evaluation and Development.

**ET 100 Word Processing for Composition (1)** Taken concurrently with selected composition classes. Permission of instructor required. Teaches microcomputer based word processing and spell checking as tools to improve students' writing process. Provides computer assisted tutorials in grammar and punctuation.

**ET 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 or research.

**ET 410 Introduction to Educational Media (2)** Prerequisite: Provisional or full admission to PTE. Survey of research on Educational Technology, selection, acquisition and use of software and hardware; basic AV equipment operation; produce teaching materials; classroom applications of computers. Required for Media Endorsements.

**ET 418 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. Applications of educational software will be reviewed and developed.

**ET 420 Media Design and Production (3)** Computer assisted and other methods of graphics design/production. Overhead transparencies, slide/tapes, motion pictures, video and print items, script planning/production, and audio production. Required for Media Endorsements.

**ET 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.

**ET 430 Problems in Organizing Classroom and Library Materials (3)** Learn basic philosophy, terminology and practices used in preparation, storage and retrieval of materials in the Media Center and in the classroom. Learn to use file cabinet materials to individualize instruction. Microcomputer catalogs are also used.

**ET 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 such items as encyclopedias, dictionaries and atlases. Required for school media and Educational Media Specialist Endorsement.

**ET 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.

**ET 513 Professional Renewal (1-3)** Improve skills and knowledge of profession, with variable content. Specific subject indicated by subtitle.

**ET 516 Utilization of Educational Resources (3)** Prerequisite: ET 410. Investigate both print and non-print instructional materials. Help teachers select and utilize appropriate materials for individual, small group and large group instruction.

**ET 518 Microcomputer Applications in Psychology and Education (3)** Students learn the BASIC language in the context of developing application programs for the delivery of instruction, simulation, problem solving, and conducting educational and psychological research. Completion of self-defined project is required.

**ET 520 Media Design and Production (3)** Investigate planning, scripting and production techniques for non-graphic teaching materials such as CAI, slide/tape, television and audio production. Students will develop and write suitable scripts in each medium. Required for School Media and Educational Media Specialist endorsement.

**ET 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.

**ET 523 Technology and Its Impact on Society (3)** The history of technology in which the student reviews current thinking and practice in educational technology as it relates to society. Ethics, legal issues, copyright, patent and the future of educational technology are discussed.

**ET 526 Orientation to Computer-Assisted Instruction (3)** Students survey CAI authoring systems, programming languages, architecture, operating systems, economics, and computing history as a prelude to further coursework in instructional computing.

**ET 530 Cataloging and Classification of Media (4)** 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. On-line cataloging is practiced. Required for school media and Educational Media Specialist Endorsement.

**ET 533 Reference Materials Basic School Reference Service (3)** Discuss suitable reference materials for elementary and secondary school resource centers, covering selection principles and use of such items as encyclopedias, dictionaries and atlases. Required for school media and Educational Media Specialist Endorsement.

**ET 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.

**ET 575 Administering Educational Media I (5)** Learn the essentials of organizing and administering school and district media programs. Required for School Media and Educational Media Specialist.

**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 587 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 601 Practicum in Educational Technology (1-4)** 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 610 Instructional Technology: Philosophy, Theory and Practices (3)** Examines general analysis, design and evaluation components of the systems approach toward educational, instructional and training development.

**ET 620 Instructional Design Techniques (3)** Covers techniques of curriculum analysis for basic learning activities in the classroom, and computer based education applications.

**ET 622 Directed Study in Educational Technology (1-4)** Minimum of 25 clock hours for each credit hour earned. Extensively read, research and summarize existing information to draw conclusions about past and existing practices in Educational Technology. Two copies of a scholarly paper must be filed with the student's instructor and program director before end of quarter in which credit is given.

**ET 627 Computer-Assisted Instruction (3)** Prerequisites: ET 418/518 or ET 526. Conceptual bases of computer based instruction are explored. The student will survey the history of CAI, review research on effectiveness and development of computer based materials and explore a series of reading with current topics related to this medium.

**ET 628 Computer-Managed Instruction (3)** Prerequisite: ET 420/520 or ET 526. Conceptual bases of computer managed instruction are explored. The student will survey the history of CMI, review literature related to the effectiveness of CMI and survey current CMI applications.

**ET 629 Evaluation of CBE Software (3)** Prerequisite: ET 526. The student is presented with those evaluation concepts and principles which directly apply to the evaluation of computer based instructional materials. Both product and process evaluations are described and implemented.

**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 638 Individualized Learning Activity Packages (3)** Develop and generate individualized learning experiences for students. Open to all academic disciplines; choose area of specialization and instructional level of an instructional delivery system.

**ET 640 Practicum in Instructional Planning and Design (3)** Prerequisite: ET 620 or equivalent. Analyze theories of learning, instructional design and curriculum development. Students will also gain practical experience in the design and development of instructional materials and curriculum.

**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 (2)** Specialized subject area reference sources, special collections such as Government Publications and on line data base searching are explored.

**ET 699 Master's Thesis (1-8)** Optional for Master of Arts program on recommendation of major advisor when requested by student. S/U final mark.

**ET 797 Doctoral Proposal Seminar (1-6)** Series of short courses to study results of research in educational technology and its implications, identify and isolate major problems facing educational technologists. A one-hour seminar offered Fall, Winter, Spring and Summer Quarters. Sequence required of all doctoral students. S/U final mark.

**ET 799 Doctoral Dissertation (1-18)** 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.

## Finance

FIN courses are administered by the Department of Finance.

**FIN 340 Principles of Risk and Insurance (4)** 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, non-forfeiture 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 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 (4)** Prerequisite: FIN 370. 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.

**FIN 372 Principles of Real Estate (4)** Prerequisite: FIN 370. 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 422 Finance/Insurance 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.

**FIN 441 Estate Planning and Life Insurance (4)** 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 444 Property and Casualty Insurance (4)** 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 (4)** 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 (4)** 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, 371. 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 (4)** 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 474 Case Problems in Financial Management (4)** Prerequisite: BAQA 291 and 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 622 Finance/Insurance Directed 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.

**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.

## Foreign Languages

(Also see FR, GER and SPAN)

FL courses are administered by the Department of Foreign Languages.

**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, who are required to read and write assignments in the original language.

**FL 331 Teaching Foreign Language in the Middle School (2)** Prerequisites: Full admission to PTE or certification at the undergraduate level; intermediate standing 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 (3)** Prerequisites: Full admission to PTE or certification at the undergraduate level. 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 (1-10)** 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 513 Foreign Languages and the Computer (2)** A course designed to examine the role of the computer in the field of Foreign Languages and ESL and teach participants to design courseware in their target languages.

**FL 531 Teaching Foreign Languages (1-4)** 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 (1-10)** Open only by invitation to resident graduate students. Supervised professional activity in student's area of interest.

## Food, Nutrition and Dietetics

FND courses are administered by the School of Nursing.

**FND 241 Principles of Food Science I (4)** (2 lecture, 4 laboratory) Prerequisites: CHEM 109 or 130; FND 251. Study the chemical and physical structure of food and the effects of processing and preparation on its properties. Focus on food preservation, carbohydrates in food systems, and baked flour products. Lab graded separately.

**FND 242 Principles of Food Science II (4)** (2 lecture, 4 laboratory) Prerequisites: FND 241. Study the chemical and physical structure of food and the effects of processing and preparation on its properties. Focus on gels, emulsions, foams, and proteins in food systems. Lab graded separately.

**FND 249 Meal Management and Preparation (2)** (1 lecture, 1 laboratory) Learn to plan nutritionally balanced; aesthetically pleasing meals for various income levels. Management principles, types of table service included.

**FND 250 Principles of Human Nutrition (3)** Study contemporary nutrition issues influencing the well-being of humans.

**FND 251 Nutrition I (3)** Prerequisite: CHEM 109 or 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. Each workshop has a subtitle, and no subtitle may be repeated for credit.

**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-psychosocial factors.

**FND 353 Clinical Nutrition (5)** Prerequisites: FND 251, 259, CHEM 281 and ZOO 250. Study nutrition assessment and intervention for acute and chronic stressors.

**FND 355 Nutrition and Physical Fitness (3)** Evaluate the relationship between dietary practices and physical performance.

**FND 356 Infant and Child Nutrition (3)** Prerequisite: FND 250 or 251. Study changing nutritional needs to promote maternal, infant and child health.

**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 358 Developmental Nutrition (3)** The principles of nutrition and feeding in child development and developmental disabilities.

**FND 362 Demonstration Techniques (2)** (1 lecture, 3 laboratory) Prerequisite: FND 242, 251. Learn the theory and practice of conducting educational and commercial demonstrations.

**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 Senior FND Seminar (2)** Investigate current career opportunities and preparation for employment. Discuss today's issues for professional involvement.



**FND 409 Food and Nutrition Internship (5-15)** Prerequisites: majors only; junior or senior level; minimum 2.7 GPA; consent of faculty coordinator; arrangements to be made one quarter in advance. A minimum of 5 credits per enrollment; may be repeated for a maximum of 15 credits. A minimum of 25 clock hours earns 1 credit hour. Integration of theory and practice for career preparation.

**FND 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.

**FND 446 Quantity Food service Organization (4)** Prerequisites: CHEM 109 or CHEM 130. The principles of organization in quantity food service with emphasis on the Systems Approach, and including production, supply, purchasing, work and marketing systems, as well as sanitation and safety principles.

**FND 447 Quantity Food Purchasing and Preparation (5)** (3 lecture, 2 laboratory) Prerequisite: FND 446. The theories and principles of food service management including responsibilities and leadership styles, personnel management, decision making, labor policies and legislation. Practical application included.

**FND 451 Nutrition II (3)** Prerequisites: FND 251, CHEM 281. Study nutrients and their integration at the cellular level.

**FND 452 Community Nutrition (3)** Prerequisites: FND 259, 451, 356, STAT 303. Needs assessment in health agencies, relevant legislation and agencies offering nutritional services.

**FND 453 Nutritional Intervention Practicum (1-3 laboratory)** Prerequisite: FND 353. Senior dietetic majors only. Supervised professional activity in various clinical settings. One credit for 25 clock hours of practicum. One to three variable credits repeatable for a maximum of 3 credits.

**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 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 555 Nutrition and Physical Fitness (3)** Evaluate the relationship between dietary practices and physical performance.

**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 622 Directed 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 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 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 Nutrition.

**FND 696 Master's Project (4-9)** In lieu of a thesis for FND students in an interdisciplinary master's program, with the approval of a major advisor.

## Foundations of Education

(See EDF)

## French

FR courses are administered by the Department of Foreign Languages.

**FR 101 Elementary French I (5)** Learn the basic grammatical structures and vocabulary of French and acquire a speaking ability of the language using everyday cultural situations.

**FR 102 Elementary French II (5)** Prerequisite: FR 101 or equivalent. Learn the basic grammatical structures and vocabulary of French and acquire a speaking ability of the language using everyday cultural situations.

**FR 103 Elementary French III (5)** Prerequisite: FR 102 or equivalent. Learn the basic grammatical structures and vocabulary of French and acquire a speaking ability of the language using everyday cultural situations.

**FR 105 French for Travelers (1-3)** May be repeated for maximum of six credit hours. Learn the basic vocabulary and sentence patterns needed by a traveler and be aware of cultural differences.

**FR 201 Intermediate French Grammar I (3)** Prerequisite, FR 103 or equivalent. Review language structures, based on cultural and literary materials, and develop reading and writing skills. Computer drillwork may be included. Conducted in French.

**FR 202 Intermediate French Grammar II (3)** Prerequisite, FR 201 or equivalent. Review language structures, based on cultural and literary materials, and develop reading and writing skills. Computer drillwork may be included. Conducted in French.

**FR 203 Intermediate French Grammar III (3)** Prerequisite, FR 202 or equivalent. Review language structures, based on cultural and literary materials, and develop reading and writing skills. Computer drillwork may be included. Conducted in French.

**FR 210 French Civilization and Culture (4)** Available only on Study Abroad. Study essential historical and cultural accomplishments of French-speaking Europe. Special attention paid to art, architecture, theater and music. Taught in English.

**FR 211 Intermediate French Conversation and Culture I (2)** Prerequisite FR 103 or equivalent. Gain conversational practice on topics of everyday cultural interest. Discussions based on cultural readings. Emphasize vocabulary development and listening comprehension. Conducted in French.

**FR 212 Intermediate French Conversation and Culture II (2)** Prerequisite: FR 211. Gain conversational practice on topics of everyday cultural interest. Discussions based on cultural readings. Emphasize vocabulary development and listening comprehension. Conducted in French.

**FR 213 Intermediate French Conversation and Culture III (2)** Prerequisite: FR 212. Gain conversational practice on topics of everyday cultural interest. Discussions based on cultural readings. Emphasize vocabulary development and listening comprehension. Conducted in French.

**FR 235 Conversational French (4)** Available only on Study Abroad. Develop fluency and build vocabulary within a total language immersion experience in France. Conducted in French.

**FR 280 Seminar in French Drama (3)** Course may be repeated for a maximum of six hours. Prerequisite: one year college French or equivalent. Study various dramatic forms found in French literature by staging scenes from French plays, both in class and in performances open to the public.

**FR 301 Intermediate French Conversation (4)** Prerequisite: FR 203 or equivalent. Develop fluency, and build vocabulary through discussions of everyday life in the French-speaking world. Conducted in French.

**FR 302 Intermediate French Composition (4)** Prerequisite: FR 203 or equivalent. Perfect writing ability through original compositions and translations and an active review and discussion of common grammatical problems. Conducted in French.

**FR 311 French Civilization I (3)** Prerequisite: FR 203 or equivalent. Study French civilization from prehistoric times up through the classical period, including the historical, geographical, economic, political and artistic development of France. Conducted in French.

**FR 312 French Civilization II (3)** Prerequisite: FR 203 or equivalent. Study of French civilization from 1715 to the present, including the political, social, artistic development of France. Conducted in French.

**FR 316 Modern France (3)** Become familiar with the culture and society of France as they relate to business and other professional interests. Conducted in English.

**FR 318 Survey of French Literature I (3)** Prerequisite: FR 203. Survey major authors and literary movements from the Middle Ages to Classical Theater. Conducted in French.

**FR 319 Survey of French Literature II (3)** Prerequisite: FR 318. Survey major authors and literary movements from the 17th century moralists through the Romantic movement. Conducted in French.

**FR 320 Survey of French Literature III (3)** Prerequisite: FR 319. Survey major authors and literary movements from 19th century Realism to the present. Conducted in French.

**FR 400 Problems in Oral French (3)** Prerequisite: FR 203 or equivalent. Reinforce the usage of the phonetic system, correct individual pronunciation problems, and perfect correct oral expression. Conducted in French.

**FR 401 Intensive French (5)** Available only on Study Abroad. Experience intensive training in active use of French through formal classroom instruction. Special attention to grammar review, idioms and media language.

**FR 402 Contemporary Life in France (3)** Available only on Study Abroad. Examine the customs, institutions, and mores of present-day France. Study the historical context of these traditions, and how they reflect the French character.

**FR 403 France of the Ancien Regime (4)** Available only on Study Abroad. Study of social, cultural and political developments in French-speaking Europe from prehistory to the French Revolution with attention to art, architecture, theater and music.

**FR 404 Modern France (4)** Available only on Study Abroad. Study of social, cultural and political developments in post French Revolution, French-speaking Europe, with special attention paid to art, architecture, theater and music.

**FR 405 French for the Professional I: Reading and Vocabulary (3)** Prerequisite: FR 203. Learn language skills for use in commercial, professional, and government activities. Emphasize acquiring professional vocabulary and building reading and conversational skills. Conducted in French.

**FR 406 French for the Professional II: Correspondence (3)** Prerequisite: FR 203. Acquisition of writing skills for the future professional dealing with French-speaking people. Emphasize mechanics, style, and translation of correspondence into English. Conducted in French.

**FR 420 Topics in Advanced Conversation (1-3)** May be repeated up to maximum of 5 hours. Discuss topics of current interest and learn advanced vocabulary and complex idiomatic expressions. Conducted in French. No one topic may be repeated.

**FR 421 Problems in Advanced Grammar (1-3)** May be repeated up to maximum of 5 hours. Learn the more difficult grammatical structures with special emphasis on structures presenting special difficulties in teaching French. Conducted in French. No one topic may be repeated.

**FR 422 Directed Studies (1-4)** Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter on a problem. Two copies of a well-written paper must be filed before credit is given, one with the instructor, one with the department chairperson.

**FR 450 Twentieth Century French Theater (3)** Prerequisite: three years college French or permission of instructor. Study complete works of major 20th century dramatists such as Cocteau, Giraudoux, Anouilh, Sartre, Ionesco, Beckett, and Genet. Conducted in French.

**FR 451 Twentieth Century French Prose (3)** Prerequisite: three years college French or equivalent. Study complete works of major prose writers such as Gide, Mauriac, Malvaux, Sartre, Camus and the new novelists. Conducted in French.

**FR 455 Nineteenth Century French Prose (3)** Prerequisite: three years college French or equivalent. Study the prose forms of the novel, short story and theater of 19th century France. Novel emphasized. Conducted in French.

**FR 459 Trends in French Poetry (3)** Prerequisite: Three years college French or equivalent. Study major poetic movements in France, including the Pleiade, Romanticism, Symbolism and contemporary poetry. Conducted in French.

**FR 500 Problems in Oral French (3)** Prerequisite: FR 203 or equivalent. Reinforce the usage of the phonetic system, correct individual pronunciation problems, and perfect correct oral expression. Conducted in French.

**FR 501 Intensive French (5)** Available only on Study Abroad. Experience intensive training in active use of French through formal classroom instruction. Special attention to grammar review, idioms and media language.

**FR 502 Contemporary Life in France (3)** Available only on Study Abroad. Examine the customs, institutions, and mores of present-day France. Study the historical context of these traditions, and how they reflect the French character.

**FR 503 France of the Ancien Regime (4)** Available only on Study Abroad. Study of social, cultural and political developments in French-speaking Europe from prehistory to the French Revolution with attention to art, architecture, theater and music.

**FR 504 Modern France (4)** Available only on Study Abroad. Study of social, cultural and political developments in post French Revolution, French-speaking Europe, with special attention paid to art, architecture, theater and music.

**FR 505 Topics in French Civilization (1-3)** May be repeated with different titles to a maximum of 15 hours. Prerequisites: Four years of college French or permission of the instructor. Study a variety of selected topics relevant to the Francophone world. Topics to be considered also as material for presentation in the secondary classroom. Conducted in French. No one title may be repeated.

**FR 506 Topics in French Literature for the Classroom (1-3)** May be repeated with different titles to a maximum of 10 hours. Prerequisites: Four years of college French or permission of the instructor. Reading and discussion of significant works in French-language literature. Works selected and discussed with a focus on their applicability to the secondary school classroom. Conducted in French. No one title may be repeated.

**FR 508 Workshop (1-10)** For language teachers or those planning to be teachers. Workshop will focus on specific, practical techniques for teaching French or a specific content area.

**FR 511 French Civilization I (3)** Prerequisite: FR 203 or equivalent. Study French civilization from prehistoric times up through the classical period, including the historical, geographical, economic, political and artistic development of France. Conducted in French.

**FR 512 French Civilization II (3)** Prerequisite: FR 203 or equivalent. Study of French civilization from 1715 to the present, including the political, social and artistic development of France. Conducted in French.

**FR 520 Topics in Advanced Conversation (1-3)** May be repeated with different titles up to maximum of 5 hours. Discuss topics of current interest and learn advanced vocabulary and complex idiomatic expressions. Conducted in French. No one title may be repeated.

**FR 521 Problems in Advanced Grammar (3)** May be repeated with different titles up to maximum of 5 hours. Learn the more difficult grammatical structures with special emphasis on structures presenting special difficulties in teaching French. Conducted in French. No one title may be repeated.

**FR 522 Problems in Advanced French Composition (1-3)** May be repeated with different titles up to a maximum of 5 hours. Emphasize written expression, style and idiomatic usage of the French language. Conducted in French. No one title may be repeated.

**FR 550 Twentieth Century French Theater (3)** Prerequisite: Three years college French or permission of instructor. Study complete works of major 20th century dramatists such as Cocteau, Giraudoux, Anouilh, Sartre, Ionesco, Beckett, and Genet. Conducted in French.

**FR 551 Twentieth Century French Prose (3)** Prerequisite: Three years college French or equivalent. Study complete works of major prose writers such as Gide, Mauriac, Malvaux, Sartre, Camus and the new novelists. Conducted in French.

**FR 555 Nineteenth Century French Prose (3)** Prerequisite: Three years college French or equivalent. Study the prose forms of the novel, short story and theater of 19th century France. Novel emphasized. Conducted in French.

**FR 559 Trends in French Poetry (3)** Prerequisite: Three years college French or equivalent. Study major poetic movements in France, including the Pleiade, Romanticism, Symbolism and contemporary poetry. Conducted in French.

**FR 575 French Readings (1-4)** Prerequisite: Two years of college French. Discuss extensive outside reading assignments in class and in instructor conference. Research paper required.

**FR 622 Directed 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 the instructor, one with the department chairperson.

## Geography

GEOG courses are administered by the Department of Geography.

**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.

**GEOG 110 Geography of the United States and Canada (5)** Learn of these regions and their interdependence, emphasizing land use and social and economic problems.

**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.

**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.

**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.

**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.

**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.

**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.

**GEOG 318 Australia (2)** The geographic arrangement and interaction of human communities, social groups, and urban and rural population in Australian society. The relationship of Australia's physical environment to the human patterns.

**GEOG 326 Africa (5)** Trace relationships between the physical and cultural patterns, including land use, resource development, social and political problems.

**GEOG 336 Geography of Mexico and Central America (4)** Analyze the physical and cultural conditions of Mexico and the Central American Republics, emphasizing the political, economic, and population problems facing these strategically located countries.

**GEOG 337 The Caribbean Region (2)** Analysis of the cultural and environmental patterns of the Caribbean region. Emphasize explanations of existing patterns and trends shaping new Caribbean patterns.

**GEOG 343 Western Europe (3)** Study the relationships between the physical and cultural environments, including land use, resources, economics and political problems.

**GEOG 344 Asia: Special Topics (3)** May be repeated under different topics. Study the regions of Asia through variable offerings under this heading. Examine patterns of physical and cultural landscapes, social organization, and economic activities.

**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.

**GEOG 355 Population Geography (3)** Investigate the distribution of world population through related topics of migration, settlement, urbanization and utilization of natural resources.

**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.

**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.

**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.

**GEOG 364 Maps and Their Uses (2)** Learn effective use of maps and globes, and develop skill in reading and interpreting maps.

**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.

**GEOG 370 Urban Geography (4)** Analysis of the origins, distribution, growth functions, transportation and land use patterns of cities, emphasizing the North American city.

**GEOG 392 Field Course in Geography (3-15)** 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 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.

**GEOG 438 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.

**GEOG 448 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.

**GEOG 450 Urban-Social Geography (4)** Survey social, behavioral, political and demographic factors which influence spatial arrangements and environmental patterns of the contemporary North American city.

**GEOG 453 Geography of the Great Plains (3)** 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.

**GEOG 470 Urban and Regional Planning (3)** Prerequisites: Consent of the instructor or any two of the following: GEOG 370, GEOG 450, PSCI 402, ECON 245, or ANT 331/531. 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 (1-9)** 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 502 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 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.

**GEOG 508 Workshop (1-9)** Focus on applied aspect of geographic teaching or research. Subject determined by subtitle. Geography 508 (Workshop) credits will not count toward completion of the master's program requirement.

**GEOG 538 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.

**GEOG 541 Seminar in Teaching Geography (3)** Appraise and become familiar with various concepts, theories and skills in geography and with the techniques and methodologies appropriate for teaching them.

**GEOG 548 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.

**GEOG 550 Urban-Social Geography (4)** Survey social, behavioral, political and demographic factors which influence spatial arrangements and environmental patterns of the contemporary North American city.

**GEOG 553 Geography of the Great Plains (3)** 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.

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 590 Advanced Research Seminar (3)** Prerequisites: GEOG 600 or GEOG 578 or consent of instructor. Research will be undertaken on selected geographic issues; emphasis on the directed application of acquired research skills.

**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 (1-4)** 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 Directed Studies (1-4)** 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 755 Supervised Teaching Internship in Geography (3)** Course may be taken up to three times. 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 (1-18)** Required of all doctoral candidates.

## Geology

GEOL courses are administered by the Department of Earth Sciences.

**GEOL 100 General Geology (4)** (3 lecture, 2 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.

**GEOL 110 Our Geological Environment (3)** Not for Earth Science majors. Interaction between people and the geological environment. Topics such as volcanoes, earthquakes, floods, natural resources, geological hazards, plate tectonics, geologic time, origin of landscapes, earth materials and earth history.

**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.

**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.

**GEOL 330 Earth Materials (4)** (2 lecture, 4 laboratory) Not for Earth Science majors. 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. Field trips required.

**GEOL 370 Structural Geology (5)** (4 lecture, 3 laboratory) Prerequisites: GEOL 201, PHYS 260, MATH 125. Mechanics of rock deformation, and geologic structures of the earth's crust — their description and classification, theories and facts regarding their origins, and methods of investigating them. Field trips required.

**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 topics 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 421 Optical Crystallography and Petrography (5)** (3 lecture, 6 laboratory) Prerequisite: GEOL 320. Theories and methods of optical crystallography and the optical properties of minerals. Various petrographic techniques, including use of the petrographic microscope for identifying mineral grains in immersion media and in rock thin sections, will be learned.

**GEOL 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.

**GEOL 425 Economic Geology (3)** Prerequisite: GEOL 320. Origins, geologic occurrences, uses, and conservation of the earth's metallic and nonmetallic mineral deposits.

**GEOL 455 Stratigraphy (4)** (3 lecture, 3 laboratory) Prerequisite: GEOL 350. Principles and techniques of analyzing and interpreting sedimentary rock strata. 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; lithologic, climatic and structural controls.

**GEOL 464 Glacial and Quaternary Geology (3)** Prerequisite: GEOL 100 or 201. A survey of geologic phenomena which characterized the Quaternary Period, with emphasis on the behavior of 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 or 570 and consent of instructor. An introduction to the techniques employed by geologists to obtain and record information from rocks in the field. A geologic map of an area of moderately complex structure will be prepared by each student.

**GEOL 490 Rocky Mountain Geology Seminar (3)** Prerequisite: Consent of instructor. Focus is on 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. Marine geologic processes and forms, including continental margin and oceanic basin structure and geomorphology, marine sedimentation, near-shore processes and coastal landforms.

**GEOL 521 Optical Crystallography and Petrography (5)** (3 lecture, 6 laboratory) Prerequisite: GEOL 320. Theories and methods of optical crystallography and the optical properties of minerals. Various petrographic techniques, including use of the petrographic microscope for identifying mineral grains in immersion media and in rock thin sections, will be learned.

**GEOL 525 Economic Geology (3)** Prerequisite: GEOL 320. Origins, geologic occurrences, uses, and conservation of the earth's metallic and nonmetallic mineral deposits.

**GEOL 530 Igneous and Metamorphic Petrology (4)** (3 lecture, 3 laboratory) Prerequisite: GEOL 421 or 521. 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 540 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 550 Sedimentary Petrology (4)** (2 lecture, 6 laboratory) Prerequisite: GEOL 421 or 521. Advanced study of sedimentary rocks. Various techniques, including use of the petrographic microscope, will be employed to analyze these rocks and to interpret their histories.

**GEOL 555 Stratigraphy (4)** (3 lecture, 3 laboratory) Prerequisite: GEOL 350. Principles and techniques of analyzing and interpreting sedimentary rock strata. Regional stratigraphy of northeastern Colorado is investigated.

**GEOL 560 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; lithologic, climatic and structural controls.

**GEOL 564 Glacial and Quaternary Geology (3)** Prerequisite: GEOL 100 or 201. A survey of geologic phenomena which characterized the Quaternary Period, with emphasis on the behavior of glaciers, glacial landforms and sediment and climatic implications. Two Saturday field trips required.

**GEOL 565 Quaternary Stratigraphy (3)** Prerequisite: GEOL 464 or 564. 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 421 or 521 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 568 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 570 Structural Geology (5)** (4 lecture, 3 laboratory) Prerequisites: GEOL 201 PHYS 260, MATH 125. Mechanics of rock deformation, and geologic structures of the earth's crust — their description and classification, theories and facts regarding their origins, and methods of investigating them. Field trips required.

**GEOL 571 Geotectonics (3)** The development, mechanisms and significance of plate tectonics—continental drift, paleomagnetism, sea-floor spreading, plate motions, tectonism, volcanism and eugeosynclines.

**GEOL 580 Geologic Field Methods (5)** (3 lecture, 6 laboratory) Prerequisites: GEOL 202, 370 or 570, and consent of instructor. An introduction to the techniques employed by geologists to obtain and record information from rocks in the field. A geologic map of an area of moderately complex structure will be prepared by each student.

**GEOL 590 Rocky Mountain Geology Seminar (3)** Prerequisite: Consent of instructor. Focus is on 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 595 Marine Geology (3)** Prerequisites: GEOL 202 and OCN 301. Marine geologic processes and forms, including continental margin and oceanic basin structure and geomorphology, marine sedimentation, near-shore processes and coastal landforms.

**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 Directed 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 500-level requirement unless student is in full-time residence at UNC during quarter course is taken.

## German

GER courses are administered by the Department of Foreign Languages.

**GER 101 Elementary German I (5)** Learn German through the aural-oral conversational approach, intensive use of aural-oral materials, writing, reading exercises, and audio-visual aids and devices providing materials for pronunciation, comprehension, construction, and fluency.

**GER 102 Elementary German II (5)** Learn German through the aural-oral conversational approach, intensive use of aural-oral materials, writing, reading exercises, and audio-visual aids and devices providing materials for pronunciation, comprehension, construction, and fluency.



**GER 103 Elementary German III (5)** Learn German through the aural-oral conversational approach, intensive use of aural-oral materials, writing, reading exercises, and audio-visual aids and devices providing materials for pronunciation, comprehension, construction, and fluency.

**GER 105 Tirolean Folk Dance (1)** Learn folk dances using German as the language of instruction. Improve use of German language and learn dances at the same time. S/U grading.

**GER 106 Contemporary German Drama (2)** Study a representative contemporary German play or skits to be performed in public and in class.

**GER 201 Intermediate German Grammar I (3)** Prerequisite: GER 103 or equivalent. Analyze language structures, based on cultural and literary materials. Develop reading and writing skills. Computer drillwork may be included. Conducted in German.

**GER 202 Intermediate German Grammar II (3)** Prerequisite: GER 201 or equivalent. Analyze language structures, based on cultural and literary materials. Develop reading and writing skills. Computer drillwork may be included. Conducted in German.

**GER 203 Intermediate German Grammar III (3)** Prerequisite: GER 202 or equivalent. Analyze language structures, based on cultural and literary materials. Develop reading and writing skills. Computer drillwork may be included. Conducted in German.

**GER 210 German Civilization and Culture (4)** For study abroad program participants only. Survey essential historical, political and artistic developments and accomplishments from early times to present. Stress events most significant to contemporary German life style.

**GER 211 Intermediate German Conversation and Culture I (2)** Prerequisite: GER 103 or equivalent. Gain conversational practice on topics of everyday cultural interest. Discussions based on cultural readings. Emphasize vocabulary development and listening comprehension. Conducted in German.

**GER 212 Intermediate German Conversation and Culture II (2)** Prerequisite: GER 211. Gain conversational practice on topics of everyday cultural interest. Discussions based on cultural readings. Emphasize vocabulary development and listening comprehension. Conducted in German.

**GER 213 Intermediate German Conversation and Culture III (2)** Prerequisite: GER 212. Gain conversational practice on topics of everyday cultural interest. Discussions based on cultural readings. Emphasize vocabulary development and listening comprehension. Conducted in German.

**GER 235 Conversational German (4)** For study abroad program participants only. Take simultaneously with GER 103 or 203. Intensively train listening and speaking, as well as practicing structural and idiomatic forms and studying current events.

**GER 301 German Conversation (4)** Prerequisite: GER 203 or equivalent. Develop fluency and build vocabulary through discussions of everyday life in the German-speaking world. Conducted in German.

**GER 302 German Composition and Grammar (4)** Study the more complex elements of German syntax and sentence structure, and acquire flexibility of expression in the written language.

**GER 311 German Civilization from its Beginnings to 1848 (3)** Examine major social, cultural and political developments from time of tribal migrations to rise of German nationalistic and democratic fervor. Conducted in German.

**GER 312 German Civilization from 1848 to Present (3)** Examine major social, cultural and political developments from the Revolution of 1848 to the present. Conducted in German.

**GER 316 Modern Germany (3)** Become familiar with the culture and society of Germany as they relate to business and other professional interests. Conducted in English.

**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 Sturm and Stress. Readings, lectures and discussions in German.

**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.

**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. Readings and lectures in German.

**GER 325 Post War Literature Since 1945 (3)** Prerequisite: Two years of college German or equivalent. Study reemergence of German literature after World War II and include the short story and the Hoerspiel with other forms.

**GER 340 German Drama (3)** Prerequisite: 2 years of college German or equivalent. Analyze and discuss dramas that represent main periods in Germany's dramatical history from Middle Ages to 20th Century Radio Play.

**GER 345 German Phonetics and Pronunciation (3)** Prerequisite: Two years college German or equivalent. Correct and perfect pronunciation, using an analysis of the sound system and a survey of the historical and regional linguistic developments.

**GER 355 German Literary Masterpieces in Translation (4)** Study 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 (1-3)** May be repeated up to maximum of 5 hours. Prerequisite: Two years college German or equivalent. Provides advanced oral training. Stress on perfecting pronunciation, comprehension, fluency, and idiomatic control of German. No one title may be repeated.

**GER 401 Intensive German (5)** Available only on Study Abroad. Emphasize active use of the language through formal classroom instruction. Special attention to idioms, nuances of German and language of the media.

**GER 402 Contemporary Life in Germany (3)** Available only on Study Abroad. Examine the customs, institutions, and mores of present-day Germany. Study the historical context of these traditions, and how they reflect the German character.

**GER 403 Practicum in Germany (4)** Available only on Study Abroad. Experience work environment of the German business person, artisan, worker or professional through direct work experience.

**GER 404 Modern Germany (4)** Available only on Study Abroad. Examine traditions, customs, institutions and mores of today's German-speaking Europe and how these reflect the national character of the people.

**GER 405 German for the Professional I: Reading and Vocabulary (3)** Prerequisite: GER 203. Learn language skills for use in commercial, professional, and government activities. Emphasize acquiring professional vocabulary and building reading and conversational skills. Conducted in German.

**GER 406 German for the Professional II: Correspondence (3)** Prerequisite: GER 203. Acquisition of writing skills for the future professional dealing with German-speaking people. Emphasize mechanics, style, and translation of correspondence into English. Conducted in German.

**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 Directed Studies (1-4)** Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on problem. Two copies of a well-written paper must be filed before credit is given; one with the instructor, one with the department chairperson.

**GER 430 German Poetry (3)** Prerequisite: Two years college German or equivalent. Survey German lyrical poetry from "Hildebrandslied" to the present. Emphasis on the Age of Goethe, Romanticism and modern poetry. Conducted in German.

**GER 500 Problems in Oral German (1-3)** May be repeated with different titles up to maximum of 5 hours. Prerequisite: Four years college German. Provide advanced oral training. Stress on perfecting pronunciation, comprehension, fluency, and idiomatic control of German. No one title may be repeated.



**GER 501 Intensive German (5)** Available only on Study Abroad. Emphasize active use of the language through formal classroom instruction. Special attention to idioms, nuances of German and language of the media.

**GER 502 Contemporary Life in Germany (3)** Available only on Study Abroad. Examine the customs, institutions, and mores of present-day Germany. Study the historical context of these traditions, and how they reflect the German character.

**GER 503 Practicum in Germany (4)** Available only on Study Abroad. Experience work environment of the German business person, artisan, worker or professional through direct work experience.

**GER 504 Modern Germany (4)** Available only on Study Abroad. Examine traditions, customs, institutions and mores of today's German-speaking Europe and how these reflect the national character of the people.

**GER 505 Topics in German Civilization (1-3)** May be repeated with different titles to maximum of 15 hours. Prerequisite: Four years of college German or permission of the instructor. Study of a variety of selected topics relevant to the German world. Topics to be considered also as material for presentation in the secondary classroom. Conducted in German. No one title may be repeated.

**GER 506 Topics in German Literature (1-3)** May be repeated with different titles to maximum of 10 hours. Prerequisite: 4 years college German or permission of instructor. Reading and discussion of significant works in German-language literature. Work selected and discussed with a focus on their applicability to the secondary school classroom. Conducted in German. No one title may be repeated.

**GER 508 Workshop (1-10)** For language teachers or those planning to be teachers. Workshop will focus on specific, practical techniques for teaching German or a specific content area.

**GER 511 German Civilization from Its Beginnings to 1848 (3)** Examine major social, cultural and political developments from time of tribal migrations to rise of German nationalistic and democratic fervor. Conducted in German.

**GER 512 German Civilization from 1848 to Present (3)** Examine major social, cultural and political developments from the Revolution of 1848 to the present. Conducted in German.

**GER 521 Problems in Advanced Grammar (1-3)** May be repeated with different titles to maximum of 5 hours. Prerequisite: 4 years college German or permission of instructor. Learn the more difficult grammatical structures with special emphasis on structures presenting special difficulties in teaching German. Conducted in German. No one topic may be repeated.

**GER 523 Problems in Advanced German Composition (1-3)** May be repeated with different titles up to maximum of 5 hours. Prerequisite: Four years of college German or permission of instructor. Emphasis on written expression style and idiomatic usage of the German language. Conducted in German. No one title may be repeated.

**GER 525 Post-War Literature Since 1945 (3)** Prerequisite: Two years of college German or equivalent. Study reemergence of German literature after World War II and include the short story and the Hoerspiel with other forms.

**GER 530 German Poetry (3)** Prerequisite: Two years college German or equivalent. Survey German lyrical poetry from "Hildebrandslied" to the present. Emphasis on the Age of Goethe, Romanticism and modern poetry. Conducted in German.

**GER 540 German Drama (3)** Prerequisite: 2 years of college German or equivalent. Analyze and discuss dramas that represent main periods in Germany's dramatic history from Middle Ages to 20th Century Radio Play.

**GER 545 German Phonetics and Pronunciation (3)** Prerequisite: Two years college German or equivalent. Correct and perfect pronunciation, using an analysis of the sound system and a survey of the historical and regional linguistic developments.

**GER 555 German Literary Masterpieces in Translation (4)** Study 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 622 Directed Study in German (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 the instructor, one with the department chairperson.

## Gerontology

GERO courses are administered by the Department of Human Services.

**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.

**GERO 205 Introduction to Gerontology (3)** Survey characteristics and concerns of older persons, and learn the social, psychological and cultural factors associated with age.

**GERO 235 Middle Age and Aging (3)** A life span approach to the psychological, sociological and biological changes within adulthood will be taken. The transition and changes during adulthood will also be explored.

**GERO 294 Practicum in Gerontology (2)** Individual observation and supervised experience in working in gerontology-related agencies. Course may be repeated for a total of 6 credit hours. S/U grade.

**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 (1-5)** Topics such as programming for the elderly and community relations will be introduced. Materials prescribed by specific workshop as offered.

**GERO 397 Practice Skills in Aging Services (4)** Develop communication and interviewing skills for working with older individuals and groups and with families of older persons. Attention given to specific developmental tasks and situations of later life.

**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.

**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)** Prerequisite: ZOO 105 or ZOO 220. Investigate biological changes which take place during the normal process of aging in the human, including the ten organ systems.

**GERO 422 Directed 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.

**GERO 434 Management Concepts in Aging Services (3)** Examines concepts of management and administration of organizations, emphasizing principles and practices currently used in aging programs.

**GERO 485 Senior Seminar (3)** In preparation for internship, integrate knowledge of aging with beginning professional goals and objectives. Take prior to internship.

**GERO 495 Internship in Gerontology (1-18)** Prerequisites: Core courses completed. Minimum 400 clock hours usually over full 10-week term, in appropriate human service agency. Application to Department at least one quarter prior to registration. Graded S/U.

**GERO 496 Issues in Long Term Care (3)** Review current policies and issues specific to long term care management and administration, especially financial issues, quality control, licensing and legal aspects of providing care.

**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 (1-5)** 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 (5)** 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)** Prerequisite: ZOO 105 or ZOO 220. Study biological changes that take place during the normal 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 Concepts in Aging Services (3)** Examine concepts of management and administration of organizations, emphasizing principles and practices currently used in aging programs.

**GERO 537 Helping Skills for Gerontologists (3)** Introduction to art of helping older adults. Skills that need to be developed in order to become an effective helper will be introduced through lecture and active class participation.

**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 Social Planning for Aging Services (3)** Survey basic planning concepts used in aging network. Emphasizes local level planning methods and skills, and steps in the planning process, including needs assessment, program development and evaluation.

**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 591 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.

**GERO 594 Financial Management and Budgeting for 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 Management in Aging Programs (3)** Survey basics of personnel management practices in recruitment, selection, supervision, performance enhancement, employee performance review and promotion. Special attention to managing volunteer programs and supervising of older workers.

**GERO 596 Issues in Long Term Care (3)** Review current policies and issues specific to long term care management and administration, especially financial issues, quality control, licensing and legal aspects of providing care.

**GERO 600 Special Topics in Gerontology (1-3)** Course varies according to topical interest of instructor. Provides an in-depth look at 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 Directed 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 (1-18)** Minimum of 400 clock hours usually over one full quarter, in appropriate gerontological agency. Written application to department at least one quarter prior to registration. Graded S/U.

**GERO 699 Thesis (1-15)** 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.

## Hispanic Studies

(Also see SPAN, TESL)

HISP courses are administered by the Department of Hispanic Studies.

**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 121 Spanish Civilization and Culture (4)** Introduction to the general trends of Spanish civilization and culture. Historical, economic, political and artistic developments of Spain from prehistoric times to the present. Taught in English.

**HISP 131 Latin American Civilization and Culture (4)** Introduction to the general trends of Latin American civilization and culture. Historical, economic, political and artistic development from the precolumbian period to the present. 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.

**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.

**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.

**HISP 260 Hispanic Folklore (3)** 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.

**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.

**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.

**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.

**HISP 355 Contemporary Latin American Writers (3)** 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.

**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.

**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.

**HISP 370 Chicano Psychology (3)** The course is designed to examine the behavior of Mexican Americans in an Anglo-American cross-cultural setting.

**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.

**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.

**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)** To 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 Directed 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.

**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.

**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.

**HISP 440 Mexican Literature (3)** A study of the most outstanding works of Mexican literature. Examines works from the Mexican Revolution, Criollismo, Magical Realism, and contemporary Social-Realism. Taught in English.

**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 (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 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 540 Mexican Literature (3)** A study of the most outstanding works of Mexican literature. Examines works from the Mexican Revolution, Criollismo, Magical Realism, and contemporary Social-Realism. Taught in English.

**HISP 555 Contemporary Latin American Writers (3)** 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.

**HISP 565 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.

**HISP 622 Directed 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 courses are administered by the Department of History.

**HIST 100 The American Past, 1492-1800 (4)** For History majors and minors, and Social Science majors only. Consent of instructor required. Chronologically surveys American history, beginning with the Columbian discovery and ending with the Jefferson inauguration.

**HIST 101 The American Past, 1800-1900 (4)** For History majors and minors, and Social Science majors only. Consent of instructor required. Surveys the 19th century, beginning with Jefferson's inauguration and ending with the McKinley assassination.

**HIST 102 The American Past, 1900-Present (4)** For History majors and minors, and Social Science majors only. Consent of instructor required. Chronologically surveys the period between McKinley's assassination and Nixon's departure in two lectures and two research seminars weekly.

**HIST 110 African Civilization (4)** Traces the development of African civilization to the European conquest, emphasizing social, political and cultural change, through lectures, discussions, slide presentations and films.

**HIST 112 Latin America in Change (4)** Studies of the continent's political, social, economic and cultural development by examining dominant themes, including militarism, nationalism, personalism, revolution and inter-American relations, nineteenth and twentieth centuries.

**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.

**HIST 130 Western Civilization I (5)** For majors, minors, Social Science majors. Consent of instructor required. Survey the development of the western world from the ancient Near East, through Greece, to the fall of Rome.

**HIST 131 Western Civilization II (5)** For majors, minors, Social Science majors. Consent of instructor required. Survey western history from the middle ages, through the Renaissance, Reformation, and Age of Reason to the end of the eighteenth century.

**HIST 132 Western Civilization III (5)** For majors, minors, Social Science majors. Consent of instructor required. Survey western history from the French Revolution through the nineteenth century to the present, treating revolution, nationalism, industrialism, totalitarianism.

**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."

**HIST 160 The Western Experience from Classical Greece and Rome Through the Renaissance (4)** Acquaints the student with the main elements of classical civilization that transcended the Middle Ages and provided the impetus for the civilization of the Renaissance.

**HIST 161 The Western Experience from the Reformation to the Age of Revolution (4)** Emphasis on Western European cultural, intellectual and social developments from the Reformation to the outbreak of the French Revolution. Topics studied include religious movements, secularism, and the Enlightenment.

**HIST 162 The Western Experience: Modern Times (4)** Treats the Western experience from the age of Napoleon to the present, emphasizing the intellectual and cultural traditions within the political and economic framework.

**HIST 176 American Experience, 1607-1861 (4)** Surveys American history to the Civil War using interdisciplinary approaches to examine American efforts to define a national character, the size and nature of their union, and protections accorded minorities.

**HIST 177 American Experience, 1861-1932 (4)** Surveys American history from the Civil War to the Great Depression using interdisciplinary approaches to examine Civil War, Sectionalism, Reconstruction, Industrialization, Immigration, Reformers, World War I and the 1920s.

**HIST 178 American Experience, 1932 to the Present (4)** Surveys American history since the Great Depression, using interdisciplinary approaches to examine the evolution of the welfare state and the emergence of the U.S. as a great world power.

**HIST 200 Topics in U.S. Diplomatic History, 1776 to the present (4)** Typically surveys American foreign policy from the Revolutionary War to the Cold War, emphasizing our major foreign policies and the principal conflicts in which we have been engaged.

**HIST 212 War in the Pacific (4)** Analyze the American military involvement and impact in Asia as witnessed in the Philippine-American War, World War II in the Pacific Theater, the Korean War, and the Vietnam War.

**HIST 218 History of Mexico (4)** Traces Mexican history from pre-Columbian times to present, emphasizing events of the 19th and 20th centuries leading to the 1910 Revolution and its aftermath. Covers social, cultural and economic changes.

**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.

**HIST 223 History of the Far 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.

**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.

**HIST 227 Industrial America, 1868-1900 (4)** Examines American history from 1868 to 1900 with emphasis on industrialism and on such important moguls as Carnegie and Rockefeller. Analysis of political and social issues.

**HIST 241 Modern American Wars in Perspective (4)** May be repeated four times, with different subtitles. Surveys American wars from social, economic, strategic, political, and diplomatic perspectives.

**HIST 242 America in the Global Village (4)** Analysis of how Americans since WWII have searched the world for alternative ideas and life-styles. Focus on Gandhi, Fanon, Nyerere, Mao, Suzuki, Schumacher and others.

**HIST 250 Recent America, 1945 to the Present (4)** Traces American history typically since World War II, using interdisciplinary approaches to examine foreign policy, presidential politics, civil rights, the growth of liberal capitalism, and the changing American character.

**HIST 262 Intellectual and Cultural History of Modern Europe, 1800 to Present (3)** Surveys intellectual and cultural developments from the Romantic period to the present.

**HIST 263 Social and Cultural History of Europe, 1750 to the Present (4)** Studies the masses of ordinary people and their culture within the context of political and economic developments in the Western world from 1750 to the present.

**HIST 264 History of Greece (4)** Places Ancient Greece in its historical context, emphasizing Hellenistic and Hellenic life and culture.

**HIST 266 History of the Renaissance (4)** A study of the political, social, economic, religious and cultural development in Renaissance Europe, 1300-1500.

**HIST 267 Age of Revolution Since the 17th Century (4)** Examines selected political and ideological upheavals since the 17th century. Studies the classic European revolutions and the 20th century liberation movements.

**HIST 268 Religion in the Western World, Ancient Times Through 18th Century (4)** Surveys the origins and development (through the 18th century) of three great religions in the western world: Christianity, Judaism and Islam.

**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.

**HIST 302 Modern Africa (4)** A study of the social, political, economic and cultural transformation of twentieth-century Africa.

**HIST 307 History of China to 1840 (4)** Considers the history of pre-modern China from the point of view of political and cultural development.

**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.

**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.

**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.

**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.

**HIST 314 History of Latin America: Colonial Period (4)** Surveys Spanish America and Brazil from pre-Columbian civilizations to 1820. Covers conquest, church, use of Indian labor, trade, administration, slavery and struggle for Independence.

**HIST 315 History of Latin America: National Period (4)** Surveys Latin America from 1820 to present. Studies themes of militarism, nationalism, foreign intervention and social inequalities with reference to Cuba, Nicaragua, Argentina, Chile, and Brazil.

**HIST 320 Early Colonial Period: 1492-1689 (4)** Investigates the European colonization of America and the Age of Discovery and Exploration but concentrates on American social and political history to 1689.

**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.

**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.

**HIST 328 Jacksonian America, 1815-1848 (3)** Surveys in detail post-1815 nationalism, the political trends of the Jacksonian Era, along with the development of sectionalism, religion and reform, expansion through the Mexican War.

**HIST 329 The Civil War and Reconstruction, 1848-1877 (4)** Examine major topics including political upheavals of the 1850's growth of southern nationalism, Civil War years, and problems of the Reconstruction Era.

**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.

**HIST 332 Diplomatic History of the United States to 1914 (4)** Surveys American foreign policy from the Revolutionary War to World War I, emphasizing territorial expansion and the emergence of the United States as a great world power.

**HIST 334 Diplomatic History of the United States since 1914 (4)** Surveys American foreign policy from World War I to the present, emphasizing the problems of war and peace and the internationalist-isolationist conflict in the twentieth century.

**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.

**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.

**HIST 348 Great People in American History (3)** Takes a biographical approach to American history, focusing on lives and contributions of such great American people as Franklin, Washington, Hamilton, Jefferson, Marshall, Jackson, Lincoln, Holmes, Theodore Roosevelt, Wilson and Franklin Roosevelt.

**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.

**HIST 360 Ancient History (4)** Surveys the life, institutions, and history of the ancient Near East and Greece based on recent archaeological discoveries.

**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.

**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.

**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.

**HIST 365 Revolutionary Ireland (4)** Deals with the struggle for an independent Irish nation from 1798 to 1922, the history of Ireland since 1922, and the contemporary "Troubles" in Ulster.

**HIST 367 History of the Reformation (4)** Discusses the basic political, religious, social, and economic aspects of the Protestant Reformation from 1517 to 1648.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**HIST 399 Introduction to Historical Research (4)** Prerequisite: ENG 122. Involves the student in the methodology of the professional historian with emphasis on the location and use of sources and the writing of papers.

**HIST 422 Directed Studies (1-4)** Qualified undergraduate students investigate an historical topic under the direction of a faculty member.

**HIST 470 History of Modern Germany (4)** Surveys German history from World War I through the use of original sources and documents.

**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 (3)** Course may be repeated for a maximum of 12 credit hours. 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 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 of 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 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 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 Directed Studies (1-3)** Qualified graduate students investigate an historical topic under the direction of a faculty member. Does not satisfy 30-hour requirement unless student is in full-time residence at UNC during quarter course is taken.

**HIST 699 Thesis (1-15)** Optional for Master of Arts programs on recommendation of the major advisor.

## Honors Program

HON courses are administered by the Honors Program.

**HON 100 Honors Connections Seminar I (2)** A variable content seminar for Honors students only, emphasizing the connections between areas of knowledge such as the Science, Arts, Philosophy, History, Literature and Sociology.

**HON 200 Honors Connections Seminar II (2)** A variable content seminar for Honors students only which will engage them in a concentrated analysis of their values in the context of their times.

**HON 251 Sophomore Honors Seminar (1-3)** Optional for sophomore participants in the Honors Program. Different sections are offered by different departments.

**HON 351 Junior Honors Seminar (1-3)** Required for junior participants in the Honors Program. Different sections are offered by different departments.

**HON 451 Senior Honors Research Thesis (1-6)** Required for senior participants in the Honors Program. Different sections are offered by different departments.

## Human Rehabilitative Services

HRS courses are administered by the Department of Human 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.

**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 Rehabilitation Services in the Private Sector (3)** Workers compensation and private insurance rehabilitation are discussed along with the nature of disabilities, legal issues, role and function of rehabilitation counselor in the private sector.

**HRS 380 Alcohol and Drug Rehabilitation: Basic Counseling Skills (4)** Consent of instructor. 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. Graded S/U.

**HRS 381 Alcohol and Drug Rehabilitation: Client Treatment Planning and Record Management (4)** Consent of instructor. 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. Graded S/U.

**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 (4)** Explore and analyze current issues and concerns as they relate to rehabilitating special populations.

**HRS 392 Medical and Psychological Aspects of Disability (4)** Medical and psychological implications of disability as they pertain to the social and vocational adjustment of the individual.

**HRS 394 Practicum in Human Rehabilitative Services (2-8)** Can be taken up to 8 hours. Prerequisite: Consent of instructor or advisor. Supervised experience in service agency. Agency supervisor evaluation and written report describing agency experience must be filed with instructor. S/U grade.

**HRS 395 Working with Families in Rehabilitation (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 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 Directed 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.

**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 460 Microcounseling in Rehabilitation (4)** A lecture experiential course for assessing and developing interpersonal communications and human relation skills for human rehabilitation workers.

**HRS 461 Rehabilitation of Persons with Severe Psychiatric Disabilities (3)** Introduction to severe psychiatric disability, including an overview of diagnostic procedures and criterion for chronicity. Comparison of medical and rehabilitation intervention in community mental health and rehabilitation agencies and facilities.

**HRS 490 Introduction to Vocational Evaluation (3)** Introduction to vocational evaluation, including an overview of the basic principles and practices utilized in the vocational assessment of disabled and disadvantaged populations.

**HRS 491 Interviewing and Casework Techniques (4)** 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 494 Supervised Field Practice (1-18)** Prerequisite: Core courses complete. Minimum 400 clock hours usually over full 10-week term, in appropriate human service agency. Application to Department at least one quarter prior to registration. Graded S/U.



**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 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 521 Principles of Vocational Evaluation (3)** Identify and demonstrate the principle methods, processes and skills needed by vocational evaluators.

**HRS 580 Alcohol and Drug Rehabilitation: Basic Counseling Skills (4)** Prerequisite: Consent of instructor. 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 skills acquisition. Graded S/U.

**HRS 581 Alcohol and Drug Rehabilitation: Client Treatment Planning and Record Management (4)** Prerequisite: Consent of instructor. 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. Graded S/U.

**HRS 589 Rehabilitation Management (4)** Learn duties, responsibilities and philosophies of rehabilitation office manager. Through simulated experience, develop competencies and skills in first line management, budgeting, accountability and quality assurance.

**HRS 590 Rehabilitation Counseling and Community Resources (3)** History, principles, philosophy and legal aspects of rehabilitation, stress identification and uses of community resources in rehabilitation counseling and delivery of rehabilitation services.

**HRS 591 Rehabilitation Case Management (3)** Review various case recording methods and present management model framework from which to view work activities.

**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 Occupational Information and Job Placement in Rehabilitation (4)** Theories of vocational choice, labor market information, job analysis, placement strategies, psychological and sociological concepts relating to disability and the world of work.

**HRS 597 Role of Family in Rehabilitation Services (3)** Designed to give students the theoretical and practical knowledge necessary to effectively counsel families who have disabled family members. A variety of disabilities and specific interventions are addressed.

**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 602 Proprietary Rehabilitation (3)** Introduction to foundations of proprietary rehabilitation. Establishing/working in proprietary rehabilitation companies, and forensic implications are discussed. Discuss role change for rehabilitation counselor in areas such as expert witness, accountability, ethics.

**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 Rehabilitation of Culturally Different (3)** Basic understandings of different cultures; their unique characteristics demonstrated by focus on family. Concerns of disabled persons in various cultures are addressed, including attitudes, support systems, and vocational opportunities.

**HRS 612 Computer Applications in Vocational Evaluation (3)** Provides students with an in-depth study of the principles of computer applications to vocational evaluation, particularly as related to microcomputers; includes software evaluation.

**HRS 613 Seminar In a Vocational Evaluation System (3)** Comprehensive study of major vocational evaluation system, i.e., McCarron-Dial, VIEWS, Valpar, Micro-TOWER. May be repeated with different evaluation systems.

**HRS 615 Evaluation Planning and Report Writing in Vocational Evaluation (3)** This course is designed to acquaint the students with the principles of evaluation planning in the vocational evaluation process. Students are further instructed in integrating behavioral observations in report writing.

**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 622 Directed 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 625 Practicum in Vocational Evaluation (3)** Prerequisite: HRS 620. Meets 12 hours per week. Qualified Human Services majors engage in vocational evaluation activities with clients in the Department's Clinic under supervision of one or more clinic staff members and faculty members.

**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 632 Group Processes in Rehabilitation (3)** An integrated perspective of the stages of groups, basic concepts and goals of groups with rehabilitation clients.

**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 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 694 Supervised Clinical Practice In Rehabilitation Counseling (1-18)** Maximum 18 hrs per quarter. Minimum of 800 clock hours usually over two full quarters, in appropriate rehabilitation agency. Written application to Department at least one quarter prior to registration, Grades S/U.

**HRS 699 Thesis (1-15)** Optional for M.A. programs on recommendation of major advisor.

**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 757 Advanced Practicum in Rehabilitation Administration (3)** Course may be repeated for maximum of 9 credits. Students will receive supervised experience in administration of Rehabilitation Programs. Experience includes program planning, evaluation and grant writing. Approximately 100 clock hours per quarter are required for 3 credits.

**HRS 758 Advanced Practicum in Rehabilitation Research (3)** Course may be repeated for maximum of 9 credits. Doctoral students will receive supervised experience in areas of rehabilitation research which are beyond the scope of existing departmental offerings. The experience will include research methods, design, and reporting, culminating in a research paper of publicable quality.

**HRS 759 Advanced Practicum in Rehabilitation Counseling Supervision (3)** May be repeated for maximum of 9 credits. Doctoral students receive supervised experience in study of problems involved in training rehabilitation counselors. Participate through instruction and supervisory practice in training rehabilitation counselors. 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. S/U grading.

**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. S/U grading.

## Humanities

HUM courses are administered by English Department

**HUM 111 The Classical Ages: Greece and Rome (4)** Study values, perceptions, beliefs, customs, creations; the human in the cosmos, nature, society; as revealed in literature, visual arts, myth, history, or other cultural artifacts.

**HUM 112 The Middle Ages and Renaissance (4)** Study values, perceptions, beliefs, customs, creations; the human in the cosmos, nature, society; as revealed in literature, visual arts, music, philosophical writings, history or other cultural works.

**HUM 113 Age of Reason to Age of Romanticism: 17th through 19th Century (4)** Study values, perceptions, beliefs, customs, creations; the human in the universe, world, nature, society; as revealed in literature, visual arts, music, philosophical writings, history or other cultural works.

**HUM 114 The Twentieth Century (4)** Study values, perceptions, beliefs, customs, creations; the human in the universe, world, nature, society; as revealed in literature, visual arts, music, philosophical writings, history or other cultural works.

**HUM 115 Literature and Arts of the Orient (4)** An introduction to the literature, arts and thought of the Orient.

**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.

**HUM 121 Popular Film (4)** Course may be taken for a maximum of 12 credits. 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.

**HUM 125 Contemporary Issues in Film (4)** Examine racism, discrimination, survival, and the misuse of power through the analysis of selected major films of the twentieth century.

**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.

**HUM 210 Themes or Problems in the Humanities (4)** Course may be repeated for a maximum of 12 credit hours. 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.

**HUM 211 Studies in the Humanities (4)** Prerequisite: ENG 122. Study aspects of thought and culture. Topics designated by subtitles such as comparative mythology, folklore.

**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.

**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.

**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.

**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.

**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.

**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, Macllavelli, and Michelangelo.

**HUM 320 The Art of the Film (4)** An introduction to the major creative filmmakers, Griffith, Welles, Bergman, Antonioni, etc., and to their characteristic technical and thematic concerns.

**HUM 331 Images of Women in Literature and the Arts (4)** Investigation of stereotypes, dreams, roles and goals of women manifested in creative works by and about women.

**HUM 410 Advanced Course in the Humanities (4)** Course may be repeated for a maximum of 12 credits. One or more great literary or artistic works in relation to history, philosophy and other arts.

**HUM 508 Workshop in the Humanities (3-4)** Course may be repeated for a maximum of 12 credits. 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.

## Interdisciplinary Studies

**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.

**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 Feminism: An Interdisciplinary Analysis (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.

**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.

**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.

**ID 325 Human Sexuality (3)** Study physiological, psychological and sociological aspects of human sexuality, understanding differences, institutional structures and sociological processes from biological foundations.

**ID 330 Multicultural Issues in Education (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 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.

**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.

**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 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 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 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.

## Individualized Education

IE courses are administered by the College of Arts and Sciences.

**IE 201 Individual Tutorial (1-15)** 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 (1-15)** 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.

## Journalism and Mass Communications

JMC courses are administered by the Department of 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

**JMC 100 Introduction to Journalism and Mass Communications (3)** Describe and analyze news, information and entertainment media from the point of view of both consumers and professional mass communicators. Recommended for freshmen and sophomores.

**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 Newswriting (4)** Prerequisite: Functional typewriting skill (25 wpm) and ENG 122. Sharpen skills and judgment in reporting and writing for broadcast and non-broadcast mass media.

**JMC 215 Advanced Newswriting (4)** Prerequisite: JMC 210. Report and write about public affairs outside classroom environment. Assignments keyed to current issues, emphasizing in-depth coverage of political, social and economic news.

**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 and Announcing (3)** (2 lecture, 2 laboratory) Learn the basic skill, techniques, and equipment of radio production and broadcast announcing.

**JMC 255 Publication Layout (4)** Visualize and apply graphics concepts to produce readability and attractiveness in copy and illustrations for print media.

**JMC 284 Techniques of Advertising (3)** Approach advertising from the copywriter standpoint. Create copy for broadcast and print advertising, and handling layout and illustration concepts.

**JMC 310 Feature Writing for News Media (4)** Prerequisites: JMC 210, 215. Research and write trenchant feature stories about ideas, trends, personalities and events which are usable by all forms of mass media.

**JMC 340 Broadcast Newswriting (3)** Prerequisites: JMC 210, 241. Write news for the ear and for the television camera eye. Prepare newscasts for radio, television and cable.

**JMC 341 Advanced Radio Production (3)** (2 lecture, 2 laboratory) Prerequisite: JMC 241. Become acquainted with the creating, writing, and execution of broadcast-quality audio production. Focus is on the hardware and the software used in radio broadcasting.

**JMC 342 Television Production (3)** (2 lecture, 2 lab) Prerequisites: JMC 241, 371 and consent of instructor. Lab fee required. 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 Broadcast 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)** (1 lecture, 4 laboratory) 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 350 News Editing (4)** Prerequisite: JMC 210. Edit copy and write headlines that audiences for news stories will read, view or hear. Refine skills in selecting, judging and weighing fact, interpretation and opinion in news.

**JMC 371 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 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 377 Photojournalism (3)** Prerequisites: JMC 210, 371 or equivalent. Reporting news and information with a camera, designing photo pages, writing and illustrating photo-essays and photo-features, and writing cut-lines. Students supply their own adjustable lens cameras.

**JMC 380 Public Relations (3)** Survey concepts, procedures and theories behind public relations work. Examine current practices in business, governmental and other settings.

**JMC 384 Direct Mail Advertising (1)** Create the mailing piece and secure a productive mailing list.

**JMC 385 Media Planning (3)** Plan 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)** Examine 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.

**JMC 397 Outstanding Journalists and Their Times (3)** See American journalism history through the writings, professional standards and social contributions of leading men and women in the mass media.

**JMC 401 Journalism and Mass Communication Internship (2-4)** Prerequisites: Junior or senior status and permission of Journalism advisor. Journalism and Mass Communication majors only. One quarter of full-time work in news, broadcast media, public relations, advertising or related organizations.

**JMC 408 Special Topics (1-4)** Concentrate on a current issue or problem in journalism and mass communications through a workshop or short-course format. (Course may be graded S/U).

**JMC 410 Analytical Reporting (4)** Prerequisites: JMC 210, 215. Report and write in-depth "think pieces" resulting from investigation, analysis, and critical thought.

**JMC 422 Journalism and Mass Communications 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-researched and written paper are required, one to be submitted to the instructor and one to the department chair.

**JMC 442 Advanced Television Production (3)** (2 lecture, 2 lab) Prerequisite: JMC 342 and consent of instructor. Lab fee required. 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)** (2 lecture, 2 laboratory) Prerequisites: JMC 442 and consent of instructor. 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)** (2 lecture, 2 laboratory) Prerequisite: JMC 442 and consent of instructor. Learn the skills and techniques necessary as part of a production unit for a regularly scheduled cable television program.

**JMC 460 Community Newspaper Management (3)** Prerequisites: JMC 210, 215, 284, 350. Prospects and issues in the newspaper industry and its environment, emphasizing advertising, management, news, production, circulation and other policies for weeklies and small dailies.

**JMC 465 Broadcast Management (3)** Learn usual procedures, responsibilities and problems encountered by management personnel of radio and television stations.

**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.

**JMC 476 Advanced Black and White Photography (3)** (2 lecture, 3 laboratory) Prerequisite: JMC 371. Learn experimental, interpretive and communicative photographic techniques and learn advanced camera and printing techniques.

**JMC 477 Photographic Illustration and Lighting Techniques (5)** (3 lecture, 4 laboratory) Study studio lighting principles for black and white and color photography. Learn studio techniques for advertising, architectural, industrial-technical, portrait and commercial applications.

**JMC 479 Color Photography: The Print (3)** (2 lecture, 3 laboratory) Discover current methods and techniques of color printing from negatives and transparencies.

**JMC 481 Public Relations Techniques (3)** Study and develop effective tools and techniques used by the professional public relations practitioner.

**JMC 491 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.

**JMC 492 Mass Communications Law (3)** Prerequisite: Junior or senior status. Study current or perennial ethical and legal issues in journalism and mass communications media as they affect journalists, media management 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.

**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 Broun.

**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 508 Workshop (1-4)** Investigate special perennial or topical issues in journalism and mass communications.

**JMC 510 Journalistic Writing and Research (4)** For graduate students who wish to update writing and reporting skills and learn research methods pertinent to journalistic writing, and for those interested in specialized areas of journalism.

**JMC 534 Photography for Education (3)** (2 lecture, 3 laboratory) Produce and evaluate black and white and color photographs for classroom use.

**JMC 542 Advanced Television Production (3)** (2 lecture, 2 lab) Prerequisite: JMC 342 and consent of instructor. Learn the skills necessary for multi-camera studio production, the use of special effects, and studio direction of dramatic and non-dramatic programs.

**JMC 543 Electronic Field Production (3)** (2 lecture, 2 lab) Prerequisites: JMC 442 or 542, and consent of instructor. 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 544 Cable Television Production (3)** (2 lecture, 2 lab) Prerequisite: JMC 442 and consent of instructor. Learn the skills and techniques necessary as part of a production unit for a regularly scheduled cable television program.

**JMC 566 Public Telecommunications Management (3)** Prerequisite: JMC 460 or JMC 465 or equivalent; graduate students only. Examine the human, financial, and marketing aspects of management for non-commercial radio and television stations. Will take a case study approach aimed at developing managerial leadership and decision-making abilities.

**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 Advanced 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 and Lighting Techniques (5)** (3 lecture, 4 laboratory) Study studio lighting principles for black and white and color photography. Learn studio techniques for advertising, architectural, industrial technical, portrait 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, including computerized programming, in the use of color reversal materials for effective multi-media visual presentation.

**JMC 580 Public Relations (3)** Survey concepts, procedures and theories behind public relations work. Examine current practices in business, governmental and other settings.

**JMC 581 Public Relations Techniques (3)** Study and develop effective tools and techniques used by the professional public relations practitioner.

**JMC 583 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 590 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.

**JMC 591 International Mass Communications (3)** Prerequisite: JMC 390 or 590. 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.

**JMC 593 Media Freedom and Censorship (3)** Graduate students only. Study the evolution of media freedom in the United States from colonial times to the present, with attention to the many attempts at censorship of all kinds.

**JMC 594 Literary Aspects of Journalism (3)** Graduate students only. Analyze literary journalism through individual and class study of selected journalists of print, broadcast, and film media who have written about journalism in particular or mass communications in general.

**JMC 596 Seminar in Mass Communications (3)** Survey of major theories, seminal research findings and cultural critiques relevant to mass communication processes.

**JMC 597 Professional Perspectives (4)** Graduate students only. Analyze and discuss the ethics and responsibilities of professional communicators in journalism and mass media, especially as they relate to and result from the problems and situations they confront as employees and managers.

**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 Directed 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.

## Mathematics

(Also see CS and STAT)

MATH courses are administered by the Department of Mathematics and Applied Statistics.

**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, in this particular course, is equivalent to 80% or better. S/U grading.

**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.

**MATH 123 Intermediate Algebra (5)** (3 lecture 2 laboratory) 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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**MATH 221 Elementary Linear Algebra (4)** Prerequisite: MATH 131. Study vector spaces, bases, determinants, linear transformations, matrices, eigenvalues and eigenvectors, with applications.

**MATH 228 Combinatorics (4)** Prerequisites: MATH 133, 221, a programming course. Learn mathematical techniques of "counting", important in probability, programming and recreational mathematics. Topics: permutations, combinations, binomial theorem, recurrence relations, generating functions.

**MATH 229 Applied Graph Theory (4)** Prerequisites: MATH 133, Math 221, a programming course. Study concepts of graph theory and several applications. Topics: planarity, chains, cycles, trees, map coloring, Euler's formula, matching and optimization problems.

**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 322 Introduction to Abstract Algebra (4)** Prerequisite: MATH 221. 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 and MATH 130. Build on Euclidean geometry background, prove classical and modern Euclidean theorems, study Euclidean congruence and similarity using transformational geometry, and the analytic approach to transformational geometry using Cartesian coordinates.

**MATH 342 Introduction to Modern Geometry (4)** Prerequisite: MATH 341. Build on background in Euclidean constructions, build constructible numbers and impossibility proofs, expanding to Mascheroni and inversive techniques. Study structure of geometric ideas through finite, non-Euclidean projective, and affine geometries.

**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 133, 221 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.

**MATH 381 Problem Solving with Calculating Devices (2)** Prerequisite: MATH 124. Solve problems with hand-held and desk calculators, both programmable and non-programmable. 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)** Course may be repeated for a maximum of 12 credit hours. 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 Directed 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.

**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)** Course may be taken up to six times. 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)** Course may be repeated for a maximum of 18 hours. 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 Directed 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 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)** Course may be taken up to three times. 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 (1-18)** Required of all doctoral candidates.

## Mathematics Education

MED courses are administered by the Department of Mathematics and Applied Statistics.

**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)** Prerequisite: Full admission to PTE or certification at the undergraduate level. For prospective teachers of middle school, junior and senior high school mathematics. Gain skill in constructing teaching strategies, understanding curriculum problems, and applying basic theories in teaching and learning mathematics. Early field experience desirable. Must enroll in EDLS 363 simultaneously.

**MED 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.

**MED 471 Instructional Materials in Secondary School Mathematics (3)** (2 lecture, 3 laboratory) Prerequisites: Full admission to PTE or certification at the undergraduate level, 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)** Course may be repeated for a maximum of 18 credits. No more than 9 hours may be applied on any one graduate degree. Work on problems related to elementary, junior high, senior high or junior college mathematics. S/U grading.

**MED 622 Directed 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 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. Course will enable one 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 Mathematics (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 noncollege-bound.

**MED 675 Seminar in Literature for Mathematics Education (2)** Course may be taken up to three times. 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)** Course may be taken up to six times. No more than 9 hours may be applied to any one graduate degree. Prerequisites and topics announced in Schedule of Classes.

**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

(See MTEC)

## Meteorology

MET courses are administered by the Department of Earth Sciences.

**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.

**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.

**MET 301 Elements of Meteorology (4)** (3 lecture, 2 laboratory) Prerequisite: MET 200. In-depth treatment of radiation, gas laws, 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.

**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.

**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 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.

**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, and long and short waves in the upper troposphere. Analysis and forecasting exercises will apply these topics to current weather situations.

**MET 450 Severe Weather Phenomena (3)** Prerequisite: MET 301 or 500. Atmospheric stability, its measurement, and the development and structure of thunderstorms, tornadoes and hurricanes.

**MET 500 Survey of Meteorology (5)** (4 lecture, 3 laboratory) 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.

**MET 520 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 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 540 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, and long and short waves in the upper troposphere. Analysis and forecasting exercises will apply these topics to current weather situations.

**MET 550 Severe Weather Phenomena (3)** Prerequisite: MET 301 or 500. Atmospheric stability, its measurement, and the development and structure of thunderstorms, tornadoes and hurricanes.

**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 Directed 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 500-level requirement unless student is in full-time residence at UNC during quarter course is taken.

## Management

MGT courses are administered by the Department of 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 (4)** 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 422 Management 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.

**MGT 453 Human Resources Management (4)** Prerequisite: MGT 350. Survey approach to principles of: recruitment and selection, training and development, performance appraisal, compensation and career development.

**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 Industrial Relations (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; BUS 231, 370; MGT 350, and senior standing. Integrate various functional areas of business in terms of policy-level decision making. Emphasize cases.

**MGT 457 Managing Complex Organizations (4)** Prerequisite: MGT 350. Concentration on the development of effective organizations through the study of organizational theory.

**MGT 458 Seminar in Entrepreneurship (4)** Prerequisites: MGT 357 and senior status. Integrate various functional areas of business in terms of policy level decision making for small businesses. Emphasize cases.

**MGT 459 Business Consulting Practicum (4)** Prerequisites: MGT 350, MGT 456, MKT 360, FIN 370, and consent of instructor. Survey of the consulting process from the initial visit, definition of the problem(s), solution to the problem(s) and termination of the consultant relationship.

**MGT 460 Topics in Management (4)** Prerequisites: MGT 350, MGT 354, MGT 457 or consent of instructor. Special workshops or short courses in various management content areas as need and opportunity arises. This course attempts to integrate academic management ideas into applied settings.

**MGT 550 Concepts in Management (4)** Study concepts, principles, theories and operational problems of organization and management. Examine functional areas of management.

**MGT 622 Management Directed 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.

**MGT 650 Organizational 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 as these relate to standard functions in the management of human resources. Includes systems of recruitment, planning, appraisal, compensation and research.

**MGT 654 Seminar in Organizational Development (4)** Prerequisites: MGT 350, MGT 652 or their equivalents. Study the methods of intervention into on-going organizations for the purpose of instituting change. Emphasis on applied usage of organizational behavior techniques, group change and effectiveness.

**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.

## Middle School Education

(See EDMS)

## Life of the Mind

Life of the Mind is a program of courses in general education developed by faculty from a number of disciplines.

**MIND 180 Great Ideas of the Western Tradition (4)** Introduces the intellectual tradition of the western world through the reading and discussion of basic works by Plato, Machiavelli, Dante and others. Offered by Philosophy, English, and History. Credit in General Education Category 5 for Philosophy or English or History.

**MIND 181 The Great Traditions of Asia: India (4); China (4); or Japan (4)** Each subtitle may be taken only once. Interdisciplinary study of traditions of Asian countries, dealing with historical contexts and literary and artistic expressions. Offered by History, English, and Visual Arts. Credit in General Education Category 5 for History or Literature or Fine Arts.

**MIND 289 Coming of Age in the Twentieth Century (12)** Investigates, through primary readings, the questions: How has our century been a coming of age? How are we different from previous ages? Team taught by History, English and Anthropology. Credit in General Education Category 5 Hist: History and Philology in Category 6 for Anthropology and Anthropology.

**MIND 290 Search for Meaning: Socrates, Lao Tzu, Francis of Assisi (8)** Investigates, through primary readings, the search for meaning of three great thinkers, and explores the relevance of their search to our own. Team taught by Philosophy and History. Credit in General Education Category 5 for Philosophy and History.

**MIND 292 Ideas in Conflict (4)** Examines the conflicts between various sets of ideas in the modern world, including the confrontations between evolutionism and creationism and between western materialism and Third World spiritualism. Offered by Geography, History, and Sociology. Credit in General Education Category 8.

**MIND 293 Play as a Route to Insight and Creation (4)** Examines, through primary sources, the ideas of artists, philosophers, historians and scientists regarding the role of play in intellectual insight and artistic creation. Offered by Philosophy and English. Credit in General Education Category 5 for Philosophy or English.

**MIND 294 Revolutions in Science (4)** A science course engaging students in scientific inquiry while introducing them to principal scientific revolutions since the 16th century, such as inertia, evolution, thermodynamics, genetics, plate tectonics, cosmology, and others. Credit in General Education Category 7 for Earth Science, or Life Science or Physical Science.

## Management Information Systems

MIS courses are administered by the Department of Management.

**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 flow-charting, computer-based data processing, BASIC language programming, systems analysis and design, and briefly, Management Information Systems.

**MIS 280 MIS Systems and Support Facilities (4)** (Laboratory arranged) Prerequisite: MIS 180 with a minimum grade of "C" or consent of instructor. The use of line and full screen editors; micro, mini, and mainframe operating systems; file processing; structured techniques and selected software packages.

**MIS 281 Structured Programming (4)** Prerequisites: MIS 280 with a minimum grade of "C" or consent of instructor. Develop and analyze programs for administration/business applications using structured techniques for programming. Existing structured software for general application will be reviewed.

**MIS 282 PASCAL Programming (4)** (Laboratory arranged) Prerequisites: MIS 280 and MIS 281 or MIS 285 with minimum grade of "C," or consent of instructor. Introduction to Pascal programming languages, and concepts and techniques of structured programming. Develop and analyze programs in Pascal for typical administration/business applications.

**MIS 283 Microcomputer Systems in Administration/Business (4)** (laboratory arranged) Prerequisite: MIS 180 with minimum grade of "C," or consent of instructor. Deals with the utilization of microcomputer systems for the solution of technical, managerial, and administrative problems in organizations and businesses.

**MIS 285 COBOL Programming (4)** (Laboratory arranged) Prerequisite: MIS 280 with minimum grade of "C" or consent of instructor. Develop and analyze programs for administration/business applications using the structured COBOL programming language.

**MIS 380 Data Communications Systems (4)** (Laboratory arranged) Prerequisite: MIS 180 with a minimum grade of "C," or consent of instructor. Investigate the use of data communications in the administration/business environment. Alternatives in transmission media, hardware/software components, networking, error detection and recovery, systems analysis and design are discussed.

**MIS 385 Advanced Structured COBOL (4)** (Laboratory arranged) Prerequisite: MIS 285 with a minimum grade of "C" or consent of instructor. A continuation of MIS 383. Learn advanced structured COBOL programming techniques, with special reference to COBOL for administration/business applications. Study sequential and random access processing with various secondary storage devices and data management techniques.

**MIS 386 Data Base Management (4)** (Laboratory arranged) Prerequisites: MIS 285 with minimum grade of "C" or 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 388 Systems Analysis and Design (4)** Prerequisites: MIS 285 and 386 with a minimum grade of "C". Study general and detailed systems design and analysis; emphasizes techniques, tools, procedures and end products association with systems. Covers implementation, installation, testing, and conversion phases of system design.

**MIS 406 Internship in Management Information Systems (6-12)** Prerequisite: Consent of faculty coordinator. Get practical experience and have opportunities to utilize theory of Management Information Systems courses. S/U grading.

**MIS 422 Management Information Systems 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.

**MIS 482 Decision Support Systems (4)** (Laboratory arranged) Prerequisites: BAQA 291 and course in high level computer programming language with minimum grade of "C," or consent of instructor. The use of models, simulation, and software packages in decision making for a management information system.

**MIS 486 Advanced Data Base Management (4)** (Laboratory arranged) Prerequisite: MIS 386 with a minimum grade of "C" or consent on instructor. Expand coverage of data base management to include development of data base applications.

**MIS 488 Advanced Systems Analysis and Design (4)** Prerequisites: MIS 388 with a minimum grade of "C." Emphasis on systems operation, changeover, implementation, and performance evaluation.

**MIS 489 Special Topics in Management Information Systems (4)** (Laboratory arranged) Prerequisites: BAQA 390 and recent course in computer programming with minimum grades of "C," or consent of instructor. In-depth study of topics in individual field of interest relating to information systems.

**MIS 580 Information Processing (4)** (Laboratory arranged) Investigate basic concepts of information retrieval and processing, including terminology hardware, documentation, computer languages and applications. Not for MIS majors or minors.

**MIS 622 Management Information Systems Directed 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.

**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, or 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 courses are administered by the Department of 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 Promotional Strategy (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 422 Marketing 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.

**MKT 460 Market Analysis and Research I (4)** Prerequisites: BAQA 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 362, 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 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 622 Marketing Directed 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.

**MKT 660 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 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.

## Military Science

MS courses are administered by the Department of Military Science.

**MS 110 Introduction to Military Skills I (2)** Basic military skills; basic map reading and land navigation; use of the compass; physical fitness training.

**MS 115 The United States Defense Establishment (2)** Organization and roles of the defense establishment; national strategy and policies; time management, physical fitness training.

**MS 120 Introduction to Military Skills II (2)** Basic military skills, first aid; Army's role in natural security affairs' preparation to conduct training; physical fitness training.

**MS 210 Contemporary Management Principles (2)** Development of basic management skills; delegation and control; interpersonal skills; behavioral evaluation techniques; physical fitness training.

**MIS 215 Dynamics of Military Operations I (2)** Theories of conflict; small unit operations; conduct of cold/heat injury prevention programs; operational terms/graphics; physical fitness training.

**MS 220 Dynamics of Military Operations II (2)** Operations Orders; troop leading, squad operations order; Soviet squad and platoon; squad defense; observing and classifying behavior; physical fitness training.

**MS 286 Leadership Development and Introduction to Military Operations (3)** Consent of instructor required. Theories and principles of leadership development and introduction to military operations are introduced in actual field situation at ROTC Basic Camp at Fort Knox, KY.

**MS 310 Leadership Assessment (3)** Consent of instructor required. Leadership theory review; leadership assessment program to develop further leadership and management skills; and physical fitness training.

**MS 315 Applied Leadership I (3)** Consent of instructor required. Theories and principles of leadership are applied to actual field situations; tactics, the platoon in the offense and defense; and physical fitness training.

**MS 320 Applied Leadership II (3)** Consent of instructor required. Theories and principles of leadership are applied to actual field situations; preparation for ROTC Advance Camp at Fort Lewis, WA; and physical fitness training.

**MS 386 Practicum In Leadership and Military Operations (3)** Consent of instructor required. Theories and principles of Military Operations applied to actual field situations at Fort Lewis, Washington ROTC Advance Camp.

**MS 415 Role and Ethics of the Officer (3)** Consent of instructor required. Role of the officer in today's Army; Ethics and Professionalism in the US Army; and physical fitness training.

**MS 420 Military Justice and Preparation for Active Duty (3)** Consent of instructor required. Military Justice; the law of the land warfare; preparation for active duty; and physical fitness training.

## Medical Technology

MTEC courses are administered by the Department of Chemistry. Courses are open to Medical Technology majors who have been enrolled in ASCP program 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-Immuno-hematology (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 Immuno-hematology 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 Immuno-hematology 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 hematologic 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.

## Music

MUS courses are administered by the School of 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. Unlimited repeatability.



**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.

**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.

**MUS 141 Music Literature and Styles I (3)** An introduction to analysis and description of music, its elements and vocabulary. A survey of music in America.

**MUS 142 Music Literature and Styles II (3)** An introduction to music literature of the Classic, Romantic and Contemporary periods.

**MUS 152 Writing and Scholarship in the Performing and Visual Arts (4)** Prerequisite: ENG 101 or equivalent. 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.

**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.

**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 homogeneous 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 homogeneous 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.

**MUS 204 Music Fundamentals and Experiences (3)** For non-Music majors with little or no musical background. Develop and/or enhance basic music skills and knowledge through performing and listening experiences. Required for elementary education majors. Class may be challenged. Offered each quarter.

**MUS 206 Music Methods and Materials for Elementary Teachers (2)** Prerequisites: MUS 101 or 204. Cover the teaching of musical concepts through singing, rhythmic activities, listening and playing instruments, including integration of handicapped children in the music class. 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*. Unlimited repeatability.

**MUS 223 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.

**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. Unlimited repeatability.

**MUS 230 String Ensemble (1)** Small chamber groups which rehearse regularly and are coached by a faculty member. Unlimited repeatability.

**MUS 231. Brass Ensemble (1)** Unlimited repeatability.

**MUS 232 Woodwind Ensemble (1)** Groups of 3 to 8 woodwind instruments meet regularly under faculty supervision. May be repeated for credit. Unlimited repeatability.

**MUS 233 Percussion Ensemble (1)** Unlimited repeatability.

**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. Unlimited repeatability.

**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. Unlimited repeatability.

**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. Unlimited repeatability.

**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.

**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.

**MUS 245 History of Music III (3)** Prerequisite: MUS 244. A study of the musical changes caused by the Romantic, Impressionistic and contemporary periods from 1800 to the present.

**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.

**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 265 Studio Orchestra (1)** Interpretation of jazz rhythms and exploring basic studio orchestra literature. Performing student compositions from Jazz Arranging III. Use of "click" tracks in a studio recording session in Denver. Unlimited repeatability.

**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.

**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. Unlimited repeatability.

**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. Unlimited repeatability.

**MUS 270 Individual Performance in Voice (2-4)** Consent of instructor. Unlimited repeatability.

**MUS 271 Individual Performance in Piano (2-4)** Unlimited repeatability.

**MUS 272 Individual Performance in Organ (2-4)** Consent of instructor. Unlimited repeatability.

**MUS 273 Individual Performance in Strings (2-4)** Unlimited repeatability.

**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. Unlimited repeatability.

**MUS 275 Individual Performance in Brass (2-4)** Unlimited repeatability.

**MUS 276 Individual Performance in Percussion (2-4)** Unlimited repeatability.

**MUS 277 Individual Instruction in Composition (2-4)** Consent of instructor. Unlimited repeatability.

**MUS 278 Individual Performance in Harp (2-4)** Consent of instructor. Unlimited repeatability.

**MUS 279 Individual Performance in Guitar (2-4)** Consent of instructor. Unlimited repeatability.

**MUS 280 Mixed Concert Choir (1)** Audition required. Limited to approximately 55-60 singers and is open to all students. 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. Unlimited repeatability.

**MUS 281 Women's Glee Club (1)** Audition required. Membership in this group of 30-40 singers is open to all female students. The Glee Club performs concerts on campus each quarter and joins with the Concert Choir in performance of large masterworks with orchestra. Unlimited repeatability.

**MUS 282 University Singers (1)** Audition required. 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. Unlimited repeatability.

**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. Unlimited repeatability.

**MUS 284 Men's Glee Club (1)** Audition required. Open to all University men, this group performs often on campus and in the community, in addition to touring within the state. The Men's Glee Club sings a wide variety of literature from sacred anthems to spirituals, folk songs and popular music. Unlimited repeatability.

**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. Unlimited repeatability.

**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. Unlimited repeatability.

**MUS 290 Chamber Winds (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. Unlimited repeatability.

**MUS 291 Wind Ensemble (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. Unlimited repeatability.

**MUS 293 Concert Band (1)** Audition required. Made up of music majors and students from other disciplines. Members perform a wide variety of interesting literature selected from standard and current repertoire. Unlimited repeatability.

**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. Unlimited repeatability.

**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. Unlimited repeatability.

**MUS 296 University Symphony Orchestra (1)** Audition required. Perform and read standard repertoire of the modern symphony orchestra. Give quarterly concerts on and off campus. Annually sponsors a Concerto Competition. Unlimited repeatability.

**MUS 297 Concert Orchestra (1)** Audition required. This group of members of the Symphony Orchestra performs and reads literature from the Baroque to the present, specializing in material specifically designed for chamber orchestra. The ensemble presents concerts regularly on campus, and its members also perform for UNC's operas and musicals. Unlimited repeatability.

**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 308 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 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.

**MUS 327 Beginning Jazz Improvisation (2)** Prerequisites: MUS 223 and consent of instructor. 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 328 Intermediate Jazz Improvisation (2)** Prerequisite: MUS 327. Audition required. 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 334 Acting for Singers (2)** Instruction in the special needs of the singer/actor: staging of arias, improvisation.

**MUS 336 German Art Song I (2)** Audition required. In-depth study of German art song from its historical beginnings through Schubert.

**MUS 337 German Art Song II (2)** Audition required. In-depth study of German art song after Schubert to the present.

**MUS 338 French/Italian Art Song (2)** Audition required. In-depth study of French and Italian art song.

**MUS 339 British/American Art Song (2)** In-depth study of British and American art song.

**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.

**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.

**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.

**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 346 Jazz Arranging, Small Ensembles (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 347 Jazz Arranging, Big Bands (2)** Prerequisite: MUS 346 and instructor consent. Continuance of Jazz Arranging I with big band scoring. Working with brass punch figures and shout figure sections. Includes ozalid calligraphy and setting up the recording session.

**MUS 348 Jazz Arranging, Vocal Jazz and Studio Orchestra (2)** Consent of instructor required. Continuance of Jazz Arranging II with focus on vocal jazz and studio orchestra composition. Performance of material at end of quarter by studio orchestra and vocal jazz ensemble.

**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 (2)** 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 380 String Technique for the Conductor (2)** Through "hands-on" experience, the conductor will acquire a minimum desirable competency in the execution of the most common problems of string technique as they apply to orchestral performance.
- 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.
- 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 psychoacoustical properties of timbre, pitch, loudness, masking. Make practical applications.
- MUS 406 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. Unlimited repeatability.
- 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. May be repeated — maximum 4 hours credit.
- 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. May be repeated — maximum 4 hours credit.
- MUS 410 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 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 Impressionistic 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*. Unlimited repeatability.
- MUS 422 Directed 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.
- 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. Unlimited repeatability.
- MUS 427 Orchestral Excerpts: Strings (1)** May be repeated for credit. Intensively study passages which usually trouble string players, and generally survey literature. Separate classes in violin, viola, cello and bass, depending on need. Unlimited repeatability.
- 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 excerpts classes in trumpet, horn and low brass offered. Unlimited repeatability.
- 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. Unlimited repeatability.
- MUS 430 String Ensemble (1)** Small chamber groups which rehearse regularly and are coached by a faculty member. Unlimited repeatability.
- MUS 431 Brass Ensemble (1)** Unlimited repeatability.
- MUS 432 Woodwind Ensemble (1)** Groups of three to eight woodwind instruments meeting regularly under faculty supervision. Unlimited repeatability.
- MUS 433 Percussion Ensemble (1)** Unlimited repeatability.
- 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. Unlimited repeatability.

**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. Unlimited repeatability.

**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. Unlimited repeatability.

**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.

**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 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 465 Studio Orchestra (1)** Interpretation of jazz rhythms and exploring basic studio orchestra literature. Performing student compositions from Jazz Arranging III. Use of "click" tracks in a studio recording session in Denver. Unlimited repeatability.

**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.

**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. Unlimited repeatability.

**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. Unlimited repeatability.

**MUS 470 Individual Performance in Voice (2-4)** Consent of instructor. Unlimited repeatability.

**MUS 471 Individual Performance in Piano (2-4)** Unlimited repeatability.

**MUS 472 Individual Performance in Organ (2-4)** Consent of instructor. Unlimited repeatability.

**MUS 473 Individual Performance in Strings (2-4)** Unlimited repeatability.

**MUS 474 Individual Performance in Woodwinds (2-4)** Develop performance techniques, style and repertoire of daily studies, études and solo literature. Minimum proficiencies are required, depending on the student's degree program and grade level. Unlimited repeatability.

**MUS 475 Individual Performance in Brass (2-4)** Unlimited repeatability.

**MUS 476 Individual Performance in Percussion (2-4)** Unlimited repeatability.

**MUS 477 Individual Instruction in Composition (2-4)** Consent of instructor. Unlimited repeatability.

**MUS 478 Individual Performance in Harp (2-4)** Consent of instructor. Unlimited repeatability.

**MUS 479 Individual Performance in Guitar (2-4)** Consent of instructor. Unlimited repeatability.

**MUS 480 Mixed Concert Choir (1)** Audition required. Limited to approximately 55-60 singers, and open to all students. 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. Unlimited repeatability.

**MUS 481 Women's Glee Club (1)** Audition required. Membership in this group of 30-40 singers is open to all female students. The Glee Club performs concerts on campus each quarter and joins with the Concert Choir in performance of large masterworks with orchestra. Unlimited repeatability.

**MUS 482 University Singers (1)** Prerequisite: Membership in Concert Choir or special permission. Audition required. This select group of approximately 25 singers performs an extremely varied repertoire, from Renaissance motets to contemporary works. Unlimited repeatability.

**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. Unlimited repeatability.

**MUS 484 Men's Glee Club (1)** Audition required. Open to all University men, this group performs often on campus and in the community, in addition to touring within the state. The Men's Glee Club sings a wide variety of literature from sacred anthems to spirituals, folk songs and popular music. Unlimited repeatability.

**MUS 485 Opera Workshop (1-12)** 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. Unlimited repeatability.

**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. Unlimited repeatability.

**MUS 490 Chamber Winds (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. Unlimited repeatability.

**MUS 491 Wind Ensemble (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. Unlimited repeatability.

**MUS 493 Concert Band (1)** Audition required. Made up of music majors and students from other disciplines. Members perform a wide variety of interesting literature selected from standard and current repertoire. Unlimited repeatability.

**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. Unlimited repeatability.

**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. Unlimited repeatability.

**MUS 496 University Symphony Orchestra (1)** Audition required. Perform and read standard repertoire of the modern symphony orchestra. Give quarterly concerts on and off campus. Annually sponsors a Concerto Competition. Unlimited repeatability.

**MUS 497 Concert Orchestra (1)** Audition required. This group of members of the Symphony Orchestra performs and reads literature from the Baroque to the present, specializing in material specifically designed for chamber orchestra. The ensemble presents concerts regularly on campus, and its members also perform for UNC's operas and musicals. Unlimited repeatability.

**MUS 501 18th Century Counterpoint (3)** Prerequisite: MUS 203. Study of two and three voice counterpoint as found in the invention, canon, fugue and chorale prelude.

**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 506 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 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 510 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 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 512 Symphonic Repertoire (2)** Historical overview of the orchestra from its beginnings to the present day, including the evolution of the art of conducting. Special attention to repertoire and programming as they relate to distinct types of ensembles and audiences.

**MUS 519 Foundations of Music Education (3)** Study the philosophical principles and other bases from humanities for music education in today's schools.

**MUS 521 Saxophone Pedagogy (1)** Consent of instructor required. Develop teaching techniques for the saxophone in the areas of performance, style, repertoire, intonation, and historical perspective.

**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 534 Acting for Singers (2)** Instruction in the special needs of the singer/actor: staging of arias, improvisation.

**MUS 536 German Art Song I (2)** Audition required. In-depth study of German art song from its historical beginnings through Schubert.

**MUS 537 German Art Song II (2)** Audition required. In-depth study of German art song after Schubert to the present.

**MUS 538 French/Italian Art Song (2)** Audition required. In-depth study of French and Italian art song.

**MUS 539 British/American Art Song (2)** In-depth study of British and American art song.

**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 546 Jazz Arranging, Small Ensembles (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 547 Jazz Arranging, Big Bands (2)** Prerequisite: MUS 346 and instructor consent. Continuance of Jazz Arranging I with big band scoring. Working with brass punch figures and shout figure sections. Includes ozalid calligraphy and setting up the recording session.

**MUS 548 Jazz Arranging, Vocal Jazz and Studio Orchestra (2)** Consent of instructor required. Continuance of Jazz Arranging II with focus on vocal jazz and studio orchestra composition. Performance of material at end of quarter by studio orchestra and vocal jazz ensemble.

**MUS 550 Score Reading and Analysis (2)** May be repeated three times for credit. A continuing course dealing with analysis of wind/orchestral literature. Emphasis is placed on relating analysis techniques to preparation and performance of compositions for wind/orchestral ensemble. Literature studied will vary from quarter to quarter.



**MUS 551 Individual Performance in Conducting (2)** May be repeated three times for credit. 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 Opera and Oratorio Literature (3)** Study of the solo repertoire in opera, oratorio and cantata 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 565 Principles of Ensemble Intonation (2)** Examine various tuning temperaments, emphasizing concepts of "just intonation" and its application to all flexible pitches ensembles. Employ electronic tuning devices with practical experience gained through small ensemble participation.

**MUS 580 String Technique for the Conductor (2)** Through "hands-on" experience, the conductor will acquire a minimum desirable competency in the execution of the most common problems of string technique as they apply to orchestral performance.

**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)** May be repeated twice for credit. Prerequisite: Mastery of traditional harmony. Analyze the structure of music.

**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 612 Statistics in Music Classroom Research and Problem Solving (1-2)** Introduction to the use of the computer program, Statistical Package for the Social Sciences (SPSS). Students are presented with problem statements and interpret data.

**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 616 Aural Comprehension for the Conductor (2)** Further development of aural skills through solfege, melodic and rhythmic dictation. Some attention will be given to physical aspects of aural comprehension and sound.

**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*. Unlimited repeatability.

**MUS 622 Directed 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. Unlimited repeatability.

**MUS 630 String Ensemble (1)** Small chamber groups which rehearse regularly and are coached by a faculty member. Unlimited repeatability.

**MUS 631 Brass Ensemble (1)** Unlimited repeatability.

**MUS 632 Woodwind Ensemble (1)** Groups of 3 to 8 woodwind instruments meeting regularly under faculty supervision. Unlimited repeatability.

**MUS 633 Percussion Ensemble (1)** Unlimited repeatability.

**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. Unlimited repeatability.

**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. Unlimited repeatability.

**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. Unlimited repeatability.

**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: Single Reeds (2)** Prerequisites: MUS 361, 362, 363. Investigate techniques for single reed instruments, gain additional playing proficiency, study teaching materials for individual and group instruction, and become familiar with standard solo and small ensemble literature.

**MUS 663 Instrumental Techniques and Materials: Double Reeds and Flute (3)** Prerequisites: MUS 361, 362, 363. Investigate techniques for double reeds and flute 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 665 Studio Orchestra (1)** Interpretation of jazz rhythms and exploring basic studio orchestra literature. Performing student compositions from Jazz Arranging III. Use of "click" tracks in a studio recording session in Denver. Unlimited repeatability.

**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. Unlimited repeatability.

**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. Unlimited repeatability.

**MUS 670 Individual Performance in Voice (2-4)** Consent of instructor. Unlimited repeatability.

**MUS 671 Individual Performance in Piano (2-4)** Unlimited repeatability.

**MUS 672 Individual Performance in Organ (2-4)** Consent of instructor. Unlimited repeatability.

**MUS 673 Individual Performance in Strings (2-4)** Unlimited repeatability.

**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. Unlimited repeatability.

**MUS 675 Individual Performance in Brass (2-4)** Unlimited repeatability.

**MUS 676 Individual Performance in Percussion (2-4)** Unlimited repeatability.

**MUS 677 Individual Instruction in Composition (2-4)** Consent of instructor. Unlimited repeatability.

**MUS 678 Individual Performance in Harp (2-4)** Consent of instructor. Unlimited repeatability.

**MUS 679 Individual Performance in Guitar (2-4)** Consent of instructor. Unlimited repeatability.

**MUS 680 Mixed Concert Choir (1)** Audition required. Limited to approximately 55-60 singers. Open to all students. 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. Unlimited repeatability.

**MUS 681 Women's Glee Club (1)** Audition required. Membership in this group of 30-40 singers is open to all female students. The Glee Club performs concerts on campus each quarter and joins with the Concert Choir in performance of large masterworks with orchestra. Unlimited repeatability.

**MUS 682 University Singers (1)** Audition required. Prerequisite: Membership in Concert Choir. This select group of 25 singers performs an extremely varied repertoire from Renaissance motets to contemporary works. Unlimited repeatability.

**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. Unlimited repeatability.

**MUS 684 Men's Glee Club (1)** Audition required. Open to all University men, this group performs often on campus and in the community, in addition to touring within the state. The Men's Glee Club sings a wide variety of literature from sacred anthems to spirituals, folk songs and popular music. Unlimited repeatability.

**MUS 685 Opera Workshop (1-12)** 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. Unlimited repeatability.

**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. Unlimited repeatability.

**MUS 690 Chamber Winds (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. Unlimited repeatability.

**MUS 691 Wind Ensemble (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. Unlimited repeatability.

**MUS 693 Concert Band (1)** Audition required. Made up of music majors and students from other disciplines. Members perform a wide variety of interesting literature selected from standard and current repertoire. Unlimited repeatability.

**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. Unlimited repeatability.

**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. Unlimited repeatability.

**MUS 696 University Symphony Orchestra (1)** Audition required. Perform and read standard repertoire of modern symphony orchestra. Give quarterly concerts on and off campus. Annually sponsors a Concerto Competition. Unlimited repeatability.

**MUS 697 Concert Orchestra (1)** Audition required. This group of members of the Symphony Orchestra performs and reads literature from the Baroque to the present, specializing in material specifically designed for chamber orchestra. The ensemble presents concerts regularly on campus, and its members also perform for UNC's operas and musicals. Unlimited repeatability.

**MUS 699 Thesis (1-12)** 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 (1-9)** 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 (1-18)** Required of all doctoral candidates.

## Nursing

NURS courses are administered by the School of Nursing.

**NURS 200 Women's Health Care (3)** Oriented to students of any major. Examines natural changes and common problems that occur in women's bodies over the adult life span. Includes psychological, sociological and cultural implications.

**NURS 230 Effective Parenting (2)** A study of current parenting issues, with comparative theories of needs of children and parents and information about effective parenting communication and techniques.

**NURS 250 Metrology for the Health Professional (1)** A study of metrology with clinical application. Prepares the health professional to understand and apply principles used in the calculation and administration of medications.

**NURS 300 Conceptual Foundation of Nursing Practice: Nursing Process, Adaptation Theory and Intervention Methodology (5)** Prerequisite: Admission to Clinical Level III. Introduces the conceptual basis of professional nursing practice using the nursing process and adaptation framework. Emphasizes management, communication, teaching-learning, physical care and environmental manipulation.

**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 304 Health Promoting Behaviors (2)** Prerequisite: Admission to Clinical Level III. Nursing assessment of healthy behaviors across the life span. Introduction to behaviors and lifestyles that promote health.

**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, 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, 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, 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 Leadership in Nursing (3)** Prerequisites: NURS 300, 303, and Clinical Level III status. Examine the leader's role in planned change and strategies for leadership and implementation of change.

**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)** Prerequisite: Clinical Level 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) Taken concurrently with NURS 320. Simulated and clinical laboratory experience in history and physical examination.

**NURS 326 Pathophysiology (3)** Prerequisites: ZOO 121 and ZOO 250 or consent of instructor. Integrates knowledge of pathological processes with physiological changes and altered health status. Designed for health care professionals and student health care professionals.

**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, 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, 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, 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, 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)** Prerequisite: NURS 309. 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.

**NURS 405 Nursing Theory and Research (3-4)** Prerequisite: ENG 101. An introduction to scientific inquiry in nursing, including critique, computerized library search and writing skills. Theories of nursing care are viewed in relation to clinical nursing research.

**NURS 406 Rehabilitation Nursing (3)** Study advanced concepts essential for the nursing care of individuals requiring rehabilitation because of illness or injury. Emphasizes recognition and evaluation of disability problems, interdisciplinary approach and vocational rehabilitation systems.

**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 Practice Issues on Nursing (3)** Prerequisite: Clinical Level IV status. Study of current issues challenging the professional practice of nursing.

**NURS 420 Clinical Practicum in Community Health Nursing (6)** (1 seminar, 10 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 span.

**NURS 422 Directed 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.

**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, 440, 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.

**NURS 508 Nursing Workshop (1-5)** Graduates only. Offers health professionals opportunities to increase their knowledge and skills. Subtitle will indicate the area covered by any one workshop, but no subtitle may be repeated for credit.

## Oceanography

OCN courses are administered by the Department of Earth Sciences.

**OCN 110 Man and the Sea (3)** 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.

**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.

**OCN 301 Principles of Oceanography I (4)** (3 lecture, 2 laboratory) 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.

**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)** Various geological and biological aspects of coral reefs, including detailed study of reef types from the Pacific Ocean and Caribbean Sea.

**OCN 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.

**OCN 500 Survey of Oceanography (5)** Primarily for teachers and graduate students. Principles of oceanology from a non-mathematical approach. Physical features of water, currents, geological features of sea floors, life, food and mineral resources, recent technological developments, and international political implications.

**OCN 599 Special Topics in Oceanography (1-4)** Explore areas of oceanography beyond the scope of existing departmental offerings. Specific topics determined by student and instructor interest.

**OCN 622 Directed 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 500 level requirement unless student is in full-time residence at UNC during quarter course is taken.

## Physical Education

PE courses are administered by the Department of Physical Education.

Courses numbered 101-190 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 skill, it will be noted in the class schedule.

**PE 102 Billiards (1)**

**PE 103 Badminton (1)**

**PE 104 Activity for Stress Management (1-2)** Use of a variety of physical activities to control stress.

**PE 105 Self Defense (1)**

**PE 107 Modern Rhythmic Gymnastics (1-2)** Combines dance and gymnastics movements and integrates the use of hands apparatus (i.e., hoops, balls, ropes, ribbons).

**PE 108 Gymnastics (1-2)**

**PE 109 Physical Fitness & Conditioning (1-2)**

**PE 111 Softball (1)**

**PE 112 Tennis (1-2)**

**PE 113 Soccer (1)**

**PE 115 Volleyball (1)**

**PE 116 Golf (1-2)**

**PE 118 Basketball (1)**

**PE 119 Rugby Football (1)**

**PE 120 Bowling (1)**

**PE 121 Racquetball (1)**

**PE 122 Fencing (1-2)**

**PE 125 Swimming (1-2)**

**PE 126 Skiing (1-2)**

**PE 127 Ice Skating (1)**

**PE 128 Roller Skating (1)**

**PE 129 Back Packing & Hiking (1)**

**PE 130 Modern Dance (1-2)**

**PE 132 Jazz Dance (1-2)**

**PE 133 Social Dance (1)**

**PE 134 Folk Dance (1)**

**PE 135 American Square & Couple Dance (1)**

**PE 136 Ballet (1-2)**

**PE 137 Tap Dance (1-2)**

**PE 138 Ethnic Dance (2)**

**PE 139 Aerobic Dance (1)**

**PE 141 Varsity Football (2)**

**PE 143 Varsity Basketball (2)**

**PE 145 Varsity Wrestling (2)**

**PE 147 Varsity Gymnastics (2)**

**PE 149 Varsity Swimming (2)**

**PE 150 Freshman Baseball (2)**

**PE 151 Varsity Baseball (2)**

**PE 153 Varsity Track (2)**

**PE 155 Varsity Tennis (2)**

**PE 157 Varsity Golf (2)**

**PE 166 Varsity Volleyball (Women) (2)**

**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 Department 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 and transfer students. Receive orientation in the breadth, scope and nature of the professional program in Physical Education.

**PE 220 Anatomical Kinesiology (3)** (1 hour laboratory arranged) Study the structural components of human movement with special attention to analysis of movement problems.

**PE 221 Mechanical Kinesiology (3)** (1 hour laboratory arranged) Learn the mechanical components of human movements, analyzing movement problems.

**PE 222 Physiological Kinesiology (3)** (1 hour laboratory arranged) Investigate the physiological components of human movement, particularly analyzing movement problems.

**PE 223 Psychological Kinesiology (3)** (1 hour laboratory arranged) Study the neuropsychological components of human movement, especially analyzing movement problems.

**PE 224 Maturational Kinesiology (3)** (1 hour laboratory arranged) Prerequisites: PE 222, 223. Analyze movement problems in a study of the maturational components of human movement.

**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 (2)** Prerequisites: PE 256, 295, 297. Learn basic techniques, movement analysis and composition as an advanced dance student.

**PE 256 Improvisation and Composition Forms (2)** 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.

**PE 262 Standard First Aid and Personal Safety (2)**

**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)** Movement, skills, rules and strategies.

**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)** 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 Folk and 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 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.

**PE 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, 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)** PTE. Take concurrently with PE 235. Teach under close supervision with immediate feedback and discussion with the supervising teacher.

**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. Study techniques and strategies of coaching competitive swimming.

**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. Study techniques and strategies of coaching competitive basketball.

**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)** May be graded S/U. 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 Directed Studies (1-4)** 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.

**PE 426 Tests and Measurement 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 Advanced Modern Dance Technique and Composition (3)** Prerequisites: PE 255, 256, 295, 297. Investigate dance technique, theory, composition and problems connected with staging a dance performance.

**PE 457 Dance History and Philosophy (3)** 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 485 Mechanism and Evaluation of Sports Injury (3)** For majors only. Prerequisites PE 380 and admission to the Athletic Training Clinical Program; consent of instructor required. Techniques, procedures and skill for the recognition and evaluation of acute and chronic injuries occurring in sport. Includes mechanisms, history, inspection, palpation, functional testing, and special evaluative techniques.

**PE 486 Clinical Methods in Sports Injuries (3)** For majors only. Prerequisites PE 380 and admission to the Athletic Training Clinical Program; consent of instructor required. Physiological basis, techniques, and skills utilized in the prevention and rehabilitation of sports injuries. Includes indications, contraindications and applications of therapeutic exercise, modalities protective aids, and return to participation parameters.

**PE 499 Internship in Fitness and Exercise (18)** Prerequisites: senior majors only; PE 220, 221, 222, 223, 224, 262, 380, 480; consent of advisor. Assume the responsibilities of working in a private, public, or community athletic or sports facility. Requires one full quarter of full time participation. S/U grading.

**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, 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 Directed 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 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.

**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 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 18 hours of credit for the dissertation as partial fulfillment of the requirements for all doctoral programs.

## Philosophy

PHIL courses are administered by the Department of Philosophy.

**PHIL 100 Introduction to Philosophy (4)** An examination of issues pertaining to knowledge, reality, and morality. Issues examined might include the following: Can we know anything? Does God exist? Is morality merely personal opinion?

**PHIL 105 Philosophical Perspectives on Current Issues (4)** Offerings under this heading will examine the philosophical dimensions of specific issues of lively current interest.

**PHIL 110 Figures in Western Philosophy (4)** This course is designed to introduce students to philosophy by acquainting them with the ideas of some of the major figures in the history of western philosophy. Figures studied will include 3 to 5 of the following: Plato, Aristotle, Aquinas, Descartes, Hobbes, Leibnitz, Berkeley, Hume, Kant, James and Sartre.

**PHIL 115 Philosophy and Current Affairs (2-5)** Offerings under this heading will explore philosophical issues connected with matters of widespread current controversy or general public debate. S/U grading. No particular offering under this heading may be taken more than once.

**PHIL 120 Art of Philosophical Writing (4)** Prerequisite: ENG 122 and at least one previous class in philosophy. Introduction to methods of philosophical writing and research.

**PHIL 140 Basic Symbolic Skills (4)** Introduction to the logistic method and to its applications in logic, mathematics, the sciences, and philosophy.

**PHIL 210 The Nature of Scientific Reasoning (4)** A study of the reasoning involved in testing theoretical, statistical, and causal hypotheses in the sciences and in evaluating practical decisions based, at least in part, on scientific findings.

**PHIL 220 The Nature of Legal Reasoning (4)** A study of the reasoning involved in the law. Students will read cases, write legal briefs, and argue their cases orally. No background in philosophy is required.

**PHIL 240 Formal Logic (4)** Prerequisite: PHIL 140 or consent of instructor. An intensive introduction to the basic principles and methods of formal logic.

**PHIL 250 Textual Analysis (4)** Introduction to specific techniques of textual analysis by means of detailed analysis of one or more philosophical texts.

**Phil 260 Topics in the History of Philosophy (4)** Topics may include figures (e.g. Plato, Descartes), movements (e.g. positivism, existentialism), issues (e.g. the problem of universals, the free will controversy), or periods (e.g. ancient, medieval, modern). May be elected more than once.

**PHIL 300 Topics in Philosophy (4)** 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.

**PHIL 330 Aesthetics (4)** 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).

**PHIL 335 Philosophical Ideas in Literature (4)** In-depth examination of philosophic themes as expressed in selected classics of prose and poetry.

**PHIL 350 Ethics (4)** 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)** May be elected more than once. In-depth examination of a specific ethical problem encountered by professionals in the field of medicine. Enrollment restricted.

**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).

**PHIL 355 Social and Political Philosophy (4)** 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).

**PHIL 370 Philosophy of Religion (4)** 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 385 Epistemology (4)** 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)** 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)** May be elected more than once. 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.

**PHIL 410 Advanced Studies in Selected Areas of Philosophy (4)** May be elected more than once. 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.

**PHIL 420 Advanced Studies in Contemporary Philosophical Issues (4)** May be elected more than once. 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.

**PHIL 422 Directed Studies (1-4)** 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.

**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)** May be elected more than once to maximum of 12 credits, no more than 8 of which may be counted for major or minor. Prerequisite: Consent of instructor. Practical training in one or more areas of the profession. S/U grading.

**PHIL 500 Topics in Critical Thinking (1-4)** An examination of the principles of critical thinking and of their application to practical problems in education, law, medicine or other professions. Variable topic course may be elected more than one for up to 12 hours.

**PHIL 622 Directed 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 500 level requirement unless student is in full-time residence at UNC during quarter course is taken.

## Physics

(Also see SCI)

PHYS courses are administered by the Department of Physics.

**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.

**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.

**PHYS 256 Computer Graphics for Science and Engineering (4)** Prerequisite: Ability to program in a language such as BASIC, FORTRAN, or Pascal. Introduction to computer graphics techniques in science and engineering. Applications to design and to data analysis or presentation.

**PHYS 257 Microcomputer Electronics (3)** Prerequisite: MATH 124. Learn elementary digital electronics with applications to microcomputers, logic families, integrated circuits, microprocessors and interfacing of memory and input/output devices. Not an acceptable elective for Physics majors.

**PHYS 260 Introductory Physics — Mechanics (5)** (4 lecture, 3 laboratory) Prerequisite: MATH 123. First quarter of algebra based introductory physics. Classical mechanics.

**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. 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. 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, Schroedinger 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 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 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 469 Applied Optics (3)** Prerequisite: PHYS 266 and PHYS 267. Study of optical theory and technology in applications such as instrumentation, lasers, optoelectronic, optical fibers, information processing and communications.

**PHYS 490 Senior Research (2-4)** Course may be repeated for a maximum of 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 Physics (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 Schroedinger representation.

**PHYS 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.

**PHYS 622 Directed Studies (1-4)** 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)** Course may be repeated for a maximum of 6 hours. 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 (1-15)** Required of Master of Arts candidates in Physics who elect the thesis option in the degree.

## Professional Psychology

PPSY courses are administered by the Division of Professional Studies.

**PPSY 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.

**PPSY 202 Principles and Philosophies of Guidance (3)** Examine guidance activities and their use in industry, business, the classroom and the professions.

**PPSY 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.

**PPSY 362 Teacher Effectiveness Training (3)** This course is designed for school personnel who want to learn specific skills required in classroom management, conflict resolutions, values collisions, enhancement of teaching-learning environments, and discipline situations.

**PPSY 422 Directed 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.

**PPSY 468 Psychology of Women (3)** Prerequisite: Junior standing and above. Learn theoretical bases and issues regarding and influencing traditional concepts of "Female Personalities," i.e., psychoanalytical theory and neurotic behavior definitions, motivation, achievement needs, identity, ego strength and self-esteem and interdependent influences on female development.

**PPSY 499 Special Topics in Professional Psychology (1-4)** Explores special areas in Professional Psychology and carries a subtitle for each offering. No subtitle may be repeated for credit.

**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. S/U grading.

**PPSY 512 Introductory Supervised Practice in Counseling (2)** Take concurrently with PPSY 607. An introduction to professional practices, ethics, and procedures in the counseling setting; develop counseling observation experience in projected work setting, if possible. S/U grading.

**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 (4)** Prerequisites: PPSY 651 or equivalent. This course is designed to give an understanding of abnormal behavior, its causes, symptoms, characteristics, treatment, and prevention.

**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.

**PPSY 562 Teacher Effectiveness Training (3)** This course is designed for school personnel who want to learn specific skills required in classroom management, conflict resolutions, values collisions, enhancement of teaching-learning environments, and discipline situations.

**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 Psychology of Women (3)** Theoretical bases and issues from psychology regarding and influencing the traditional concept of the "female personality," i.e., psychoanalytic theory and definitions of neurotic behavior, motivation, achievement needs, identity, ego-strength and self-esteem, and the interdependent influence upon the development of gender.

**PPSY 569 Violence Against Women and Children (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 580 Computer Applications to Professional Psychology (3)** Prerequisites: EPRE 518, ET 626, or equivalent. An overview of the effective application of computers in professional psychological environments. Learn how to select, use, and modify relevant software, legal and ethical limitations, and the implications for computer uses in therapeutic settings.

**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. S/U grading.

**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. S/U grading.

**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 Career Development and Occupational Information Systems (3)** Analyze career development theories, society/changing values, career development, world of work classification, labor force/employment trends, educational-vocational planning principles; use, review/evaluation of occupational information; techniques for educational-vocational decisionmaking.

**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 Theories of Counseling (3)** Take concurrently with PPSY 512. The study and critical analysis of theoretical approaches used in counseling processes.

**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 609 Guidance Institute (1-15)** A response to specific needs of counselors and other professional personnel who wish to upgrade proficiencies.

**PPSY 610 Human Growth and Development for Counselors (4)** An introduction to basic concepts of growth and development as they apply to counseling: the individual from conception to senescence; emphasis on developmental tasks and their use in the therapeutic intervention.

**PPSY 611 Externship in Guidance Services (4)** 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 Practicum in Individual Counseling (5)** Prerequisites: PPSY 607 or 512 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. S/U grading.

**PPSY 613 Externship in Counseling with Children (4)** Prerequisites: PPSY 612 and permission of instructor obtained prior to end of fifth week of preceding quarter. Counsel elementary school children under supervision. S/U grading.

**PPSY 614 Externship in Counseling with Youth and/or Adults (4)** 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. S/U grading.

**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)** 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)** 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 Directed Studies (1-4)** Prerequisite: Permission of instructor. 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. 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. 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 638 Behavioral Approaches to Professional Psychology (4)** An overview of behavioral approaches to professional psychology. The major theories will be reviewed and the application of these models to understanding the etiology and treatment of abnormal behavior examined.

**PPSY 647 Psychological Aspects of Learning Disabilities (3)** Prerequisite: EPRE 540, PPSY 638 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. Application of personality theory for assessment, counseling, and evaluation.

**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, counseling, and education. The impact of litigation, legislation, and ethical standards regulating psychology is discussed and the role of the psychologist and counselor 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 organizational development.

**PPSY 662 Group Dynamics and Facilitation (3)** 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 3-5 hours per week for each credit. S/U grading.

**PPSY 664 Therapeutic Parenting (3)** Application of therapeutic parenting techniques in academic and mental health settings. Emphasis placed on competence with therapeutic techniques and approaches in facilitating parents toward understanding and acceptance in their role as parents.

**PPSY 665 Family Systems (3)** Study general systems theory of family development and interactions. Structural, communication, analytic, and behavioral approaches to family therapy will be examined as well as ethics, legal issues, and current research.

**PPSY 666 Couple and Marriage Therapy (3)** Prerequisite: PPSY 665. Study basic theories of relationship therapy and technical interventions utilized within psychodynamic, behavioral, and systems approaches. Includes also spouse abuse, divorce and child custody procedures, the two-career marriage, and ethics.

**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 668 Principles of Sex Therapy (3)** Prerequisite: PPSY 667. Study various therapeutic approaches to treating sexual concerns and dysfunctions including causes and treatment of sexual dysfunctions; ethical issues; research findings and implications.

**PPSY 670 Psychological Testing and Measurement (4)** 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 and Personality (3)** A survey course of the major intelligence and personality tests used by professional psychologists. Test interpretation and measurement properties will be addressed; test administration 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 non-projective 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 (3)** 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 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. S/U grading.

**PPSY 693 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. S/U grading.

**PPSY 694 Practicum in Family Therapy (4)** Prerequisites: PPSY 612, 662 and 665 and permission of counseling practicum coordinator. 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. S/U grading.

**PPSY 695 Seminar: Contemporary Issues in Family Therapy (3)** May be taken twice for a maximum of 6 hours of credit. In-depth study of current issues and research in family therapy. Topics change with each offering.

**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. S/U grading.

**PPSY 713 Practicum in Supervision of Psychotherapy with Children (4)** Prerequisites: PPSY 617, 665, 717 and permission of counseling practicum coordinator. Doctoral candidates receive experience in supervising child psychotherapy training through working with a regular staff member. S/U grading.

**PPSY 714 Practicum in Supervision of Counseling (1-12)** Prerequisites: PPSY 612 and permission of counseling practicum coordinator, 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. S/U grading.

**PPSY 715 Seminar in Counselor Supervision and Theory (3)** Prerequisites: PPSY 707 and permission of counseling practicum coordinator. 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 counseling practicum coordinator. 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. S/U grading.

**PPSY 717 Practicum in Psychotherapy with Children (4)** Prerequisites: PPSY 617, 665 and permission of counseling practicum coordinator. 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. S/U grading.

**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 773 Practicum in Supervision of Group Facilitation (4)** Prerequisites: PPSY 693 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, 694 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 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 (4-10)** 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. May be repeated to total of 24 credits. S/U grading.

**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 speciality. S/U grading.

**PPSY 793 Intake Practicum (1)** Prerequisites: PPSY 612 and 712. The intake practicum is a course designed for advance doctoral students in Professional Psychology which provides experience in several areas relevant to the initial referral and assessment phase of therapy. The student will evaluate prospective clients and make recommendations regarding treatment. S/U Grading.

**PPSY 794 Clinic Practicum (1)** Prerequisites: PPSY 612, 712, and 793. The clinic practicum is a one-quarter-hour course taken for three consecutive quarters. During this practicum, advanced doctoral students in Professional Psychology will serve as staff clinicians in the Psychological Services Clinic. Students will be expected to provide ongoing, direct services, i.e., therapy and assessment, as well as ongoing activities related to case management. Students will be expected to regularly attend supervision sessions. This course will serve as a culmination experience for all previous coursework. S/U grading.

**PPSY 796 Internship in Counseling Psychology (4-6)** 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 18 hours of credit for the dissertation in partial fulfillment of requirements for all doctoral degrees. S/U grading.

## Political Science

(Also see BLS)

PSCI courses are administered by the Department of Political Science.

**PSCI 100 American National Government (5)** Learn about the origin and adoption of the Constitution, the basic principles, structures and processes of the contemporary American governmental system. Required for all PSCI majors and minors.

**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.

**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.

**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 law-making.

**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.

**PSCI 203 Colorado Government (4)** Learn about Colorado state and local governments. Study political conflict, cooperation, public policies and law in the communities and state levels of government (for example, cities, counties, governor, legislature, judiciary).

**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.

**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.

**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.

**PSCI 210 European Political Systems (4)** Analyze comparatively the political systems of European nations, with special emphasis on Great Britain, France and West Germany.

**PSCI 220 International Relations (4)** Learn the basic principles, processes, and problems of the international political system.

**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.

**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.



- 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.
- PSCI 302 The President and the Bureaucracy (3)** Examine 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- PSCI 320 American Foreign Policy (4)** Not open to freshmen. Analyze the development of American foreign policy in the twentieth century and investigate how foreign policy decisions are made.
- PSCI 321 Prospects of War and Peace (3)** Study the various causes of war and investigate the possibilities of war prevention and conflict resolution.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- PSCI 404 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.
- PSCI 409 Politics of Great Britain (2)** Study the politics, governmental decision-making processes, and contemporary issues of Great Britain.
- 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.
- 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.
- 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.
- 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 multiracial and multicultural societies.
- 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.
- 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.
- 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 Directed Studies (1-4)** 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.

## Psychology

PSY courses are administered by the Department of 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.

**PSY 120 Principles of Psychology (5)** Surveys psychology as a science and applied discipline, including research methods, statistics, learning, motivation, sensation, perception, intelligence, personality and physiological, developmental, social and abnormal psychology.

**PSY 230 Human Growth and Development (5)** Study basic concepts and issues of growth and development from conception through senescence. Emphasis on cognitive, psychomotor and socioemotional development. Required 3-4 hours/week assigned practical experience in community.

**PSY 240 Principles of Learning (3)** Prerequisite: PSY 120. Discover principles of conditioning and reinforcement, concept learning, problem solving, information processing and memory.

**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.

**PSY 255 Principles of Emotional Adjustment (3)** Prerequisite: PSY 120. 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.

**PSY 265 Social Psychology (3)** Prerequisite: PSY 120. 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 socioemotional development. Learn research methods for studying developmental processes.

**PSY 340 Social Learning and Behavior Modification (4)** Prerequisites: PSY 120, 240 or EPRE 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.

**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, multidimensionality of perceptual possibilities, and implications for educational processes.

**PSY 343 Sensory Processes (4)** Prerequisite: PSY 120 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.

**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, including intercultural communication, conflict resolution and giving and receiving feedback skills.

**PSY 357 Theories of Personality (3)** Prerequisite: PSY 120. 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 120 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.

**PSY 369 Environmental Psychology (3)** Prerequisite: PSY 120. 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 120, STAT 203. Psychology majors only. Receive an introduction to psychological research, and practice reviewing, conducting and reporting psychological research.

**PSY 401 Practicum in Psychology (1-4)** Permission of instructor and department chairperson required. Students assist professor with research or laboratory in a psychology course. Twenty-five clock hours must be spent for each hour of credit. Note: course title will vary to reflect the nature of the student's involvement. Students may apply a maximum of 6 credits to the Psychology major.

**PSY 407 Introduction to Counseling Theory (3)** Prerequisite: PSY 357. Survey counseling, its place in the contemporary world and current theoretical approaches with individuals and groups. Not intended as training in counseling approaches, but as basis for future study.

**PSY 422 Directed Studies (1-4)** Prerequisites: PSY 120 and 20 hours of Psychology. Permission of instructor and department chairperson required. Students define a problem or area of student interest 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.

**PSY 425 Seminar: Psychological Issues (3)** Prerequisite: PSY 120. 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 443 Motivation (3)** Prerequisite: PSY 120 or equivalent. 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 120. 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: PSY 120 and Introductory BIO or ZOO or equivalent. 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 120 or equivalent. 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)** Prerequisite: PSY 120. 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)** Prerequisite: PSY 120. 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 (1-15)** 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 543 Theories of Motivation (3)** Prerequisite: EPRE 540 or EPRE 541. Physiological drives, learned needs, reinforcement, sensory cues, behavior cycles and social motives; emphasis on implications for study of human behavior.

**PSY 590 History and Systems in Psychology (3)** Philosophical perspectives and major theories and systems are reviewed as they contributed to the development of contemporary psychology. Course required for state psychology board licensing eligibility.

**PSY 599 Special Topics in Psychology (1-4)** Scheduled on an irregular basis to explore special areas in psychology, and carries a subtitle for each offering. No subtitle may be repeated for credit. Check department office for topics currently planned.

**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. Two copies of a well-written paper must be filed before credit is given, one with instructor, one with department chair. 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 625 Principles of Human Neuropsychology (5)** Prerequisites: PSY 358, 375, 480, ZOO 105, 221, 250. Survey of functional neuroanatomy and neurophysiology related to human psychological processes. Discussion of theories of neuropsychology and their experimental and clinical applications. Introduction to neuropsychological disorders and their assessment/treatment.

**PSY 626 Neuropsychological Assessment (5)** Prerequisite: PSY 625. Principles of behavioral and neurophysiological assessment. Standards of practice. Practical experience with behavioral/neurophysiological measurement, development of problem-lists and report writing.

**PSY 627 Neuropsychology Practicum (5)** Prerequisites: PSY 625, 626. Practicum in neuropsychological assessment of patients with brain dysfunction. Use of assessment findings and normative data base to develop problem-lists and prepare clinical reports for different referral sources.

**PSY 649 Master's Project in Psychology (3-6)** May be repeated once for total of six credits. 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. 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.

## Reading

(See EDRD)

## Recreation

REC courses are administered by the Department of Recreation.

**REC 203 Introduction to Recreation and Leisure (4)** Designed to orient the beginning recreation major in the breadth, scope, and nature of the professional recreation education program. Majors will also be made aware of the influence of leisure on American society.

**REC 250 Introduction to 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.

**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.

**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)** Consent of instructor. 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)** Consent of instructor. 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)** Consent of instructor. Develop competencies in facilitation techniques for achievement of client goals and objectives.

**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 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.

**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 Leisure Delivery Systems (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 250, 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)** Consent of instructor. Gain exposure to methods and techniques used for assessing leisure needs and determining appropriate goals.

**REC 512 Goal Achievement in Therapeutic Recreation (3)** Consent of instructor. Develop competencies in facilitation techniques for the achievement of client goals and objectives.

**REC 520 Therapeutic Recreation Service (3)** Consent of instructor. Study history, philosophy and practice of providing recreation services for special populations. Cover organization, leadership and administration of 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 563 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 Directed 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 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.

## Science Education

(Also see BIO and CHEM)

SCED courses are administered by the College of Arts and Sciences.

**SCED 351 Science Field Experiences (2-6)** Prerequisite: EDFE 270. Course may be repeated for a maximum of 6 credits. Provides practical experience for the prospective science teacher, in the classroom and community during the sophomore, junior or senior years.

**SCED 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 with instructor before credit is given.

**SCED 441 Methods of Teaching Secondary School Science (3)** Prerequisite: Full admission to PTE or certification at the undergraduate level or SCED 351. Corequisite: EDLS 363. 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 (3)** (2 lecture, 3 laboratory) Full admission to PTE or certification at the undergraduate level. 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 541 Methods of Teaching Secondary School Science (3)** Prerequisite: Full admission to PTE or certification at the undergraduate level or SCED 351. Corequisite: EDLS 363. 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 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 570 Teaching Science in the Elementary School (3)** (2 lecture, 3 laboratory) Full admission to PTE or certification at the undergraduate level. 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 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 Directed Studies (1-4)** Course may be repeated for a maximum of 8 credits. 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)** Full admission to PTE or certification at the undergraduate level. 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 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 (1-3)** Course may be taken for a maximum of 12 credits. 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 699 Thesis (1-15)** Optional for Master of Arts program on recommendation of major advisor.

**SCED 701 Specialist Degree Practicum (1-8)** Project or supervised professional activity, required of all candidates for Specialist in Education degree.

**SCED 755 Supervised Practicum in College Teaching (1-9)** Course may be repeated but total may not exceed nine hours. 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: EPRE 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 (1-18).**

## Science

(Also see BIO, CHEM, ESCI, and PHYS)

SCI courses are administered by the College of Arts and Sciences, and are taught by appropriate departments.

**SCI 100 History of Science — 20th Century (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.

**SCI 103 Physical Science (3)** Survey physical science concepts of current interest. Primarily for the student with limited science background. Taught by Physics or Chemistry. Optional laboratory available (SCI 104).

**SCI 104 Physical Science Laboratory (1)** (3 laboratory) Optional laboratory for students concurrently taking SCI 103. Experiments will reinforce principles and laws presented in SCI 103.

**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.

**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.

**SCI 110 Sights and Sounds (3)** Descriptive study of wave motion in sound and light, emphasizing the associations with music and art. Primarily for the student with limited science background. Taught by Physics. Optional laboratory available (SCI 111).

**SCI 111 Sights and Sounds Laboratory (1)** (3 laboratory) Optional laboratory for students concurrently taking SCI 110. Experiments will reinforce principles and laws presented in SCI 110.

**SCI 112 Mysteries of the Microcosm (3)** Elementary study of the structure of matter. Atomic and subatomic models. Wave-particle nature of matter and light. Nucleus, X-rays, quanta, uncertainty principle. Primarily descriptive. Taught by Physics.

**SCI 114 "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.



**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.

**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.

**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.

**SCI 302 Philosophical Concepts of Physical Science (3)** Prerequisite: one course in one of the physical sciences or philosophy. Philosophical problems in science as viewed by scientists. Scientific truth, conservation principles, duality, uncertainty and correspondence principles, validation of physical laws. Taught by Physics.

**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 364 Elementary Photography (3)** (2 lecture, 3 laboratory) Descriptive study of physical principles of photography, including optics and film structure, practical black and white developing, printing and enlarging. Use of camera for personal and professional use. Taught by Physics.

**SCI 391 Computer Applications in Science (3)** (1 lecture, 4 laboratory) Science teachers will learn how to apply the microcomputer as a tool in the classroom for interfacing with equipment, data management, software evaluation, record keeping and word processing.

**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 (1-5)** A subject matter workshop course designed to improve the science background of teachers. Course may be repeated with different topics and subtitles. 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 (4)** (3 lecture, 2 laboratory) Investigation of basic principles of kinematics, dynamics, momentum, work, and energy with technological applications. For certified teachers interested in improving understanding and pedagogic delivery of physics concepts.

**SCI 516 Principles of Physics II (4)** (3 lecture, 2 laboratory) Investigation of basic principles of energy related to the study of thermodynamics and wave motion with technological applications. For certified teachers interested in improving understanding and pedagogic delivery of physics concepts.

**SCI 517 Principles of Physics III (4)** (3 lecture, 2 laboratory) Prerequisite: SCI 515, 516 or equivalent. Investigation of basic principles of electricity and magnetism with technological applications. For certified teachers interested in improving understanding and pedagogic delivery of physics concepts.

**SCI 518 Principles of Physics IV (4)** (3 lecture, 2 laboratory) Investigation of basic principles of quantum physics and special relativity with applications in atomic, nuclear, and astro physics. For certified teachers interested in improving understanding and pedagogic delivery of physics concepts.

**SCI 591 Computer Applications in Science (3)** (1 lecture, 4 laboratory) Science teachers will learn how to apply the microcomputer as a tool in the classroom for interfacing with equipment, data management, software evaluation, record keeping, and word processing.

**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 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.

## Social Studies Education

(See SSED)

## Sociology

SOC courses are administered by the Department of Sociology.

**SOC 100 Principles of Sociology (4)** Overview of basic theories, methods, concepts and issues central to the discipline of sociology. Examine the relationship between social behavior and society.

**SOC 120 Marriage and the Family (4)** Survey the characteristics, issues, and problems of the family as a social institution. Topics discussed include: marital satisfaction, conflict, mate selection, alternatives, and social change.

**SOC 141 Introduction to Criminal Justice (4)** A survey of the three components of the criminal justice system: police, courts and correction. Emphasis on the structural and situational factors influencing the way these agencies of social control operate.

**SOC 145 Social Problems (4)** Sociological perspectives on social problems. Definitional and social causation models of social problems. Theoretical and conceptual perspectives on social problems and social policy implications for selected social problems.

**SOC 173 American Society Today (4)** Examine the major social relations, social structures, beliefs and values, and social forces that characterize contemporary American society.

**SOC 175 Science, Technology and the Future (4)** Examine science and technology as they influence human relations and society. Explore various views of the future and prospects for humanity based upon science and technology.

*All the following Sociology courses have a prerequisite of SOC 100, or equivalent.*

**SOC 210 Social Movements (4)** Study the uninstitutionalized, deviant groups and their members. Explore significant aspects of unconventional political, economic, religious and cultist organizations.



- SOC 212 Sociology of Education (4)** 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 217 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 221 Sociology of Sex Roles (4)** Examine gender stratification and social inequality. Topics include cultural definitions of masculinity and femininity, socialization, and social change.
- SOC 232 The Community (4)** Study the community from small to large as a complex of human relations. Explore the community historically and functionally on a cross-cultural basis in a critical perspective.
- SOC 235 Social Change (4)** Study various sociological theories that analyze change as the product of multiple social factors. Discuss the effects of technology on change. Explore the processes of change in underdeveloped countries with change in developed countries.
- SOC 247 Social Deviance (4)** Study social deviancy, particularly in terms of types, sources, functions, dysfunctions and social control mechanisms that operate relative to these departures from conformity.
- SOC 270 World Population Problems (4)** Examine population problems in various societies in the world. Review theories of population growth. Relate the population problem to factors which indicate the web of interdependency.
- SOC 274 Sociology of Work and Leisure (4)** Describe and analyze selected occupations and professions in American society.
- SOC 275 Sociology of Mental Illness (4)** Sociological perspectives on mental illness. Examine conceptual models of mental illness, social epidemiological help seeking behavior, social impacts of treatment, mental health delivery systems, and social policy issues.
- SOC 278 Sociology of Mass Communications (3)** Examine the structures and policies of mass communications in relation to their economic, political, sociological and psychological functions. Evaluate problems of bias and propaganda.
- SOC 302 Variable Topics in Sociology (4)** May be taken up to 3 times under different topics. Topics may include sociology of religion, human ecology, social conflict, fascism, urban sociology, etc.
- SOC 313 Political Sociology (4)** Analyze the state, its relationship to the mass, elites and problems of legitimacy. Evaluate structural strains and alternatives of left and right development.
- SOC 314 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.
- SOC 315 Sociology of Medicine (4)** Sociological perspectives on health and illness. Review conceptual models of illness, sick role, help seeking behavior, social selection factors, health care delivery systems, health occupation roles, and social policy issues.
- SOC 322 Women and Aging (4)** 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 in today's American society.
- SOC 324 Issues in the Family (4)** Prerequisite: SOC 100 or SOC 120. Examine theoretical perspectives and research issues in the family. Analyze current issues in the family studies areas. Possible topics: singlehood, prenuptial contracts, dual career households, divorce, parenting, cohabitation, custody arrangements.
- SOC 326 Sociology of Childhood and Adolescence (4)** Examine the societal definition of childhood and adolescence and how social institutions influence socialization.
- SOC 330 Social Organization (4)** Study the social structure of modern bureaucratic organizations. Review human behavior in organizations from a social psychological perspective.
- SOC 332 Social Psychology (4)** Examine the relationships between individuals and social systems. Focuses on language interaction, self-conceptualizing behaviors and change. Review dominant social psychological theories and issues.
- SOC 333 Social Class and Inequality (4)** Presents a critical analysis of the realities of America's open-class system, making use of current theoretical perspectives and systematic research. Examines cross-cultural perspectives of stratification.
- SOC 340 Juvenile Delinquency (4)** Study the history of juvenile law, enforcement structures, and explanations for the emergence of delinquency. Study the American juvenile legal system and its major problems.
- SOC 346 Criminology (4)** Survey criminal behavior generally, including theories of causation, types of crime, extent of crime, law enforcement, criminal justice, punishment and treatment.
- SOC 347 Sociology of Corrections (4)** Survey of the history and structure of punishment in Western societies. Review of the major philosophies and practices of modern corrections.
- SOC 350 Introduction to Social Theory (4)** Study the historical foundation of sociological theory up to the classical theorists of the 19th century. Provide an introduction to theory and theory construction.
- SOC 351 Classical Sociological Theory (4)** Study the major pioneering classical social theorists who established the foundations of modern sociology during the late 19th and early 20th centuries. Focus on the emergence of sociology as a discipline.
- SOC 352 Contemporary Social Theory (4)** Review the major modern theoretical paradigms and prominent contemporary theorists in sociology. Examine contemporary issues in sociology.
- SOC 360 Computer Applications in the Social Sciences (4)** Basic skills in the application of computer technology to substantive issues in sociology. Data collection, data analysis, simulation, and data archives. Mainframe, mini, and microcomputer applications.
- SOC 361 Social Research (4)** Introduce research methodologies in the social sciences. Study the logic of research, role of theory, measurement, sampling, and research designs.
- SOC 362 Social Statistics (4)** Introduce applied statistics in social science research. Review levels of measurement; measures of central tendency and variability; measures of association — reduction in error and variance models; scaling techniques; reliability and validity.
- SOC 363 Qualitative Methodology (4)** Review the major qualitative methods used in sociology to explore, understand and describe features of the social context. Attention is given to field research and the application of specific qualitative methods.
- SOC 371 Sociology of Aging (4)** Survey theories and research on the social aspects of aging with emphasis on later maturity and old age.
- SOC 377 Soviet Society Today (4)** View sociologically the culture, structure and process of social institutions in the Soviet Union including pro and con perspectives of lifestyles, human rights, work, arts and Marxist ideology.
- SOC 390 Applied Sociology (4)** Overview of various types of applied sociology. Gives specific attention to the application of sociological methods in evaluation research; application of concepts and theories in social analysis; and application of knowledge and models for social change.
- SOC 411 Industrial Sociology (4)** Study the organization and dynamics of industrial societies, with particular reference to labor-management relations.
- SOC 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.
- SOC 423 Violence and the Family (4)** Examine major issues in family violence such as defining family violence, comparing types of explanations from different disciplines and translating social science perspectives to policy and social service delivery systems.
- SOC 444 Sociology of Criminal Law (4)** Survey the origins of criminal law; study its structure and administration, and the effects of legal sanctions.
- SOC 490 Internship (4)** Study the basic principles of field research by working as a volunteer intern with a community service agency.

**SOC 499 Senior Seminar in Sociology (4)**

Culminating seminar to provide opportunity for students to experience sociology by conducting a research project on a topic of interest.

**SOC 508 Workshop (3-9)** Focus on applied aspects of sociology or sociological research. Subject determined by subtitle.

**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 523 Violence and the Family (4)** Examine major issues in family violence such as defining family violence, comparing types of explanations from different disciplines and translating social science perspectives to policy and social service delivery systems.

**SOC 530 Social Organizations (4)** Study the social structure of modern bureaucratic organizations. Review human behavior in organizations from a social psychological perspective.

**SOC 544 Sociology of Criminal Law (4)** Survey the origins of criminal law; study its structure and administration, and the effects of legal sanctions.

**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 Classical Social Theory (4)** Study the major pioneering classical social theorists who established the foundations of modern sociology during the late 19th and early 20th centuries. Focus on the emergence of sociology as a discipline.

**SOC 552 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 561 Social Research (4)** Introduce research methodologies in the social sciences. Study the logic of research, role of theory, measurement, sampling, and research designs.

**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 system participants.

**SOC 571 Sociology of Aging (4)** Survey theories and research on the social aspects of aging with emphasis on later maturity and old age.

**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)** May be taken 3 times if topic is different each time. 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.

**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 Directed 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 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 680 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 681 Research Internship (1-12)** Gain graduate level research and career-relevant work experience. Design a research project with the internship advisor in cooperation with a social agency representative.

**SOC 699 Thesis (1-15)** Required of Master of Arts candidates in Sociology on recommendation of major advisor.

## Spanish

(Also see HISP, TESL)

SPAN courses are administered by the Department of Hispanic Studies.

**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.

**SPAN 102 Elementary Spanish II (5)** A continuation of SPAN 101.

**SPAN 103 Elementary Spanish III (5)** A continuation of SPAN 102.

**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.

**SPAN 112 Spanish for Health Care Professionals II (3)** Continuation of SPAN 111.

**SPAN 113 Spanish for Health Care Professionals III (3)** Continuation of SPAN 112.

**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.

**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.

**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-around 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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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: Romanticismo, Modernismo, Criollismo and Indigenismo. Includes poetry, essay, drama and novel.

**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.

**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.

**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.

**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.

**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.

**SPAN 407 Spanish Readings (1-4)**

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 Directed Studies (1-4)**

Undergraduate students spend a minimum of 25 hours per quarter on a problem. Two copies of a paper must be filed before credit is given.

**SPAN 501 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.

**SPAN 502 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.

**SPAN 503 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.

**SPAN 505 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.

**SPAN 507 Spanish Readings (1-4)**

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 508 Workshop (1-10)**

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 521 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.

**SPAN 522 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.

**SPAN 523 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.

**SPAN 531 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.

**SPAN 532 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: Romanticismo, Modernismo, Criollismo and Indigenismo. Includes poetry, essay, drama and novel.

**SPAN 533 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.

**SPAN 622 Directed Study in Spanish (1-4)**  
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

(See EDSE)

## Speech Communication

(See COMM)

## Social Studies Education

SSED courses are administered by the College of Arts and Sciences.

**SSED 341 Methods of Teaching Social Science in the Secondary School (3)** Prerequisite: Full admission to PTE or certification at the undergraduate level. 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 (3)** Full admission to PTE or certification at undergraduate level. 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.

## Applied Statistics

STAT courses are administered by the Department of Mathematics and Applied Statistics.

**STAT 203 Introduction to Statistical Analysis I (4)** 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.

**STAT 303 Statistics for Health Sciences (4)** Prerequisite: MATH 123. 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.

**STAT 304 Introduction to Statistical Analysis II (4)** 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 411 Topics in Applied Statistics (1-4)** Prerequisite: Approval of instructor. Topics selected from linear models, experimental design, sampling, multivariate analysis, operations research methods, or other areas in applied statistics form the focus of this course. May be repeated under different titles.

**STAT 503 Statistical Methods I (4)** 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 Statistical Methods II (4)** 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 Statistical Methods III (4)** 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 (4)** 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 I (4)** 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 Linear Regression Models (4)** Prerequisite: STAT 603. Take the matrix approach to continuous and categorical variables, polynomial and selected nonlinear models; formulation of ANOVA and ANCOVA designs and collinearity; regression methods: backward elimination, forward selection, stepwise and stagewise; and part-regression.

**STAT 607 Non-parametric Statistics (4)** Prerequisite: STAT 504. Study non-parametric 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 Multivariate Analysis II (4)** 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 I (4)** 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 Directed 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 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. Graded S/U.

**STAT 699 Thesis (1-8)** Optional for Master of Science program in Applied Statistics and Research Methods. Graded S/U.

**STAT 715 Planning and Methodology of Research (4)** 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. Graded S/U.

**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. Graded S/U.

**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. Graded S/U.

## Teaching English as a Second Language

TESL courses are administered by the Department of Hispanic Studies.

**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 courses are administered by the Department of Theatre Arts.

**THEA 105, 106, 107 Individual Performance in Theatre (2 each)** Participation in Little Theatre of the Rockies productions. Open to all UNC students. S/U final mark or conventional grade. Register for proper section. For an S, student must participate 60 hours.

**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. Emphasis on laboratory experiences in basic stage construction, shifting and rigging and scene painting.

**THEA 130 Introduction to the Theatre (3)** A survey of the history of the theatre through study of representative plays from each historical period.

**THEA 160 Acting I: Internals (3)** (2 lecture, 3 laboratory) Emphasis on the primary needs of acting: emotional recall and recreation, concentration, motivation, personality and character development and believability. Lab section may be repeated for a maximum 3 hours credit.

**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, 2 contact hours per week; must be taken in sequence)** Development of an actor's basic tool, the body. Emphasis on 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. Focus is on language: the playwright, the play and the character.

**THEA 192 Stage Speech III (1)** Prerequisite: THEA 190, 191 or permission of instructor. Focus is on Dialects and Accents.

**THEA 204 Summer Crew Work in Theatre (1-2)** Backstage crew work on summer Little Theatre of the Rockies productions. S/U grade or conventional grading. Register for proper section. For an S, student must participate a minimum of 30 hours for each hour of credit.

**THEA 205, 206, 207 Individual Performance in Theatre (2 each)** Participation in LTR productions. Open to all UNC students. 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. A study of 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.

**THEA 220 Beginning Stage Costuming (3)** (2 lecture, 2 laboratory) Introduction to the techniques of basic costuming for the theatre: the role of the costumer, pattern and construction, and a familiarity with materials and practices relating to play production.

**THEA 240 Beginning Stage Directing (3)** (2 lecture, 3 laboratory) Prerequisites: THEA 110, 160. Basic course in the principles of directing a play. Major focus is on contemporary theories and practices of stage directing.

**THEA 260 Acting II: Externals (3)** (2 lecture, 3 laboratory) Prerequisite: THEA 160. Second course in acting. Focus is on observation, character analysis research, and vocal and physical scoring of a role. Lab section may be repeated for a maximum 3 hours credit.

**THEA 261 Stage Make-Up (2)** (1 lecture, 2 laboratory) Basic course designed to acquaint the student with the principles of the art of stage make-up.

**THEA 280 Creative Dramatics (3, laboratory arranged)** A study of 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 304 Summer Crew Work in Theatre (1-2)** Backstage crew work on summer Little Theatre of the Rockies productions. S/U grade or conventional grading. Register for proper section. For an S, student must participate a minimum of 30 hours for each hour of credit.



**THEA 305, 306, 307 Individual Performance in Theatre (2 each)** Participation in Little Theatre of the Rockies productions. Open to all UNC students. 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. Fundamental course in scene design. Emphasis on the aesthetics and styles of stage design and the development of rendering skills and staging concepts.

**THEA 320 Stage Costume Design I (4)** Introduction to designing costumes for the stage. Emphasis on the historical, conventional and visual tools and media available to the designer for translating verbal script to visual and tactile form.

**THEA 321 Stage Costume Design II (4)** Introduction to designing costumes for the stage. Emphasis is on the historical, conventional and visual tools and media available to the designer for translating verbal script to visual and tactile form.

**THEA 322 Seminar in Costuming (3)** May be repeated for maximum 9 hours credit. Prerequisites: THEA 220, 320, 321, or permission of instructor. Specialization on 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.

**THEA 330 History of the Theatre I (3)** European theatre and its development from the beginning until the end of the Middle Ages, including primitive origins and classical oriental theatre development. Emphasis on research.

**THEA 331 History of the Theatre II (3)** European theatre and its development from the Italian Renaissance until the close of the 18th century. Emphasis on research.

**THEA 332 History of the Theatre III (3)** American and European theatre and its development from the beginnings of the 19th century to the present. Emphasis on research.

**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. The stylistic demands of directing plays from Aeschylus to Ibsen; actor preparation for playing period plays; techniques for adapting period drama to modern audiences.

**THEA 341 Directing Experimental Plays (3)** (2 lecture, 2 laboratory) Prerequisite: THEA 240. A production course in the directing of plays from various contemporary styles: symbolism, expressionism, theatre of cruelty, theatre of the grotesque, theatre of the absurd and other experimental styles.

**THEA 342 Directing Musical Theatre (3)** (2 lecture, 3 laboratory) Prerequisite: THEA 240. A study of specific techniques required of the director for production of various musical theatre styles, musical theatre and production problems.

**THEA 350 Workshop (15)** May be repeated for maximum 45 hours credit. Prerequisite: Acceptance by Theatre Arts staff. Eight weeks of eight-hour daily rehearsals for summer productions.

**THEA 353 Theatre Production (2)** (6 contact hours per week) May be repeated for maximum 8 hours credit. Prerequisite: Acceptance by TA staff director. Production and presentation of touring theatre before live audiences in this laboratory class.

**THEA 360 Acting III: Musical Theatre (3)** (2 lecture, 3 laboratory) Prerequisite: MUS 360 or permission of instructor. This course follows THEA 260 in structure, but in musical theatre. The lab experience will include singing, dancing and acting. Lab section may be repeated for a maximum 3 hours credit.

**THEA 361 Advanced Stage Make-Up (2)** (1 lecture, 2 laboratory) Prerequisite: THEA 261 or permission of instructor. Designed to prepare the student to produce professional quality makeups, group makeup, quickchange makeups, three dimensional prosthetics, makeup for other media and makeup for educational theatre.

**THEA 370, 371, 372 Rhythmic and Dramatic Movement I, II, III (1 each, 2 contact hours per week; must be taken in sequence)** Prerequisites: THEA 170, 171, 172. A laboratory course in the continued preparation of the actor's skills in movement. Emphasis upon stage combat, mime and body-mind techniques for the actor.

**THEA 380 Children's Theatre Production (3)** (laboratory arranged) 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)** May be repeated for maximum 12 hours credit. Qualified undergraduates must have permission of instructor, advisor and department. Supervised and specialized field work involving theory and methodology in practice. Two copies of evaluation paper required, filed with instructor/department.

**THEA 404 Summer Crew Work in Theatre (1-2)** Backstage crew work on summer Little Theatre of the Rockies productions. S/U grade or conventional grading. Register for proper section. For an S, student must participate a minimum of 30 hours for each hour of credit.

**THEA 405, 406, 407 Individual Performance in Theatre (2 each)** Participation in Little Theatre of the Rockies productions. Open to all UNC students. 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 of modern trends and developments in scene design and staging methods, 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. Introduction to lighting theory and design applicable to all 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 Directed Research in Theatre (1-4)** May be repeated for maximum 12 hours credit. Qualified undergraduates must have permission of instructor, advisor and department. Supervised individual research involving standards and methodologies. Two copies of standard research paper required, filed with instructor/department.

**THEA 430 Dramatic Theory I (3)** Seminar in development of dramatic theory and criticism in western civilization from the classical to the German romantic period, with papers on theory and criticism, applying theory to contemporary plays.

**THEA 431 Dramatic Theory II (3)** Development of dramatic theory and criticism in western civilization from the German romantic period to the present through papers 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. Concentration 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. May be repeated for a maximum 4 hours credit.

**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. May be repeated for a maximum 4 hours credit.



**THEA 462 Problems in Acting Conventions (2)** (4 contact hours per week) Prerequisite: THEA 260. Concentrate on conventions necessary to act such modern dramatic styles as naturalism, expressionism, impressionism, symbolism, "theatre of the absurd," "theatre of cruelty," happenings and other modern experimental forms. May be repeated for a maximum 4 hours credit.

**THEA 465 Musical Theatre Repertory I (2)** (4 contact hours per week) Take concurrently with MUS 407. Prerequisites: THEA 260 or 360; MUS 270 or 470. Training and practice in integrating acting, dance and vocal music with theatre techniques, particularly technical and aesthetic tasks of professional music-theatre performance. Especially for Music/Theatre majors. May be repeated for a maximum 4 hours credit.

**THEA 466 Musical Theatre Repertory II (2)** (4 contact hours per week) Take concurrently with MUS 409. Prerequisite: THEA 465. Study of role preparation and styles, particularly developing necessary skills to approach and prepare audition materials and new roles. May be repeated for a maximum 4 hours credit.

**THEA 467 Musical Theatre Repertory III (2)** (4 contact hours per week) Prerequisite: THEA 466. 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.

**THEA 475 Musical Dance Workshop (2)** (4 contact hours per week) May be repeated for maximum 8 hours credit. For cast of winter quarter musical theatre production only. Practical experience in dance and stage movement in preparation of public performance.

**THEA 480 Advanced Creative Dramatics (3)** (laboratory arranged) Prerequisite: THEA 280 or 281. Teaching experience in creative dramatics stressing the 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 504 Summer Crew Work in Theatre (1-2)** Backstage crew work on summer Little Theatre of the Rockies productions. S/U grade or conventional grading. Register for proper section. For an S, student must participate a minimum of 30 hours for each hour of credit.

**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 TA majors without instructor's permission.

**THEA 601 Graduate Practicum in Theatre (1-4)** Prerequisite: Qualified graduate, permission of instructor, advisor and department. This specialized, supervised field work course involves theory and methodology in practice. Copies of written evaluation must be filed with instructor and department.

**THEA 622 Graduate Directed Research in Theatre (1-4)** Prerequisite: Permission of instructor, advisor and department. Supervised individual research involving research standards and methodologies. Copies of standard research paper must be filed with instructor/department.

**THEA 650 Graduate Summer Theatre (15)** May be repeated for maximum 45 hours credit. 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.

**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)** May be repeated for maximum 9 hours credit. 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.

## Visual Arts

(See ART)

## Vocational Teacher Education

VTE courses are administered by the Division of Educational Studies.

**VTE 107 Computer Literacy (1)** Receive an introduction to microcomputer use, its function and operation.

**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 (1-9)** May be repeated. 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.

**VTE 303 Instructional Design: Performance Objectives, Analysis, and Evaluation (3)** Full admission to PTE. Develop performance objectives in each domain. Analyze what is to be taught and plan for teaching. Design classroom test items matching objectives as to domain and level of the program.

**VTE 304 Instructional Design: Instructional Methods (1)** Full admission to PTE. Identify characteristics of classroom methods of instruction and develop materials to be used with these methods.

**VTE 305 Instructional Design: Media Utilization (1)** Full admission to PTE. 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 Computer Software Use (2)** Examine existing software, its use and application.

**VTE 308 Workshops in Vocational Teacher Education (1-6)** May be repeated for a maximum of 6 credits. 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)** May be repeated for a maximum of 6 credits. Through group participation, focus on specific topics. Graduate students working on degrees should see advisors regarding special seminars.

**VTE 310 Vocational Education Foundations (3)** Full admission to PTE. Provides an overview of the history, legislation, state policies, programs and contemporary concerns of Vocational Education.

**VTE 311 Instructional Applications for Computers in Vocational Education (3)** Examine program design, microcomputer programming, language usage, and examination of existing software programs.

**VTE 340 Organization and Administration of Business and Office Education (2)** Full admission to PTE. Prerequisites: VTE 302 and 303. Become acquainted with problems of teaching business curriculum, philosophy of business education and professional organizations. Course covers the Colorado Vocational Business Education curriculum.

**VTE 341 Methods and Materials for Teaching Typewriting and Keyboarding (2)** Full admission to 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 and software.

**VTE 342 Methods and Materials for Teaching Basic Business Subjects (2)** Full admission to PTE. Prerequisites: BUS 100, VTE 340 and ECON 110. Study the teaching of basic business subjects, such as business law, economics, consumer economics, general business, etc. Examine methods, materials, and software.

**VTE 343 Methods and Materials for Teaching Accounting and Data Processing (2)** Full admission to PTE. Prerequisites: BUS 221, VTE 340. Receive introduction to teaching bookkeeping, accounting, and data processing. Major emphasis on techniques and methods used in secondary schools. Examine and evaluate materials and software.

**VTE 345 Methods and Materials for Teaching Shorthand (2)** Full admission to 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)** Full admission to PTE. Prerequisites: Typewriting competency and VTE 340. Study the teaching of office practice, including information, word processing and microcomputer use, emphasizing classroom organization plans, teaching methods, development and selection of materials and equipment.

**VTE 360 Organization and Administration of Marketing Education (3)** Full admission to PTE. Study the organization, supervision and coordination of secondary school, post-secondary school and adult marketing education programs.

**VTE 373 Preparation for Teaching Home Economics (3)** Full admission to PTE. Examine the processes of teaching and the development of instructional materials and evaluation procedures.

**VTE 410 Cooperative Education and Coordination Techniques (3)** Full admission to PTE. 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)** Full admission to PTE. Investigate initiation, organization and maintenance of successful vocational student organizations, particularly the purpose and function of DECA, FBLA/PBL, 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.

**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 Directed Studies in Vocational Teacher Education Foundations (1-4)** Study a self-selected topic within Vocational Education. Offered by arrangement with instructor. Two copies of a well-written paper must be filed.

**VTE 430 Vocational Education for Learners with Special Needs (3)** Full admission to PTE. 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)** Covers basic principles of human relations, emphasizing communications, public relations and understanding of personality theory to leadership development.

**VTE 440 Preparation for Teaching Vocational Business Education (3)** Full admission to PTE. Prerequisite: VTE 340. Methods may be taken concurrently. Preparation for student teaching. Covers terminology, instructional content, methods review, media, teaching strategies, evaluation, classroom management, and professional involvement.

**VTE 441 Teaching Improvement Seminar in Vocational Business and Office Education (2)** Full admission to PTE. 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 education; define professional responsibilities; employment procedures and techniques; and job interviews.

**VTE 453 Clinical Teaching: Evaluation in Health Occupations Education (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. Review application methodology and classroom management.

**VTE 460 Curriculum Development in Marketing Education (3)** Full admission to PTE. 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. Development of preparation units of instruction in marketing education.

**VTE 465 Preparation for Teaching Marketing Education (2)** Full admission to PTE. Prerequisite: VTE 360. Learn specific methods and techniques relating to teaching marketing education, emphasizing individual instruction and sources of instructional materials.

**VTE 474 Teaching Improvement Seminar in Vocational Home Economics (2)** Full admission to PTE. Examine issues relevant to student teaching environment. Take concurrently with EDFE 444.

**VTE 475 Consumer Homemaking and Wage Earning Program Development (3)** Full admission to PTE. 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 (1-15)** College-supervised individual or group experience in a field-based vocational setting to work with students in Vocational Education.

**VTE 503 Instructional Design: Performance Objectives, Analysis, and Evaluation (3)** Develop performance objectives in each domain. Analyze what is to be taught and plan for teaching. Design classroom test items matching objectives as to domain and level of the program.

**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 Computer Software Use (2)** Examine existing software, its use and application.

**VTE 508 Workshops in Vocational Teacher Education (1-4)** May be repeated for a maximum of 9 credits. 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)** 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/PBL, OEA, FHA/HERO, HOSA and others.

**VTE 530 Vocational Education for Learners with Special Needs (3)** 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 531 Vocational Assessment for Special Needs Learners (3)** Provides information and techniques regarding the vocational assessment of special needs students. Covers both traditional and contemporary vocational assessment strategies.

**VTE 532 Methods and Materials for Special Needs Learners (3)** Provides information and techniques regarding methods and materials for special needs learners receiving vocational programming. Innovative instructional will be emphasized.

**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 Directed Studies in Vocational Teacher Education (1-4)** 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 625 Program Proposals and Budgets (3)** Cover the multifacets of proposal writing and implementation.

**VTE 626 Program Leadership in Vocational Education (3)** Investigate leadership styles for 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)** Covers the basic principles of human relations, emphasizing communications, public relations, and understanding of personality theory.

**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 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.

## Vocational Teacher Home Economics

VTHE courses are administered by the Division of Educational Studies.

**VTHE 170 Vocational Home Economics Education (2)** Explore the role, responsibilities and professional personal outcomes of a career in Home Economics Education.

**VTHE 182 Consumer Textiles (3)** (2 lecture, 2 laboratory) Learn the selection, care and use of household and clothing textiles.

**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 sociopsychological aspects.

**VTHE 184 Clothing Construction (5)** (3 lecture, 4 laboratory) Learn the principles of garment construction, fitting and pattern adjustment.

**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.

**VTHE 273 Living Environments II (5)** (3 lecture, 4 laboratory) Investigate the purchase and maintenance of furniture, home furnishings and household equipment for the home.

**VTHE 274 Personal, Family and Professional Management (4)** Identify and apply management processes and principles to the individual, family and work environment.

**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

WS courses are headquartered in the Department of Anthropology, Black Studies and Women's Studies.

**WS 120 Women and Men in Perspective (3)** No prerequisite. 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.

**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 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 310 Philosophy of Feminism (4)** Utilizing conceptual analyses of woman and feminism, ways of thinking about woman will be examined to ascertain how the meaning of woman is better understood through a feminist perspective.

**WS 401 Internship (1-15)** Prerequisites: 12 credits in approved Women's Studies courses. Supervised field practice or research relating to women's concerns and issues. Paper analyzing experiences required.

**WS 422 Directed Studies (1-4)** Qualified undergraduates research a problem for 25 hours for each credit in consultation with instructor. Copies of well-written paper filed with instructor/department.

**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 510 Philosophy of Feminism (4)** Utilizing conceptual analyses of woman and feminism, ways of thinking about woman will be examined to ascertain how the meaning of woman is better understood through a feminist perspective.

**WS 601 Internship (1-15)** Prerequisite: 12 credits in approved Women's Studies courses. Supervised field practice or research relating to women's concerns and issues. Paper analyzing experiences required.

**WS 622 Directed Studies (1-4)** Qualified graduates research a problem for each credit in consultation with instructor. Copies of well-written, graduate-level paper to be filed with instructor/department.

**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

ZOO courses are administered by the Department of Biological Sciences.

**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.

**ZOO 220 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 220 and ZOO 250.

**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 mammalian organs and cadaver.

**ZOO 250 Human Physiology (5)** (4 lecture, 3 laboratory) Prerequisites: ZOO 221 or 428, and 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 ethology and the ecological significance of behavior.

**ZOO 304 Ornithology (5)** (4 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.

**ZOO 316 Entomology (5)** (3 lecture, 4 laboratory) 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) Prerequisite: 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.

**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 Directed Studies (1-4)** 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.

**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.

**ZOO 443 Ichthyology (4)** (3 lecture, 3 laboratory) Prerequisites: BIO 102, 103. Study the classification, ecology, behavior and life histories of native and introduced fishes.

**ZOO 502 Principles of Animal Behavior (4)** (3 lecture, 3 laboratory) Prerequisite: BIO 103. Study animal behavior by emphasizing ethology and the ecological significance of behavior.

**ZOO 505 Special Topics in Zoology (4)** (2 lecture, 4 laboratory) Course may be taken up to three times with different topics. Study taxonomy, physiology, ecology of vertebrate or invertebrate zoology at an advanced level.

**ZOO 511 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 512 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 512.

**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 520 Invertebrate Zoology (5)** (3 lecture, 4 laboratory) Prerequisite: 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 521 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 526 Vertebrate Histology (5)** (3 lecture, 6 laboratory) Prerequisite: ZOO 221 or 428. Study normal tissues and organs of vertebrates intensively, particularly mammals.

**ZOO 527 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 528 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 538 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 540 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.

**ZOO 541 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.

**ZOO 542 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.

**ZOO 543 Ichthyology (4)** (3 lecture, 3 laboratory) Prerequisites: BIO 102, 103. Study the classification, ecology, behavior and life histories of native and introduced fishes.

**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) Prerequisites: ZOO 251, 551 or equivalent; CHEM 281 or 483. 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 Directed 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 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 (1-15)** Course may be repeated but total may not exceed 15 hours.

# 9 Administration and Faculty

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Robert Lynch, Associate Dean  
Robert C. Harris, Assistant Dean

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Norma Nutter, Assistant Dean  
Ronald E. Childs, Assistant Dean  
Michael J. Gimmestad, Assistant Dean

### Director of Laboratory School

Gregory Pierson, Acting Director

### College of Health and Human Services

Donna Arlton, Dean

### School of Human Performance and Leisure Studies

Martilu Puthoff, Dean  
Robert A. Oliver, Director, Intercollegiate  
Athletics

### College of Performing and Visual Arts

Howard M. Skinner, Dean

### Graduate School

Bill R. Brown, Dean  
Marvin Ernst, Assistant Dean

### Library Services

Claude J. Johns, Jr., Dean

### Division of Aerospace Studies

Val W. Taylor, Chairman

### Directors

Leanna K. Anderson, Special Projects  
R. Thomas Barbour, Information Services  
Kim Bernhardt, Alumni Relations  
James C. Blackburn, Admissions  
Benino Trujillo, Associate Director  
James K. Bowen, Resources for Disabled  
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Roger L. Gill, Continuing Education  
Jack B. Gray, Jr., Development and UNC  
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Jerri D. Hancock, International Student Ser-  
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Kenneth H. Humphrey, Colorado North Central  
Association of Colleges and Secondary  
Schools  
Lawrence W. Goslin, Associate Director  
William Hurt, KUNC-FM  
Robert D. Jenkins, Career Placement  
Willard G. Jones, Grants and Contracts  
Bernard C. Kinnick, Student Health Center  
Frank J. Lucero, Hispanic Cultural Center  
Michael E. Maestas, Student Financial Re-  
sources  
Susan A. Morrell, Campus Activities  
Donald L. Myers, Computer and Data Process-  
ing Center  
Doug C. Otte, Accounting Services  
Ray Romero, Center for Human Enrichment  
David W. Smart, Counseling and Career Center  
Joyce B. Washington, Assistant Director  
Douglas L. Stutler, Personnel  
Bernard Taylor, Affirmative Action/Equal Op-  
portunity  
Gerald E. Tanner, University Center  
Charles H. Wilson, Housing and Food Service  
Evelyn A. Yingling, RSVP  
James Zakely, Academic Advising Services



## Faculty

(G) indicates Graduate faculty

- Wallace Aas**, Professor of Physics — B.S., Moorhead State Teachers College; M.A., University of Northern Colorado (G)
- Sandra A. Abernathy**, Instructor in the Laboratory School, Third Grade — B.A., Southern Colorado State College; M.A., Adams State College
- David M. Adams**, Instructor in the Rehabilitation Continuing Education Program — B.A., Union University; M.S., University of Tennessee
- Dennis M. Adams**, Associate Professor of Elementary Education and Reading — B.A., San Fernando State College; M.A., University of Southern California; Ph.D., University of Wisconsin
- Donald K. Adams**, Professor of Education — B.S., Colorado State University; M.A., Ed.D., University of Northern Colorado (G)
- William T. Agan**, Associate Professor of English — B.A., M.A., San Francisco State College
- A. Eugene Altken**, Professor of Music; Director of Jazz Studies — B.A., University of Washington; M.A., Ph.D., University of Oregon (G)
- Robert C. Albrecht**, Professor of English — B.A., University of Illinois; M.A., University of Michigan; Ph.D., University of Minnesota (G)
- Garth H. Allen**, Associate Professor of Business — B.B.A., J.D., University of Iowa (G)
- Mary L. Alm**, Assistant Professor of Library Science — B.A., University of Colorado; M.A.T., Indiana University; M.L.S., Rosary College
- David L. Anderson**, Associate Professor of Journalism and Mass Communications; — B.J., University of Missouri; M.A., University of Massachusetts (G)
- James F. Anderson**, Associate Professor of Economics — Ph.B., University of Wisconsin; M.A., Ph.D., University of Colorado (G)
- Mark W. Anderson**, Assistant Professor in the Laboratory School, Middle School Mathematics — B.A., M.A., University of Northern Colorado
- Shari Anderson**, Associate Professor of Music — B.M.E., Drake University; M.M., Michigan State University (G)
- Patricia A. Applegate**, Associate Professor of English — B.A., State College of Iowa; M.A., Colorado State University
- Donna Arlton**, Professor of Nursing — B.S., South Dakota State University; M.S., University of Colorado, Denver; Ed.D., University of Illinois (G)
- Elmer V. Bachenberg**, Associate Professor of Library Science — B.A., Peru State College; M.S., University of Illinois
- James K. Bachmann**, Assistant Professor of Hispanic Studies — B.A., Ph.D., Georgetown University
- Sandra C. Baird**, Assistant Professor of Medical-Surgical Nursing — B.S., M.S., University of Maryland
- Clifford D. Baker**, Professor of Special Education — B.S., Central Missouri State College; M.S., St. Cloud State College; Ed.D., University of Northern Colorado (G)
- Edwin D. Baker**, Professor of Music — B.M., M.M., Indiana University (G)
- Christopher Baltus**, Assistant Professor of Mathematics and Applied Statistics — B.A., Fordham University; MAT, University of Chicago; Ph.D., University of Northern Colorado
- Jerry N. Barham**, Professor of Physical Education — B.S., University of Arkansas at Monticello; M.S., Ed.D., Louisiana State University (G)
- William A. Barnard**, Associate Professor of Psychology — B.A., M.A., Western Washington State College; Ph.D., Colorado State University (G)
- John W. Barnes**, Instructor of Physical Education — B.A., Colorado State College; M.A., Colorado State College
- Alvin E. Barnhart**, Professor of Educational Administration — B.S., Southern Oregon College; M.Ed., University of Oregon; Ed.D., University of Northern Colorado (G)
- H. Gray Barrier**, Assistant Professor of Music — B.M.E., East Carolina University; M.M., Northwestern University
- Loren W. Bartlett**, Professor of Music — B.A. in Ed., B.A. in Music, Eastern Washington State College; M.M.Ed., Oberlin College; Ph.D., University of Iowa (G)
- Richard L. Bear**, Professor of Counseling Psychology — B.S., Huntington College; M.A., Ball State University; Ed.D., Indiana University (G)
- Nancy Quinn Beardslee**, Assistant Professor of Nursing — B.S., State University of New York; M.S., University of Colorado; Ed.D., University of Northern Colorado
- Mary A. Behling**, Professor of Physical Education — B.S., Illinois State Normal University; M.A., University of Northern Colorado; Ph.D., Florida State University (G)
- John F. Bennett**, Instructor in Marketing — B.B.A., M.B.A., Memphis State University
- George T. Betts**, Assistant Professor of Special Education — B.S., Phillips University; M.A., Ed.D., University of Northern Colorado (G)
- M. Dean Betts**, Assistant Professor of Physical Education — B.S., M.A., East Carolina University; Ed.D., University of Missouri (G)
- Agnes M. Biegel**, Associate Professor of Medical-Surgical Nursing — B.S.N., Loyola University; M.S.N., Catholic University of America
- James A. Bitter**, Professor of Human Rehabilitative Services — B.A., Marquette University; M.S., University of Wisconsin; Ed.D., University of Northern Colorado (G)
- Margaret T. Blake**, Professor of Counseling Psychology — B.S., University of Oklahoma; M.S., Ph.D., Iowa State University (G)
- Richard A. Blanke**, Associate Professor of Philosophy — B.A., Yeshiva University; M.A., City University of New York
- Paul E. Bohrer**, Professor of Accounting — B.S., M.S., University of North Dakota; C.P.A. (G)
- David Bolocofsky**, Associate Professor of School Psychology — B.A., Clark University; M.S., Ph.D., Nova University (G)
- Richard R. Bond**, Professor of Zoology — B.S., Salem College; M.S. West Virginia University; Ph.D., University of Wisconsin (G)
- John T. Bookman**, Professor of Political Science — B.A., Ph.D., University of Cincinnati (G)
- William W. Bosch**, Professor of Mathematics and Applied Statistics — B.S., M.S., North Dakota State University; Ph.D., University of Nebraska (G)
- Donna Bottenberg**, Assistant Professor of Communication Disorders — B.A., M.A., University of Northern Colorado (G)
- Richard N. Bourassa**, Associate Professor of Music — B.M., University of Idaho; M.A., University of Denver; D.A., Ball State University (G)
- James K. Bowen**, Professor of College Student Personnel Administration — B.S., M.S. in Ed., Kansas State Teachers College; Ed.D., University of Wyoming (G)
- Eugene Bowser**, Assistant Professor of Library Science — B.S., Kansas State University; M.A., Brandeis University
- John M. Brand III**, Professor of English — B.A., Austin College; B.D., Austin Presbyterian Seminary; Ph.D., Texas Christian University (G)
- Bruce W. Broderius**, Professor of Elementary Education — B.S., St. Cloud State College; M.A., George Washington University; Ed.D., University of Northern Colorado (G)
- Jeffrey M. Broida**, Assistant Professor of Physical Education — B.S., The Citadel, Charleston South Carolina; M.A., Wake Forest University
- Susan P. Bromley**, Assistant Professor of Psychology — B.A., Mt. Holyoke College; M.S., Case Western Reserve University; Psy.D., University of Denver
- Bill R. Brown**, Professor of Psychology — B.A., M.S., North Texas State University; Ph.D., Texas Christian University (G)
- Glenda J. Brown**, Professor of French — B.A., University of Oregon; M.A., Ph.D., University of Illinois (G)
- Keith H. Burlison**, Assistant Professor of Aerospace Studies — B.A., Troy State University; M.A., Webster College
- Arnold H. Burron**, Professor of Elementary Education — B.S., Concordia Teachers College; M.A., Ed.D., Ball State University (G)
- Douglas S. Burron**, Professor of Elementary Education — B.S., Concordia Teachers College; M.S., Winona State University; M.A., Ed.D., University of Northern Colorado (G)
- Warren R. Buss**, Professor of Botany — B.S., M.S., Brigham Young University; Ph.D., Iowa State University (G)
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- Roberta Erickson**, Affiliate Instructor of College Student Personnel Administration — B.A., M.S., North Dakota State University
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- Forest N. Fisch**, Professor Emeritus of Mathematics — B.A., M.A. Appointed 1947; Emeritus since 1980
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- Augusta M. Fox**, Professor Emeritus of Education — B.S., M.Ed., Ed.D. Appointed 1968; Emeritus since 1985
- Cynthia Frease**, Professor Emeritus of English — B.A., M.A., Ed.D. Appointed 1964; Emeritus since 1984
- 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
- George G. Gates**, Professor Emeritus of English — B.A., M.A., Ed.D. Appointed 1946; Emeritus since 1969
- Bill R. Gearheart**, Professor Emeritus of Special Education — B.A., M.Ed., Ed.D. Appointed 1966; Emeritus since 1984
- Blanche Ginsburg**, Associate Professor Emeritus of Music — B.A., M.A. Appointed 1946; Emeritus since 1974
- John S. Girault**, Professor Emeritus of Theatre Arts — B.A., M.A., Ph.D. Appointed 1966; Emeritus since 1985

## Emeritus Faculty

- Hugo A. Anderson**, Professor Emeritus of Business — B.A., M.S. Appointed 1968; Emeritus since 1979
- Rachel F. Anderson**, Professor Emeritus of Business — B.A., M.A. Appointed 1967; Emeritus since 1975
- Richard F. Ball**, Professor Emeritus of Art — B.S., M.A. Appointed 1947; Emeritus since 1977
- John A. Beel**, Professor Emeritus of Chemistry — B.S., Ph.D. Appointed 1949; Emeritus since 1984
- Lois W. Bennett**, Professor Emeritus of Vocational Teacher Education — B.A., M.A., Ed.D. Appointed 1969; Emeritus since 1983

- David Glassman**, Associate Professor Emeritus of Education — B.Ed., M.A., Ed.D. Appointed 1970; Emeritus since 1983
- Derryl F. Goes**, Associate Professor Emeritus of Music — B.M.E., M.A.T. Appointed 1965; Emeritus since 1983
- 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
- Leroy A. Green**, Professor Emeritus of Educational Media — B.A., M.S., Ed.D. Appointed 1971; Emeritus since 1984
- Walter O. Green**, Professor Emeritus of Fine Arts — B.A., M.A. Appointed 1965; Emeritus since 1970
- Lelaine Gunning**, Associate Professor Emeritus of Elementary Education — B.S., M.A. Appointed 1961; Emeritus since 1983
- 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
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- John Willam 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
- Beatrice Helmerl**, Professor Emeritus of Educational Psychology, Research and Evaluation — B.A., M.A., Ed.D. Appointed 1966; Emeritus since 1984
- Ramon P. Helmerl**, 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
- Duane E. Henderson**, Professor Emeritus of Psychology — B.S., M.Ed., Ed.D. Appointed 1966; Emeritus since 1984
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- Tyrus Hillway**, Professor Emeritus of Higher Education — B.A., M.A., Ph.D. Appointed 1951; Emeritus since 1973
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- Robert O. Singer**, Professor Emeritus of Education — B.A., M.A., Ed.D. Appointed 1966; Emeritus since 1985
- Robert S. Sloat**, Professor Emeritus of Human Rehabilitative Services — B.A., M.S., Ph.D. Appointed 1977; Emeritus since 1983
- 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
- Robert B. Stein**, Professor Emeritus of Sociology — B.A., M.A., Ph.D. Appointed 1975; Emeritus since 1985
- Connie K. Stelljes**, Professor Emeritus of Spanish in the Laboratory School — B.S., M.A., Ph.D. Appointed 1967; Emeritus since 1984
- Walter H. Stewart**, Professor Emeritus of Journalism and Mass Communications — B.A., M.A., Ph.D. Appointed 1968; Emeritus since 1984
- James A. Stoffler**, Professor Emeritus of Education — B.S., M.A., Ed.D. Appointed 1961; Emeritus since 1984
- JoAnn Taylor**, Professor Emeritus of Home Economics and Women's Studies — B.S., M.A., Ed.D. Appointed 1965; Emeritus since 1983
- 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
- Orvel L. Trainer**, Professor Emeritus of Economics — B.A., M.A., Ph.D. Appointed 1960; Emeritus since 1985
- Leslie W. Trowbridge**, Professor Emeritus of Science Education — B.S., M.S., Ph.D. Appointed 1962; Emeritus since 1983
- Nancy Van Anne**, Professor Emeritus of Physical Education — B.A., M.A., Ph.D. Appointed 1955; Emeritus since 1985
- 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
- Thomas E. Warner**, Professor Emeritus of Educational Field Experiences — B.S., M.Ed., Ph.D. Appointed 1970; Emeritus since 1984
- William H. Weltner**, Associate Professor Emeritus of Education — B.S., M.A., Ed.D. Appointed 1968; Emeritus since 1983
- 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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