**Course Descriptions**

**Course Prefixes**

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

Basic Skills courses are designed to teach academic skills and general competencies necessary to succeed in college. These courses, numbered 001 through 009, do not count in term, cumulative or total credits and are not calculated into the GPA.

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 level 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 Catalog, 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.

**Course Prefixes.** In addition to a number that identifies where a course fits within a discipline, each course is assigned a prefix that 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 Catalog, The University operates on a semester system. All credit toward graduation is computed in “semester” credit hours. “One credit hour” means a course is taught for one hour one day each week through the academic semester of approximately 15 weeks.

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

Students may register in a course for “no credit,” but must pay the appropriate tuition and fees. No audit or visitor cards are issued.
AFS - AFRICANA STUDIES

AFS 100 Introduction to Black Studies (3)
Reviews the emergence of black studies as an interdisciplinary field and also presents a rudimentary panorama of African American history. Methodological questions and intellectual debates within the field are introduced.

AFS 101 Crisis of Identity (3)
Addresses social conditions that lead to formation of African identity in America. Of special interest are Negro-to-American conversion experience, concept of racism, subordination and role of African American culture.

AFS 102 The Black Woman in America (3)
Review the contributions of African American women historically in this country in the areas of social and political struggle, education, business, science and sports.

AFS 104 Survey of Africa (3)
Explores the geography, culture, philosophy, history, art, politics, economics, women and literature of Africa.

AFS 201 African American History I (3)
A survey of the black experience from the African homeland to initial capture, enslavement and emancipation – 1619 -1865.

AFS 202 African American History II (3)
Examines the lives of African Americans from emancipation to the present.

AFS 222 Black Nationalism in America (3)
Black Nationalism as an aspect of African American political and cultural belief receives attention here. Major figures include Richard Allen, David Walker, Henry M. Turner, Marcus Garvey and others.

AFS 230 Black Women in Literature (3)
A study of black women writers in Africa and the African Diaspora.

AFS 240 Dynamics of Racism (3)
Racism, its social connection to human physical difference (i.e. race) studied. References made to African/European relations, development of racist thought, major sociological models used in United States, race relations.

AFS 305 Survey of African American Literature (3)
Prerequisite: ENG 122. Literature by people of African descent receives selective attention: representative African, Latin American, Caribbean, African American works are explored. Genres such as political tract, novel, essay, autobiography, folk literature are considered at various historical junctures.

AFS 332 Pan-Africanism (3)
Traces the development of Pan-Africanism on the African Continent and its effects in African American, Latin American and Caribbean contexts.

AFS 340 The Black Family (3)
A social system approach to the study of the African American family, dynamics of family relationships and effects of social, political and economic institutions on black family life.

AFS 360 Music and the Black Experience (3)
The historical, thematic and stylistic development of black music from ancient Africa to the present.

AFS 386 Modern African World (3)
Comparison of various nationalist movements of the African Continent that led to liberation and independence and emphasis on African experience since the 16th Century.

AFS 395 Aspects of the African-American Experience (3)
Topics include Afro-American cultures, black psychology and black media. Repeatable, under different subtitles.

AFS 396 African and African American World Views (3)

AFS 399 Community Study Project (1-4)
Do field work in a community-based project in housing, education or social services. Repeatable, maximum of four credits.

AFS 420 Black Urban Politics (3)
Course examines the 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.

AFS 422 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

AFS 456 Leadership and the Black Church (3)
Investigates the role of the Black Church in the development of the African American family, philosophy and leadership style from slavery to the present.

AFS 486 Current Issues in Multicultural Education (3)
Explores different pedagogical and methodological strategies for understanding and teaching multicultural and diversity issues in the classroom.

AFS 490 Seminar in Black Studies (3)
Prerequisites: AFS 100, AFS 104, AFS 201, AFS 202 or consent of instructor. Preparation for advanced reading and research in Black Studies. Topics regularly address theories, research methodology and issues of current interest in Black Studies research. Consultation on research project chosen by student is also required.

AFS 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

AFS 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

ANT - ANTHROPOLOGY

ANT 100 Introduction to Anthropology (3)
An introduction to archaeology, physical and cultural anthropology and linguistics, emphasizing the comparative approach and an evolutionary perspective.

ANT 110 World Cultures (3)
Analyze selected studies of several cultures representing the diversity of human life-styles around the world. Focus on the anthropological interpretation of cultural similarities and differences.

ANT 120 World Archaeology (3)
Offers a broad background in prehistoric archaeology with a review of important sites around the world. Emphasis will be on anthropological interpretation of archaeological materials, the evolution of past cultures and cultural processes.

ANT 121 Archaeology of Colorado (3)
Study of Colorado Native American peoples from ancient mammoth hunters to those encountered by the first Spanish explorers. Environmental and cultural adaptations emphasized.

ANT 130 Introduction to Physical Anthropology (3)
A course in evolutionary theory, primate biology, human paleontology and human adaptation. Focus is on the evolution of the human form and the impact of cultural practices on our evolutionary biology.

ANT 210 Field Methods in Cultural Anthropology (3)
Prerequisite: ANT 100 or ANT 110 or GEOG 100 or SOC 100 or equivalent. Introduction to fieldwork methods in cultural anthropology. Study ethnographic techniques through first-hand investigation of other cultures.

ANT 220 Archaeological Research Methods (3)
Prerequisite: ANT 100 or ANT 120 or equivalent. Review field methods and laboratory techniques utilized in prehistoric archeology. Topics include locational analysis, stratigraphy, typological analysis, dating techniques and research publication.

ANT 230 Anthropometrics (3)
Learn skills of measuring and analyzing information on human biological variability. Topics include the analysis of physique, habitual activity analysis, health screening and statistical techniques for describing samples of data.

Course Descriptions 1999-2000
ANT 310 World Area Studies (3)
Prerequisite: ANT 100 or ANT 110 or GEOG 100 or SOC 100 or equivalent. The cultural anthropology of selected world regions (Africa, Asia, Europe, Oceania, North America). Repeatable, maximum nine credits under different subtitles.

ANT 311 Latin American Cultures (3)
Prerequisite: ANT 100 or ANT 110 or equivalent. A survey of the various Latin American cultures of the New World with a special emphasis on the popular cultures of the region. Students will also have the opportunity to do research in the Latin communities of Weld County.

ANT 312 North American Indians (3)
Survey the culture areas of Native American groups in North America, with a focus on the United States.

ANT 313 Modernization and Development (3)
Prerequisite: ANT 100 or ANT 110 or GEOG 100 or SOC 100 or equivalent. Study the processes by which cultures change and modernize, focusing on economic, political, legal and symbolic concerns in developed and developing nations.

ANT 314 Sex Roles in a Cross-Cultural Perspective (3)
Study biologically and culturally determined gender role differences by comparing sex-related behavior in a variety of cultures.

ANT 315 Life History and Culture (3)
A course in ethnographic writing focusing on methods of life history/life cycle research and analysis. Students will learn cultural interviewing techniques and will complete a written life history.

ANT 317 Contemporary Native American Issues (3)
Deals with the cultural, historical, social, political and legal analysis of the status of contemporary American Indians in the United States.

ANT 318 Native American Women (3)
Prerequisite: ANT 312. Examine the role and status of Native American women. The traditional roles, the changes that have occurred as a result of contact and the contemporary period are examined.

ANT 321 Prehistory of the Americas (3)
Prerequisites: ANT 100 or ANT 120, or equivalent. Study selected prehistoric American Indian cultures with an anthropological focus. This course covers the time from the peopling of the New World to European discovery.

ANT 323 Ancient Civilizations (3)
Prerequisite: ANT 100 or ANT 120 or equivalent. A comparative study of the rise of state societies throughout the world with focuses on the Near East, Africa, Asia, South America and Mesoamerica.

ANT 324 Southwest United States Archaeology (3)
Prerequisite: ANT 100 or ANT 120 or equivalent. Southwest United States archaeology reviewed from Paleo-Indian to historic times. Emphasis on environment and culture adaptation, particularly of Colorado's ancient Pueblo Anasazi peoples.

ANT 325 Fieldwork in Archaeology (4)
Prerequisite: ANT 100 or ANT 120 or equivalent. Required laboratory arranged. Introduction to archaeological field methods through participation in an archaeology field school experience. Students will participate in an on-going archaeological research project for four weeks during the summer. Participation fee.

ANT 330 Forensic Anthropology (3)
Prerequisite: ANT 130 or ANT 120 or SOC 141 or equivalent. Required laboratory arranged. A course in human osteology emphasizing skeletal anatomy and the identification of age, sex, stature, pathology and race in skeletal material. Archaeological, paleontological and forensic applications will be presented.

ANT 331 Human Population Biology (3)
The evolutionary genetics and demographics of modern human populations.

ANT 408 Workshop in Anthropology (3-12)
Consent of instructor. Topics in practicing anthropology. Group experiences in working on selected problems in anthropology. Repeatable, under different subtitles.

ANT 420 Scientific Research in Archaeology (3)
Required laboratory arranged. An advanced methods and scientific research and writing course dealing with data collection, analysis and interpretive techniques used in archaeology. The course employs an interdisciplinary, field and laboratory-based, hands-on approach.

ANT 422 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

ANT 430 Human Musculoskeletal Systems (3)
This course is a detailed study of the structure and functions of the human musculoskeletal system. A series of lecture demonstrations will guide students as they model the skeleton and the individual muscles in clay, creating an anatomical model of the human figure as they progress.

ANT 440 Seminar on Environmental Anthropology (3)
Prerequisite: ANT 100 or ANT 130 or GEOG 100 or SOC 100 or equivalent. An advanced seminar course exploring the complex ecological relationships of human populations, their cultures and environments. Course topics range from cultural and biological adaptations of the earliest humans to leading-edge research into speculative future responses of human populations to a “greenhouse” world. Case studies and theoretical backgrounds for the seminar will be drawn from such diverse research areas as cultural ecology, environmental archaeology, geographical systems models, evolutionary biology and futuristics.

ANT 470 Seminar in Anthropology (3)
Prerequisite: ANT 100, or ANT 130, or GEOG 100 or SOC 100 or equivalent. A seminar exploring diverse topics surrounding the question of defining human nature. Repeatable, maximum nine credits under different subtitles.
ART - VISUAL ARTS

ART 171 Computer Based Technology in Visual Arts (2)
Principles and practices in applying computer graphics in the visual arts. General computer orientation: hardware/software configuration, peripherals. Students will create electronically generated art graphics using newest electronic technologies. No experience in computer science is required.

ART 181 History of Art I (4)
Designed to give a general survey of Western art from Pre-Historic (35000 B.C.) through the Medieval Period (A.D. 1400). Emphasis is placed on major movements/civilizations, methods of analysis, historical and cultural context, changes and development of styles.

ART 182 History of Art II (4)
Designed to give a general survey of Western art from the Proto-Renaissance (A.D. 1265) through Modern art of the 20th century. Emphasis is placed on major movements, methods of analysis, historical and cultural context, changes and development of styles.

ART 183 Art I (3)
Corequisite: ART 181. Study the elements of line, shape and space as they relate to drawing, color theory, two-dimensional and three-dimensional design. The course will integrate the fundamentals of art and experiences in conceptualization and visual problem solving.

ART 184 Art II (3)
Corequisite: ART 182. Study the elements of texture, form and motion as they relate to drawing, color theory, two-dimensional and three-dimensional design. The course will integrate the fundamentals of art and experiences in conceptualization and visual problem solving.

ART 190 Art Appreciation (3)
Non-majors only. Required for Elementary Education certification. Introduction to further enhance an understanding and appreciation of the functional and expressive nature of architecture, painting, sculpture and the applied arts.

ART 210 Ceramics for Non-Art Majors (3)
Explore the historical development of pottery and the contemporary craft person’s attitude toward clay, in addition to receiving instruction in basic design, hand building of ceramic forms and methods of firing.

ART 211 Ceramic Design (3)
Design, construct and fire ceramic forms using several different approaches to hand building and firing. Receive general background in the history of ceramic arts, clays, glazes and methods of firing.

ART 212 Wheel Throwing (3)
Begin throwing on the potter’s wheel. Learn techniques of centering, opening and raising clay into basic pottery forms.

ART 211 Introduction to Fiber Arts (3)
A studio course involving several fiber construction processes and fabric surface treatments in two or three dimensions.

ART 221 Introduction to Fiber Arts (3)
A studio course involving several fiber construction processes and fabric surface treatments in two or three dimensions.

ART 223 Weaving (3)
Introduction to the fundamentals of loom weaving as an art form, emphasizing applied design problems.

ART 230 Drawing for Non-Art Majors (3)
Study of the history of the development of drawing and its importance as an expressive medium in the evolution of mankind. Studio experience in drawing fundamentals.

ART 231 Introduction to Painting (3)
Prerequisites: ART 183, ART 184. Fundamentals of painting. Materials and techniques with basic procedures of studio painting using both oil and watermedia.

ART 234 Drawing I (3)
Prerequisites: ART 183, ART 184. Deal in depth with concepts, techniques and materials. Problem areas include composition, content, technical concerns, use of color and a range of material use from traditional to contemporary alternatives.

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)
Required for Art Education majors. Recommended for Education, Special Education and Recreation majors. Experience on introductory level of at least several school craft areas; clay, fibers, paper, textiles, plaster.

ART 248 Art for the Exceptional Child (2)
Overview characteristics, needs and instruction adaptations suitable for teaching Visual Arts to the exceptional learner.

ART 252 Printmaking I (3)
Prerequisites: ART 183 and ART 184 or equivalent. Introduction to intaglio printmaking techniques, including drypoint, engraving and etching in black and white. Traditional and experimental approaches are explored.

ART 261 Sculpture I (3)
Introduction to materials, processes and concepts fundamental to making sculpture.

ART 265 Jewelry (3)
Introduction to materials, processes and concepts basic to making jewelry.

ART 270 Graphic Arts I (3)
Prerequisites: ART 183 and ART 184. General survey and laboratory for beginning to intermediate students. Design, layout and conceptual thinking for the applied graphic arts.

ART 271 Basic Photography (3)
Instructor consent. Learn fundamentals of photography. Study principles of black and white photography, including exposing, processing, printing and finishing techniques.

ART 290 Visual Thinking and Visual Images (3)
Explore concepts of visual thinking, 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)
Arts workshops are for the study of specialized areas in art, art education, art history, graphic arts and related fields. Specific workshop is determined by subtitle. Repeatable, under different subtitles.

ART 312 Wheel Throwing (3)
Prerequisite: ART 212. Learn to throw more challenging ceramic forms on the potter’s wheel. Gain experience in the loading and firing of ceramic kilns. Repeatable, can be taken two times.

ART 314 Ceramic Equipment and Materials (3)
Prerequisite: ART 212 or equivalent. An investigation of ceramic materials, kilns and studio equipment that will provide the prospective potter or teacher with essential technical and practical knowledge.

ART 321 Fiber Design (3)
Prerequisite: ART 221. Continue the study and exploration of fiber construction and fabric surface treatments with emphasis on their design applications.

ART 332 Watermedia Painting (3)
Prerequisite: ART 231. Exploration of and rendering skills in watercolor and/or acrylic, gouache. Repeatable, up to two times.

ART 333 Life Drawing (3)
Prerequisite: ART 184. Fundamentals of life drawing emphasizing proportions, anatomy and aesthetic relationships. Repeatable, up to one time.

ART 340 Clinical Experience: K-12 Art (2)
For Art Education majors. Full admission to PTEP or certification at the undergraduate level required. Consent of instructor. Gain practical experience in the classroom with a variety of materials, subject matter and with varying age groups. Requires classroom observation and participation with weekly seminar.

ART 344 Methods of Teaching Art in the Elementary School (1)
Prerequisite: ART 190, Full admission to PTEP or certification at the undergraduate level. Not for Art Education majors. Gain practical experience in a wide variety of media suitable for the elementary classroom. Study selected philosophies of art in education, teaching techniques, procedures, materials and evaluation.

ART 353 Intaglio Printmaking (3)
Prerequisite: ART 252 or equivalent. Continuing investigations in intaglio printmaking techniques, including aquatint and color printing. Individual imagery and technical development are emphasized. Repeatable, may be taken two times.

ART 354 Relief Printmaking (3)
Prerequisites: ART 183 and ART 184 or equivalent. Investigations in relief printmaking media including linoleum cuts, wood cuts, wood engravings and collographs printed in black and white and in color. Repeatable, may be taken two times.
ART 355 Silkscreen Printmaking (3)
Prerequisite: ART 252 or equivalent. Study the silkscreen stencil process of printmaking, including the use of photosensitized screens and color on all levels. Repeatable, may be taken three times.

ART 356 Monotypes (3)
Prerequisites: ART 183 and ART 184 or equivalent. Investigations in techniques of creating monotypes and monoprints (one-of-a-kind printed images). Individual imagery and technical development are emphasized. Repeatable, may be taken two times.

ART 357 Artist's Books: Structures and Concepts (3)
Prerequisites: ART 183, ART 184 or equivalent. Investigations in traditional and experimental approaches to creating handmade books. Original solutions and craft are emphasized. Repeatable, may be taken two times.

ART 361 Sculpture II (3)
Prerequisite: ART 261. Basic instruction in specific sculptural processes including modeling, casting, welding, fabrication, carving, etc. Repeatable, up to two times.

ART 370 Graphic Arts II (3)
Prerequisite: ART 270. General survey and laboratory dealing with dynamics of design, applied and conceptual. For intermediate to advanced students.

ART 371 Photographic Design (3)
Prerequisite: ART 271. Study and apply principles and theories of vision and perception as related to black and white and color photography.

ART 374 Illustration (3)
Prerequisites: ART 183, ART 184, ART 231. General survey and laboratory. Exploration of design, color and experimental techniques as applied to two and three dimensional illustration. For intermediate students.

ART 375 Publication Production (3)
Prerequisite: ART 271. Investigate graphic reproduction processes as related to the printing industry. Study the principles of producing publications including design, layout, copy preparation, photo conversion, image carriers, image transfer and finishing methods.

ART 376 Typography (3)
Prerequisite: ART 370. Survey and exploration of type and letter-forms. Origins and applications of type and the aesthetics of type. For the intermediate student.

ART 381 Tribal Art (4)
Study the arts, concepts and culture of tribal societies, particularly African, Oceanic/South Seas and American Indian.

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 History of the Goddess (3)
Explore inherited images and ideas of the Goddess through a multimedia approach: slides, videos, texts, guest speakers, journaling, group sharing and a personal creative hands-on project.

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, including the evolutionary developments of Mannerism and the beginnings of Baroque art.

ART 387 Artists of Color (3)
Detailed survey of the work of artists of color from the 19th Century through the 20th Century in the United States. Exploration of racial discrimination and stereotyping and the history canon.

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 Twentieth Century Art (4)
An in-depth study of the major art movements of the 20th century from the development of cubism to the present.

ART 390 Women Artists (3)
Detailed survey of the work of women artists from the Middle Ages to the 20th Century. Exploration of gender issues, feminism, discrimination, and the art history canon included.

ART 395 Special Topics in Art (1-4)
Study special topics in the visual arts. Specific course content is determined by subtitle. Repeatable, under different subtitles.

ART 411 Ceramic Design (3)
Prerequisite: ART 211. Intermediate level design of hand built ceramic forms. An exploration of stoneware, raku and sodium vapor firing processes. Repeatable, up to two times.

ART 415 Ceramic Studio (1-3)
Consent of instructor. Individualized or specialized study on specific topics in ceramics. Repeatable, up to two times.

ART 421 Fiber Design (3)
Prerequisite: ART 321. Concentration on an advanced level in a selected process involving fibers. To provide more time for personal design development and expertise. Repeatable, up to two times.

ART 422 Directed Studies in Art (1-4)
Art Majors only. Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

ART 423 Weaving (3)
Prerequisite: ART 223. Continue the study of loom weaving, particularly loom-controlled techniques. Repeatable, up to two times.

ART 425 Fibers Studio (1-3)
Consent of instructor. Individualized or specialized study on specific topics in fibers. Repeatable, up to two times.

ART 431 Oil Painting (3)
Prerequisite: ART 231. Development of individual expression and mastery of the medium. Emphasis on appropriate use of medium toward creative ends. Repeatable, up to two times.

ART 434 Drawing II (3)
Prerequisite: ART 234. Designed to encourage exploration of a broad variety of sources for drawing images, drawing concepts and thematic interpretation and expression. Designed for advanced drawing students. Repeatable, up to two times.

ART 435 Drawing Studio (1-3)
Consent of instructor required. Individualized or specialized study on specific topics in drawing. Repeatable, up to two times.

ART 436 Painting Studio (1-3)
Consent of instructor required. Individualized or specialized study on specific topics in painting. Repeatable, up to two times.
ART 443 Computer Technology in Art Education (2)
Consent of instructor. Full admission to PTEP or certification at the undergraduate level. This course is designed to provide prospective teachers with principles and practices in applying computer graphics for educational purposes in the visual arts; integrating art production with general knowledge.

ART 455 Printmaking Studio (1-3)
Consent of instructor required. Individualized or specialized study on specific topic in printmaking. Repeatable, up to two times.

ART 460 Sculpture Studio (1-3)
Prerequisites: ART 261, ART 361. Self-directed studies in selected sculptural modes or processes. Repeatable, up to two times.

ART 461 Sculpture III (3)
Use of increasingly skilled or sophisticated techniques/processes with greater emphasis on idea, form and content. Repeatable, up to three times.

ART 464 Jewelry Studio (1-3)
Prerequisite: ART 265. Consent of instructor required. Individualized or specialized study on specific topic in jewelry. Repeatable, up to three times.

ART 465 Advanced Jewelry (3)
Prerequisite: ART 265. Extension of increasingly skilled and sophisticated techniques/processes in jewelry and metalwork. Repeatable, up to two times.

ART 466 Visual Arts Student Teaching Seminar (1)
Corequisite: EDFE 444. Full admission to PTEP or certification at the undergraduate level. This seminar is designed to provide persons actively involved in the student teaching program in Visual Arts with a support system and pertinent information to assist them during their field experience.

ART 471 Computer Graphics (3)
The course is designed to introduce principles and practices in computer graphics and to develop knowledge related to design and page layout.

ART 472 Photography Studio (1-3)
Instructor consent. Individualized or specialized study in photography. Repeatable, up to two times.

ART 473 Advertising Design (3)
A studio and workshop approach to concept, layout and finished art/design for applied graphics in the advertising profession. Repeatable, up to three times.

ART 474 Graphic Studio (1-3)
Consent of instructor. Individualized or specialized study on specific topics in graphics. Repeatable, up to two times.

ART 475 Color Photography – Transparencies (3)
Prerequisite: ART 271. Learn color theory as related to reversal films. Plan, expose, process and finish transparency films for multi-projector visual presentations.

ART 476 Advanced Black and White Photography (3)
Prerequisite: ART 271. Improve black and white photographic skills. Learn experimental, interpretive and advanced camera and printing techniques.

ART 477 Photographic Illustration and Lighting Techniques (3)
Prerequisite: ART 271. Study studio lighting principles for black and white color photography. Learn studio techniques for advertising, architectural, industrial-technical, portrait and commercial applications.

ART 479 Color Photography – The Print (3)
Prerequisites: ART 271, ART 475. Discover and apply current methods and techniques of color printing from negatives and transparencies.

ART 480 Art History Seminar (4)
Discuss advanced and specialized art historical topic. Take concurrently with 300 level art history course. Subject area determined by subtitle. Repeatable, under different subtitles.

ART 490 Art Theory and Criticism (3)
Make critical studies of art theory and the art object. Analyze the interrelationships of theme, content, context, formal elements and process toward a basis for critical judgment.

ART 492 Internship in Art (1-5)
Art majors only. Supervised professional activity in major fields or related career areas. Spend a minimum of 30 clock hours per credit hour on the internship. A written evaluation and a written report must be filed with the instructor of record. A maximum of five credits of internship can be taken in any semester. Repeatable, under different subtitles.

ART 500 Contemporary Issues in Art (1-3)
In-depth inquiry into contemporary issues in the visual arts. Analytical and interpretive research on selected topics, including their antecedents and their implications. Unlimited repeatability.

ART 508 Workshop (1-4)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

ART 512 Wheel Throwing (3)
Prerequisite: ART 312 or equivalent. Develop an individual approach to wheel thrown ceramic forms at an advanced level. Exploration of various methods of ceramic decoration and firing. Repeatable, up to two times.

ART 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

ART 514 Ceramic Equipment and Materials (3)
Prerequisite: ART 512 or equivalent. An investigation of ceramic materials, kilns and studio equipment that will provide the prospective potter or teacher with essential advanced level technical and practical knowledge.

ART 521 Fiber Design (3)
Advanced design techniques in fibers. Repeatable, up to two times.

ART 523 Weaving (3)
Concentrate in a selected area of weaving on an advanced design concept. Repeatable, up to two times.

ART 532 Watermedia Painting (3)
Advanced work in specific watermedia. Development of thematic imagery and personal technical skills. Repeatable, up to two times.

ART 533 Life Drawing (3)
Prerequisite: ART 333 or equivalent. Advanced life drawing emphasizing development of personal interpretations of the human form. Repeatable, up to two times.

ART 537 Computer Art (3)
Principles and practices for applying computer graphics to the visual arts. In this class the participants will create art projects with the use of the computer. They will gain some knowledge about hardware and software configurations, and trends in computer art and technology.

ART 541 Craft Design (3)
Relate basic art and crafts to the field of art education, education and recreation, emphasizing materials, instructional techniques, tools and facilities. Read literature appropriate to area of study. Repeatable, up to two times.

ART 553 Advanced Intaglio Printmaking (3)
Prerequisite: ART 353 or consent of instructor. Advanced investigations in intaglio printmaking techniques, including color printing. Individual imagery and technical mastery will be emphasized. Repeatable, may be taken three times.

ART 554 Advanced Relief Printmaking (3)
Prerequisite: ART 354 or consent of instructor. Advanced investigations in relief printmaking techniques. Individual imagery and technical mastery are emphasized. Repeatable, may be taken three times.

ART 555 Advanced Silkscreen Printmaking (3)
Prerequisite: ART 355 or consent of instructor. Intensive experience in selected techniques of screen printing with the emphasis on individual development including the textile screen print. Repeatable, up to two times.

ART 556 Advanced Monotypes (3)
Prerequisite: ART 356 or consent of instructor. Advanced investigations in monotype and monoprint techniques. Individual imagery and technical mastery are emphasized. Repeatable, may be taken three times.
ART 557 Advanced Artist’s Books: Structures and Concepts (3)
Prerequisite: ART 357 or consent of instructor. Advanced investigations in traditional and experimental approaches to creating artist’s books. Emphasis is on development of original solutions and mastery of traditional and innovative techniques. Repeatable, may be taken 3 times.

ART 561 Graduate Sculpture (3)
Self directed or assigned work in specific areas of sculpture. Advanced technical skills emphasized. Repeatable, up to two times.

ART 571 Computer Graphics (3)
The course is designed to introduce principles and practices in computer graphics and to develop knowledge related to design and page layout.

ART 575 Color Photography – Transparencies (3)
Prerequisite: ART 271 or equivalent. Improve and develop individual creative skills in color photography using transparency materials. Learn to plan and produce multi-projector presentations using current materials, tools and processes.

ART 576 Advanced Black and White Photography (3)
Prerequisite: ART 271 or equivalent. Refine and improve individual skills in black and white photography. Study film and print manipulation with silver and non-silver materials.

ART 577 Photographic Illustration and Lighting Techniques (3)
Prerequisite: ART 271 or equivalent. Learn creative lighting techniques for illustration and portraiture. Study available light and studio lighting for black and white and color photography.

ART 595 Special Topics in Art (1-4)
Study special topics in the Visual Arts. Specific course content is determined by subtitle. Repeatable, under different subtitles.

ART 600 Graduate Research in Art (3)
Prerequisite: ART 500. 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 611 Ceramic Design (3)
Design and assembly of hand built ceramic forms at an advanced level. An exploration of stoneware, raku and sodium vapor firing processes. Repeatable, up to two times.

ART 615 Ceramic Studio (1-3)
Consent of instructor required. Individualized or specialized study on specific topics in ceramics. Repeatable, up to two times.

ART 621 Fiber Design (3)
Prerequisite: ART 521. Continue advanced study of techniques and design concepts in fibers. Repeatable, up to two times.

ART 622 Directed Studies in Art (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

ART 623 Weaving (3)
Prerequisite: ART 523. Continue advanced study of techniques and design concept in a concentrated area of weaving. Repeatable, up to two times.

ART 625 Fibers Studio (1-3)
Consent of instructor. Individualized or specialized study on specific topic in fibers. Repeatable, up to two times.

ART 631 Oil Painting (3)
Prerequisite: ART 431 or equivalent. Advanced problems in oil painting. Emphasis on development of personal imagery and working in series. Repeatable, up to two times.

ART 634 Drawing (3)
Advanced work in development on thematic imagery, inventive media, unique and personal solutions to visual problems. Repeatable, up to two times.

ART 635 Drawing Studio (1-3)
Consent of instructor required. Individualized or specialized study on specific topics in drawing. Repeatable, up to two times.

ART 636 Painting Studio (1-3)
Consent of instructor required. Individualized or specialized study on specific topic in painting. Repeatable, up to two times.

ART 640 Literature of Art Education (3)
Survey historical and contemporary literature on theory, research and practice in art education and related areas.

ART 641 Art Curriculum and Instruction: Cultural Studies (3)
Study methods for teaching art history. Research art analysis, art criticism and art theory for developing procedures for instruction.

ART 642 Art Curriculum and Instruction: Studio Methods (3)
Research and develop studio art content, processes and sequencing appropriate for the elementary and secondary art curriculum.

ART 644 Learning Experiences in Elementary Art Education (3)
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 Seminar in Art Education (3)
Inquiry into historical and current research related to art in education. An in-depth study of the issues raised by the implications of this research. Repeatable, under different subtitles.

ART 648 Art and the Exceptional Student (2)
Study art for the exceptional in depth. Involvement in the review of literature and research field in the development of an art curriculum specific to individual interest area.

ART 655 Advanced Printmaking Studio (1-3)
Consent of instructor. This class provides a working environment for large scale printmaking by utilizing all facets of printmaking techniques, serious edition printing and special projects. Repeatable, up to two times.

ART 660 Graduate Sculpture Studio (1-3)
Self-directed studies in selected sculptural modes or processes. Repeatable, up to two times.

ART 661 Advanced Graduate Sculpture (3)
Select problems in the creation of sculpture with emphasis on critical and technical competencies. Repeatable, up to two times.

ART 672 Photography Studio (1-3)
Instructor consent required. Advanced individualized or specialized study in photography for graduate students. Repeatable, up to two times.

ART 680 Seminar in Art History (1-4)
Discuss advanced and specialized art historical topics. Take concurrently with 300 level art history course. Subject area determined by subtitle. Repeatable, under different subtitles.

ART 690 Art Theory, Analysis and Criticism (3)
Research into the theoretical and critical study of art. Analyze the interrelationships of theme, content, context, intentionality, the formal elements and processes for interpretation and critical judgment.

ART 692 Internship in Art (1-5)
Graduate art majors only. Supervised professional activity in major fields or related career areas. Spend a minimum of 30 clock hours per credit hour on the internship. Two copies of a written evaluation and a written report are required (to be filed with the instructor of record and the graduate coordinator). A maximum of five credits of internship can be taken in any semester. Repeatable, under different subtitles.

ART 699 Thesis (1-6)
Prerequisite: ART 600. A written thesis is required of all master’s degree candidates in visual arts. The final report must be approved by the supervising committee and submitted in appropriate style and format to the Graduate School. S/U graded. Repeatable, no limitations.

AS 101 The Foundations of the United States Air Force I (1)
This course is designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities and an introduction to communication skills.

AS 102 The Foundations of the United States Air Force II (1)
This course is a continuation of AS 101. See AS 101 for the course description.

AS 103 General Military Course Leadership Laboratory I (1)
This is a mandatory laboratory designed to compliment AS 101 by providing cadets with leadership, management and followership experiences. Special students (those not pursuing a commission as an Air Force Officer) are not required to attend. S/U graded.
AS 104 General Military Course Leadership Laboratory II (1)
This is a mandatory laboratory designed to compliment AS 102 by providing cadets with leadership, management and followership experiences. Special students (those not pursuing a commission as an Air Force Officer) are not required to attend. S/U graded.

AS 201 The Evolution of USAF Air and Space Power I (1)
This course examines air and space power through a historical perspective, covering a time period from the first balloons and dirigibles to today’s USAF air and space power. Historical examples are provided to extrapolate the development of Air Force capabilities and missions to demonstrate the evolution of today’s USAF air and space power.

AS 202 The Evolution of USAF Air and Space Power II (1)
This course is a continuation of AS 201. See AS 201 for the course description.

AS 203 General Military Course Leadership Laboratory III (1)
This is a mandatory laboratory designed to compliment AS 201 by providing cadets with leadership, management and followership experiences. Special students (those not pursuing a commission as an Air Force Officer) are not required to attend. S/U graded.

AS 204 General Military Course Leadership Laboratory IV (1)
This is a mandatory laboratory designed to compliment AS 202 by providing cadets with leadership, management and followership experiences. Special students (those not pursuing a commission as an Air Force Officer) are not required to attend. S/U graded.

AS 301 Air Force Leadership Studies I (3)
This course is a study of leadership, management fundamentals, professional knowledge, Air Force personnel and evaluation systems, leadership ethics and communication skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. Lab required.

AS 302 Air Force Leadership Studies II (3)
This course is a continuation of AS 301. See AS 301 for the course description.

AS 401 National Security Affairs/Preparation for Active Duty I (3)
This course examines the national security process, regional studies, advanced leadership ethics and Air Force doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism. Within this structure, continued emphasis is given to refining communication skills. Lab required.

AS 402 National Security Affairs/Preparation for Active Duty II (3)
This course is a continuation of AS 401. See AS 401 for the course description.

AST - ASTRONOMY

AST 100 General Astronomy (4)
(3 lecture, 2 laboratory) The universe and our place in it. No mathematics background required.

AST 301 Classical Astronomy (3)
(2 lecture, 2 laboratory) Our picture of the universe based on optical observations from prehistory to 1950.

AST 302 Modern Astronomy (3)
(2 lecture, 2 laboratory) The complex and violent universe revealed by radio astronomy, planetary exploration and satellite observatories.

AST 422 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

AST 500 Survey of Astronomy (3)
(2 lecture, 2 laboratory) A non-mathematical survey of contemporary astronomy emphasizing areas of current research activity.

AST 595 Special Topics in Astronomy (1-4)
An opportunity to explore areas of astronomy beyond the scope of existing department offerings. Repeatable, under different subtitles.

AST 622 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

BA - BUSINESS ADMINISTRATION

BA 100 American Business System (3)
For non-business majors. Understand how the American business system works and compare it with business systems in other nations. Discuss how business functions and the impact of current events. (F,S)

BA 101 Business Computing (3)
(Laboratory arranged) An activity course to develop students’ knowledge and skills in computer literacy. Focus is on developing competencies in spreadsheets, graphics, word processing and operating systems. (F,S)

BA 205 Business Communications (3)
(Laboratory arranged) Prerequisite: ENG 122. An activity course with a problem-solving approach to composition emphasizing planning, organizing, and presenting written business communications for decision making. Use of computer software programs integrated in the writing of business correspondence and reports. (F,S)

BA 251 International Business (3)
A survey course in international business and doing business in the global economy. Non-technical introduction to global business operations and planning, including investment issues, comparative management, technology impact, competition, cultural diversity and legal issues. (F,S)

BA 295 Executive Professor Special Topics I (1-3)
Consent of Instructor. A seminar for freshman and sophomore majors and minors, taught by business executives, integrating practical experience into the theoretical curriculum. Topic varies per expertise of Executive Professor. S/U or letter graded. Repeatable, under different subtitles.

BA 495 Executive Professor Special Topics II (1-3)
Consent of instructor. A seminar for junior and senior majors and minors, taught by business executives, integrating practical experience into the theoretical curriculum. Topic varies per expertise of Executive Professor. S/U or letter graded. Repeatable, under different subtitles.

BAAC - ACCOUNTING

BAAC 220 Principles of Accounting I (3)
Prerequisite: BA 101 or take concurrently. An introduction to basic principles of accounting. The accounting cycle is examined and basic accounting principles are applied to recording, classifying, reporting and interpreting financial information for service and merchandising types of businesses. Manual and computer based systems are investigated. (F,S)

BAAC 221 Principles of Accounting II (3)
Prerequisite: BAAC 220. A continuation of BAAC 220 to study basic accounting principles as they apply to the preparation and interpretation of accounting information for business organizations and managerial use of information. (F,S)

BAAC 320 Intermediate Accounting I (3)
Prerequisite: BAAC 221 with a minimum grade of “C.” Business majors only. Juniors or above. An activity course stressing the conceptual framework of accounting, a review of the accounting process, statement presentation of current assets and property, plant and equipment. (F,S)

BAAC 321 Intermediate Accounting II (3)
Prerequisite: BAAC 320 with a minimum grade of “C.” Business majors only. Juniors or above. An activity course with emphasis on intangible assets, current and long-term liabilities, investment, stockholders’ equity, pensions, leases and income taxes. (F,S)

BAAC 323 Cost and Managerial Accounting I (3)
Prerequisite: BAAC 221 with a minimum grade of “C.” Business majors only. Juniors or above. Accumulating and analyzing information for management purposes. Topics include product costing, cost-volume-profit relationships, budgeting and performance evaluation. (F,S)

BAAC 324 Cost and Managerial Accounting II (3)
Prerequisite: BAAC 323 - an activity course; includes capital budgeting decision models; planning and control systems; and advanced topics in cost behavior, cost allocation and product costing.
BAAC 326 Governmental and Institutional Accounting (3)
Prerequisite: BAAC 221 with a minimum grade of "C." Business majors only. Juniors or above. This is an activity course involving the study of accounting processes and procedures used by state and local governmental units and other selected not-for-profit entities. (F,S)

BAAC 327 Managerial Accounting (3)
Prerequisite: BAAC 221. Business majors only. For non-accounting emphasis students only. Juniors or above. No graduation credit for accounting majors. This is a theory course studying the use of information derived from an accounting system for effective management decision making, cost analysis and budgeting management control and evaluation. (F,S)

BAAC 328 Accounting Systems (3)
Prerequisites: BACS 300 and BAAC 321 or take concurrently. Business majors only. Juniors or above. An activity course designed to study the processes and procedures by which an organization's financial information is recorded, processed, reported and disposed of in an efficient and orderly manner. (F,S)

BAAC 420 Advanced Accounting I (3)
Prerequisite: BAAC 321 with a minimum grade of "C." Business majors only. Juniors or above. Emphasis is on special topics including income recognition changes and correction cash flows, earnings per share, discontinued operations, partnerships, interim reporting, estates, trusts, insololvency and other selected topics. (F,S)

BAAC 421 Advanced Accounting II (3)
Prerequisite: BAAC 321 with a minimum grade of "C." Business majors only. Juniors or above. An activity course covering business combinations, consolidated financial statements, branch operations, segmental reporting and foreign operations. (F,S)

BAAC 422 Accounting Directed Studies (1-3)
Business majors only. Juniors or above. Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

BAAC 425 Auditing I (3)
Prerequisite: BAAC 321 with a minimum grade of "C." Business majors only. Juniors or above. This is an activity course covering an overview of procedures and techniques of auditing including auditor's report, internal control, evidence gathering, legal liability, statistical sampling and EDP. (F,S)

BAAC 426 Auditing II (3)
Prerequisite: BAAC 425 with a minimum grade of "C." Business majors only. Juniors or above. A seminar course for the study of audit procedures for specific transaction cycles. Complete a simulated audit case.

BAAC 428 Income Tax II (3)
Prerequisite: BAAC 428 with a minimum grade of "C." Business majors only. Juniors or above. An activity course that promotes additional understanding beyond a foundation course. Emphasis is on applying tax law to partnerships and corporations through use of basic research, tax returns and computers.

BAAC 492 Internship in Accounting (1-10)
Faculty coordinator's consent. Business majors only. Juniors or above. Practical work experience allowing the intern the opportunity to utilize the theory of academic accounting courses. Credit for the internship is determined by the coordinator based on the type of work experience and time involved. S/U graded. Repeatable, maximum of nine credits.

BAAC 495 Special Topics in Accounting (1-3)
Consent of instructor. Business majors only. Juniors or above. This seminar course explores advanced topics in accounting. Specific topics will be specified by the instructor. S/U or letter graded. Repeatable, under different subtitles.

BACS - COMPUTER INFORMATION SYSTEMS

BACS 285 Business COBOL Programming (3)
Prerequisite: BA 101. Required laboratory arranged. Business majors only. An activity course exploring business programming applications in the COBOL language. Topics include inputting, outputting, logic, tables, character processing, sequential processing and subroutines.

BACS 286 Structured Programming and Applications for Business (3)
Prerequisite: BA 101. Required laboratory arranged. Majors/Minors only. Study of programming languages as a systematic discipline based on fundamental concepts of logic and procedural organization. Languages will focus upon those currently utilized in business and industry. Particular attention will be paid to software design in terms of reliability, maintainability and quality.

BACS 287 Graphical Interface Programming (3)
Prerequisite: BA 101. Required laboratory arranged. Majors/Minors only. This course studies modern programming languages that are geared primarily toward graphical user interfaces and interactive processing. An activity course that introduces students to the concepts of end-user computing, human factors in interface design, graphical programming environments and event-driven programming.

BACS 291 Business Statistics I (3)
Prerequisites: BA 101 or concurrently and MATH 175 or MATH 124. Learn the use of statistics in business activities through techniques of descriptive statistics, sampling distributions, statistical estimation, tests of hypotheses and introduction to bi-variate linear regression. (F,S)

BACS 292 Business Statistics II (3)
Prerequisites: BA 101, BACS 291, MATH 131 or MATH 176. Required laboratory arranged. Business majors only. Majors/Minors only. Juniors or above. A course designed to build on Statistics I foundations. Topics include hypotheses testing (using t-tests, ANOVA, Chi square and regression), exploratory data analyses and time series analyses. (F,S)

BACS 390 Business Statistics II (3)
Prerequisites: BA 101, BACS 291, MATH 131 or MATH 176. Required laboratory arranged. Business majors only. Majors/Minors only. Juniors or above. An activity course covering the configuration, modification and development of applications in programming interfaces such as Windows, X-Windows, Windows NT and Motif. Netware and OS/2 platforms are explored.

BACS 395 Production Management (3)
Prerequisites: BACS 291, MATH 131 or MATH 176. Co-requisite: BAMS 350. Required laboratory arranged. Majors/Minors only. Juniors or above. Emphasis on problems of managing resources, people, money and physical property in product and services production. Includes plant layout, inventory systems and control, scheduling and materials handling. (F,S)

BACS 422 Directed Studies (1-3)
Consent of instructor required. Business majors only. Juniors or above. Individualized investigation under the direct supervision of a faculty member. This course does not substitute for required courses. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.
BACS 482 Management Support Systems (3)
Prerequisite: BACS 286 or BACS 287 with minimum grade of “C.” Required laboratory arranged. Majors/minors only. Juniors or above. An activity course for designing and implementing decision support, knowledge-based support and executive support systems. Topics include mathematical and descriptive modeling, knowledge acquisition, knowledge representation and relevant computer-based tools.

BACS 485 Database Management Systems (3)
Prerequisite: BACS 286 or BACS 287 with a minimum grade of “C.” Required laboratory arranged. Majors/minors only. Seniors or above. An activity course covering the design, implementation and operation of database systems/applications. Topics include database processing, models, organizational planning, logical and physical design, implementation, data organization and data structures. (F,S)

BACS 486 Advanced Database Management (3)
Prerequisite: BACS 485 with a minimum grade of “C.” Required laboratory arranged. Business majors only. Seniors or above. An activity course covering database systems/applications. Topics include advanced relational and network database processing, data dictionaries, data integrity issues, distributed databases, emerging technologies and database administration. (F,S)

BACS 487 Systems Analysis and Design (3)
Prerequisite: BACS 286 or BACS 287 with a minimum grade of “C.” Majors/minors only. Required laboratory arranged. Seniors or above. An activity course that covers systems analysis and design; emphasizes techniques, tools, skills, procedures and end products. Covers investigation, analysis/design.

BACS 488 Senior CIS Project (3)
Prerequisite: BACS 487 with a minimum grade of “C.” Required laboratory arranged. Majors/minors only. Seniors or above. This is an activity course in which students perform an actual systems analysis and design. An information system will be developed by the student and time permitting, will be implemented. (S)

BACS 492 Internship in Computer Information Systems (1-3)
Consent of faculty coordinator. Majors/minors only. Juniors or above. Obtain practical experience in one or more of the following CIS areas: programming, systems design, DBMS, quantitative research, data communications, DSS. S/U graded. Repeatable, maximum of three credits.

BACS 495 Special Topics in CIS (1-3)
Prerequisite: BACS 286 or BACS 287 with a minimum grade of “C.” Majors/minors only. Juniors or above. This seminar course explores advanced topics in computer information systems and/or quantitative methods. S/U or letter graded. Repeatable, under different subtitles.

BAFN 231 Legal Environment of Business (3)
Emphasizes public law, regulation of business and various relationships that exist within society, government and business such as: economic regulation, social regulation, laws impacting labor-management issues and environmental concern. (F,S)

BAFN 240 Introduction to Personal Financial Planning (3)
Finance majors will not receive credit towards their major. Discuss concepts and principles of personal financial planning including personal financial assessment, goal setting, planning and management of personal assets, credit, insurance, investments, estates and taxes.

BAFN 332 Business Administration and the Law (3)
Prerequisite: BAFN 231. Business majors only. Juniors or above. Provides an understanding of the law of business transactions as part of the decision-making process. Topics will include the law of contracts, sales, bailments and negotiable instruments. (F,S)

BAFN 340 Principles of Risk and Insurance (3)
Business majors only. Juniors or above. Theory of risk and risk bearing; arrangements for dealing with risks; insurance industry, types of insurers, functions of insurers and government regulation of insurance; social insurance; and basic features of selected insurance contracts. (F,S)

BAFN 370 Business Finance (3)
Prerequisites: BAAC 221, BACS 291, ECON 103 and ECON 105. Juniors or above. Examines the basic principles and concepts of financial management. Topics include valuation, risk, financial analysis and planning, working capital management, cost of capital, capital structure and capital budgeting. (F,S)

BAFN 371 Financial Markets and Institutions (3)
Prerequisite: ECON 103. Business majors only. Juniors or above. Analyze characteristics and interrelations between money and capital markets, flow of funds and factors determining both supply and demand of funds. Stress financial institutions' role as intermediaries and effect on economic activity. (F,S)

BAFN 372 Introduction to Real Estate (3)
Juniors or above. Business majors only. Discover important concepts and principles of real estate, especially procedures for evaluating and appraising real estate investments, legal marketing and financing aspects of real estate. (F,S)

BAFN 379 Investments (3)
Prerequisite: BAFN 370. Business majors only. Juniors or above. The study of financial assets, their valuation and reporting through a thorough understanding of financial publications which will enable the student to construct a portfolio of different investments with the knowledge of economic factors affecting risk, returns, and timing of investment decisions. (F,S)

BAFN 422 Directed Studies (1-3)
Juniors or above. Business majors only. Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

BAFN 441 Estate Planning and Life Insurance (3)
Prerequisite: BAFN 340, BAAC 428. Business majors only. Juniors or above. Discuss property disposition and estates and trusts, administration of estates, federal estate unified tax, planning through trusts and wills, life insurance and estate planning.

BAFN 442 Topics in Financial Planning (3)
Prerequisites: BAFN 340, BAFN 471. Business majors only. Juniors or above. Provide a comprehensive examination of financial planning concepts and techniques through both class discussion and case analysis.

BAFN 470 Financial Management (3)
Prerequisite: BAFN 370. Business majors only. Juniors or above. Investigate the management of commercial banks and other financial institutions. Evaluate decision strategies that may be used to enhance performance in a changing economic and regulatory environment. Review banking principles, current practices and problems. (S)

BAFN 474 Case Problems in Financial Management (3)
Prerequisite: BAFN 371. Business majors only. Juniors or above. This seminar class involves the comprehensive study of applied financial management, finance, other business skills and financial decision making processes for the firm. Use case study problem solving method. (F,S)

BAFN 475 Multinational Financial Management (3)
Prerequisite: BAFN 370. Business majors only. Juniors or above. Addresses the financial characteristics and environment of the multinational corporation. Special attention is focused on how international risk factors and foreign securities markets affect financial decisions. (F,S)

BAFN 477 Student-Alumni Foundation Fund (3)
Consent of instructor. Business majors only. Juniors or above. Involves students managing a portfolio of funds provided by the UNC Foundation while studying and applying the principles of security analysis and portfolio management. S/U graded. Repeatable, maximum of six credits.
BAFN 479 Security Analysis (3)
Prerequisite: BAFN 379. Business majors only. Juniors or above. 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. (S)

BAFN 492 Internship in Finance (1-3)

BAFN 495 Special Topics in Finance (1-3)
Consent of instructor. Business majors only. Juniors or above. This seminar course explores advanced topics in finance. S/U or letter graded. Repeatable, maximum of six credits.

**BAMG - MANAGEMENT**

**BAMG 350 Management of Organizations (3)**
Juniors or above. An introduction to management of organizations covering organizational behavior, individual behavior and management topics such as motivation, leadership, organization design, organizational theory, diversity, international management and ethics. (F,S)

**BAMG 353 Human Resources Management (3)**
Prerequisite: BAMG 350. Business majors only. Junior or above. A survey of human resource management topics such as recruitment, selection, training, development, performance appraisal, compensation, career development.

**BAMG 354 Organizational Behavior (3)**
Prerequisite: BAMG 350. Business majors only. Juniors or above. A study of behavioral science theories and concepts applicable to individuals, teams, and organizations. Topics include motivation, leadership, group dynamics, perception, decision-making, power, culture, change and communication.

**BAMG 357 Managing New Business Ventures (3)**
Prerequisites: BAAC 220, BAAC 221, BAMG 350, BAMK 360, BAFN 370 or take concurrently. Business majors only. Juniors or above. An activity course emphasizing the problems and opportunities of starting new businesses including new enterprise creation, planning, management, control and growth.

**BAMG 407 Small Business Counseling (3)**
Consent of instructor. Business majors only. Juniors or above. A seminar course which applies theories learned in all business majors to actual small businesses.

**BAMG 422 Directed Studies (1-3)**
Prerequisite: BAMG 350 and consent of instructor. Business majors only. Juniors or above. Individualized research under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable. Maximum concurrent enrollment is two times.

**BAMG 452 Business, Government and Society (3)**
Prerequisite: BAMG 350. Business majors only. Juniors or above. A study of the role of business organizations in society and the relationships between business and economic policy, social responsibility and political influence in multiple environments.

**BAMG 453 Advanced Topics in Human Resources Management (3)**
Prerequisites: BAMG 350, BAMG 353 and senior standing. Business majors only. Provides an expanded examination of human resources management topics such as performance appraisal, training, compensation and labor relations. Current topics are emphasized.

**BAMG 455 Labor Relations (3)**
Prerequisite: BAMG 350. Business majors only. Juniors or above. Traces the labor movement, basic philosophies of labor unions, legislation, and decisions of courts and labor boards affecting management-employee relations. Covers current labor topics, contract negotiations and administration, grievances and disputes.

**BAMG 456 Strategic Management and Business Policy (3)**
Prerequisites: BAAC 221, BACS 291, BAFN 370, BACS 395, BAMG 350, BAMK 360 and senior standing. Business majors only. Examines organizational strategic issues and problems related to internal and external environments. Case analysis framework and strategic management concepts emphasized. BACS 395 is the only prerequisite that may be taken concurrently with BAMG 456. (F,S)

**BAMG 457 Managing Complex Organizations (3)**
Prerequisite: BAMG 350. Business majors only. Juniors or above. A seminar course which concentrates on the analysis and understanding of effective organizations through the study of organizational theory.

**BAMG 458 Managing in a Global Environment (3)**
Business majors only. Juniors or above. A seminar that examines the field of international management. Examines the implications of managing organizations involved in global operations.

**BAMG 492 Internship in Management (1-3)**

**BAMG 495 Special Topics in Management (3)**
Prerequisite: BAMG 350 or consent of instructor. Business majors only. Juniors or above. A seminar in various management content areas as need and opportunity arise. Primarily for management majors, this course attempts to integrate management concepts within applied settings. S/U or letter graded. Repeatable, under different subtitles.

**BAMG 260 Introduction to Marketing (3)**
This course provides an introduction to basic concepts of marketing and an introduction as to how these marketing concepts are applied by both business and non-business organizations. Non-business majors only.

**BAMK 260 Marketing (3)**
Prerequisite: ECON 105. Juniors or above. This theory course provides an understanding of the basic concepts and terminologies in marketing, as well as an understanding of how these concepts are applied in both international and domestic business settings and their environments. (F,S)

**BAMK 361 Consumer Behavior (3)**
Prerequisite: BAMK 360. Business majors only. Juniors or above. This theory course examines the various theories of consumer behavior and the decision making process from a global perspective. The implications of cultural, ethical and legal variables will also be discussed. (F,S)

**BAMK 363 Promotional Strategy (3)**
Prerequisite: BAMK 360. Business majors only. Juniors or above. This is an activity course involving the study of advertising, personal selling, public relations and sales promotion. Case discussions concentrate on integrating promotion tools into an overall marketing communications strategy.

**BAMK 364 Selling and Sales Management (3)**
Prerequisite: BAMK 360. Business majors only. Juniors or above. This is an activity course emphasizing both theoretical and practical skills in the personal selling process and the management of a sales force.

**BAMK 365 Advertising (3)**
Prerequisite: BAMK 360. Business majors only. Juniors or above. This is an activity course involving advertising principles including advertising terminology, communication process, advertising agencies, media, copy and layout elements.

**BAMK 366 Retailing (3)**
Prerequisite: BAMK 360. Business majors only. Juniors or above. An introductory survey course of retail institutions; how they operate and their impact on the marketplace. This course covers both theory and practice.

**BAMK 368 Marketing Analysis and Research (3)**
Prerequisites: BACS 291, BAMK 360. Business majors only. Juniors or above. An activity course involving practical experience in planning a research investigation, designing questionnaires, sampling, interpreting results and preparing a research report. Emphasis on product, advertising, sales and motivational research. (F,S)

**BAMK 407 Small Business Counseling (3)**
Consent of instructor. Business majors only. Juniors or above. A seminar course which applies theories learned in all business majors to actual small businesses.
BAMK 422 Directed Studies (1-3)  
Prerequisites: BAMK 360. Consent of instructor. Business majors only. Seniors or above. Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

BAMK 461 Advertising Campaigns (3)  
Prerequisite: BAMK 365. Business majors only. Juniors or above. An activity course where students receive realistic experience in campaign planning. Assume the identity of an advertising agency responsible for the preparation of a complete marketing communications program.

BAMK 462 Marketing Problems (3)  
Prerequisites: BAFN 370, BAMK 361 and BAMK 368. Business majors only. Seniors or above. This capstone marketing seminar course emphasizes application, analysis, planning and control of the various marketing mix variables, the target market, and the marketing environment. (F,S)

BAMK 464 Global Marketing Strategies (3)  
Prerequisite: BAMK 360. Business majors only. Juniors or above. A seminar of institutions, functions, policies and practices in international markets. Global multinationals aspects of business enterprises and their effects on marketing problems and management are analyzed. (F,S)

BAMK 468 Business-to-Business Marketing (3)  
Prerequisite: BAMK 360. Business majors only. A course in theoretical and practical aspects of marketing goods and services to business. Emphasizes analysis and segmentation of business markets and development of marketing mixes to serve those markets.

BAMK 469 Distribution Logistics (3)  
Prerequisite: BAMK 360. Business majors only. An activity seminar course designed to explore the techniques utilized by marketing-oriented distribution managers within the worldwide logistics process. Computer simulation and/or case analysis may be used.

BAMK 470 Direct Marketing (3)  
Prerequisite: BAMK 360. Business majors only. An examination of the concepts, strategies and applications involved in direct marketing, including mail order and direct response advertising.

BAMK 492 Internship in Marketing (1-3)  
Consent of faculty coordinator. Business majors only. This course gives the student practical experience and opportunities to apply theory from academic marketing courses. S/U graded. Repeatable, a maximum of three credits.

BAMK 495 Special Topics in Marketing (3)  
Business majors only. This seminar course explores various advanced marketing topics. The course is offered as needed. S/U or letter graded. Repeatable, under different subtitles.

BCHM - Biochemistry

BCHM 381 Immunology (2)  
Prerequisites: BIO 110, CHEM 332 or CHEM 131. An introduction to the components and basic mechanisms of the immune system.

BIEED - BIOLOGY EDUCATION

BIEED 682 Problems in Teaching College Biology (3)  
Acquaints students with problems encountered in teaching biology and strategies for increasing teaching effectiveness. Topics covered include learning theory and application, ways to present difficult material, curriculum development, research and the laboratory as teaching tools, management and maintenance of biological materials.

BIO - BIOLOGY

BIO 100 Exploring Biology (3)  
No credit for biological science majors and minors. An exploration of biological principles of concern to the educated layperson. Topics include ecology, evolution, the cell, organs and systems, inheritance and disease.

BIO 110 Principles of Biology (4)  
(3 lecture, 3 laboratory) Investigate principles that drive biological actions within the biosphere and within cells; especially structural and functional bases of life in genetics, evolution and ecology.

BIO 111 Survey of Organismal Biology (5)  
(3 lecture, 4 laboratory) Survey the five kingdoms of living organisms focusing on diversity, life cycles and ecosystems, principles of structure and function, ecology and evolutionary relationships.

BIO 192 Careers in the Health Professions Seminar (0.5)  
For students interested in a career in the primary health field. Discuss program, GPA, cost, salary, future of health professions. S/U graded.

BIO 220 Genetics (3)  
(2 lecture, 3 laboratory) Prerequisite: BIO 110. Discover how the fundamental laws of heredity apply to normal and abnormal development and maintenance of all life using microorganism, plant, animal and human models as appropriate.

BIO 265 Biological Science Concepts for Elementary Teachers (3)  
(2 lecture, 2 laboratory) An investigation of basic biological concepts in biological science through lecture, discussion and laboratory investigation. Ideal for students seeking elementary certification.

BIO 351 Microbiology (4)  
(3 lecture, 3 laboratory) Prerequisites: BIO 110 or BIO 111 or ZOO 115; CHEM 131 or CHEM 331. Examine microorganisms and their activities in the biological world. Study structures and functions of bacteria. Also some discussion of fungi and viruses.

BIO 371 Teaching Strategies for Biology Teachers (1)  
(2 laboratory) Full admission to PTEP required or consent of instructor. Demonstrations and strategies appropriate for lecture and laboratory instruction, including computer usage and controversial issues, will be presented.

BIO 380 Aquatic Biology (4)  
(3 lecture, 3 laboratory) Prerequisites: BIO 110, BIO 111. This course examines aquatic communities, determines species present, nature of the physical and chemical aquatic environment, species and population distribution, productivity and eutrophication.

BIO 408 Workshop (1-3)  
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles. S/U graded.

BIO 422 Directed Studies (1-3)  
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

BIO 424 Behavioral Genetics (2)  
Prerequisites: BIO 220, PSY 120. Explore the genetic/environmental basis of normal and pathological behavior in animals and humans and study such contemporary issues as evolution, intelligence and genetic counseling.

BIO 425 Molecular Genetics (3)  
(2 lecture, 3 laboratory) Prerequisites: BIO 220, CHEM 481. Examination of macromolecules (DNA, RNA and proteins) and of biological organisms with particular emphasis on recombinant DNA techniques and aberrant biochemical pathways.

BIO 450 Cell Physiology (4)  
(3 lecture, 3 laboratory) Prerequisites: BIO 110, BIO 111, CHEM 131 or CHEM 331. Recommend CHEM 481. The study of vital life processes common to all cells, relating cell structure to function, basic cell chemistry, energy transformations within the cell and homeostatic regulations of the environment.

BIO 458 Diagnostic Microbiology (4)  
(2 lecture, 4 laboratory) Prerequisite: BIO 351. Learn about microorganisms of medical significance: isolation, identification, immunology and disease etiology.

BIO 460 Ecology (4)  
(3 lecture, 3 laboratory) Prerequisite: BIO 111. Plant and animal communities will be identified and measured. Ecosystem structure and energy flow will be determined. Topics including biochemical cycles, soils, population structure/distribution and succession will be examined. Field trip may be required.

BIO 465 Evolution (3)  
Prerequisite: BIO 220. Study of the processes of evolution including the history of evolutionary thought, nature and sources of biological variation, population genetics, natural selection and a survey of the evolutionary history of life.
BIO 485 Topics in Field Biology (1-10)
After preparatory work, study biology in the field on a state, national or international basis.

BIO 491 Senior Seminar (1)
Majors only. Juniors or above. Survey research, literature and career opportunities in selected biological areas. Complete professional development activities, such as writing a resume and preparing a research poster or presentation. S/U graded.

BIO 492 Internship in Biological Sciences (1-3)
Consent of instructor required. On-the-job experience in professional areas under the supervision of an area specialist. S/U graded.

BIO 494 Practicum in College Biological Science Instruction (1-2)
Prerequisites: BIO 110, BIO 111. Consent of instructor and departmental PTEP committee required. Gain experience teaching an introductory biological science laboratory.

BIO 495 Special Topics in Biology (2)
Prerequisites: BIO 110, BIO 111. Advanced study for qualified undergraduates in an area of the biological sciences.

BIO 497 Special Laboratory Topics in Biology (1)
(3 laboratory) Prerequisites: BIO 110, BIO 111. Advanced study in the laboratory for qualified undergraduates in an area of the biological sciences.

BIO 499 Undergraduate Research (1-6)

BIO 501 Current Issues in Biology (1)
Course varies in content, reviewing current issues of biology, botany or zoology. S/U graded.

BIO 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles. S/U or letter graded.

BIO 509 Advanced Placement Biology (1-3)
Consent of instructor. Topics in biological sciences and pedagogy related to establishment and maintenance of a biology advanced placement program. S/U graded.

BIO 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

BIO 515 Biology of Aging (2)
Prerequisites: ZOO 115 or ZOO 245. Study biological changes that take place during the normal aging process, including several major organ systems.

BIO 524 Behavioral Genetics (2)
Prerequisites: BIO 220, PSY 120. Explore the genetic/environmental basis of normal and pathological behavior in animals and humans and study such contemporary issues as evolution, intelligence and genetic counseling.

BIO 525 Molecular Genetics (3)
(2 lecture, 3 laboratory) Prerequisites: BIO 220 and CHEM 481. Examination of macromolecules (DNA, RNA and proteins) and of biological organisms with particular emphasis on recombinant DNA techniques and aberrant biochemical pathways.

BIO 545 Cytology (3)
Study the structure and function of the various components and organelles of both prokaryotic and eukaryotic cells.

BIO 550 Cell Physiology (4)
(3 lecture, 3 laboratory) Prerequisites: BIO 110, BIO 111, CHEM 131 or CHEM 331, recommend CHEM 481. The study of vital life processes common to all cells, relating cell structure to function, basic cell chemistry, energy transformations within the cell and homeostatic regulations of the cell environment.

BIO 551 Neuropharmacology (3)
Prerequisites: ZOO 350, ZOO 355, CHEM 131 or CHEM 331 or consent of instructor. Seniors or above. Examine the biochemical interactions that give rise to complex human behaviors. Topics will include the major neurotransmitter systems of the brain, exogenous drug effects and pathologies of the nervous system. S/U or letter graded.

BIO 555 Reproductive and Developmental Biology (3)
Prerequisites: BIO 110, CHEM 131 or CHEM 331, recommend CHEM 481. Examination of the anatomy, physiology and mechanisms of reproduction and development with an emphasis on mammals.

BIO 569 Conceptual Issues in Evolution (2)
Prerequisite: BIO 465 or consent of instructor. Study of the guiding principles in modern evolutionary biology. Focus on concepts of fitness, selection, adaptation, form and function, concerted evolution and the nature of biological variation.

BIO 571 Teaching Strategies for Biology Teachers (1)
(2 laboratory) Full admission to PTEP required or consent of instructor. Demonstrations and strategies appropriate for lecture and laboratory instruction, including computer usage and controversial issues, will be presented.

BIO 585 Topics in Field Biology (1-10)
After preparatory work, study biology in the field on a state, national or international basis.

BIO 592 Internship in Biological Sciences (1-3)
Consent of instructor required. On-the-job experience in professional areas under the supervision of an area specialist. S/U graded.

BIO 595 Special Topics in Biology (3-6)
Study of any biological topic at an advanced level. Repeatable, maximum 6 credits.

BIO 621 Advanced Genetics (3)
Prerequisites: BIO 220 or equivalent and CHEM 131; recommend CHEM 481. Survey experimental advances in gene regulation of growth, maintenance and protection of all organisms including the human species with special emphasis on recent developments in the field.

BIO 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

BIO 655 Advanced Microbiology (4)
(2 lecture, 6 laboratory) Prerequisites: BIO 351, CHEM 481. Examine prokaryotic anatomy, physiology, genetics and taxonomy with laboratory studies of bacterial groups and use of advanced microbiological techniques.

BIO 662 Human Ecology (3)
Study of human population growth and cultural and societal impacts on ecological systems. Global and large regional areas will be the center of focus.

BIO 690 Invited Topics in Biological Sciences (0.5)
Invited speakers present topics of interest pertinent to biology. S/U graded.

BIO 691 Seminar in Biological Sciences (0.5)
Students will research and present seminars on selected topics of current biological interest.

BIO 694 Foundations of Biological Research (2)
Required of all first year graduate students in biological sciences. Delineate philosophy, methods of research and oral and written presentations of scientific findings.

BIO 697 Graduate Research (1-6)
Prerequisite: BIO 694. Consent of instructor. Qualified graduate students spend a minimum of 38 clock hours per semester hour credit on a research problem. Before credit is given, a well-written report must be submitted to the instructor.

BIO 699 Thesis (1-6)
Prerequisite: BIO 694. S/U graded.

BIO 792 Doctoral Supervised Teaching (1-6)
Experience supervised college level biological sciences teaching. Develop course outlines and effective teaching techniques.
BIO 797 Doctoral Proposal Research (1-4)
Four hours required of all doctoral students before admission to candidacy. S/U graded.

BIO 799 Doctoral Dissertation (1-12)
Required of all doctoral candidates. S/U graded.

BOT - Botany

BOT 270 Economic Botany (3)
(2 lecture, 3 laboratory) Consider plants that directly affect human welfare: foods, drugs, fibers, naval stores, wood, dyes, insecticides and others according to their taxonomy, structure and ecological requirements.

BOT 330 Plant Taxonomy (4)
(2 lecture, 6 laboratory) Prerequisite: BIO 111. Recognize and identify plants at species and family levels, using the keys and manuals. Native plant collection required.

BOT 333 Morphogenesis of Algae and Fungi (4)
(3 lecture, 3 laboratory) Prerequisite: BIO 111. Study structure, morphogenesis and phylogenetic relationships of algae, fungi.

BOT 350 General Plant Physiology (4)
(3 lecture, 3 laboratory) Prerequisites: BIO 111, CHEM 131. Study physiological factors influencing the chemical and structural composition of plant absorption and utilization of water and minerals; photosynthesis, translocation, respiration, nitrogen metabolism; and growth and development.

BOT 440 Anatomy and Morphogenesis of Plants (4)
(3 lecture, 3 laboratory) Prerequisite: BIO 111. A study of the evolution of the plant kingdom as revealed by the anatomy and morphogenesis of both non-vascular and vascular plant divisions.

BOT 530 Plant Taxonomy (4)
(2 lecture, 6 laboratory) Prerequisite: BIO 111. Recognize and identify plants at species and family levels, using the keys and manuals. Native plant collection required.

BOT 533 Morphogenesis of Algae and Fungi (4)
(3 lecture, 3 laboratory) Prerequisite: BIO 111. Study structure, morphogenesis and phylogenetic relationships of algae, fungi.

BOT 540 Anatomy and Morphogenesis of Plants (4)
(3 lecture 3 laboratory) Prerequisite: BIO 111. A study of the evolution of the plant kingdom as revealed by the anatomy and morphogenesis of both non-vascular and vascular plant divisions.

BOT 550 General Plant Physiology (4)
(3 lecture, 3 laboratory) Prerequisites: BIO 111, CHEM 131. Study physiological factors influencing the chemical and structural composition of plant absorption and utilization of water and minerals; photosynthesis, translocation, respiration, nitrogen metabolism and growth and development.

BOT 560 Plant Ecology (4)
(3 lecture, 3 laboratory) Prerequisite: BIO 460. Study plant communities by examining the effects of environmental factors on plants, as well as community measurement and evaluation, modeling techniques, energy flow through ecosystems and community dynamics.

BOT 575 Fungal Diseases of Plants (4)
(3 lecture, 3 laboratory) Prerequisite: BOT 333. Recognize plant diseases, the physical and biochemical processes involved in the establishment of diseases and their prevention and control.

BOT 595 Special Topics in Botany (2)
Study of any botanical topic at an advanced level. Repeatable, maximum of three credits under different subtitles.

BOT 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

BOT 655 Advanced Plant Physiology (3)
Prerequisite: BOT 350. Advanced study of the important physical and chemical principles controlling the supply, uptake, movement, loss and assimilation of inorganic substances by plants during growth and development.

BOT 699 Thesis (1-6)
S/U graded. Repeatable, no limitations.

CED - Computer Education

CED 422 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

CED 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

CED 509 Advanced Placement Programs in Computer Science (1-3)
Consent of instructor. Graduate students only. Topics in computer science and pedagogical information related to establishing and maintaining a computer science advanced placement program. S/U graded. Unlimited repeatability.

CED 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

CG - Computing, General

CG 105 Personal Computer Applications (3)
Operate and use microcomputers for personal applications such as word processing, spelling correction processing, mail-merging processing, electronic spreadsheet processing and database processing. Emphasize one specific microcomputer for “hands-on” experience.

CG 110 BASIC Programming (3)
Become familiar with fundamentals of designing and writing structured programs in BASIC language. Programs will involve nontechnical applications and are general enough to familiarize non-math majors with fundamentals.

CG 115 FORTRAN 77 Programming (3)
Prerequisite: MATH 124 with grade of “C” or better. Become familiar with designing and writing structured programs in the FORTRAN 77 language. Program will involve some technical applications in science and mathematics.

CG 120 Pascal Programming (3)
Prerequisite: MATH 124 with grade of “C” or better. Become familiar with designing and writing structured programs in the Pascal language. Programs will involve some technical applications in science and mathematics.

CG 125 LOGO Programming (3)
Study of the LOGO programming language. Topics include graphics, recursions and list processing.

CG 195 Special Topics in General Computing (1-3)
Consent of instructor. Topics that reflect the specific interests of available professors and the specific needs of interested undergraduates. Repeatable, under different subtitles.

CH - Community Health

CH 205 Issues in Health (3)
Analyze the variety of forces that currently affect the well-being of human population groups on a national level.

CH 209 Foundations of Health Promotion/Health Education (3)
Overview of the field of health promotion/education including: evolution of the profession, health theories and models, functions/skills of health educators, current programs and settings for practice.

CH 236 Health and Life-styles Among the Elderly (3)
A survey of the psychosocial and biomedical dimensions that affect the health of the elderly. Current theories and scientific research on the aging process will also be discussed.

CH 238 Contemporary Issues in Drug Abuse (3)
Examines current drug abuse problems and issues confronting modern society, including sociological and psychological factors influencing drug-taking behavior and social and health consequences that accompany drug abuse.
CH 293 Sophomore Practicum in Community Health (1-3)
Consent of instructor. Assignment to a community health agency. Assisting professional staff, the student will be given the opportunity to apply basic skills and observe the health education program of the facility. Repeatable, a maximum of three credits.

CH 299 Community Health Systems (3)
Investigation and discussion of community organization, major community health problems and the role and function of various community agencies, programs and services related to problem resolution.

CH 320 Introductory Epidemiology and Biostatistics (3)
Introductory course in epidemiology and biostatistics. Focuses on practical applications of epidemiological and biostatistical principles to diseases and health conditions in the community.

CH 330 Health Promotion/Health Education Strategies (3)
Prerequisites: CH 209, CH 293. Course provides opportunity to learn and apply specific health promotion/education techniques such as risk assessment, individual educational plans, small group techniques, mass media, lectures and community organization campaigns.

CH 336 Human Sexuality (3)
The general purpose of this course is to survey the psychosocial and biophysical dimensions of human sexuality.

CH 342 Modern Concepts of Health and Disease (3)
This course is designed to discuss the etiology, treatment and control of the most significant diseases that affect the population of the United States today.

CH 350 Introduction to Environmental Health (3)
Discussion of the relationships of environmental pollution to the ecosystem and health of humans. Analyze major areas of environmental pollution: water, air, solid wastes, pesticides, radioactive wastes and population.

CH 405 Health Communications and the Media (3)
Focuses on the design, production, evaluation and acquisition of appropriate media and materials for health education/promotion programs.

CH 408 Workshop in Health Education (1-3)
Investigate individual’s problem areas, varying according to experts conducting workshops. Repeatable, under different subtitles.

CH 410 Introduction to Program Planning and Evaluation (3)
Prerequisite: CH 330. 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)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

CH 440 Foundations of Health Program Management (3)
Provides students with skills in major areas of health program management including: program planning, decision making, budgeting, marketing, staff selection/motivation, evaluation.

CH 492 Internship in Health (6-12)
Prerequisite: CH 410. 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. Repeatable, maximum of 12 credits.

CH 500 Stress Management (2)
An extensive comprehensive workshop designed to expose graduate students to a holistic approach to stress management, with regards to both cognitive (coping) skills, and a host of relaxation techniques with the intention to prevent and/or alleviate the physical symptoms of stress. This workshop course is composed of both theoretical and experiential learning through a series of class exercise techniques.

CH 503 Seminar: Substance Abuse (3)
Analyze pharmacological, psychological, sociological and legal implications of drug and alcohol use, misuse and abuse, emphasizing current research and prevention/control measures.

CH 504 Issues in Elementary School Health Education (3)
Focuses on contemporary health issues affecting grade school children. Identifies available resources and effective strategies for parents, schools, media and agencies to address issues and promote health enhancing behaviors.

CH 505 Health Communications and the Media (3)
Focuses on the design, production, evaluation and acquisition of appropriate media and materials for health education/promotion programs.

CH 506 Contemporary Issues in Human Sexuality (3)
Students will pursue in-depth study of current issues in human sexuality. Attention will be given to reviewing the psychological and social forces that shape people’s sexual behaviors.

CH 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

CH 509 Seminar in Health Behavior (3)
Review theories of behavior and behavior change as they relate to current health issues. Health behavior change models will be examined and applied.

CH 510 International Health: Cross Cultural Comparisons (3)
This class explores the multi-cultural aspects of health and international comparisons of various health indicators. Students in this course will examine specific health problems, nature of health care service delivery, provision of service delivery in socio-cultural and political settings for developing and industrially developed nations.

CH 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

CH 530 Seminar in Health Promotion Strategies (3)
Prerequisites: CH 509, CH 560 or consent of instructor. Examines the effectiveness of a wide range of strategies used in health promotion/disease prevention programs. Current literature/programs are presented and reviewed.

CH 540 Principles of Health Program Management (3)
Prepares students to assume a supervisory role in the management of health and human services programs. Course covers planning, decision-making, organization, budgeting, marketing, human resource management, leadership.

CH 550 Environmental Health (3)
Investigate and discuss 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 610 Health Program Planning and Evaluation (4)
Prerequisite: CH 530 or consent of instructor. Theories and practices of program planning and evaluation including needs assessment, planning approaches, selection of strategies, data collection and analysis, evaluation design, program implementation and utilization of evaluation data.

CH 620 Epidemiology (3)
Prerequisite: SRM 602 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 622 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.
CHED - Chemistry Education

CHED 625 Public Health Administration and Policy (3)
Analyze the organization and administration of public health agencies at national, state and local levels. Major public health problems, including administrative and policy decisions regarding their resolution, will be included.

CHED 692 Graduate Internship (6)
Prerequisites: CH 610 and consent of instructor. Put into practice knowledge and skills learned in the classroom. Assume responsibilities in administration, supervision and evaluation and conduct various activities. One full semester of full-time placement is required in a health care setting.

CHED 699 Thesis (1-6)
Optional for Master of Public Health candidates in Health Education. Repeatable, no limitations.

CHED - Chemistry Education

CHED 495 Seminar in Teaching Chemistry (2)
Full admission to PTEP required, certification at the undergraduate level or consent of instructor. Students are prepared to set up, organize and run a high school chemistry laboratory and classroom. S/U graded.

CHED 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

CHED 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

CHED 582 Problems in Teaching Chemistry (3)
Problems encountered in teaching chemistry and approaches to their resolutions will be considered. The formal nature of concepts, management of laboratories, safety, demonstrations are illustrative of areas of discussion.

CHED 693 Chemical Education Research (1-10)
Develop, complete, and defend master's level research project in chemical education. For Ph.D. students only. S/U graded. Repeatable, maximum 10 credits.

CHED 755 Supervised Practicum in College Teaching (1-6)
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. Repeatable, maximum six credits.

CHED 793 Doctoral Research Practicum--Chemical Education (1-4)
Consent of advisor. Provides experience in the development and implementation of research techniques, the development of experimental design and the analysis of research data. S/U graded. Repeatable, maximum 16 credits.

CHED 797 Doctoral Research Proposal--Chemical Education (1-4)
Required of all doctoral students. Students may register for this course (1-4 hours) in any semester, but must earn 4 hours of credit in partial fulfillment of requirements before admission to candidacy. S/U graded. Repeatable, maximum four credits.

CHED 799 Doctoral Dissertation--Chemical Education (1-12)
Required of all doctoral candidates. See Ph.D. in Chemical Education--Minimum requirements for the major in the Graduate School section of this Catalog. S/U graded. Repeatable, maximum 12 credits.

CHEM - Chemistry

CHEM 101 Chemistry for Citizens (3)
No previous chemistry required. Physical and chemical principles, illustrated by demonstrations and contemporary readings, understand current topics in chemistry; such as, polymers, farm chemistry, food additives, chemotherapy and drugs.

CHEM 102 Chemistry for Citizens Laboratory (1)
(2 laboratory) Prerequisite: CHEM 101 or take concurrently. Investigation of the chemical world through hands-on activities in the laboratory. For non-science majors. Credit given only upon successful completion of CHEM 101.

CHEM 103 Introductory Chemistry (3)
No credit for chemistry major or minor. Basic chemistry concepts to prepare those with no chemistry background for CHEM 108 or CHEM 111.

CHEM 108 Fundamentals of Chemistry I (5)
(4 lecture, 3 laboratory) High school chemistry is strongly recommended. Fundamentals of general chemistry and an introduction to organic chemistry; including, aliphatic and aromatic hydrocarbons with emphasis to the allied health professions (nursing, food and nutrition, health, kinesiology, etc.).

CHEM 109 Fundamentals of Chemistry II (5)
(4 lecture, 3 laboratory) Prerequisite: CHEM 108. Chemistry of biologically important organic compounds (alcohols, ethers, aldehydes, ketones, acids and their derivatives and amines) and biochemical of the human organism, including the chemistry of cellular and body constituents and processes, foods and nutrition and metabolic diseases.

CHEM 111 Principles of Chemistry I (5)
(4 lecture, 3 laboratory) Atomic theory, mole concept, stoichiometry, states of matter, formulas, nomenclature, periodicity, bonding and solutions.

CHEM 112 Principles of Chemistry II (5)
(4 lecture, 3 laboratory) Prerequisite: CHEM 111 or CHEM 114. A continuation of CHEM 111. Thermodynamics, chemical kinetics, equilibrium, qualitative analysis, electrochemistry and descriptive inorganic chemistry.

CHEM 114 General Chemistry I (4)
(3 lecture, 3 laboratory) One year of high school chemistry and two years of high school algebra or equivalent required. Enrichment course for the well-prepared student. Atomic theory, stoichiometry, bonding, states of matter, solutions.

CHEM 115 General Chemistry II (4)
(3 lecture, 3 laboratory) Prerequisite: CHEM 111 or CHEM 114. Continuation of CHEM 114. Enrichment course for the well-prepared student. Topics include electrochemistry, acid-base chemistry, descriptive inorganic chemistry.

CHEM 131 Introductory Organic Chemistry (4)
(3 laboratory) Prerequisite: CHEM 151 or CHEM 331. Techniques of sample preparation and data collection for IR, NMR, UV-visible and AA spectrophotometers and gas chromatograph.

CHEM 321 Chemical Analysis (4)
(2.5 lecture, 4.5 laboratory) Prerequisite: CHEM 112 or CHEM 115. Chemical methods of analysis including gravimetry, acid-base, redox methods, statistics in analytical chemistry and an introduction to instrumental operations.

CHEM 331 Organic Chemistry I (5)
(4 lecture, 3 laboratory) Prerequisite: CHEM 112 or CHEM 115. Credit not allowed for both CHEM 131 and CHEM 331. Nomenclature, reactions and synthesis of organic compounds.

CHEM 332 Organic Chemistry II (5)
(4 lecture, 3 laboratory) Prerequisite: CHEM 331. Continuation of CHEM 331. Advanced concepts in synthesis, theories of reactions, biological molecules and spectroscopy.

CHEM 360 Environmental Chemistry (2)
(1.5 lecture, .5 laboratory) Prerequisite: CHEM 131 or CHEM 331. The effect of chemicals in the environment.

CHEM 421 Instrumental Analysis (4)
(3 lecture, 3 laboratory) Prerequisites: CHEM 321 and CHEM 450 or CHEM 451. Theory, practice, and application of modern analytical instrumentation.

CHEM 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.
CHEM 441 Inorganic Chemistry I (2)
Prerequisite: CHEM 321 or CHEM 331. First of two courses exploring modern inorganic chemistry. Each utilizes the journal literature and integrates applications of appropriate physical methods with theory and practice. This course emphasizes structure and bonding in inorganic substances.

CHEM 442 Inorganic Chemistry II (2)
Prerequisite: CHEM 441. A continuation of CHEM 441. Topics include descriptive main-group, coordination and organometallic chemistry with emphasis on industrial applications and interrelationships among reactions, energetics and dynamics.

CHEM 443 Inorganic Chemistry Laboratory (1)
(3 laboratory) Prerequisite: CHEM 441 or take concurrently. Experimentation including structures, bonding and properties of inorganic substances.

CHEM 450 Survey of Physical Chemistry (4)
(3 lecture, 3 laboratory) Prerequisites: CHEM 332, MATH 131, PHYS 221. Corequisite: CHEM 321. One semester survey of physical chemistry (thermodynamics, chemical kinetics and quantum mechanics). Not applicable to the “professional” and “biochemistry” emphasis areas in chemistry.

CHEM 451 Physical Chemistry I (4)
Prerequisites: CHEM 332, MATH 233, PHYS 241 or consent of instructor. Corequisites: CHEM 321 and CHEM 453. The properties of matter, thermodynamics, thermochemistry and kinetic molecular theory.

CHEM 452 Physical Chemistry II (4)

CHEM 453 Physical Chemistry I Laboratory (1)

CHEM 454 Physical Chemistry II Laboratory (1)
(3 laboratory) Prerequisite: CHEM 453. Corequisite: CHEM 452. Continuation of CHEM 453.

CHEM 481 General Biochemistry I (3)
Prerequisite: CHEM 331. Chemistry of biologically important compounds (proteins, nucleic acids, carbohydrates and lipids), emphasizing structure and function, methods of isolation, identification and characterization, kinetics and mechanisms of enzyme catalysis.

CHEM 482 General Biochemistry II (3)
Prerequisites: CHEM 332 and CHEM 481 or equivalent. A continuation of CHEM 481. Bioenergetics, electron transport systems, metabolism of carbohydrates, lipids, nucleotides and amino acids.

CHEM 483 Experimental Biochemistry I (1)
(3 laboratory) Prerequisites: CHEM 331, CHEM 481 or take concurrently, CHEM 521 or take concurrently. Techniques involved in the isolation and characterization of amino acids, peptides and proteins. Isolation and kinetics of enzymes.

CHEM 484 Experimental Biochemistry II (1)
(3 laboratory) Prerequisite: CHEM 482 or take concurrently, CHEM 483. Continuation of CHEM 483. Techniques involved in the isolation and characterization of lipids and 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 (2)
Advanced presentation of a topic in chemistry not covered in other courses. Topic determined when offered; e.g., geochemistry, chemical evolution, industrial chemistry. Repeatable, maximum four credits under different subtitles.

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 38 clock hours per credit hour will be spent on investigation. Oral and written reports are required. Unlimited repeatability.

CHEM 520 Theory and Use of Analytical Instruments (1)
(3 laboratory) Prerequisite: CHEM 131 or CHEM 331. Techniques in sample preparation and data collection for IR, NMR, UV-visible and AA spectrophotometers and gas chromatograph.

CHEM 522 Advanced Analytical Chemistry (3)
(2 lecture, 3 laboratory) Prerequisite: CHEM 321. Advanced topics in analytical chemistry, including sampling, statistics, multiple equilibria and current literature.

CHEM 523 Chemical Spectroscopy (3)
Prerequisites: CHEM 321 and CHEM 331. Theory and application of IR, NMR, UV-visible and mass spectroscopy.

CHEM 533 Organic Synthesis and Stereochemistry (3)
Prerequisite: CHEM 332. An advanced treatment of synthesis and stereochemistry in organic chemistry.

CHEM 534 Theory and Mechanisms of Organic Reactions (3)
Prerequisites: CHEM 332, CHEM 451. An advanced treatment of organic reaction mechanisms and molecular orbital chemistry.

CHEM 543 Organometallic Chemistry (3)
Prerequisite: CHEM 441. An introduction to organometallic systems will be presented. Included will be a comprehensive study of the preparation, properties and practical utility of both main-group and transition metal organometallic compounds.

CHEM 551 Physical Chemistry I (4)
Prerequisites: CHEM 332, MATH 233, PHYS 241. Corequisites, CHEM 321. The properties of matter, thermodynamics, thermochemistry and kinetic molecular theory.

CHEM 552 Physical Chemistry II (4)
Prerequisite: CHEM 551. Chemical kinetics, quantum theory of atoms and molecules and statistical thermodynamics.

CHEM 556 Physical Chemistry of Atomic and Macroscopic Systems (3)
Prerequisites: CHEM 451 and CHEM 452 or equivalent. This course will examine the details of atomic and molecular structure, energetics, and dynamics.

CHEM 557 Physical Chemistry of Macroscopic Systems (3)
Prerequisites: CHEM 451 and CHEM 452 or the equivalent. An examination of the thermodynamics and kinetics of bulk systems, including the energetics, equilibrium, and kinetics of such systems.

CHEM 560 Environmental Chemistry (2)
(1.5 lecture, 3 laboratory) Prerequisite: CHEM 131 or CHEM 331. The effect of chemicals on the environment.

CHEM 581 General Biochemistry I (4)
Prerequisite: CHEM 331 or equivalent. Chemistry of biologically important compounds (proteins, nucleic acids, carbohydrates and lipids), emphasizing structure and function, methods of isolation, identification and characterization, kinetics and mechanisms of enzyme catalysis.

CHEM 582 General Biochemistry II (4)
Prerequisites: CHEM 332, CHEM 581 or equivalent. A continuation of CHEM 581. Bioenergetics, electron transport systems, metabolism of carbohydrates, lipids, nucleotides and amino acids.

CHEM 586 Biochemical Techniques (3)
(1 lecture, 6 laboratory) Prerequisites: CHEM 321, CHEM 481. Theory and application of techniques for the purification and characterization of biological molecules. Various techniques utilizing centrifugation, spectroscopy, chromatography, electrophoresis and radioisotopes are examined.

CHEM 587 Toxicology (3)
Prerequisites: CHEM 481 or equivalent with consent of instructor. A descriptive examination of the toxic effects of environmental substances on living systems.

CHEM 590 Advanced Topics in Chemistry (3)
Discussion of a topic in chemistry at the graduate level; e.g., polymers, drug metabolism and molecular reaction dynamics. Repeatable, maximum 12 credits under different subtitles.

CHEM 600 Seminar in Chemistry (1)
Oral report and discussion on some topic of interest from current literature. Repeatable, maximum of three times.

CHEM 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.
CHIN 693 Chemical Research (1-10)
Develop, complete, and defend master's level research project in chemistry. For Ph.D. students only. S/U graded. Repeatable, maximum 10 credits.

CHIN 695 Thesis Proposal (1)
The student will develop a research proposal based on current literature.

CHIN 699 Thesis (1-10)
Required of Master of Arts candidates in the Arts and Sciences chemistry program. Repeatable, no limitations.

CHIN 797 Research Practicum (1-6)
Consent of advisor. Provides experience in the development and implementation of research techniques, the development of experimental design and the analysis of research data. S/U graded. Repeatable, maximum 16 credits.

CHIN 797 Doctoral Research Proposal-Chemistry (1-4)
Required of all doctoral students. Students may register for this course (1-4 hours) in any semester, but must earn 4 hours of credit in partial fulfillment of requirements before admission to candidacy. S/U graded. Repeatable, maximum four credits.

CHIN 799 Doctoral Dissertation-Chemistry (1-12)
Required of all doctoral candidates. See Ph.D. in Chemical Education–Minimum requirements for the major in the Graduate School section of this Catalog. Repeatable, maximum 12 credits.

CHIN - Chinese
Note: All Chinese courses are not offered on a regular basis. Consult the Department of Foreign Languages for current offerings.

CHIN 101 Beginning Chinese (5)
For students with no previous Chinese. Conversational Chinese using oral techniques with reading and writing skills. Stresses comprehension, structure, pronunciation, fluency and cultural awareness.

CHIN 102 Elementary Chinese II (5)
Continuation of CHIN 101. Conversational Chinese using oral techniques with reading and writing skills. Stresses comprehension, structure, pronunciation, fluency and cultural awareness.

CHIN 105 Conversational Chinese I (3)
For students with no previous Chinese. Develop a basic conversational ability. Emphasis on language use in business or tourism. Discussion of important aspects of Chinese culture and thought.

CHIN 106 Conversational Chinese II (3)
Prerequisite: CHIN 105. Continuation of CHIN 105. Basic conversational Chinese with emphasis on language use in business or tourism. Discussion of important aspects of Chinese culture and thought.

CHIN 201 Intermediate Chinese I (3)
Prerequisite: CHIN 102 or equivalent. Review language structures and develop reading and writing skills. Gain vocabulary through conversational practice on topics of cultural interest. Conducted in Chinese.

CHIN 202 Intermediate Chinese II (3)
Prerequisite: CHIN 201 or equivalent. Review language structures and develop reading and writing skills. Gain vocabulary through conversational practice on topics of cultural and literary interest. Conducted in Chinese.

CHIN 265 Fundamentals of Phonological and Biological Acoustics (2)
The physics of sound as it relates to speech and hearing. Should be taken after general education mathematics requirement is completed.

CHIN 266 Normal Speech and Language Development (3)
Normal speech and language development and their relationship to other aspects of child development. Should be taken after general education English composition requirement is completed.

CHIN 267 Anatomy and Physiology of the Speech and Hearing Mechanism (3)
Prerequisite: ZOO 115. Sophomores or above. Structure and function of the speech and auditory/vestibular mechanisms.

CHIN 370 Basic Audiology (3)
Clinical observation required. Prerequisites: CMDS 265, CMDS 267 or take concurrently. Pure-tone testing, methods of speech audiometry, interpretation of audiometric data in terms of physical, social and educational effects. An introduction to principles of aural rehabilitation.

CHIN 386 Basic Clinical Strategies in Speech-Language Pathology/Audiology (2)
Prerequisite: CMDS 360 or CMDS 365. Clinical observation required. Treatment models for communicatively-disordered clients; development and implementation of individual treatment programs; report writing; the client-clinician relationship; assessment of treatment outcomes.
CMDS 474 Clinical Practicum in Audiology (1)
Prerequisite: CMDS 370 and 3.0 GPA in major courses or consent of clinical coordinator. Perform basic audiomteric testing: audiomteric screening, routine hearing evaluation and impedance audiometry. S/U graded.

CMDS 478 Aural Rehabilitation and Amplification (3)
Prerequisite: CMDS 370. A study of basic principles of aural rehabilitation and the use of amplification systems for hearing impaired individuals including personal hearing aids and other specialized assistive listening/alerting devices.

CMDS 483 Entry/Primary Speech-Language Pathology Practicum (2)
Prerequisites: CMDS 360, CMDS 365, CMDS 386 and 3.0 GPA in major courses or consent of clinical coordinator. Learn general principles of the clinical process. Provide supervised individual therapy to clients with communication disorders. S/U graded.

CMDS 487 Advanced Audiology (3)
Prerequisite: CMDS 370. Theory and practice of advanced techniques of audiomteric assessment.

CMDS 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

CMDS 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

CMDS 515 Referenced and Research Writing (1)
Content includes library data bases, development of problems and research topics and use of APA style.

CMDS 555 Neuroanatomy and Neurophysiology of Communication (3)
Neuroanatomy-physiology related to speech, language and hearing; neuropathologies of the central nervous system and results of neurological insult.

CMDS 561 Voice Disorders and Cleft Palate (3)
Advanced study in diagnosis and treatment of voice disorders, including those associated with cleft lip/palate.

CMDS 565 Neurogenic Communication Disorders (4)
Prerequisite: CMDS 555. Causation, diagnosis and treatment of speech and language disorders resulting from neurological dysfunction.

CMDS 567 Diagnostic Methods and Observation (3)
Clinical observation required. Prerequisites: CMDS 360, CMDS 366. Philosophy and implementation of diagnosis and appraisal of communication disorders. Emphasis upon the administration, scoring and interpretation of data obtained from observation and from tests/inventories.

CMDS 569 Advanced Diagnostic Procedures (1-2)
Must be taken for a minimum of four credits. Corequisite: CMDS 583 or CMDS 585. Perform speech-language screenings and diagnostic evaluations. Repeatable, maximum of six credits.

CMDS 570 Rehabilitative Audiology (3)
Prerequisite: CMDS 370. Theory and procedures for rehabilitation of children and adults with hearing handicap.

CMDS 571 Speech and Hearing Science (3)
Prerequisites: CMDS 265 and CMDS 267. Factors related to the study of speech production and audition. Introduction to laboratory techniques for measurement of complex acoustic signals will be emphasized.

CMDS 572 Noise (2)
The study of noise as it pertains to the auditory system. Physical aspects of noise, instrumentation, measurement and reduction principles, hearing conversation management.

CMDS 573 Auditory Physiology and Pathology (3)
Undergraduate anatomy and physiology required. Advanced physiology of the human auditory system, emphasizing electrical potentials; processes of pathophysiology.

CMDS 574 Clinical Practicum in Audiology (1)
Prerequisites: CMDS 370, 3.0 GPA in major courses or consent of clinical coordinator. Perform basic audiomteric testing: audiomteric screening, routine hearing evaluation and impedance audiometry. S/U graded.

CMDS 580 Practicum in Rehabilitative Audiology (1-2)
Prerequisite: CMDS 483. Habilitation/rehabilitation of acoustically-handicapped persons. Repeatable, maximum of six credits.

CMDS 582 Pediatric/Educational Audiology (3)

CMDS 583 Entry/Primary Speech-Language Pathology Practicum (1-2)
Prerequisites: CMDS 360, CMDS 365 and 3.0 GPA in major courses or consent of clinical coordinator. Learn general principles of the clinical process. Provide supervised individual therapy to clients with communication disorders. S/U graded. Repeatable, maximum of two credits.

CMDS 584 Screening Procedures in Speech-Language Pathology (1)
Prerequisites: CMDS 483 or CMDS 584. Perform the full range of clinical audiological services, including special testing, hearing aid evaluations and dispensing of hearing aids. Repeatable, maximum of six credits.

CMDS 585 Advanced Graduate Practicum in Speech-Language Pathology (1-2)
Prerequisite: CMDS 483/CMDS 583. Supervised individual and group therapy experiences with communicatively-disordered clients. Repeatable, maximum of eight credits.

CMDS 587 Advanced Audiology (3)
Prerequisite: CMDS 370. Theory and practice of advanced techniques of audiomteric assessment.

CMDS 592 Internship in Public Schools (2-15)
Prerequisites: Minimum of 100 clock hours of previous supervised clinical experience and/or consent of advisor. Supervised full-time experience working with school children. S/U graded. Repeatable, maximum of 15 credits.

CMDS 594 Practicum and Advanced Topics in Audiology (1-2)
Prerequisite: CMDS 474 or CMDS 574. Perform the full range of clinical audiological services, including special testing, hearing aid evaluations and dispensing of hearing aids. Repeatable, maximum of six credits.

CMDS 616 Speech and Language Services in the Public Schools (1-2)
Content includes relevant public laws, child abuse, cultural issues and administrative issues related to services provided in the public schools.

CMDS 622 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

CMDS 660 Clinical Phonology (3)
Advanced study of articulation disorders in children and adults.

CMDS 662 Stuttering (3)
Current theories, therapies and research on stuttering and related disorders of fluency.

CMDS 663 Language Disorders in Children II (3)
Advanced study of causation, diagnosis and therapy for children with language disorders. Pragmatic aspects of language; implications for remediation of language disorders.

CMDS 668 Selected Topics in Communication Disorders (1-4)
Current issues in communication disorders. Sections chosen by instructor to meet needs of students in degree programs. Other sections arranged to accommodate professionals wishing to pursue special topics. Unlimited repeatability.

CMDS 669 Language-Learning and Cognition (3)
Basic neurophysiology related to language-learning and cognition.
CMDS 671 Psychoaesthetics (2)
Prerequisite: CMDS 573. Concepts of loudness, adaptation, auditory fatigue, masking and the critical band, pitch perception, localization, temporal order, and perceptual organization.

CMDS 673 Practicum in School Audiology (1-6)
Prerequisite: CMDS 582. Perform audiological services in schools (grades K-12) under supervision of a certified Audiologist. S/U graded. Repeatable, maximum of six credits.

CMDS 675 Differential Diagnosis of Auditory Problems (3)
Prerequisite: CMDS 573. Theory and process of differential diagnosis of hearing and auditory processing disorders. Focus on behavioral testing, advanced immittance concepts and assessment. Some exposure to other objective measures.

CMDS 677 Medical Aspects of Audiology (3)
Corequisite: CMDS 573. Study of the medical correlates of hearing impairment including pathogenesis of auditory pathologies, medical/surgical intervention, pharmacology and ototoxicity, radiology and imaging techniques and effects of sedation on electrophysiologic tests.

CMDS 678 Hearing Aids and Uses of Amplification (3)
Advanced study of the theory and use of hearing aids, other amplification devices and assistive listening devices.

CMDS 681 Advanced Speech Physiology (3)
Undergraduate anatomy and physiology required. Advanced physiology of the speech production system, emphasizing normal aspects and select pathophysiological conditions.

CMDS 683 Advanced Topics in Language Disorders (3)
Prerequisite: CMDS 365. Advanced topics and trends related to diagnosis and treatment in child language disorders.

CMDS 685 Advanced Differential Diagnosis of Auditory Problems (4)
Intensive and advanced study of recent developments in auditory/vestibular physiology and their application to identification of pathology. Advanced concepts in measurement, interpretation, and clinical utility of objective test of the auditory/vestibular system such as otoacoustic emissions, multi-frequency tympanometry, auditory evoked potentials and electronystagmography.

CMDS 688 Hearing Aids II (3)
Prerequisite: CMDS 678. A continuation of the advanced study of the theory, instrumentation, and use of hearing aids and assistive listening devices with emphasis on applied theory and clinical use.

CMDS 689 Advanced Research Practicum in Health and Human Sciences (1)
Prerequisite: HRS 610 or SRM 600. Structured to give students broadened experiences in research and thesis design in the disciplines in Health and Human Sciences. S/U graded.

CMDS 691 Real-Time Laboratory Applications in the Behavioral Sciences (2)
Prerequisites: Computer literacy course and/or experience in operating micro- or minicomputers or consent of instructor. Use of mini- and microcomputers for real-time applications in acoustics, perception, aerodynamics and physiology.

CMDS 692 Internship in Medical Settings (2-16)
Prerequisites: Minimum of 100 clock hours of previous supervised clinical experience and/or consent of advisor. Supervised full-time clinical experience in diagnosis/treatment of persons with speech, language and/or hearing disorders in medical settings. S/U graded. Repeatable, maximum of 16 credits.

CMDS 699 Thesis: Communication Disorders (1-6)
Individual research under the direction of faculty, aimed at acquisition of research skills, appreciation of the scientific inquiry process, knowledge of scientific writing style and dissemination. S/U graded. Repeatable, no limitations.

CS - COMPUTER SCIENCE

CS 101 Introduction to Computer Science (3)
A beginning-level course which provides a broad introduction to the fundamental concepts and techniques of computer science. Topics covered will include computer architecture, structured programming, data base and information retrieval, and applications of computers in a variety of areas.

CS 102 Structured Programming (3)
Prerequisite: CS 101. Study the structured programming development methods: the data types, operators, expressions, control flow, and input and output of a specific structured programming language; and some elementary data structures and algorithms.

CS 195 Special Topics in Computer Science (1-3)
Consent of instructor. Topics in computer science that reflect the specific interests of available instructors and the specific needs of the students. Repeatable, under different subtitles.

CS 222 Computer Architecture/ Organization (3)
Prerequisite: CS 101. A study of the organization and structure of the major hardware components of computers and the basics of assembly language programming.

CS 301 Algorithms and Data Structures (3)
Prerequisite: CS 200. Internal representation of lists, trees, graphs, internal/external sorting and searching, hashing. Concepts related to the interaction among algorithm, data structures, and storage structures for the generating, developing, and processing of data.

CS 302 Programming Languages (3)
Prerequisite: CS 301. Basic components of programming languages. Specification of syntax and semantics. Description of programming languages features. Examine a wide variety of languages with an emphasis on their structure, design, and use.

CS 350 Software Engineering I (3)
Prerequisite: CS 301. Study concepts of engineering software systems. Design and implement a software system project using the team approach.

CS 395 Special Topics in Computer Science (1-3)
Consent of instructor. Topics in computer science that reflect the specific interests of available instructors and the specific needs of the students. Repeatable, under different subtitles.

CS 410 Database Systems (3)
Prerequisites: CS 222 and CS 301. Study operating systems history, concepts/structure and design; process, processor, memory, file system and input/output management; and representative operating systems.

CS 440 Operating Systems (3)
Prerequisites: CS 301. Study data communications; network structure, design and architectures; network services and standardization; and respective networks all in the framework of the OSI model.

CS 450 Software Engineering II (3)
Prerequisite: CS 350. Study software engineering implementation, testing and operational phases; testing strategies and techniques; configuration management; software quality assurance; and intra/inter-language communication while applying them to the continuation of a team project.

CS 470 Artificial Intelligence (3)
Prerequisite: CS 301. Study knowledge representation, automated reasoning, natural language processing, vision processing, expert systems and machine learning; and AI programming.

CS 480 Graphics (3)
Prerequisite: CS 301. Study graphics theory and applications including the description and transformation of world, viewpoint, eye and screen coordinates, two and three dimensional graphics and hidden line algorithms.
Course Descriptions 1999-2000

CSPA - College Student Personnel Administration

CSPA 173 Career Theories and Employment Trends (1)
Designed to explore career theories and their application to the world of work. Students will investigate current occupational information and trends of the future.

CSPA 210 Human Values (2)
Identify, clarify and critique personal values. Expand awareness of cross-cultural values, lifestyle choices, sources of values and the process of making value commitments.

CSPA 220 Death and Dying (2)
Examines current American views of death and dying from perspectives of psychology, religion, medicine and sociology. Explores attitudes toward death, grief, mourning and reactions to imminent death.

CSPA 260 Paraprofessionals in Residence Life (1-2)
Consent of instructor. Majors only. 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. Repeatable, maximum of 2 credits.

CSPA 263 Peer Advising I (1)
Study several current theories of student development and practice the interpersonal communication skills needed by effective peer helpers; discuss and critique strategies for assisting students making the transition into postsecondary education.

CSPA 308 College Student Personnel Administration Workshop (1-5)
Special short course for undergraduates on topics or issues in College Student Personnel Administration. Offered during summers and other semesters as need arises and resources are available. S/U graded. Repeatable, under different subtitles.

CSPA 355 Perspectives of Orientation in Student Affairs (1)
Consent of instructor. Provides an overview of student development theory, basic helping skills, and current issues on college campuses from an orientation perspective.

CSPA 360 Paraprofessionals in Student Affairs (1-2)
Consent of instructor. Comprehensive training and support for persons interested in working as paraprofessionals in student services. Includes basic skills and development of sensitivity in meeting the developmental needs of college students. Unlimited repeatability.

CSPA 361 College Student Governance (2)
Consent of instructor. Course designed to assist in personal and leadership development, awareness of current social and campus issues; to help translate course information into practical applications and better understanding of issues facing Higher Education.

CSPA 362 Cultural Relations/Study Abroad (2)
Consent of instructor. This course has been developed to assist students who are studying abroad in the process of understanding cultural issues in their new environment. Repeatable, may be taken two times.

CSPA 363 Peer Advising II (1)
Prerequisite: CSPA 263. Study theories of cognitive development, psychological type, and learning strategies as they apply to the increasingly diverse needs of incoming college students; discuss and practice strategies for mentoring students.

CSPA 365 Tutorial Assistance in the College Classroom: Level 1 Supplemental Instruction (1)
Beginning tutorial leaders will become acquainted with the history of Student Affairs, student development theory, principles of learning assistance, communication skills, and standards of professional behavior.

CSPA 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

CSPA 463 Peer Advising III (1)
Prerequisites: CSPA 263, CSPA 363. Research topics related to the creation of a cohesive campus community and a welcoming environment for students; take a leadership role in activities designed to provide a smoother transition for new students.

CSPA 465 Tutorial Assistance in the College Classroom: Level 2 Supplemental Instruction (SI) Leader (1)
Prerequisite: CSPA 365. Increases tutorial leaders' competencies in applying learning assistance theory, facilitating structured study sessions, and attending to individual differences; particular emphasis is placed on the development of leadership and mentoring skills.

CSPA 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. S/U graded. Repeatable, under different subtitles.

CSPA 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

CSPA 583 Crisis Intervention (1)
Prerequisite: PSY 344 or PPSY 612 or equivalent. A theoretical and practical approach to intervention in crises common to college students. Emphasis on individual, group and environmental interventions.

CSPA 622 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

CSPA 650 College Student Development: Theory and Research (3)
Examines theories of human development applicable to college student populations and practice of student affairs. Assessment techniques and instruments useful in measuring student development are examined.

CSPA 651 Philosophical, Historical and Cultural Foundations of Student Affairs in Higher Education (3)
Study philosophies of education and epistemology. Outlines history of higher education in the United States. Origin/history of role of student affairs. Emphasizes cultural perspective of ethnic minorities, women and other cultural subgroups in higher education.

CSPA 652 Enrollment Management Services (3)
Examines and reviews the history, purposes, functions, organization and administration of Admissions, Financial Aid, Records and Registration, Advising and Orientation.

CSPA 653 Services for Environmental and Student Development (3)
Covers history, purposes, functions, administrative and programming needs of such student services as counseling, health, career development and placement, student activities, residence life and services for diverse populations.

CSPA 655 Multiculturalism in Higher Education (3)
Understand various cultures' impact on formation of values, attitudes and behaviors. Various factors are examined in relation to their influence on students' ability to benefit from higher education.
CSPA 656 Student Services in the Community College (2)
Through an understanding of the unique educational mission and philosophy of the community college, the student will develop skills to analyze the student service needs of community college students, design and evaluate delivery systems.

CSPA 658 Management and Administration in Student Affairs (3)
Application of management tools to student affairs. Skill development focuses on budgeting models, resource management, planning, evaluation and intervention strategies.

CSPA 661 Practicum in College Teaching for Student Development (2)
Consent of instructor. Actual classroom experience in teaching under supervision any course that has as a part of its objectives, developmental content. S/U graded.

CSPA 670 Internship in Student Affairs (6)
Consent of instructor and on-site supervisor. Minimum of 18 hours per week in practical, field-based, skill-building, experiential training. Provides in-depth experience with student services delivered at the site. S/U graded. Repeatable, maximum of 18 credits.

CSPA 675 Field Experience in Student Affairs (2)
Experiential training in a field experience setting provides an overview of student service related to understanding of College Student Personnel Administration. S/U graded. Repeatable, maximum 12 credits under different subtitles.

CSPA 682 Legal Issues in Student Affairs (3)
An examination of the legal implications for College Student Personnel Administration and the student-institutional relationship.

CSPA 684 Group Leadership in Student Affairs (2)
 Majors only. Covers theories underlying group dynamics and their application to student affairs settings. Topics include group norms, pressure, standards and membership, leadership issues and ethics. Experience in leading a group is included.

CSPA 750 College Students: Culture, Characteristics, Campus Life (3)
Prerequisite: CSPA 650. Investigates student affairs profession and impact on development of college students. Examines current college subcultures. Considers effect on students’ progress and success, of campus norms and student characteristics.

CSPA 752 Current Issues in College Student Personnel Administration (2)
Consent of instructor. Examines and analyzes current problems and issues in the college student personnel field. Seminar format.

CSPA 753 Evaluative Strategies for Student Affairs (2)
Examine techniques of evaluating student personnel services in higher education. Evaluate reported research and identity areas of needed research.

CSPA 755 Advanced Research Seminar (1)
Prerequisite: SRM 700 or take concurrently and 9 hours of statistics. Examine research needs of the profession. Develop a focused research question for the dissertation. Explore research planning and financial support. S/U graded. Repeatable, one time.

CSPA 758 Seminar in College Student Personnel Administration (1)
Consent of instructor. Required doctoral seminar that covers topics of special importance to the profession. Must be taken three times, although credit is only required the first time. S/U graded. Repeatable, maximum of 10 credits.

CSPA 771 Administrative Leadership in Student Affairs (3)
Studies each student’s leadership styles and examines available measurement instruments. Applies findings to conflict management, organizational communication systems, budget paradigms and authority/responsibility scenarios.

CSPA 797 Doctoral Proposal Research (1-4)
Permission of major advisor. A required dissertation proposal research experience for all doctoral students. Four hours of credit must be earned in this course in partial fulfillment of requirements for all doctoral degrees before admission to candidacy. S/U graded. Repeatable, maximum of four credits.

CSPA 799 Doctoral Dissertation (1-12)
Permission of major advisor. Required of all doctoral candidates under the direction of a graduate faculty committee. May be taken only after admission to candidacy. S/U graded. Repeatable, no limitations.

DNCE - Dance

DNCE 166 Beginning Ballet (2)
Gain knowledge and skill in the activity of ballet. Repeatable, maximum five credits.

DNCE 167 Ballroom Dance (1)
Gain knowledge and skill in the activity of ballroom dancing. Repeatable, maximum of three credits.

DNCE 168 Ethnic Dance (1)
Gain knowledge and skill in the activity of ethnic dance. Repeatable, maximum of three credits.

DNCE 169 Partnering (1)
Prerequisites: DNCE 166, DNCE 167. Learning techniques of dancing with another for purposes of dance stage performance. Repeatable, maximum of three credits.

DNCE 170 Jazz Dance (1)
Gain knowledge and skill in the activity of jazz dance. Repeatable, maximum of five credits.

DNCE 171 Modern Dance (1)
Gain knowledge and skill in the activity of modern dance. Repeatable, maximum of five credits.

DNCE 173 Self-Awareness with Movement (1)
Gain knowledge and skill in the activity of self-awareness with movement. Repeatable, maximum of three credits.

DNCE 174 Dance Conditioning (1)
Gain knowledge and skill in body, strength, stability, flexibility, endurance, coordination, and awareness specific to dance movement. Repeatable, may be taken three times.

DNCE 175 Tap Dance (1)
Gain knowledge and skill in the activity of tap dance. Repeatable, maximum of five credits.

DNCE 180 Intermediate Ballet (2)
Prerequisite: DNCE 166 or equivalent. Gain intermediate knowledge and skill in the activity of ballet. Repeatable, may be taken five times.

DNCE 181 Intermediate Jazz Dance (2)
Prerequisite: DNCE 170 or equivalent. Gain intermediate knowledge and skill in the activity of jazz dance. Repeatable, may be taken five times.

DNCE 182 Intermediate Modern Dance (2)
Prerequisite: DNCE 171 or equivalent. Gain intermediate knowledge and skill in the activity of modern dance. Repeatable, may be taken five times.

DNCE 183 Intermediate Tap Dance (1)
Prerequisite: DNCE 175 or equivalent. Gain intermediate knowledge and skill in the activity of tap dance. Repeatable, may be taken five times.

DNCE 290 Ballet Partnering (1)
Prerequisite: Advanced Ballet for women, Intermediate Ballet for men or consent of instructor. Must have at least two years experience on pointe (women). Must be registered for ballet while taking this class. This partnering class is for advanced ballet students with a minimum of two years experience on pointe. A series of partnering turns, lifts, and promenades will be taught culminating in a classical pas de deux. Repeatable, may be taken three times.

DNCE 291 Advanced Ballroom Dance (1)
Prerequisite: DNCE 167 or equivalent. Gain knowledge and skill in the art of advanced ballroom dance.
DNCE 292 Advanced Ballet (3)  
Prerequisite: DNCE 180 or consent of instructor. Gain knowledge and skill at advanced level in activity of ballet. Unlimited repeatability.

DNCE 293 Advanced Jazz Dance (2)  
Prerequisite: DNCE 181. Gain knowledge and skill at advanced level in the activity of jazz dance. Unlimited repeatability.

DNCE 294 Advanced Modern Dance (2)  
Prerequisite: DNCE 182. Gain knowledge and skill at advanced level in the activity of modern dance. Unlimited repeatability.

DNCE 295 Beginning Dance Theory (1)  
Discussion and study of the body's structure and movement potential. Analysis of movement principles and elements as related to dance techniques.

DNCE 296 Beginning Choreography and Improvisation (2)  
Prerequisite: DNCE 295 or consent of instructor. Investigate and explore principles of modern dance composition such as movement manipulation, phrasing, spatial design and choreographic form. Experiences in spontaneous movement exploration.

DNCE 308 Workshop in Dance (1-2)  
Study in the problem areas of participants. Problems will vary with experts conducting workshops. S/U graded.

DNCE 354 Dance Performance I (2)  
Study and practice basic theories of performing and/or choreography. Unlimited repeatability.

DNCE 355 Dance Performance II (2)  
Prerequisite: DNCE 354 or consent of instructor. Study and practice of basic theories of dance performance, either in student informal or formal concert setting. Unlimited repeatability.

DNCE 356 Dance Performance III (2)  
Prerequisites: DNCE 354, DNCE 355 or consent of instructor. Basic theories of dance composition are put into practice by choreographing for an informal or formal dance concert. Unlimited repeatability.

DNCE 357 Dance Performance IV (2)  
Prerequisites: DNCE 354, DNCE 355, DNCE 356 or consent of instructor. Gain performance and/or choreographic experience in a small professional dance company. Unlimited repeatability.

DNCE 397 Intermediate Technique, Improvisation and Composition (2)  
Prerequisites: DNCE 295, DNCE 296. Learn intermediate level dance technique; movement analysis and composition as an intermediate dance student.

DNCE 440 Labanotation/Movement Analysis (2)  
Prerequisites: DNCE 180, DNCE 181, DNCE 182 and DNCE 295. Consent of instructor. Study of analyzing and notating dance movement.

DNCE 453 Teaching Methods, Rhythmic Analysis and Accompaniment (3)  
Prerequisites: DNCE 295, DNCE 296, DNCE 170, DNCE 171 or consent of instructor. Practice and study of rhythm, dance accompaniment and teaching methods used in dance classrooms.

DNCE 454 Dance History and Philosophy (2)  
Consider the history and development of dance as it is culturally determined and the philosophy influencing dance.

DNCE 455 Dance Philosophy/Trends (2)  
Prerequisites: DNCE 166, DNCE 170, DNCE 171, DNCE 296. Consider trends in dance/art form. Familiarity with dance criticism.

DNCE 456 Advanced Technique, Improvisation and Composition (2)  
Prerequisites: DNCE 295, DNCE 296, DNCE 397 or consent of instructor. Investigate advanced dance technique, theory, composition and problems connected with staging a dance performance.

DNCE 459 Dance Production in High School and College (2)  
Prerequisites: DNCE 295, DNCE 296, DNCE 456 or consent of instructor. Make practical application of principles that serve the presentation of dance. Deal with the choreographic problems, its direction and production involving theatre application of set, costume and light design.

DNCE 460 Dance Kinesiology (3)  
Prerequisite: KINE 220 or PE 211. Study of body’s potential for movement. Knowledge about stretching, strengthening, injuries, correctives, good nutrition, weight control and biomechanical applications in dance.

DNCE 480 Junior/Senior Seminar (1)  
Prerequisites: DNCE 292, DNCE 293, DNCE 295 and DNCE 296. Juniors or above. Learning about job opportunities and job preparation procedures. A chance to dialogue and ask questions about dance fields.

DNCE 490 Dance Apprenticeship (3)  
Completion of Dance Emphasis required. On-site experience with professional dance company either as performer or in another approved capacity.

DNCE 492 Internship in Dance Leadership (3)  
Completion of Dance Emphasis required or consent of instructor. Practice in leading dance classes. Experience chosen according to student’s interest area. S/U graded.

DNCE 493 Practicum in Dance Teaching (3)  
Completion of Dance Emphasis. On-site experience in teaching dance in an approved agency.

DNCE 508 Workshop (1-3)  
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

DNCE 513 Professional Renewal (1-3)  
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

DNCE 553 Teaching Methods, Rhythmic Analysis and Accompaniment (3)  
Prerequisites: DNCE 295, DNCE 296, DNCE 170, DNCE 171 or consent of instructor. Practice and study of rhythm, dance accompaniment and teaching methods used in dance classrooms.

DNCE 554 Dance History and Philosophy (2)  
Consider the history and development of dance as it is culturally determined and the philosophy influencing dance.

DNCE 555 Dance Philosophy/Trends (2)  
Prerequisites: DNCE 166, DNCE 170, DNCE 171, DNCE 296. Consider trends in dance/art form. Familiarity with dance criticism.

DNCE 556 Advanced Technique, Improvisation and Composition (2)  
Prerequisites: DNCE 295, DNCE 296, DNCE 397 or consent of instructor. Investigate advanced dance technique, theory, composition and problems connected with staging a dance performance.

DNCE 559 Dance Production in High School and College (2)  
Prerequisites: DNCE 295, DNCE 296, DNCE 456 or consent of instructor. Make practical application of principles that serve the presentation of dance. Deal with the choreographic problems, its direction and production involving theatre application of set, costume and light design.

ECON - Economics

ECON 101 Understanding the Contemporary Economy (3)  
Non-majors only. A variety of learning experiences will be utilized to provide the knowledge and skills necessary to understand individual economic roles in society as well as to analyze current economic issues.

ECON 103 Introduction to Economics: Macroeconomics (3)  
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 105 Introduction to Economics: Microeconomics (3)  
Supply and demand, consumer utility, production and costs, perfect competition, pure monopoly, resource allocation, public goods, income distribution and economic regulation.

ECON 245 Urban Planning Economics (3)  
Prerequisites: ECON 103 and ECON 105. Students will study economic problems relevant to urban areas including land use, congestion, housing and poverty. The role of the private and public sector in resolving these problems will be analyzed.
ECON 277 Industrial Organization (3)
Prerequisite: ECON 105. Theoretical and empirical study of the structure, organization and conduct of firms on economic performance and welfare.

ECON 301 Money and Banking (3)
Prerequisites: ECON 103 and ECON 105. The study of monetary theory, monetary policy, money, banking and the Federal Reserve System.

ECON 303 Intermediate Macroeconomics (3)
Prerequisites: ECON 103 and ECON 105. Study the determinants of aggregate demand, aggregate supply, employment, macroeconomic objectives and policies.

ECON 304 Women and the Economy (3)
Prerequisite: ECON 105. Explore the economic status of women, the institutions that have affected their economic decisions and impact on the performance of the economy.

ECON 305 Intermediate Microeconomics (3)
Prerequisites: ECON 103, ECON 105, MATH 124 or MATH 175. The theory of consumer choice, of the business firm and resource allocation.

ECON 310 Economics of Entrepreneurship (3)
Prerequisites: ECON 103 and ECON 105. This course will give an in-depth understanding of how to apply economics to decisions faced by today's growing number of business enterprises. Focus is on Colorado's new enterprises.

ECON 315 Labor/Management Economics (3)
Prerequisites: ECON 103 and ECON 105. American labor movement, development of labor laws and policy, economics of labor markets, employment, collective bargaining practice and union impact on contemporary industrial organization.

ECON 320 Comparative Economic Systems (3)
Prerequisites: ECON 103 and ECON 105. Analysis of capitalism, socialism and communism as types of economic systems; origins, historical development, major characteristics, successes and failures and future development of prominent world economies.

ECON 341 Public Finance (3)
Prerequisites: ECON 103 and ECON 105. Government financing at federal, state and local levels as reflected in expenditures, revenues and debt.

ECON 345 International Trade (3)
Prerequisites: ECON 103 and ECON 305. Analyze theoretical underpinnings of international trade and their relevance to practical issues. Trade impediments, trade policies and institutions that have evolved in a dynamic international system are also discussed.

ECON 346 International Finance (3)
Prerequisites: ECON 103, ECON 105 and ECON 303. Analyze theories and functions of the international financial system, stressing balance of payments and national income problems, adjustment mechanisms, exchange rates and capital flows.

ECON 350 Application of Mathematics to Economics (4)
Prerequisite: ECON 103, ECON 105, ECON 303 and MATH 175. Introduces students to the application of mathematics to the analysis of economic problems. Numerous examples, exercises and computer applications are used to integrate mathematically formulated models with economic analysis.

ECON 356 Water Resource Economics (3)
Prerequisite: ECON 105, at least one upper division ECON course. Examination of economic principles governing water planning, development and law. Discussion of supply and demand, quality and political issues. Relationship to Colorado and local situation.

ECON 360 Economics of Growth and Development (3)
Prerequisites: ECON 103 and ECON 105. Analyze the theory, processes and history of economic growth and development, emphasizing resource use and productivity in less developed areas.

ECON 362 Economic History of the United States (3)
Prerequisites: ECON 103 and ECON 105. Review the historical changes in United States economic institutions. Assess United States history based on macroeconomic and microeconomic pressures. Emphasis is on post-Civil War period.

ECON 400 Managerial Economics (3)
Prerequisites: ECON 105, ECON 305, MATH 131 or MATH 176. Economic principles in managerial decision-making including cost, price, demand, market structure and related analysis emphasizing case studies and microcomputers.

ECON 402 Contemporary Economic Problems (3)
Prerequisites: ECON 103, ECON 105, ECON 303 and ECON 305. Learn the contribution of economic models and techniques in understanding current issues facing society. Analyze the efficiency and equity impact of alternative solutions. Senior status required.

ECON 422 Directed Study (1-4)
Consent of major advisor. Individualized investigation with supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

ECON 451 Quantitative Economics (3)
Prerequisites: ECON 303, ECON 305, MATH 131 or MATH 176. Study of the principal mathematical techniques used in economic analysis; fundamental concepts underlying marginal analysis, linear programming, decision and game theory. Microcomputers will be used.

ECON 452 Econometrics (4)
Prerequisites: ECON 303, ECON 305, BACS 390 or STAT 311, MATH 131 or MATH 176. Estimating statistical regression models of economic relationships; treatment of special problems that may arise in analysis of economic data. Microcomputers will be used.

ECON 453 Business and Economic Forecasting (3)
Prerequisites: BACS 390 or STAT 311, ECON 303, ECON 305, MATH 131 or MATH 176. Analysis of fluctuations in economic activity, study of responsible factors, forecasting techniques and models. Time series model building and forecasting. Emphasizes applied computer assignments.

ECON 455 Regional Theory and Methods (3)
Prerequisites: ECON 303, ECON 305, MATH 131 or MATH 176. Definition and analysis of regions and their problems; regional programs and operational models. National planning and autonomous development. Microcomputers will be used.

ECON 470 History of Economic Thought (3)
Prerequisites: ECON 103 and ECON 105. Trace the evolution of economic thinking from 17th century to modern day. See roles played by certain “schools” of economic thinkers, the genesis of their ideas and their contributions.

ECON 480 Research in Economics (2-5)
Prerequisites: ECON 303 and ECON 305 or consent of instructor. Learn the basic skills involved in economic research including principles of the scientific method and model application. Prepare a research proposal and final report on a timely economic problem. Repeatable one time, maximum eight credits.

ECON 492 Internship in Economics (2-5)
Prerequisites: ECON 303 and ECON 305 or consent of instructor. Internships in the public and private sectors to allow the students to have practical experience in the market place. Repeatable one time, maximum eight credits.

ECON 502 Advanced Contemporary Economic Problems (3)
Prerequisites: ECON 103, ECON 105, ECON 303 and ECON 305. Learn the contribution of economic models and techniques in understanding current issues facing society. Analyze the efficiency and equity impact of alternative solutions. Graduates only.

ECON 503 Intermediate Macroeconomics (3)
Prerequisites: ECON 103 and ECON 105. Study the determinants of aggregate demand, aggregate supply, employment, macroeconomic objectives and policies.

ECON 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.
EDEC - Elementary Education: Early Childhood

EDEC 231 Development of Infants and Toddlers (3)
Required laboratory arranged. Investigate growth patterns from conception through infancy and the third year. Include influences on early development, guidance, care provision and adults’ responsibilities for providing favorable environment. Observe infants and toddlers.

EDEC 308 Early Childhood Workshop (1-10)

EDEC 333 Development and Guidance of Young Children (3)
(2 lecture, 2 laboratory) Required laboratory arranged. 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. Observe children.

EDEC 334 Preschool/Kindergarten Curriculum and Methods (3)
Prerequisites: EDEC 333, provisional or Full admission to PTEP. Juniors/seniors only. 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 336 Child Within the Family (3)
Cover topics concerning individuals within the family as it develops role behavior, personality, self-identity and stability. Discover how interaction focuses one’s defenses against change in family crises.

EDEC 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

EDEC 437 Administration of Programs for Young Children (3)
Juniors/seniors only. Learn the organization and management of various types of child care centers, emphasizing program planning, selecting and organizing equipment and learning administrative procedures.

EDEC 439 Parent/Child/Teacher Relationships (3)
Deal with relationships between parents, children and teachers stressing parent involvement in education and resources for promoting children's success in school.

EDEC 460 Primary Curriculum and Methods (3)
Prerequisite: EDEC 333 or consent of instructor. Corequisite: EDLS 360. Provisional or Full admission to PTEP required. Juniors/seniors only. 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)
Juniors or above. Examine those components of effective classroom management procedures with children in groups. Topics include theoretical perspectives, rules and organization, pro-social behavior and effective pedagogical decisions.

EDEC 463 Diagnostic Teaching in Early Childhood (3)
Full admission to PTEP required. Junior/seniors only. Discover various diagnostic tools and techniques appropriate for measuring a young child's progress in learning and use results to individualize instruction.

EDEC 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

EDEC 539 Parent Education and Involvement in Early Childhood/Primary (3)
Deal with relationships between parents, children and teachers stressing parent involvement in education and resources for promoting children's success in school.

EDEC 562 Classroom Management in Early Childhood (3)
Juniors or above. Examine those components of effective classroom management procedures with children in groups. Topics include theoretical perspectives, rules and organization, pro-social behavior and effective pedagogical decisions.

EDEC 601 Practicum (1-3)
Open by invitation to resident graduate students. Supervised professional activity in early childhood education, approximately 2 hours per day. A well-written paper must be filed with instructor before credit is given. Repeatable, maximum of six credits.

EDEC 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

EDEC 648 Psycholinguistics in Early Childhood (3)
Designed to acquaint the student with the language development of the young child. Attention given to the nature of English, language acquisition, instructional implications and applications.

EDEC 660 Critical Issues in Early Childhood (3)
Investigating trends and issues concerning the young child, stressing curriculum, sound education policies, especially the need for cultural diversity, as well as issues of compelling contemporary significance.

EDEC 662 Research in Early Childhood and Primary Education (3)
Receive background in research concerning factors affecting the development and learning of young children and their families, engage in single-subject behavior management research.
EDEC 663 Educational Assessment, Evaluation and Prescription for the Young Child (3)
Focus on assessment tools and techniques for teacher evaluation of educational progress in young children. Plan educational programs with appropriate curricular content for individual children.

EDEC 664 Seminar in Early Childhood and Primary Education (3)
Explore topics in early childhood education in planned sequence that includes research, field settings, discussions and contemporary issues, especially the need for cultural diversity.

EDEC 670 Curriculum and Instruction in Early Childhood and Primary Education (3)
Examine components of effective instruction in early childhood and primary levels, including theoretical bases, environment, organization and management, teacher’s role, curriculum content and evaluation. Relevant research is investigated.

EDEC 675 Play and Psychosocial Development in Early Childhood (3)
Focus on theories of play in socio-drama, therapy and cognition. Motor, emotional and psychosocial development explored. Play of successive development phases and individual meaning for each child emphasized.

EDEC 677 Problem Solving Strategies in Early Childhood and Elementary Mathematics (2)
Prerequisite: EDEL 420 or EDEL 520 or equivalent. Exploration of problem solving as a focus in elementary math. Emphasis on activities and strategies in problem solving in math and other subjects in elementary schools.

EDEC 680 Play and Development of High Risk Children (2)
Prerequisite: EDEC 675 or equivalent. Examination of psychosocial development of young children and the role of play, particularly with high-risk children. Stages, values and assessment of play discussed.

EDEC 701 Advanced Practicum in Early Childhood Education (1-4)
Open only by invitation to resident doctoral students. Supervised professional activity in Early Childhood Education. A well-written paper must be filed with the supervising instructor before credit is given. S/U graded. Repeatable, maximum of six credits.

EDEC 750 The Professional Early Childhood Teacher Educator (3)
Designed for the Early Childhood professional completing doctorate. Examines and encourages participation in scholarly activity, professional service and organizational activity in Early Childhood.

EDEC 790 Supervised Practicum in College Teaching (3)
Receive experiences in observation and supervised practice in college teaching to be used as basis for analysis of learning experiences. S/U graded. Repeatable, maximum of six credits.

EDEC 797 Doctoral Proposal Research (1-4)
Required of all doctoral students. Students must earn 4 hours of credit for doctoral dissertation research proposal in partial fulfillment of requirements for doctoral degree before admission to candidacy. S/U graded. Repeatable, maximum of four credits.

EDEC 799 Doctoral Dissertation (1-12)
Required of all doctoral candidates, who must earn 12 hours of credit for the dissertation in partial fulfillment of requirements for the doctoral degree. S/U graded. Repeatable, no limitations.

EDEL - ELEMENTARY EDUCATION

EDEL 200 Orientation to Education (1)
Visit and participate in classroom activities (preschool through high school) to determine probable level of degree program emphasis. Engage in diagnostic writing and speaking activities for personalized evaluation.

EDEL 308 Elementary Education Workshop (1-10)
Study problems in elementary education. S/U graded. May be taken four times to a maximum of 10 credits, under different subtitles.

EDEL 405 Cadet Teaching (1-6)
Cadet teaching is the field component based in the school setting taken concurrent with “blocked” classes; i.e. EDRD 410/EDEL 420 and EDEL 440/EDEL 450; emphasis of theory into practice. S/U graded. Repeatable, maximum of eight credits.

EDEL 420 Effective Instruction in Elementary School Mathematics (3)
Full admission to PTEP or certification at undergraduate level required. A comprehensive examination of issues, trends and practices in elementary school mathematics programs, including instructional strategies, planning, development, materials and evaluation. Emphasis on promoting problem solving in school mathematics curriculum.

EDEL 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

EDEL 430 Learning About Teaching and Learning (6)
Prerequisites: EPSY 346, EDSE 430 Corequisite: ET 347. Full admittance to PTEP required. Students immersed in learning about teaching, reflecting on learning and learners. One week prior to University classes in partnership schools. Seminars, educational technological applications and classroom interactions located in schools.

EDEL 440 Effective Instruction in Elementary School English/Language Arts (3)
Full admission to PTEP or certification at undergraduate level required. Examines the nature and acquisition of English as a basis for effective instruction in handwriting, spelling, oral and written composition. Considers methods, materials, selection and placement of content, diagnosis, evaluation and provision for individual differences.

EDEL 450 Effective Instruction in Elementary School Social Studies (3)
Full admission to PTEP or certification at undergraduate level required. An in-depth consideration of issues, problems and practices in the elementary social studies classroom, including instructional strategies, planning, materials and evaluation. Emphasis on thinking in a pluralistic democratic society.

EDEL 460 Integrated Methods I: Reading, Language Arts, Science and Health (9)
Prerequisites: ET 347, EDEL 430. Must take EDEL 460 or EDEL 470 the semester prior to Student Teaching (EDEL 490), but one must be taken concurrently with EDEL 490. Full admittance to PTEP required. Juniors or above. Course integrates methods of reading/reading diagnosis, language arts, social studies and art. Students learn discipline specific instructional techniques, activities and content knowledge in school setting.

EDEL 470 Integrated Methods II: Math, Social Studies, Art, Music and Physical Education (9)
Prerequisites: EDEL 430, ET 347. Must take EDEL 460 or EDEL 470 the semester prior to Student Teaching (EDEL 490), but one must be taken concurrently with EDEL 490. Full admittance to PTEP required. Seniors or above. Course integrates methods of math, science, health, physical education, and music. Students learn discipline - specific instructional techniques, activities and content knowledge in school setting.

EDEL 490 Student Teaching and Debriefing Seminar (1-12)
Can take EDEL 460 or EDEL 470 the semester prior to Student Teaching (EDEL 490), but one must be taken concurrently with EDEL 490. Full admittance to PTEP required. A capstone field experience which includes ten weeks of continuous field experience with supervision by university faculty and a one week debriefing seminar. One week prior to University classes in Partnership Schools. S/U graded. Offered under different subtitles.

EDEL 505 Cadet Teaching (1-6)
Cadet teaching is the field component based in the school setting taken concurrent with “blocked” classes; i.e., EDRD 410/EDEL 420 and EDEL 440/EDEL 450; emphasis of theory into practice. S/U graded. Repeatable, maximum of eight credits.

EDEL 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.
EDEL 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

EDEL 520 Effective Instruction in Elementary School Mathematics (3)
Prerequisite: EDRD 510 or take concurrently. Full admission to PTEP or certification at undergraduate level required. A comprehensive examination of issues, trends and practices in elementary school mathematics programs, including instructional strategies, planning, development, materials and evaluation. Emphasis on promoting problem solving in school mathematics curriculum.

EDEL 540 Effective Instruction in Elementary School English/Language Arts (3)
Full admission to PTEP or certification at undergraduate level required. Examines the nature and acquisition of English as a basis for effective instruction in handwriting, spelling, oral and written composition. Consider methods, materials, selection and placement of content, diagnosis, evaluation and provision for individual differences.

EDEL 550 Effective Instruction in Elementary School Social Studies (3)
Corequisites: EDEL 540, EDFE 370. Full admission to PTEP or certification at undergraduate level required. In-depth consideration of issues, problems and practices in the elementary social studies classroom, including instructional strategies planning, materials and evaluation. Emphasis on thinking in a pluralistic democratic society.

EDEL 601 Practicum (1-3)
Open only by invitation to resident graduate students. Supervised professional activity in elementary education, approximately two hours per day. Repeatable, maximum of six credits. A well-written paper must be filed with instructor before credit is given.

EDEL 612 The Elementary School Curriculum (3)
A review and analysis of competing conceptualization of the elementary school curriculum with an emphasis on designing, developing, implementing and evaluating an interdisciplinary curriculum. Current research will be surveyed.

EDEL 613 Integrated Curriculum (3)
Theory, design, development, implementation and evaluation of integrated curriculum. Students develop interdisciplinary units of study and learn active learning strategies and techniques consistent with an effective rationale for integrated curriculum.

EDEL 619 Pluralism in Education (3)
Full admission to PTEP or certification at undergraduate level required. Assists student in recognizing need for creating processes that enable children, educators and others to support and design a culturally and socially diverse curriculum.

EDEL 620 Research Applications for Instruction in Mathematics, K-9 (3)
Prerequisite: EDEL 420 or EDEL 520 or experience as elementary/middle school teacher. 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 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

EDEL 640 Research Applications for Instruction in the English Language Arts, K-9 (3)
Prerequisite: EDEL 440 or EDEL 540 or experience as elementary/middle school teacher. Consider problems, trends and issues in the teaching of English, handwriting and spelling. Special focus on research. Content varies to reflect interests and concerns of students.

EDEL 650 Research Application for Instruction in Social Studies, K-9 (3)
Prerequisite: EDEL 450 or EDEL 550 or experience as elementary/middle school teacher. Designed for experienced teachers, this course focuses on strategies for improving social studies curriculum and instructions. Major trends, issues and research affecting educating children for citizenship in a pluralistic, democratic society.

EDEL 679 Research Applications in Appraisal, Evaluation and Clinical Supervision of Teaching in the Elementary and Middle School (3)
Emphasis is placed on the development of knowledge, skills and sufficient comprehension to direct the development of instructional appraisal and evaluation behaviors, with special emphasis on self-improvement modalities.

EDEL 699 Thesis (1-6)

EDEL 701 Advanced Practicum in Elementary Education (1-4)
Open only by invitation to resident doctoral students. Supervised professional activity in elementary level education. A well-written paper must be filed with the supervising instructor before credit is given. Repeatable, maximum of six credits.

EDEL 725 Seminar in Elementary School Mathematics (2)
Prerequisite: EDEL 520 or EDEL 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 graded.

EDEL 745 Seminar in Elementary School English (2)
Prerequisite: EDEL 540. Advanced study and original research in teaching English/language arts in the elementary and middle school. S/U graded.

EDEL 755 Seminar in Elementary Education Social Studies (2)
Prerequisite: EDEL 550 or EDEL 650. A consideration of the research applicable to crucial issues in elementary social studies including the child's development of key concepts, values, morals and skills; curriculum development and evaluation. S/U graded.

EDEL 790 Supervised Practicum in College Teaching (3)
Experience in observation and supervised practice of college teaching for doctoral candidates planning to teach at college and university levels. Observation and experiences used as basis for analysis of learning experiences. S/U graded. Repeatable, maximum of six credits.

EDEL 797 Doctoral Proposal Research (1-4)
Required of all doctoral students. Students must earn 4 hours of credit for doctoral dissertation research proposal in partial fulfillment of requirements for doctoral degree before admission to candidacy. S/U graded. Repeatable, maximum of four credits.

EDEL 799 Doctoral Dissertation (1-12)
Required of all doctoral candidates. Students must earn 12 hours of credit for the dissertation in partial fulfillment of requirements for the doctoral degree. S/U graded. Repeatable, no limitations.

EDF - FOUNDAIONS OF EDUCATION

EDF 201 Introduction to Multiculturalism (3)
Acquaints students with concepts, content, strategies and resources needed in a multicultural pluralistic environment. Enables student to integrate content on pluralism into community settings. Attitudes and insights emphasized.

EDF 364 Foundations of Education (4)
Focuses on philosophical historical and social foundations of education, the impact of technology and social change on schools, educational policy and principles of effective practice, teaching strategies, effective communication, human relations, facilitation of group process, curriculum planning and design.
EDF 366 Conceptions of Schooling: Context and Process (4)  
Corequisites: ET 247 for Elementary PTEP; EPSY 334 and EDMG 310 for Middle Grades PTEP; STEP 262 for Secondary PTEP. Provisional or full admittance to PTEP required. Social, historical and philosophical perspectives of schooling including legal, ethical and multicultural foundations for the professional educator in a democratic society and their implications for classroom communication, organization and management.

EDF 385 Law and the Classroom Teacher (2)  
Focus on legal rights, roles and responsibilities of educators, emphasizing obligations to students, administrators, school boards and public. Examine current issues in school management, organization, finance, child abuse and neglect.

EDF 422 Directed Studies (1-3)  
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

EDF 500 Conceptions of Schooling (3)  
Investigation of social contributions of schools. Determination of what the public expects from local schools, assessing how accurately present systems meet public’s expectations and individual implications for teaching.

EDF 508 Workshop (1-3)  
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

EDF 513 Professional Renewal (1-3)  
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

EDF 622 Directed Studies (1-3)  
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

EDF 640 Psychological Foundations of Education (3)  
Exploration and analysis of possible range of assumptions about nature of human activity (thinking, behaving, feeling) and implications of those assumptions relative to educational enterprise.

EDF 662 Foundations of Curriculum Development and Instructional Practice (4)  
Designed to focus on nature and scope of curriculum planning and development and the instructional approaches, traditional and contemporary, for putting curriculum into effect.

EDF 665 Sociological Foundations of Education (3)  
Analyze role of educational institution from sociological perspectives. Focus upon socialization process, issues arising from social and cultural differences in school populations and examine sociology oriented strategies for educational change.

EDF 685 Philosophical Foundations of Education (3)  
Examining contemporary and classical philosophical systems and how they culminate in practical educational goals, systems of justification and practices. Includes the study of educational aims and values.

**EDF - EDUCATIONAL FIELD EXPERIENCES**

**EDF 170 Introduction to Field Based Experience (1-3)**  
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 graded. Unlimited repeatability.

**EDF 270 Field Based Experience (2)**  
Consent of instructor and first semester at UNC or UNC GPA of 2.50. Provisional or full admittance to PTEP required. Entry into the teaching profession. Attend orientation presentation and apply for admission to PTEP. Aide assignment in school or agency at preschool-12 level. Required portfolio and seminars. S/U graded.

**EDF 271 Field Experience Seminar (1)**  
Consent of instructor and first semester at UNC or UNC GPA of 2.50. Waiver of EDFE 270 field component. Provisional or full admittance to PTEP required. Designed to introduce students to issues and professional concerns of educators. Students are screened for admittance to PTEP S/U graded.

**EDF 370 Advanced Field Based Experience (1-3)**  
Prerequisite: EDFE 270. Full admission to PTEP or certification at the undergraduate level required, instructor consent. Practical experience in teacher preparation programs. Assignments to assist personal or professional development in public or private school. Preschool-12 level. Portfolio and seminars required. S/U graded. Unlimited repeatability.

**EDF 401 Practicum (1-3)**  
Full admission to PTEP or certification at the undergraduate level required. 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 graded. Repeatable, maximum of three credits.

**EDF 404 Practicum (1-3)**  
Full admission to PTEP or certification at the undergraduate level required. 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. Portfolio required. S/U graded. Repeatable, maximum of three credits.

**EDF 444 Supervised Teaching (1-18)**  
Full admission to PTEP or certification at the undergraduate level required. 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 student for 1 credit/week. Portfolio required. S/U graded. Repeatable, maximum of 18 credits, under different subtitles.

**EDF 445 Advanced Supervised Teaching (1-18)**  
Full admission to PTEP or certification at the undergraduate level required, EDFE 444. Available to students who have completed minimal supervised teaching requirement for certification but who wish to improve teaching techniques with additional field experience. May be repeated only with permission of instructor. Portfolio required. S/U graded. Repeatable, maximum of 18 credits.

**EDF 501 Practicum (1-4)**  
Full admission to PTEP or certification at undergraduate level required. 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 graded. Unlimited repeatability.

**EDF 502 Teacher Leadership (3)**  
Develop essential skills, knowledge and competencies that enable educators to assume a broad range of teacher leadership roles including consultation, mentorship, shared decision making approaches and instructional leadership.

**EDF 503 Alternate Teaching Strategies (3)**  
Expands teacher’s repertoires in the classroom by developing facility with alternate instructional strategies. Strategies studied and practiced facilitate critical/creative/inductive thinking and social participation and inquiry skills.

**EDF 601 Practicum (1-3)**  
Full admission to PTEP or certification at undergraduate level required. 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 graded. Repeatable, maximum of three credits.

**EDF 610 Field Experience (1-18)**  
Full admission to PTEP or licensure, at graduate level required or previous licensure, EDFE 444, or equivalent. Individually arranged field experiences under supervision of university and school or community staff. A variety of sites are available year round. S/U graded. Unlimited repeatability.

**EDF 622 Directed Studies (1-3)**  
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.
EDFE 640 Supervision of Educational Field Experience (2)
Required laboratory arranged. Previous teacher certification required and consent of instructor. Professional development of certified educators in the supervision of teacher aides, clinical experience students, student teachers and interns. Designed to correlate theory and practical supervision techniques in a school setting. S/U graded.

EDLD - EDUCATION OF LINGUISTICALLY DIFFERENT

EDLD 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

EDLD 513 Professional Renewal (1-3)
Update skills on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. S/U graded. Repeatable, under different subtitles.

EDLD 601 Teaching Linguistically Diverse Learners (3)
This course will introduce future teachers to the theoretical, practical, and legal aspects of the education of students who speak English as a second language.

EDLD 603 Methods and Assessment for ESL and Bilingual Education (3)
Prerequisite: EDLD 602. This course will introduce students to the use of assessments and procedures and to teaching methods appropriate when working with linguistically diverse students.

EDLD 604 Field Experience in TESOL and Bilingual Education (3)
Prerequisites: EDEL 619, EDLD 602 and EDLD 603. This course will provide pre-service and in-service teachers with the opportunity to observe instructional strategies for students who speak English as a second language and participate in conducting the strategies observed. S/U graded.

EDLD 605 Advanced Seminar in Bilingual Education and TESOL (2)
Prerequisites: EDLD 602, EDLD 603 and SRM 600. This course will study contemporary issues in the field of bilingual education and TESOL. Students will discuss relevant issues related to research and practice in bilingualism, second language acquisition, and teaching methodology.

EDLD 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

EDLS - EDUCATIONAL FIELD EXPERIENCE: LABORATORY SCHOOL

EDLS 360 Clinical Experience: Primary (1-3)
Full admission to PTEP or certification at the undergraduate level required. Consent of instructor. For Early Childhood/Elementary Education majors. Minimum of 25 contact hours with level K-3 children for each hour of credit. Weekly seminar.

EDLS 362 Clinical Experience: Middle School (1-3)
Full admission to PTEP or certification at the undergraduate level required. Consent of instructor. 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.

EDLS 363 Clinical Experience: Secondary (1-3)
Full admission to PTEP or certification at the undergraduate level required. Consent of instructor. Professional development for secondary majors. Minimum of 25 contact hours with level 7-12 children in a specific area for each hour of credit. Weekly seminar.

EDMG - ELEMENTARY EDUCATION: MIDDLE GRADES

EDMG 200 Exploring Teaching: Emphasis in the Middle Grades (2)
Corequisite: ET 248. Required laboratory arranged. An investigation of the teaching profession K-12, with an emphasis in the middle grades through personal reflection, observation, writing and discussion activities.

EDMG 308 Middle Grades Workshop (1-3)
Study of Middle Grades Education issues and problems for parents, teachers and community members. Each workshop has a subtitle, and no subtitle may be repeated for credit. S/U graded. Repeatable, under different subtitles, for a maximum of ten credits.

EDMG 310 Working with Middle Grades Students in the Classroom (1)
Prerequisites: EDMG 200 or equivalent, ET 248. Corequisites: EDF 366, EPSY 348. Juniors or above. Required laboratory arranged. Provisional or full admittance to PTEP required. Teacher candidates work alongside teachers and students in the classroom to connect theory and practice of middle grades teaching and learning and then process those experiences in seminars.

EDMG 320 Introduction to Middle School Grades Education (2)

EDMG 321 Middle Grades Teaching and Learning (3)
Prerequisite: EDMG 200 or equivalent and ET 248. Corequisites: EDMG 320 and EDSE 311. Required laboratory arranged. Juniors or above. Provisional or full admittance to PTEP required. This course will provide information and experiences which enable students to use instructional and management strategies which are effective in the middle grades classroom and that are developmentally appropriate for young adolescents.

EDMG 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member, (minimum of 25 clock hours required per credit hour). Repeatable, maximum concurrent enrollment is two times.

EDMG 440 Middle Grades Integrated Curriculum and Instruction (5)
Prerequisite: EDMG 321. Corequisites: EDSE 411 and ET 348. Juniors or above. Full admittance to PTEP required. This course will provide information and experiences which develop an understanding between developmentally appropriate instructional strategies for young adolescents and curriculum integration through the team. Required lab arranged.

EDMG 490 Middle Grades Student Teaching (1-12)
Prerequisite: EDMG 440. Corequisite: EDMG 491. Full admittance to PTEP required. A capstone field experience which includes 16 weeks of continuous field experience involvement with supervision by a University consultant and professionally licensed middle grades teacher. S/U graded. Offered under different subtitles.

EDMG 491 Middle Grades Student Teaching Seminar (1)
Prerequisite: EDMG 440. Corequisite: EDMG 491. Seniors or above. Consent of advisor. Full admittance to PTEP required. This is a capstone seminar which facilitates the knowledge, skills, and dispositions needed to successfully complete the middle grades student teaching experience. S/U graded.

EDMS - ELEMENTARY EDUCATION: MIDDLE SCHOOL

EDMS 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

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EDRD - Elementary Education: Reading

EDMS 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

EDMS 601 Practicum (1-3)
The practicum is a project designed by the student with consent of advisor. It is intended to provide a practical application of the concepts presented within the graduate program. The project is reported in a written form. Repeatable, may be taken two times.

EDMS 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

EDMS 665 Middle School Theory, Philosophy and Curriculum (3)
A study of the theory, philosophy, curriculum and instructional practices appropriate for a middle school learning environment.

EDMS 667 Assessment, Design and Evaluation of Middle School Curriculum (3)
Identification of content accreditation criteria, curriculum modeling, needs assessments, objectives, curriculum mapping, priority setting and action planning for elementary and middle schools.

EDMS 669 Integrated Curriculum for Middle Grades (3)
Investigations of how the content fields of language arts, mathematics, science, social science, science, reading and related arts connect in the middle school curriculum. Specific attention will be given to identifying common themes, concepts and skills among the various components of the curriculum.

EDMS 670 Instructional Practices in Middle Grades Education (3)
Graduates only. This course is designed for graduate students interested in investigating the theories and current trends/issues involved with instructional strategies, methods and management techniques that are developmentally appropriate for young adolescents at the middle school level.

EDMS 790 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 a basis for analysis of learning experiences. S/U graded. Repeatable, maximum of six credits.

EDRD 003 Introduction to College Reading (3)
Consent of instructor. This course emphasizes reading comprehension, vocabulary and rate and seeks to help students develop good study skills. This is a Basic Skills course offered through Continuing Education and does not count in term, cumulative or total credits and will not be calculated in the GPA.

EDRD 130 Improving Reading and Study Skills (3)
Instruction and outside assignments designed to develop proficiency in the reading and study skills needed for success at the college level.

EDRD 205 Critical Thinking, Inferential Reading and Evaluative Writing (3)
Students will improve critical thinking by studying the organization of thought and by applying critical reading to nonfiction and fiction and evaluative writing to journals, summary-reactions and an analytic paper.

EDRD 308 Reading Literacy Workshop (1-10)
Subtitle indicates whether workshop is for elementary or secondary teachers. Topics related to remedial reading, word identification, comprehension, study skills, content reading and trends and issues will be included. S/U graded. Repeatable, may be taken four times to a maximum of 10 credits, under different subtitles.

EDRD 324 Secondary Content Area Literacy (2)
Prerequisites: EDRD 262, ET 248, EDF 366, Corequisites: ET 348, EDF 360, STEP 363, your academic major methods classes. Full admittance to PTEP required. Develop understanding of the interaction between literacy and content area instruction in the secondary school. Examine related instructional strategies with applications to specific content areas.

EDRD 340 Developing the Literacy/ Reading and Writing of Middle Grade Students Across the Curriculum (3)
Prerequisites: EDMG 200 or equivalent, EDMG 310, EDMG 320, EDMG 321, ET 248, EDF 366, EPSY 348, EDFSE 311. Corequisites: EDMG 440, EDRD 411, ET 348, Full Admittance to PTEP required. Teacher candidates investigate the content and processes of the reading/writing development of middle grade students; develop sensitivity to individual differences in the literacy development of middle grade students, including those with limited English proficiency; and investigate instructional strategies to effectively integrate reading and writing across the middle grades curriculum.

EDRD 401 Practicum in Literacy (1-3)
Open only by invitation to resident undergraduate students. Supervised professional activity in literacy (approximately two hours per day). A well-written paper must be filed with instructor before credit is given. S/U graded. Repeatable, maximum of three credits.

EDRD 402 America Reads: Content and Processes of Literacy Tutorial Sessions (L)
Prerequisite: Choose 1 or 2: (1) Admission to a PTEP and eligibility for workstudy; or (2) permission of the instructor. Develop an understanding of the content and processes of a literacy tutoring session and the ability to adjust instructional interactions according to the observed behaviors of the assigned tutees. Develop an understanding of the literacy development of assigned tutee and the ability to effectively support their literacy development. S/U graded. Repeatable, maximum 2 credits.

EDRD 403 America Reads: Individual Literacy Instruction (L)
Prerequisite: Admission to a PTEP, eligibility for work study, successful completion of two semesters as an America Reads tutor and successful completion of two semesters of EDRD 402 or permission of the instructor. Refine and extend understandings of the literacy development of elementary students and the ability to adjust instructional interactions according to the observed behaviors of assigned tutees. S/U graded. Repeatable, maximum 4 credits.

EDRD 410 Achieving Effective Instruction in Developmental Reading (3)
Full admission to PTEP or certification at undergraduate level required. Teaching/learning strategies, reading materials, selection, lesson planning and organizing for instruction in reading across the total curriculum constitute the focus of the course.

EDRD 411 Elementary Reading Diagnosis and Individualization (3)
Prerequisites: EDRD 410, Full admission to PTEP or certification at undergraduate level. Emphasizes reading diagnosis with elementary students leading to instruction through a variety of approaches toward the end of enabling teachers to select appropriate methods/materials.

EDRD 414 Literature for Children, Adolescents and Young Adults (3)
Full admission to PTEP or certification at undergraduate level required. Consider interests and abilities governing the choice of literature from kindergarten through young adult years and survey this literature. Emphasize modern literature, use of literature in the curriculum and multiple responses to literature. Field experience included.

EDRD 419 Reading and Writing Development of Preschool/ Primary Children (2)
Acquaints students with current research on early literacy including factors in the environment that enhance or detract from literacy learning and the importance of parents and significant others in literacy development. Implications for primary reading and writing will be included.

EDRD 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours for one hour of credit in directed studies.) Repeatable, maximum concurrent enrollment is two times.
EDRD 423 Reading and Writing in the Content Areas (3)
Full admission to PTEP or certification at the undergraduate level required. Develop understanding of cognitive affective needs of middle and secondary students in reading and writing to learn. Develop sensitivity to individual needs. Participate in related field experiences.

EDRD 425 Reading in the Content Areas (2)
Provisional or full admittance to PTEP required. Develop understanding of role physical education teacher plays in facilitating the literacy development of students. Examine effective ways to use reading and writing in physical education content.

EDRD 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

EDRD 510 Achieving Effective Instruction in Developmental Reading (3)
Full admission to PTEP or certification at undergraduate level required. Teaching/learning strategies, reading materials, selection, lesson planning and organizing for instruction in reading across the total curriculum constitutes the focus of the course.

EDRD 511 Elementary Reading Diagnosis and Individualization (3)
Prerequisites: EDRD 510 or equivalent. Full admission to PTEP or certification at undergraduate level required. Course will emphasize diagnosis leading to instruction through a variety of approaches toward the end of enabling teachers to select appropriate methods/materia.

EDRD 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

EDRD 514 Literature for Children, Adolescents and Young Adults (3)
Full admission to PTEP or certification at undergraduate level required. Consider interests, understanding of roles physical education teacher plays in facilitating the literacy development of students. Examine effective ways to use reading and writing in physical education content.

EDRD 523 Reading and Writing in the Content Areas (3)
Full admission to PTEP or certification at the undergraduate level required. Develop understanding of cognitive affective needs of middle and secondary students in reading and writing to learn. Develop sensitivity to individual needs. Participate in related field experiences.

EDRD 601 Practicum in Literacy (1-4)
Written practicum proposal required before consent of instructor. Supervised professional activity in reading/writing (30 clock hours/credit) designed to enhance individual professional goals. Documentation must follow reading program guidelines. Repeatable, maximum of four credits.

EDRD 612 Reading in the Elementary School (3)
Full admission to PTEP or certification at undergraduate level required. Study of the nature of reading instruction, K-6, as reflected by current research, teaching and evaluation methods and techniques, published and teacher prepared materials and effective classroom management.

EDRD 614 Literature for Children, Adolescents and Young Adults (3)
Full admission to PTEP or certification at undergraduate level required. Consider locating and evaluating children’s and young adult literature and methods of organizing, teaching and evaluating a literature program. Examine issues such as censorship, multicultural literature and style analysis. Mini-research study is required.

EDRD 615 Topical Seminar in Reading/Literacy (3)
Advanced study, combined with individual inquiry, in Reading/Literacy education in the elementary and middle school. Addresses landmark research, analysis and synthesis of past/present trends and issues and scholarly pursuit of an individual topic. Repeatable, may be taken four times under different subtitles.

EDRD 617 Evaluation and Correction of Individual Reading Problems (4)
Required laboratory arranged. Prerequisites: EDRD 612, EDRD 620 or equivalent. Develop an understanding of the educationally disabled reader/writer in elementary and secondary school. Explore diagnostic/instructional strategies.

EDRD 618 Literacy Instruction for Emerging Readers and Writers at Risk (3)
Consent of instructor. Intense study and guided application of researched early intervention strategies for emerging readers and writers at risk. Students will design, implement and document personal application of concepts presented.

EDRD 620 Reading in the Middle and Secondary School (3)
Introduction to reading skills and reading requirements in developmental reading and subject-matter classes in the middle and secondary school. Examine instructional strategies and evaluation procedures as reflected by research.

EDRD 621 Critical Reading and Thinking in Content Subjects (3)
Full admission to PTEP or certification at undergraduate level required. Teaching subject matter to utilize foundational reading abilities and knowledge acquisition strategies in the development of content concepts and to develop and utilize critical thinking skills in contemporary society.

EDRD 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

EDRD 637 Teaching Reading at the Adult Level (2)
Consider problems of diagnosis, placement, strategies and materials for teaching remedial or developmental reading to college students or other adults in nonacademic settings. Field experience included.

EDRD 642 Teaching the Writing Process in Schools (3)
Assist classroom teachers with children’s writing process. Emphasis on: writing process; encouragement of process development; children’s growth in writing process; and, recording, assessing and reporting student progress.

EDRD 645 Reading/Literacy Research (3)
Study research procedures in reading/literacy and their application to education. Critique reading/literacy research, programs and practices. Develop and present group and/or individual projects and reports.

EDRD 670 Directing a School-Wide Reading/Writing Program (3)
Prerequisites: EDRD 617 and EDRD 620 or equivalent. Seminar course intended to prepare reading teachers, specialists, coordinators and administrators for directing textbook adoption, curriculum development and issues, staff development, evaluation and supervision of reading/writing programs.

EDRD 692 Clinical Practicum and Internship: Elementary/Secondary (4)
Prerequisites: EDRD 617 and consent of instructor. Provide appropriate literacy instruction for elementary/secondary teachers and students experiencing difficulty with reading/writing. Participation in weekly seminars regarding diagnostic/intervention strategies, etc. May be completed at each level. S/U graded. Repeatable, up to one time.

EDRD 694 Reading Center Internship: Adult Reading, Literacy, and/or Supervision (1-3)
Prerequisite: EDRD 617. Consent of instructor. Separate internships in each area may be taken for a maximum of six credits. Experiences are individually defined. A minimum 45 hours of supervised work equals one (1) credit. S/U graded.

EDRD 699 Thesis (1-6)
EDRD 701 Advanced Practicum in Literacy (1-4)
Open only by invitation to resident doctoral students. Supervised professional activity in literacy. A written paper must be filed with the supervising instructor before credit is graded. Repeatable, maximum of eight credits.

EDRD 712 Psychology of Reading (3)
Teach fundamental aspects of the complex skill of reading – linguistic, psychological, social and physiological – and what is involved in learning to read. Students will consider perceptual, cognitive, linguistic and motivational factors in reading, writing, thinking and learning in general. Students will become acquainted with research on language, information theory, learning theory, the physiology of the eye and brain, psycholinguistics and many other topics.

EDRD 717 Advanced Diagnostic/Instructional Problems in Literacy Development (3)
Laboratory required. Prerequisites: EDRD 612 or EDRD 620; EDRD 617, EDRD 692.
Consent of instructor. Refine diagnostic/instructional skills through study of advanced diagnostics, instructional techniques and related research; assist in Center for Literacy Development.

EDRD 745 Topical Seminar in Reading/Literacy (2-4)
Advanced study, combined with individual inquiry, in Reading/Literacy education in the elementary and middle school. Addresses landmark research, analysis and synthesis of past/present trends and issues and scholarly pursuit of an individual topic. Repeatable, may be taken four times, under different subtitles.

EDRD 750 The Contributing Professional in Reading (3)
Designed for the emerging professional completing a doctoral degree in reading. Includes opportunities to examine and experience a variety of significant professional contributions that are encompassed within the reading of scholarly activities, organizational memberships and service roles for reading and literacy.

EDRD 795 Supervised Practicum in College Teaching (3)
Experience in observation and supervised practice of college teaching for doctoral candidates planning to teach at college and university levels. Observations and experiences used as basis for analysis of learning experiences. S/U graded. Repeatable, maximum of nine credits.

EDRD 797 Doctoral Proposal Research (1-4)
Required of all doctoral students. Students must earn 4 hours of credit for doctoral dissertation research proposal in partial fulfillment of requirements for doctoral degree before admission to candidacy. S/U graded. Repeatable, maximum of four credits.

EDRD 799 Doctoral Dissertation (1-12)
Required of all doctoral candidates. Students must earn 12 hours of credit for the dissertation in partial fulfillment of requirements for the doctoral degree. S/U graded. Repeatable, no limitations.

EDSE - SPECIAL EDUCATION

EDSE 100 Understanding the Disabled (1)
Designed to increase awareness of values about diversity as portrayed in film, develop understanding of how personal values influence behavior towards persons with differences. Overview of disabilities/differences among peoples.

EDSE 200 Human Exceptionality (3)
Designed for non-education majors and is intended to assist in the acquisition of specific information regarding human exceptionality while clarifying and developing more positive attitudes and interactional patterns.

EDSE 201 Culture of Special Education (3)
Introduction to special education for exceptional learners. Aspects included are: historical perspective, characteristics of individuals with exceptionalities, issues related to identification and services, role of professionals in special and general education.

EDSE 202 Communication, Consultation, and Collaboration in Special Education (3)
This course addresses the intrapersonal and interpersonal intelligences as applied to the skills of communication, consultation, and collaboration in the context of serving students with special needs in the public schools.

EDSE 308 Workshop in Special Education (1-3)
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. Repeatable, under different subtitles.

EDSE 311 Including Exceptional Students in Middle Grades Classroom (1)
Prerequisites: EDMG 200, ET 248, EDF 366, EPSY 348, EDMG 310. Corequisites: EDMG 320, EDMG 321. Juniors or above. Provisional or full admittance to PTEP required. Introductory course providing a rationale for including students with disabilities in middle grades classrooms. General information about special education such as identification, referral, terminology and issues in the field will be discussed.

EDSE 320 Assessment in Special Education (3)
Provisional or full admittance to PTEP required. Explore issues in assessment related to exceptional children. Emphasis placed on principles, purposes and processes of assessment related to programming in special education.

EDSE 323 Methods for Elementary Students with Exceptionalities (3)
Prerequisites: ESE 201, ESE 202. Provisional or full admittance to PTEP required. Instructional practices in mathematics, social studies, and science for elementary students with exceptionalities.

EDSE 324 Special Education Practices in Secondary Schools (4)
Prerequisites: ESE 201, ESE 202, ESE 324. Laboratory required. Provisional or full admittance to PTEP required. Describes the array of practices, methodologies, and evaluation options at the secondary level for students with disabilities. Provides opportunities for person-centered planning and subsequent individualized program implementation.

EDSE 325 Behavioral Dimensions of Students with Exceptionalities I (3)
Prerequisites: ESE 201 and ESE 320. Consent of instructor. Provisional or full admittance to PTEP required. Involves theories and their application to create effective environments that integrate methods and techniques for addressing the affective/social development of all learners.

EDSE 326 Behavioral Dimensions of Students with Exceptionalities II (4)
Prerequisites: ESE 201, ESE 320, ESE 325. Laboratory required. Consent of instructor. Provisional or full admittance to PTEP required. Based on knowledge, skills, and activities of ESE 325, students will develop interactive and individualized environment that promotes affective/social/academic growth.

EDSE 360 Adaptation, Modification, and Integration of Curriculum for the Secondary Exceptional Learner (3)
Provisional or full admittance to PTEP required. Provides secondary classroom teacher information about special education, exceptional learners, and operational components in Special Education, and techniques for integration of special needs students including modification, adaptation, and specialized resources.

EDSE 406 Behavior is Language: Special Education Strategies for Managing Disruptive Behavior (3)
Designed to provide teachers with intervention strategies/behavior techniques to remediate disruptive behaviors and reduce power struggles while increasing classroom control.

EDSE 409 Exceptional Students in the Secondary Classroom (3)
Provides information about handicapping conditions, including identification procedures and specific techniques and materials appropriate for mainstreaming students in secondary classrooms.

EDSE 411 Strategies for Teaching the Exceptional Student at the Middle Grade Level (2)
Prerequisites: EDMG 200 or equivalent, ET 248, ESE 311, EDMG 310. Corequisites: EDMG 440, EEDR 340, ET 348. Full admittance to PTEP required. Provides information on methods and techniques useful for adapting instruction and building support groups for students who are gifted or disabled at the middle grade level.

EDSE 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

EDSE - Special Education
EDSE 430 Exceptional Student in the Elementary Classroom (2)
Prerequisites: EDF 366, ET 247. Corequisite: EPSY 346. Provisional or full admittance to PTEP required. This course is designed to provide elementary level licensure candidates with information about the areas of special needs. This will include current research and practices related to issues such as inclusion. Students will be able to identify and adapt instruction for students with a wide range of disabilities. Field experience will be used extensively.

EDSE 433 Exceptional Students in the Regular Classroom (2)
Required of students majoring in Fine Arts, Physical Education, Music Education and Vocational Education. Provides information on handicapped and gifted students, identification procedures and teaching techniques.

EDSE 440 Introduction to the Education of the Visually Handicapped (3)
Non-majors only. Descriptions of visual disabilities, the history and background of formalized educational and rehabilitative services, basic medical and psychological aspects and an overview of the types of organizations serving the field.

EDSE 442 Language and Literacy for Students with Severe Delays (3)
Prerequisites: EDSE 201, EDSE 202, EDSE 320, EDRD 410, EDRD 411. Full admittance to PTEP required. Exploration of lifespan relationships between significant oral language delays, home/school dialectical mismatches, or language differences (bilingualism, non-English monolingualism) and the acquisition of literacy in both its oral and written dimensions.

EDSE 443 Support System in Special Education (4)
Prerequisites: EDSE 201, EDSE 202, EDSE 320, EDSE 323, EDSE 324, EDSE 325, Laboratory required. Full admittance to PTEP required. Students will acquire skills in case management, facilitating support processes, and delivering direct support within general education for students with IEPs who have educational, communication, medical/physical, and/or behavioral needs.

EDSE 444 Student Teaching in Special Education (1-8)
Prerequisites: EDSE 201, EDSE 202, EDSE 320, EDSE 323, EDSE 324, EDSE 325, EDSE 443. Full admittance to PTEP required. Twelve weeks full-time teaching (5-7 weeks elementary, 5-7 weeks secondary) in special education, providing competencies for carrying out roles of special education teacher, facilitator of learning, and program manager. Repeatable, no limitations.

EDSE 450 Introduction, Severe Needs: Hearing (3)
History of education of individuals who are deaf or hard of hearing, anatomy of the hearing/speech mechanisms, causes and types hearing loss, psychological development of deaf culture, communication, educational and sociological problems.

EDSE 451 Basic Sign Language (3)
Laboratory required. Consent of Instructor. Develop basic skills in manual communication of individuals who are deaf or hard of hearing through the use of sign language and fingerspelling.

EDSE 500 Field of Special Education (3)
Historical development and present status of individuals with disabilities and those who are gifted. Focus on communication, parent involvement, finance, legal issues, ethics/ professionalism and trends in special education.

EDSE 501 The Exceptional Learner (3)
Basic issues in dynamics of learning and evaluation related to exceptionality. Emphasizes understanding learning and evaluation processes for purposes of individual and group educational planning.

EDSE 502 Communication, Collaboration and Consultation for Special Educators (3)
Develop skills in intrapersonal/interpersonal dynamics in serving exceptional learners. Focus on communication, collaboration and consultation in the context of multicultural educational settings along a continuum of special education.

EDSE 503 Effective School Environments for Learners with Exceptional Needs (3)
Study of sociocultural, eco-behavioral, political and economic components of effective/ineffective schools and the relationship to child, family, community and professionals. Roles of special educators and different service delivery models presented/analyzed.

EDSE 504 Transition Planning and Service Delivery for Students with Special Needs (3)
Provide theoretical framework in transition process from school to adult life including historical/legal, planning, curricular, interagency, self-determination and parent/family aspects of transition.

EDSE 505 Assessment of Exceptional Individuals (3)
Explore issues in assessment related to exceptional children. Emphasis placed on principles, purposes, and processes of assessment related to programming in special education.

EDSE 506 Seminar in Mainstreaming: Exceptional Students in the Regular Classroom (3)
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 students’ previous experiences with handicapped persons.

EDSE 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

EDSE 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

EDSE 520 Survey of Learners with Profound Needs (3)
Includes an overview of persons with profound needs and their families including their characteristics and needs. Programmatic issues are also emphasized in relation to current research.

EDSE 521 Assessment of Learners with Profound Needs (3)
Prerequisite: EDSE 520. Emphasizes the assessment intervention evaluation approach for learners with profound needs. The use of developmental/behavioral/educational assessment approaches as well as transdisciplinary approaches are emphasized.

EDSE 522 Methods of Teaching Learners with Profound Needs: Birth to 8 Years (3)
Prerequisite: EDSE 520. Full admission to PTEP or certification at undergraduate level required. Review methodological approaches to serving individuals with profound needs and their application; emphasizes teaching strategies, consultation techniques and accessing multi-agency resources.

EDSE 523 Methods of Teaching Learners with Profound Needs 9 to Adult (3)
Prerequisite: EDSE 520. Full admission to PTEP or certification at undergraduate level required. Reviews teaching approaches to serve students with profound needs at the prevocational/vocational levels and application of approaches; emphasis on residential employment competencies and transition from school to work.

EDSE 524 Seminar in Education of Learners with Profound Needs (3)
Prerequisites: EDSE 500, EDSE 501, EDSE 502, EDSE 503. Designed to synthesize experience and coursework in the area of educating students with profound needs. Emphasizes on issues, research, classroom application and consultation.

EDSE 525 Research and Policy for Learners with Profound Needs (3)
Includes research and policy related to the learners with profound needs. Ethics of conducting research with these individuals, current research results and relevant public policy are the main foci.

EDSE 526 Practicum with the Severely/Profoundly Handicapped (3-12)
Prerequisites: EDSE 521, EDSE 522, EDSE 523. Full admission to PTEP or certification at undergraduate level required. Entails supervised clinical experience with young and older individuals with profound handicaps. Daily supervision by a master teacher with overall supervision by UNC faculty is provided. S/U graded. Repeatable, maximum of 12 credits.
EDSE 528 Linguistically Diverse Students with Low Incidence Disabilities (2)
Prerequisites: Regular admission into one of the Special Education Severe Needs Programs, or completion of one of the programs. Introduce instructional and assessment issues related to the education of linguistically diverse students with low incidence disabilities. It provides suggestions for instructional modifications to meet the language and disability needs of these students.

EDSE 530 Parent/Professional Partnerships (3)
Prerequisite: EDSE 502. Provides theory and practices regarding understanding and helping parents deal with their young handicapped child. Issues regarding family coping, parent-professional partnerships and parent training are emphasized.

EDSE 531 Assessing Young Children with Special Needs (3)
Prerequisites: EDSE 500, EDSE 501, EDSE 502, EDSE 503. Focus on assessment tools and techniques for teacher evaluation of educational progress in young children with special needs. Plan educational programs with appropriate curricular content for individual children.

EDSE 533 Methods in Early Childhood Special Education (3)
Prerequisites: EDSE 500, EDSE 501, EDSE 502, EDSE 503. Full admission to PTEP or certification at undergraduate level required. Provides skills in an assessment-intervention-evaluation programming philosophy. Different aspects of intervention and their common elements are covered. A developmental focus with consideration of child's functional needs is emphasized.

EDSE 534 Research and Policy in Early Childhood Special Education (3)
Prerequisites: EDSE 500, EDSE 501, EDSE 502, EDSE 503. Review current policies related to the education of infants and young children with special needs. Familiarize students with research studies and classroom applications.

EDSE 535 Practicum in Early Childhood Special Education (3-12)
Prerequisites: EDSE 500, EDSE 501, EDSE 502, EDSE 503. Full admission to PTEP or certification at undergraduate level required. Integrative field experience in practicum settings under college supervision and certified teacher. Provides experiences of sufficient scope, intensity and length to assure demonstration of competencies in EDSE. S/U graded. Repeatable, maximum of 12 credits.

EDSE 536 Early Intervention for Infants and Toddlers with Special Needs (3)
Explores theoretical and practical approaches to early intervention for at-risk or disabled newborns, infants and toddlers. Focus on identification, program development and evaluation, instructional techniques and family involvement.

EDSE 540 Independent Living for Individuals with Visual Disabilities (1-2)
Required laboratory arranged. Gain ability to understand the use of adapted materials and techniques in teaching independent living to individuals with visual disabilities. Emphasis given to recreational areas. Repeatable, maximum of 2 credits.

EDSE 542 Assessment and Methods for Teaching Students with Visual/Multiple Disabilities (3)
Full admission to PTEP or certification at undergraduate level required. Discuss causes, characteristics, educational implications and instructional methods for student with visual/multiple disabilities. Learn effective teaming and collaborative planning strategies.

EDSE 543 Braille Codes and Formats (3)
Study literary and nemeth codes, basic abacus operations. Techniques of teaching literacy skills to students with visual disabilities are included.

EDSE 544 Technology for Students with Visual Disabilities (2)
This course will acquaint the student with state-of-the-art technology for students with visual disabilities. Includes required 4-day summer seminar on UNC campus.

EDSE 545 Advanced Braille Codes and Formats (3)
Prerequisite: EDSE 543 or proof of mastery from an approved examination. Study advanced braille codes and techniques for teaching literacy skills in each code: literary, nemeth, music, foreign language. Basic abacus operations are included.

EDSE 546 Principles of Orientation and Mobility (2)
Independence in exploration of the environment as a life need. Techniques in developing orientation skills; pre-cane mobility instruction. Philosophy and history of cane instruction, dog guides and other methods of travel.

EDSE 547 Individual Instruction in Orientation and Mobility (4)
Prerequisite: EDSE 546. Full admission to PTEP or certification at undergraduate level required. Consent of instructor. Required laboratory arranged. A study of methods involved in general navigation and environmental awareness relating to severe vision needs. Travel techniques are gained while working under simulated conditions. Repeatable, maximum of four credits.

EDSE 549 Rehabilitative Teaching of Individuals with Visual Disabilities (3)
Full admission to PTEP or certification at undergraduate level required. Learn how rehabilitation of persons with visual disabilities 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 551 American Sign Language (4)
Laboratory required. Students will have the signing knowledge and ability to demonstrate visual discrimination, classifier description, time indicators, house and home, being/affective non-manual markers, transportation and community occupations.

EDSE 552 Advanced Sign Language (4)
Laboratory required. Prerequisite: EDSE 451. Designed to improve students' expressive and receptive skills in the use of finger spelling and Signing Exact English (SEE). Manual communication skills used in educational and social settings are emphasized. Focus on increasing sign vocabulary, understanding sign concepts, conversational skills and ability to teach and communicate using Signing Exact English.

EDSE 553 American Sign Language 2 (3)
Prerequisite: EDSE 551 or equivalent. Required laboratory arranged. Provides opportunity to increase understanding of linguistic/cultural aspects of American Sign Language, increase receptive/expressive vocabularies, and recognize/apply appropriate grammatical rules using ASL.

EDSE 560 Linguistically Diverse Students with Disabilities (3)
Introduces students to instructional and assessment issues related to students with disabilities who come from culturally and linguistically diverse backgrounds.

EDSE 580 Nature and Needs of the Gifted and Talented (3)
The definitions, characteristics and needs of the gifted and talented will be covered. Emphasis will be placed on the identification and assessment of these children.

EDSE 581 Teaching Strategies for the Gifted and Talented (3)
Basic teaching strategies for use with the gifted and talented will be presented. Specific activities for cognitive, emotional and social development will also be included.

EDSE 582 Curriculum Models for the Gifted and Talented (3)
Beyond teaching activities and strategies, specific curriculum models for use with the gifted and talented will be presented with specific attention on how to implement these models.

EDSE 583 History, Organization and Administration of Programs for the Gifted and Talented (3)
A historical perspective of the education of the gifted and talented will lead to coverage of innovative program design and implementation for the gifted and talented.

EDSE 584 Practicum in Teaching the Gifted and Talented (1-12)
Prerequisites: EDSE 580, EDSE 581, EDSE 582. Emphasize actual teaching and facilitation of the gifted and talented in actual supervised teaching experiences. Repeatable, maximum of 12 credits.
EDSE 585 Facilitating Creativity in the Gifted and Talented Student (2)
Exploration and application of several theoretical and research approaches to creativity and integrating creative thinking skills of gifted and talented students to their facilitators.

EDSE 586 Trends, Issues and Thinking Skills in Gifted Education (2)
Prerequisite: EDSE 580. Exploration of issues in gifted and talented education and the application of critical thinking skills to issues in gifted and talented education.

EDSE 601 Supporting Special Students in the Mainstream (3)
Prerequisites: EDSE 500, EDSE 501, EDSE 502, EDSE 503 and EDSE 504. Full admission to PTEP or certification at undergraduate level required. Interventions for students with moderate academic difficulties in inclusive settings including (a) collaborating in providing direct service and (b) providing scaffolds to enable students to perform independently.

EDSE 602 Behavioral Disorders: Characteristics, Identification and Intervention (3)
Examine typical characteristics associated with severe behavior problems and procedures for identification. Emphasis on development of appropriate intervention programs.

EDSE 603 Practicum with Moderate Needs Students (3-12)
Prerequisites: EDSE 500, EDSE 501, EDSE 502, EDSE 503 and EDSE 504. Full admission to PTEP or licensure at the undergraduate level required. Consent of instructor. Integrative field experience in practicum settings under college supervisor and licensed teacher. Provides experiences of sufficient scope, intensity and length to assure demonstration of all Teacher II communication program competencies. Additional seminar time required. S/U graded. Repeatable, maximum of 12 credits.

EDSE 606 Instructional Methods for Students with Special Needs (3)
Prerequisites: EDSE 500, EDSE 501, EDSE 502, EDSE 503 and EDSE 504. Full admission to PTEP or certification at undergraduate level required. Teaches about major current techniques, methods, philosophies and trends in teaching communication, affective and cognitive needs students with moderate/severe disabilities.

EDSE 608 Case Studies with Students with Special Needs (3)
Required laboratory arranged. Prerequisites: EDSE 500, EDSE 501, EDSE 502, EDSE 503 and EDSE 504. Consent of instructor. Applied experience in assessment and teaching of exceptional individuals. Work a minimum of 45 clock hours one-on-one with exceptional individual in school or clinical setting.

EDSE 609 Language Development: Disorders of Individuals with Special Needs (3)
Prerequisites: EDSE 500, EDSE 501, EDSE 502, EDSE 503 or consent of instructor. In-depth study of language and speech disorders, including assessment instruments and teaching strategies related to language and communication. Focuses on the language of students with special needs.

EDSE 610 Interventions for Students with Severe Affective Needs (3)
Prerequisites: EDSE 500, EDSE 501, EDSE 502, EDSE 503. Knowledge and classroom application of group and individual interventions for students with severe affective needs. Includes auxiliary services and parent interventions.

EDSE 611 Seminar in Severe Affective Needs (3)
Prerequisites: EDSE 500, EDSE 501, EDSE 502 and EDSE 503 or consent of instructor. This course is designed to synthesize experience and coursework in the area of students with severe affective needs. Emphasizes are on issues, research and classroom application.

EDSE 612 Practicum with Students with Severe Affective Needs, Ages 5-21 (3-12)
Prerequisites: EDSE 500, EDSE 501, EDSE 502, EDSE 503, EDSE 504. Full admission to PTEP or licensure at the undergraduate level required. Consent of instructor. Integrative field experience in practicum settings under college supervisor and licensed teacher. Provides experiences of sufficient scope, intensity and length to assure demonstration of all Teacher II communication program competencies. Additional seminar time required. S/U graded. Repeatable, maximum of 12 credits.

EDSE 615 Special Education Law: Cases and Trends (3)
Enhances skills that enable students to read integratively special education laws and ensuing litigation. Readings will include public laws, court transcripts and a selected case synopsis(es) pertaining to a particular exceptionality.

EDSE 620 Psycho-Social Aspects of Students with Severe Cognitive Needs (3)
Prerequisites: EDSE 500, EDSE 501, EDSE 502 and EDSE 503. In-depth study of sociological and psychological aspects of students with severe cognitive needs. Focuses on issues relative to life care and treatment of the cognitive needs student.

EDSE 621 Seminar in Severe Cognitive Needs (3)
Prerequisites: EDSE 500, EDSE 501, EDSE 502 and EDSE 503. This course is designed to synthesize experience and coursework in the education of students with severe cognitive needs. Emphasizes are on issues, research and classroom application.

EDSE 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

EDSE 623 Practicum with Students with Severe Cognitive Needs, Ages 5-21 (3-12)
Prerequisites: EDSE 500, EDSE 501, EDSE 502, EDSE 503, EDSE 504. Full admission to PTEP or licensure at undergraduate level required. Consent of major advisor. Integrative field experience in practicum settings under college supervisor and licensed teacher. Provides experiences of sufficient scope, intensity and length to assure demonstration of all Teacher II communication program competencies. Additional seminar time required. S/U graded. Repeatable, maximum 12 credits.

EDSE 630 Seminar in Severe Communication Needs (3)
Prerequisites: EDSE 500, EDSE 501, EDSE 502 and EDSE 503. This course is designed to synthesize experience and coursework in the education of the severe communication needs. Emphasizes are on issues, research and classroom application.

EDSE 631 Practicum with Students with Severe Communication Needs: Ages 5-21 (3-12)
Prerequisites: EDSE 500, EDSE 501, EDSE 502, EDSE 503, EDSE 504. Full admission to PTEP or licensure at undergraduate level required. Consent of instructor. Integrative field experience in practicum settings under college supervisor and licensed teacher. Provides experiences of sufficient scope, intensity and length to assure demonstration of all Teacher II communication program competencies. Additional seminar time required. S/U graded. Repeatable, maximum of 12 credits.

EDSE 632 Practicum with Learning Disabled Students, Ages 5-12 (1-12)
Prerequisites: EDSE 500, EDSE 501, EDSE 502 and EDSE 503. Full admission to PTEP or certification at undergraduate level required. Consent of major advisor required. Integrative field experience in practicum settings under college supervisor and certified teacher. Provides experiences of sufficient scope, intensity and length to assure demonstration of all Teacher II communication program competencies. S/U graded. Repeatable, maximum of 12 credits.

EDSE 633 Practicum with Learning Disabled Students, Ages 13-21 (1-12)
Prerequisites: EDSE 500, EDSE 501, EDSE 502 and EDSE 503. Full admission to PTEP or certification at undergraduate level required. Consent of major advisor required. Integrative field experience in practicum settings under college supervisor and certified teacher. Provides experiences of sufficient scope, intensity and length to assure demonstration of all Teacher II communication program competencies. S/U graded. Repeatable, maximum of 12 credits.

EDSE 641 Medical and Educational Implications of Visual Handicaps (1-3)
Anatomy/physiology of the eye, medical and educational assessment of low vision and functional implications of various eye conditions. Techniques to develop use of functional vision. Repeatable, maximum of three credits.

EDSE 642 Advanced Seminar in Education of Students with Visual Handicaps (3)
Role of teacher of students with visual disabilities, assessments, compensatory skill methodology, IEP/IFSP development, appropriate placements, sourcing materials and equipment, administrative duties, consulting techniques and volunteer coordination.

EDSE 643 Psychosocial Needs of Individuals with Visual Handicaps (2)
Study the psychosocial implications of visual impairments, sources of self-esteem, the adjusting process and strategies for meeting the blindness-related counseling needs of individuals with visual disabilities and their parents.
EDSE 644 Practicum in Education of Students with Visual Handicaps, K-12 (2-12)
Prerequisites: EDSE 542, EDSE 543, EDSE 544, EDSE 546, EDSE 641 and EDSE 643. Full admission to PTEP or certification at undergraduate level required. Consent of instructor. Supervised teaching experience with students with visual disabilities, K-12, planning and implementing lessons, preparing materials, participating in staffings, IEP/IFSP development and parent conferences. Repeatable, maximum of 12 credits.

EDSE 646 Practicum in Rehabilitative Teaching of Individuals with Visual Handicaps, K-12 (6-12)
Prerequisites: EDSE 543, EDSE 546, EDSE 549, EDSE 641 and EDSE 643. Consent of instructor. Supervised teaching experience with individuals with visual disabilities, including development and implementation of strategies for teaching communication, personal and home management, social and recreational skills: home-and/or center-based. Repeatable, maximum of 12 credits.

EDSE 647 Applied Methods in Orientation and Mobility (2)
Full admission to PTEP or certification at undergraduate level required. Weekly seminar explores methods and strategies for teaching independent travel techniques to students with visual and other disabilities. Student provides individualized instruction to visually impaired person with faculty supervision.

EDSE 648 Practicum in Orientation and Mobility (9)
Full admission to PTEP or certification at undergraduate level required. Consent of major advisor required. Supervised teaching experience with both blind and low vision individuals in orientation and mobility. Observation of varied programs; e.g., resource room itinerant plan, residential school and rehabilitation settings.

EDSE 652 Speechreading, Auditory Training and Amplification (3)
Prerequisites: CMDT 370, EDSE 450. Study amplification: personal and group, components, evaluation, maintenance and application to auditory training, speech and speech-reading. Develop receptive language through auditory and visual channels for individuals who are deaf or hard of hearing.

EDSE 653 Speech, Severe Needs: Hearing (3)
Prerequisite: EDSE 450. Full admission to PTEP or certification at undergraduate level required. Develop competencies to teach speech to individuals who are deaf or hard of hearing, including appropriate methods, teaching sequences, strategies and materials; develop a speech program, assess speech behaviors of severe hearing needs persons.

EDSE 654 Language, Severe Needs: Hearing (3)
Prerequisite: EDSE 450. Full admission to PTEP or certification at undergraduate level required. Consent of instructor. Required laboratory arranged. Develop competencies to assess, teach and evaluate language for individuals who are deaf or hard of hearing. Select methods, materials and techniques appropriate for each level; develop comprehensive expressive/receptive language program.

EDSE 655 Reading, Severe Needs: Hearing (3)
Prerequisite: EDSE 450. Full admission to PTEP or certification at undergraduate level required. Emphasizes relationship of cognition, language and reading for individuals who are deaf or hard of hearing. Learn process, approaches, methods, techniques, appropriate materials and assessment of reading behaviors of severe hearing needs person.

EDSE 656 Methods of Teaching Content: Severe Needs Hearing (3)
Prerequisite: EDSE 450. Full admission to PTEP or certification at undergraduate level required. Consent of instructor. Required laboratory arranged. Study design of curriculum. Plan, implement and evaluate learning experiences in content subject areas and create and adapt materials appropriate for individuals who are deaf or hard of hearing.

EDSE 657 Practicum, Severe Needs: Hearing (6-12)
Prerequisites: EDSE 653, EDSE 654 and EDSE 656. Full admission to PTEP or certification at undergraduate level required. Consent of major advisor required. Individual observation and supervised practice in the education of individuals who are deaf or hard of hearing. Repeatable, maximum of 12 credits.

EDSE 658 Administration and Supervision of Special Education (3)
The role of various administrative personnel is studied from a situational leadership perspective. Responsibilities of the special education administrator are examined and differences in role will be defined in terms of size of agency. The course is a blend of current theory and practice of administrators of various agencies serving exceptional children.

EDSE 680 Administration and Program Evaluation in Special Education (3)
Prerequisite: EDSE 603. To prepare special education administrators to conduct special education program evaluation, to organize data derived from such evaluations for decision making purposes, to better understand special education resource utilization and to be able to integrate these activities with other special education administrative functions.

EDSE 718 Advanced Seminar in Education of Students with Hearing and/or Visual Handicaps (3)
Investigation of the issues and trends in education of infants, children and youth with hearing and/or visual disabilities: focus on research, curriculum, instructional strategies and other administrative concerns.

EDSE 720 Professional Development (1)
Consent of instructor. Basic information about doctoral program in Division of Special Education. Students learn about the program, professional activities of professors and opportunities available within the division. S/U graded.

EDSE 721 Theoretical Foundations of Special Education I (3)
In-depth study of special education's enrichment by conceptions of the nature of exceptionality, learning and instruction that have and are emerging from biological and sociocultural constructivism, phenomenology and holism.

EDSE 722 Theoretical Foundations of Special Education II (3)
Exploration of fundamental theories in special education and human disability, emphasizing reductionistic theories. Topics include applied behavior analysis, cognitive sciences, selected bio-behavioral perspectives, etc.

EDSE 723 Seminar in Facilitating Personal and Professional Development in Special Education (3)
Assist learners with development of the skills and knowledge necessary to function as special educators who effectively interact with diverse students, teachers, administrators and parents.

EDSE 727 Seminar in Exceptionalities (3)
Investigation of the issues and trends in education of students with exceptionalities. Focus on research, curriculum and instructional strategies.

EDSE 728 Seminar in Professional Writing (3)
To develop an understanding of the importance of and the procedures involved in professional writing, with emphasis on writing grant applications for the United States Department of Education.

EDSE 729 Apprenticeship in Special Education (1-4)
Consent of instructor. Jointly defined experiences on campus in intensive mentor/apprenticeship project; participating in all aspects of inquiry, administration, or university teaching from planning through dissemination/publication. Repeatable, under different subtitles for a maximum of 12 credits.

EDSE 730 Externship in Special Education (1-12)
Consent of instructor. Supervised program of participation in a variety of settings outside the University that serve exceptional persons. The externship requires an individually arranged field experience. Repeatable, under different subtitles for a maximum of 12 credits.

EDSE 731 Topical Seminar in Special Education (3)
Course content differs to ensure flexibility promoting cutting-edge knowledge. Faculty share expertise in depth. Students select from offerings to individualize program and utilize wide variety of methods of inquiry. Repeatable, maximum 15 credits, under different subtitles.
EDSE 797 Doctoral Proposal Research (1-4)
Permission of major advisor. Required of all doctoral students. A student must earn 4 hours of credit for partial fulfillment of requirements for all doctoral degrees before admission to candidacy. S/U graded. Repeatable, maximum of four credits.

EDSE 799 Doctoral Dissertation (1-12)
Permission of major advisor. Required of all doctoral candidates. A student must earn 12 hours of credit for the dissertation as a partial fulfillment of requirements for any doctoral. S/U graded. Repeatable, no limitations.

EED - ENGLISH EDUCATION

EED 301 Tutoring Strategies for Composition (1-2)
Sophomores or above. Consent of instructor. After training in tutoring strategies, participants will spend 30 class hours per credit assisting in a composition class or writing laboratory to prepare for clinical and student teaching. Repeatable, maximum of four credits, under different subtitles.

EED 341 Methods and Materials for Teaching Language and Composition in the Secondary Schools (3)
Full admission to PTEP or certification at undergraduate level required. 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 for Teaching Young Adult Literature in the Secondary Schools (4)
Prerequisite: Full admission to STEP or certification at undergraduate level. Prerequisite to student teaching. Selection of literature for young adults, use of media, curriculum and classroom organization, standards-based education, assessment and evaluation in a secondary school program.

EED 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

EDSE 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge of methodologies. S/U or letter graded. Repeatable, under different subtitles.

EED 541 Methods and Materials for Teaching Language and Composition in the Secondary School (3)
Full admission to PTEP or certification at undergraduate level required. Prerequisite to student teaching. Methods and materials for teaching language and composition in the secondary schools. Teaching techniques are a point of emphasis.

EED 606 Seminar in Literature for Young Adults (3)
PTEP or certification at undergraduate level required. Books written for young adults, with emphasis upon junior novels and biographies. Consideration of reading guidance based upon student interests and needs. Development of criteria for evaluating literature for young adults.

EED 754 Supervised Teaching of English: Literature and Composition (2-6)
Student will prepare and teach classes under the supervision of instructors chosen or designated in order to give practice in and to evaluate teaching.

ELPS - EDUCATIONAL LEADERSHIP AND POLICY STUDIES

ELPS 385 Law and the Classroom Teacher (2)
Admission to PTEP required. Develop basic understanding of legal structure of American education. Emphasizes teachers’ legal rights, responsibilities and liabilities; employment issues; students’ rights and duties; and legal issues in discipline.

ELPS 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

ELPS 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

ELPS 601 Leadership Development Through Inquiry (3)
Experiences help students understand the nature of leadership and the importance inquiry plays in creating, using, and acquiring knowledge.

ELPS 603 Shaping Organizations: Management and Leadership in Education (5)
Prerequisite: ELPS 601 or consent of instructor. Introduces students to qualities of effective leadership and management; organizational skill development; organizational behavior; and strategic planning in organizations.

ELPS 604 Understanding People: Professional Development and Educational Leadership (3)
Prerequisite: ELPS 601 or consent of instructor. The fundamentals of working with people in educational organizations is reviewed. Emphasis is on adult learning, communications and working in teams, and personnel issues.

ELPS 605 External Environments: Social, Political, and Economic Influences in Educational Leadership (5)
Prerequisite: ELPS 601 or consent of instructor. External pressures on educational policies and operations, including demographics, diversity, governance, legislation, litigation, partnerships, integrated service delivery for children and families, sources of revenue, and accountability.

ELPS 606 Internship in Educational Leadership (1-9)
Advisor approval required. Involves part-or full-time leadership assignments in educational organizations. S/U graded. Unlimited repeatability.

ELPS 608 Issues in Educational Leadership: Implications for Practice (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. Multiple perspectives will be used to review and analyze critical past issues and current educational dilemmas. Focus on solution strategies and their impact on practice.

ELPS 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

ELPS 650 School Finance and Budgeting (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. Examines economics and politics of education, revenues for school systems, principles of taxation, conflicts between equality and efficient goals and local state and federal policies for education.

ELPS 651 School Business Management (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. Develops understanding of problems and procedures of such management functions as transportation, property control, food services, facility maintenance, purchasing, insurance and investments. Provisions for applications of technology to financial management.

ELPS 652 Human Resources in Higher Education (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. The course focuses on understanding Human Resource Management (HRM) as an energy source for shaping institutions. Emphasis is on the practical application of achieving change through personnel and compensation administration.

ELPS 653 Finance and Resource Management in Higher Education (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. Analyze issues of financing public and private higher education; examine alternative financing sources and methods; develop skill in resource allocation and management.
ELPS 654 Supervision of Curricular and Instructional Programs (5)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor.
Examine the school leader's role in supervising the teaching and learning process. Focus on
curriculum development, instructional improvement, and developing capacity of others to become curricular and instructional leaders.

ELPS 655 Seminar in Learning in Adulthood (3)
A comprehensive overview of learning in adulthood. Emphasis on context, the participants, learning process and the relevance for practice in educational leadership.

ELPS 657 Families, Communities and Schools (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. Focus
on the role of the educational leader in shaping and maintaining mutually supportive
relationships between schools and their environment.

ELPS 658 Human Resource Development in P-12 Education (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. Focuses on the role of the P-12 personnel administrator. Topics include contract
management, recruitment, selection, collective bargaining, and performance appraisal.

ELPS 660 Law and the Administrator (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. Focuses on the role of the P-12 personnel administrator. Topics include contract
management, recruitment, selection, collective bargaining, and performance appraisal.

ELPS 661 Law and Higher Education (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. Relate statutory provisions, court decisions, common law principles and constitutional requirements to legal problems affecting organization and administration of public and private school systems.

ELPS 662 Design and Delivery of Professional Development (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. Explores the planning, delivery, and evaluation of professional development activities for adults. Emphasizes practical aspects such as needs identification and learning transfer. Course outcomes include creating a professional development program.

ELPS 663 Developing Grants and Contracts (3)
Prerequisite: ELPS 601 or consent of instructor. Identifying various funding sources; understanding the explicit and implicit aspects of proposal writing for public and private agencies, proposal review processes, and elements of project operations.

ELPS 664 Organization and Administration of Community Colleges (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. Analyze the purposes and governance of community college institutions and systems, examine structure and functions and study major administrative problems.

ELPS 665 Policy Analysis and Development (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. Study standard techniques for analyzing, evaluating and developing policies for educational systems and organizations, with special attention to contemporary policy issues.

ELPS 666 Planning and Change in Education (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. Understand planning and change theories; strategic planning development; particular emphasis on restructuring educational environments.

ELPS 668 Higher Education in the United States (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. Organization and leadership of higher education from department, campus wide, state and federal levels is examined by tracing historical antecedents and using contemporary research findings, models and theories.

ELPS 669 College and University Curriculum (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. Develop an understanding of college and university curriculum by examining undergraduate and graduate program structures for liberal arts and professional programs, curriculum development processes, and current issues impacting curriculum.

ELPS 670 The Principalship: Leadership at the School Site Level (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. Examine leadership and management issues of building principals, instructional leadership and problems facing principals at the site level.

ELPS 695 Practicum in Educational Leadership (1-3)
Consent of instructor. Enables students to engage in a particular task/activity in educational leadership in one or more field sites. S/U graded. Unlimited repeatability.

ELPS 711 Advanced Theories for Changing Organizations (3)
Prerequisites: ELPS 603 and ELPS 666 or equivalent. Consent of instructor. Advanced theories of organizations; basic research on organizations and leader behavior; primary research about and models for facilitating change are combined to analyze, plan and evaluate major organizational change processes.

ELPS 747 Leadership at the School District Level (3)
Prerequisites: ELPS 601, ELPS 603, ELPS 604, ELPS 605 or consent of instructor. Study the leadership responsibilities of school district administrators, with special emphasis on the knowledge, skills and values needed by effective superintendents.

ELPS 751 Doctoral Core I (6)
Consent of instructor. Team-taught seminar focusing on teambuilding and group processing, inquiry and reflective practice, and moral and ethical dimensions of leadership. Extensive attention given to developing scholarly writing skills.

ELPS 752 Doctoral Core II (6)
Prerequisite: ELPS 751 or consent of instructor. Continued doctoral study in educational leadership and policy. Team-taught seminar exploring the nature of organizations, leadership and policy through readings, group discussions, and a collaborative research project.

ELPS 754 Research in Educational Leadership (3)
Prerequisites: ELPS 751, ELPS 752, SRM 602, SRM 603, or consent of instructor. Classic and contemporary published quantitative and qualitative studies on organizations, leadership and policy studies are used to analyze research strategies and tactics.

ELPS 797 Doctoral Proposal Research (1-4)
Prerequisites: ELPS 751, ELPS 752. To enable advanced doctoral students to learn the essential elements of effective research proposals and to develop analytic skills needed to critique other research. S/U graded. Repeatable, maximum of four credits.

ELPS 799 Doctoral Dissertation in Educational Leadership and Policy Studies (12)
Prerequisite: ELPS 797. Approval of research advisor required. Complete research of a major problem in educational leadership and policy. Must earn total of 12 hours of credit. S/U graded. Repeatable.

ENG - ENGLISH

ENG 122 College Composition (3)
Introduces different modes of expository writing with an extensive review of mechanics. Emphasis on full and logical development of thesis, use of both personal and academic stylistic levels and clear organization.

ENG 123 College Research Paper (3)
Prerequisite: ENG 122. Instruction in diction, style, logical analysis, research techniques and organization of college-level research papers.

ENG 131 Introduction to Literature (3)
The study of selected poetry, plays and works of fiction with an emphasis on developing skills in analysis, interpretation and critical thinking.

ENG 138 Modernism in Literature (3)
Study movements and ideas (e.g. Freudianism, existentialism, magic realism, postmodernism) in twentieth-century American and/or British literature.
ENG 210 Studies in Literature (3)
Study of various themes, topics, genres or special problems in literature. Repeatable, maximum nine credits under different subtitles.

ENG 211 Survey of American Literature (3)
Prerequisite: ENG 122. Study of American literature from its beginning to the present. Emphasizes the cultural, historical appreciation of selected representative works and contribution of the literature to contemporary life and thought.

ENG 213 Survey of British Literature I (3)
Prerequisite: ENG 122. Chronological survey of English literature from the Anglo-Saxon period through the 18th century. This literature will be considered from various perspectives, but with constant attention to its historical context.

ENG 214 British Literature II (3)
Prerequisite: ENG 122. Survey of British literature from the Romantic Period to the present. Emphasizes close reading of selected major works in historical context.

ENG 223 Writing with Sources (3)
Prerequisite: ENG 122. This intermediate, interdisciplinary course develops skills in critical thinking, the use of source materials and in creating longer, more complicated pieces of writing than those required in ENG 122.

ENG 225 Communications on a Theme (3)
Prerequisite: ENG 122. Topics for writing chosen from ideas of historical influence and/or contemporary problems. Repeatable, may be taken two times under different subtitles.

ENG 227 Technical Writing (3)
Prerequisite: ENG 122. Analysis of sentence structure, order of presentation and use of illustration in writing essential for the technician, engineer, scientist, with emphasis on arranging and stating information clearly.

ENG 231 Great Writers in England or America (3)
The in-depth study of one English or American writer not featured elsewhere. Subject of the course determined by subtitle. Repeatable, maximum nine credits under different subtitles.

ENG 235 World in Literature (3)
Variable content course studying literature of countries predominantly other than England or America. Readings may be thematic, comparative, geographic, generic. Repeatable, maximum nine credits under different subtitles.

ENG 236 Ethnic American Literature (3)
Prerequisite: ENG 122. Introduce themes and ideas in ethnic American literature by studying representative authors of one or more U.S. ethnicities. Repeatable, under different subtitles.

ENG 238 Introduction to Folklore (3)
The study of tales, legends and other lore passed on orally or by customary example in groups bound by common background or experience. Subtitle may indicate specific group or groups. Repeatable, maximum six credits under different subtitles.

ENG 239 Topics in Women's Literature (3)
Investigation, from a feminist perspective, of writing by or about women. Figures, nationalities, genres and periods will vary with subtitles. Repeatable, maximum nine credits under different subtitles.

ENG 240 Introduction to Creative Writing (3)
Introduction to techniques in writing fiction, poetry, or in theatre, film and television. Repeatable, up to nine credits, under different subtitles.

ENG 245 Critical Approaches to Literature (3)
Study of literary works through a variety of approaches such as sociological, psychological, deconstructionist and other contemporary theories.

ENG 262 Masterpieces of World Literature (3)
Study of 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. Repeatable, maximum nine credits under different subtitles.

ENG 303 The Essay (3)
Prerequisite: ENG 122, ENG 123 or equivalent. An in-depth study of essay modes, structures, and themes in which theory and observation are supplemented with practice as students read and write essays on topics of their choice.

ENG 308 Workshop in English (1-9)
A series of specialized English topics. Subject matter may deal with any area of English or English Education. Subtitle will indicate course content. Repeatable, maximum nine credits under different subtitles.

ENG 310 Major Writers of English Literature (3)
In-depth study of the works of a single writer. Repeatable, maximum nine credits under different subtitles.

ENG 311 Shakespeare (3)
Prerequisite: ENG 122. An in-depth study of selected plays by Shakespeare using a broad variety of historical and critical approaches.

ENG 318 Traditional and Modern Grammars (3)
Describes English as treated by traditional grammarians, structuralists and transformationalists. Topics range from word classes, tense and voice, to operations and processes underlying modern grammar.

ENG 319 Advanced Expository Techniques (3)
Prerequisites: ENG 122. Reading, writing and formal analysis of various prose pieces and study of logical fallacies in ancient and modern political writing.

ENG 325 Studies in Fantasy and Science Fiction (3)
Different approaches to the literature of wonder, including concentration on a particular writer, a theme such as women in science fiction, or a historical study of the genre.

ENG 335 World Literature By and About Women (3)
The contributions of important early and modern women writers. Novels, plays and poetry or short stories of world writers will be studied.

ENG 336 European Immigrant Literature (3)
Prerequisite: ENG 122. Study of late nineteenth- and twentieth-century literature by and about European immigrants to the U.S. Also an introduction to theories of ethnicity and literature in the U.S.

ENG 340 Creative Writing - Advanced (3)
Prerequisite: ENG 240 in the appropriate subtitle or equivalent. Subtitles: Poetry, Fiction, Drama. Repeatable, maximum nine credits under different subtitles.

ENG 351 Medieval Literature (3)
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 352 Renaissance Literature (3)
English poetry and prose of the Renaissance. Selections from such authors as Spenser, Jonson, Marlowe, Bacon, the Metaphysical poets, Milton and the chroniclers.

ENG 353 Restoration and Eighteenth Century (3)
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 354 The Romantic Movement (3)
A study of the development of English Romanticism through the works of such writers as Blake, Wordsworth, Coleridge, Byron, Shelley and Keats.

ENG 355 Victorian Prose and Poetry (3)
A study of the major Victorian writers and their themes. Special emphasis upon intellectual currents of the 19th century as reflected in the poetry and prose.

ENG 356 Twentieth Century English Literature (3)
Selected reading from authors such as Shaw, Joyce, Woolf, Yeats, Thomas, Lessing and Fowles to bring out themes and intellectual currents of the present century.

ENG 371 American Literature through the 19th Century (3)
Careful study of major writers and literary movements from the Puritan period up to 1900.

ENG 372 American Literature of the 20th Century (3)
Careful study of major writers and literary movements from 1900 to the present.

ENG 402 The Short Story (3)
Analysis of modern short stories.

ENG 403 Techniques of the Novel (3)
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 (3)
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 406 Advanced Studies in Drama (3)
Study of a variety of dramatists, historical periods or special problems in drama; may focus attention on specific dramatist or sub-genre.

ENG 407 Advanced Studies in Poetry (3)
Study of one or more poets or special problems in poetry; may focus attention on a specific poet or sub-genre.

ENG 408 Advanced Topics in Rhetoric and Composition (3)
Prerequisite: ENG 122, ENG 123 or equivalent. Advanced study in various topics in rhetoric and composition, such as technical writing, classical rhetoric, computers and writing and writing theory. Repeatable, maximum six credits under different subtitles.

ENG 409 Advanced Topics in Literature (3)
Topics may focus on themes, literary theory, genres, historical periods or selected writers.

ENG 414 Greek and Comparative Mythology (3)
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 418 Advanced Topics in Linguistics (3)
An investigation of selected topics of current linguistic interest. Topics such as syntax, stylistics, semantics and sociolinguistics are explored. Repeatable, maximum six credits under different subtitles.

ENG 419 Language and the History of English (3)
A survey of general linguistics as applied to the history of the English language. Includes vocabulary and dictionary study, regional and social dialects, semantics and pragmatics, childhood acquisition of language.

ENG 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

ENG 430 Advanced Studies in World Literature (3)
An investigation of a theme, form or problem that cuts across periods and nationalities. Repeatable, maximum nine credits under different subtitles.

ENG 436 Major Ethnic Writers (3)
Prerequisite: ENG 122. Focus on the work of one or two writers and delve into critical and theoretical issues in ethnic studies. Repeatable, maximum nine credits under different subtitles.

ENG 441 Colloquium in Literature (3)
One great work of literature or a small group of such masterpieces that are closely related either in form or idea. Repeatable, maximum nine credits under different subtitles.

ENG 497 Senior Seminar (3)
Juniors or above. Detailed investigation of a specific author, period, text, or topic in literary studies, composition and rhetoric, or linguistics. Substantial research and at least one oral presentation required. Repeatable, under different subtitles.

ENG 503 Techniques of the Novel (3)
A study of seven or eight important English and American novels to show different techniques used to reveal the novelists' artistic insight.

ENG 506 Advanced Studies in Drama (3)
Studies of a variety of dramatists, historical period or problems in drama; may focus attention on a specific dramatist or sub-genre. Repeatable, under different subtitles.

ENG 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

ENG 510 Advanced Placement Program-English (1-3)
Consent of Instructor. A course designed to provide content and pedagogical information related to the teaching of writing and literature in the secondary school English advanced placement program. S/U graded. Unlimited repeatability.

ENG 513 Professional Renewal (1-4)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically stated at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

ENG 514 Greek and Comparative Mythology (3)
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 515 Colorado Writing Project: Teacher Research Design (3)
Corequisite ENG 516. Consent of instructor. Course offers experienced teachers of writing the opportunity to do scholarly research in writing pedagogy, analyzing various research designs and project results.

ENG 516 Colorado Writing Project: The Teacher as a Researcher (3)
Corequisite ENG 515. Consent of instructor. Course offers experienced teachers of writing the opportunity to develop their own research project, carry it out, evaluate it and present the results both orally and in writing.

ENG 530 Advanced Studies in World Literature (3)
An investigation of a theme, form or problem that cuts across periods and nationalities. Repeatable, under different subtitles.

ENG 535 World Literature By and About Women (3)
The contributions of important early and modern women writers. Novels, plays and poetry or short stories of world writers will be studied.
ENG 629 Studies in 20th Century British Literature (3)
Seminars in various ideas of the period, genres (criticism, drama, fiction and poetry) and representative authors. Repeatable, maximum nine credits under different subtitles.

ENG 630 Studies in American Literature (Beginnings to Civil War) (3)
Seminars in various genres (criticism, drama, prose and poetry), ideas and representative authors. Repeatable, maximum nine credits under different subtitles.

ENG 631 Studies in American Literature (Civil War to W.W.I.) (3)
Seminars in various genres (criticism, drama, fiction and poetry), ideas and representative authors during the late 19th century and early 20th century. Repeatable, maximum nine credits under different subtitles.

ENG 632 Studies in American Literature (W.W.I. to the Present) (3)
Seminars in various genres (criticism, drama, fiction and poetry), ideas and representative authors during the mid 20th century. Repeatable, maximum nine credits under different subtitles.

ENG 633 Studies in Linguistics (3)
Seminars in various topics ranging from the evolution of English from its beginnings to dialectology, semantics, stylistics and psycholinguistics. Repeatable, maximum nine credits under different subtitles.

ENG 635 Studies in World Fiction (3)
Seminars in various short stories and novels in translation to illustrate a generic or ideological approach to fiction beyond Britain and the United States. Repeatable, maximum nine credits under different subtitles.

ENG 636 Studies in World Poetry (3)
Seminars in various poets and aspects of poetry in translation to illustrate a generic, ideological or cultural approach to poetry beyond Britain and the United States. Repeatable, maximum nine credits under different subtitles.

ENG 637 Studies in World Drama (3)
Seminars in various plays in translation to illustrate a generic or ideological approach to drama beyond Britain and the United States. Repeatable, maximum nine credits under different subtitles.

ENG 638 Studies in Literary Criticism (3)
Seminars in various schools of criticism from the Greeks through the 20th century, combined with the practical application of the theories to works of literature. Repeatable, maximum nine credits under different subtitles.

ENG 639 Colloquium in Literature (3)
Seminars in various topics (e.g., the tragic hero, alienation, the experimental novel) related in form and/or idea and drawn from American, British or world literature in translation. Repeatable, maximum nine credits under different subtitles.

ENG 692 Teaching Internship (3)
Consent of Instructor. Course offers community college teaching experience to English M.A. students. Interns teach a course at an appropriate community college, receive monitoring, and provide a portfolio describing the teaching experience. Repeatable, may be taken two times.

ENG 699 Thesis/Creative Project (1-6)
Proposals must be approved by the student’s major advisor and the Dean of the Graduate School. S/U graded. Repeatable, no limitations.

ENST - ENVIRONMENTAL STUDIES

ENST 100 Introduction to Environmental Studies (3)
Explore the nature of environmental problems and gain an overall understanding of the complexity of these problems.

ENST 205 Environment, Politics and Law (3)
Analysis of the causes and proposed solutions of environmental problems and of environmental issues and their political resolution.

ENST 215 Human Behavior and Environment (2)
Prerequisite: ENST 100 recommended. Examine the interrelationship between human behavior and the environment. Review personal, social and structural dimensions of everyday life as they relate to the environment. Understand environmental problems and consider alternative behavior models.

ENST 225 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 235 Chemistry and the Environment (2)
The cause and effect of nuclear waste, pesticides, air pollution, water pollution, toxic waste, food additives and alternative energy sources from a chemical perspective.

ENST 245 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 the Physics department.

ENST 247 Politics of the Nuclear Age (2)
An investigation into the political, social, economic and military implications of nuclear power and weapons, plus the interrelations between the two. Topics will include the Manhattan Project, the Cold War mentality and the efforts to halt the nuclear arms race.

ENST 255 Atmospheric Environment of Humans (2)
Air pollution and temperature inversions, global circulation of pollutants, acid rain, human impact on the ozone layer, carbon dioxide and climatic change, nuclear winter and other climate/human relationships.

ENST 265 Conservation of Natural Resources (2)
Learn the characteristics of the major natural resources and the scientific basis behind current resource use practices. The environmental consequences of their use and abuse will be emphasized.

ENST 335 Environmental and Resource Economics (3)
Prerequisite: ECON 105. Students will examine the strengths and weaknesses of economic theory in analyzing the seriousness of resource and environmental issues facing society.

ENST 355 Introduction to Environmental Health (3)
Discussion of the relationships of environmental pollution to the ecosystem and health of humans. Analyze major areas of environmental pollution: water, air, solid wastes, pesticides, radioactive wastes and population.

ENST 375 Literature and the Environment (3)
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 385 Art and the Environment (2)
Investigate and participate in the process of art as it relates to the different environments of human existence.

ENST 405 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 groups analyze and present problems.

ENST 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

ENST 492 Internship in Environmental Studies (4-15)
Permission of ENST coordinator. Practical experience and training in areas related to the environment. Credit hours and nature of experience arranged individually. Repeatable, maximum of 15 credits.

ENST 493 Internship in Environmental Studies (4-15)
Permission of ENST coordinator. Practical experience and training in areas related to the environment. Credit hours and nature of experience arranged individually. Repeatable, maximum of 15 credits.

ENST 494 Internship in Environmental Studies (4-15)
Permission of ENST coordinator. Practical experience and training in areas related to the environment. Credit hours and nature of experience arranged individually. Repeatable, maximum of 15 credits.

ENST 495 Internship in Environmental Studies (4-15)
Permission of ENST coordinator. Practical experience and training in areas related to the environment. Credit hours and nature of experience arranged individually. Repeatable, maximum of 15 credits.

ENST 496 Internship in Environmental Studies (4-15)
Permission of ENST coordinator. Practical experience and training in areas related to the environment. Credit hours and nature of experience arranged individually. Repeatable, maximum of 15 credits.

ENST 497 Internship in Environmental Studies (4-15)
Permission of ENST coordinator. Practical experience and training in areas related to the environment. Credit hours and nature of experience arranged individually. Repeatable, maximum of 15 credits.

ENST 498 Internship in Environmental Studies (4-15)
Permission of ENST coordinator. Practical experience and training in areas related to the environment. Credit hours and nature of experience arranged individually. Repeatable, maximum of 15 credits.

ENST 499 Internship in Environmental Studies (4-15)
Permission of ENST coordinator. Practical experience and training in areas related to the environment. Credit hours and nature of experience arranged individually. Repeatable, maximum of 15 credits.

ENST 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

ENST 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.
ENST 515 Environment and Environmental Problems (2)
Examine the structural 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.

EPSY - EDUCATIONAL PSYCHOLOGY

EPSY 346 Learning and Development for Teachers (2)
Corequisites: EDMG 321 for middle grades program; EDSE 430 for elementary education program. Provisional or full admittance to PTEP required. Cognitive, linguistic, affective, and social development, with particular attention to elementary students. Contemporary learning theories and their applications to practice at the elementary level. Emphasis on integration of theory and practice, with numerous classroom applications of psychological theories and principles considered throughout. Geared specifically for pre-service teachers.

EPSY 347 Educational Psychology for Elementary Teachers (3)
Provisional or full admittance to PTEP required. Study the relationships between theory, research, and practice in learning, memory, child development, motivation, and educational assessment for elementary classroom settings.

EPSY 348 Educational Psychology for Middle School Teachers (3)
Provisional or full admittance to PTEP required. Study the relationships between theory, research, and practice in learning, memory, child development, motivation, and educational assessment for middle school classroom settings.

EPSY 349 Educational Psychology for Secondary Teachers (3)
Provisional or full admittance to PTEP required. Study the application of principles derived from research on learning, memory, adolescent development, motivation, and educational assessment and measurement to secondary classroom settings.

EPSY 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

EPSY 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

EPSY 530 Life Span Developmental Psychology (3)
Human growth and development from conception through senescence, focusing on cognitive, affective, social and psychomotor development throughout the life span.

EPSY 540 Theories and Principles of Learning (3)
A survey of classical and contemporary theory and research related to human cognition. Topics include the study of learning processes, memory and higher cognitive functions.

EPSY 622 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

EPSY 630 Child and Adolescent Psychology (3)
Prerequisite: EPSY 530 or equivalent. Physical, social and emotional development of children from conception through puberty, stressing normal development and major development theories.

EPSY 631 Psychology of Youth, Adulthood and Aging (3)
Prerequisite: EPSY 530 or equivalent. Cognitive, social and physical developments that affect transitions in youth, adulthood and senescence.

EPSY 635 Individual Differences in Cognition (3)
Prerequisite: EPSY 540 or equivalent. Examine individual differences between learners from a cognitive viewpoint. Review verbal, mathematical, and spatial abilities, cognitive styles, problem solving and gender and cultural differences. Seminar format.

EPSY 654 Seminar in College Teaching (3)
Practices, issues and research in college teaching. Instructional models and methods, course planning, cognition, testing and grading, student-teacher interaction and ethics.

EPSY 661 Trends and Issues in Educational Psychology (3)
Majors only. Examines professional, philosophical, theoretical issues and trends across the discipline. Students practice and receive feedback regarding written and oral communication skills. S/U graded.

EPSY 663 Apprenticeship (1-3)
Consent of instructor. Work with faculty member on professional endeavors such as research, writing, course planning or public service. Requires 3 hours per week for each credit. S/U graded. Repeatable, maximum of nine credits.

EPSY 674 Measurement I: Educational Testing (3)
Prerequisite: SRM 600. Construction and evaluation of tests and other measures. Topics include score and norm interpretation, reliability and validity. Item construction and analysis, rating scales and questionnaires.

EPSY 675 Measurement II: Advanced Techniques (3)
Prerequisite: EPSY 674. Classical and modern measurement theory and methods. Derivations of reliability and validity formulae, test bias, item response theory, logistic models, score equating, standards, individual prediction and classification.

EPSY 682 Cognition and Instruction (3)
Prerequisite: EPSY 540. A critical survey and analysis of the research literature in cognitive psychology pertaining to issues of instruction and human performance. Research on learning environments and cognitive apprenticeships is also examined.

EPSY 684 Advanced Seminar in Human Development (3)
Prerequisite: EPSY 530. For Graduate students wishing to develop advanced competency. Periodically, seminar may focus on topic reflecting instructor's interest area or on developing a student's inquiry. Repeatable, maximum of nine credits.

EPSY 685 Advanced Seminar in Learning and Cognition (3)
Prerequisite: EPSY 540. Pursue original research into learning and cognitive processes under the guidance of a faculty member. Arranged to reflect faculty and students' interests. Repeatable, maximum of nine credits.

EPSY 692 Internship in Educational Psychology (1-9)
Consent of instructor. Full or part-time assignment in a field-based setting under supervision. Students work a minimum of 3 hours per week for each hour of credit. S/U graded. Repeatable, maximum of 18 credits.

EPSY 694 Practicum (1-9)
Consent of instructor. Experiential learning in an on-campus setting in conjunction with supervision by a faculty member. Students work a minimum of 3 hours per week for each hour of credit. S/U graded. Repeatable, maximum of 18 credits.

EPSY 695 Special Topics in Educational Psychology (1-3)
Specialized topics or contemporary issues. Topics vary. Repeatable, maximum two times, under different subtitles.

EPSY 699 Thesis (1-6)
Empirical investigation under the direction of a graduate faculty member. Thesis must be approved by the faculty committee and submitted in appropriate style and format to the Graduate School. S/U graded. Repeatable, no limitations.

EPSY 797 Doctoral Proposal Research (1-4)
Doctoral students must earn 4 hours as partial fulfillment of requirements for the doctorate. Check with the Graduate School regarding appropriate procedures and formats. S/U graded. Repeatable, maximum of four credits.

EPSY 799 Doctoral Dissertation (1-12)
Must earn 12 hours as partial fulfillment of requirements for the doctorate. Dissertation must be approved by and defended before the dissertation committee. S/U graded. Repeatable, no limitations.
ESCI - EARTH SCIENCES

ESCI 265 Earth Science Concepts for Elementary Teachers (3)
(2 lecture, 2 laboratory) An investigation of basic concepts in the Earth Sciences through lecture, discussion and laboratory investigations. This course is ideal for those seeking elementary teacher certification.

ESCI 450 Strategies in Teaching in Earth Sciences (1)
(2 laboratory) Demonstration and strategies appropriate for teaching earth science concepts and presentation of controversial issues and management of laboratory and field trip activities.

ESCI 484 Earth Sciences Field Experiences (1-15)
Consent of instructor. Field studies in astronomy, geology, meteorology and/or oceanography, usually preceded by on-campus orientation. Schedule of classes lists specific area and topic to be investigated when course is offered. Repeatable under different subtitles. Field trip

ESCI 492 Earth Science Internship (1-15)
Consent of instructor. Internship in a public agency or private firm to provide professional experience under the supervision of an area specialist. S/U graded. Repeatable maximum 15 credits.

ESCI 497 Undergraduate Research (1-4)
Consent of instructor. Original research in the earth sciences conducted under the guidance of a faculty advisor. Results of the investigation are to be presented both in a written report and orally. Repeatable, maximum of six credits.

ESCI 504 Minerals and Rocks (3)
(2 lecture, 2 laboratory) No credit for Earth Science majors. A practical course dealing with the origin, classification, recognition and uses of minerals and rocks. Field trip and outside reading are required.

ESCI 550 Strategies in Teaching in Earth Sciences (1)
(2 laboratory) Demonstration and strategies appropriate for teaching earth science concepts and presentation of controversial issues and management of laboratory and field trip activities.

ESCI 575 Earth Systems Science Education (1-6)
A variable content course covering integrated science content and pedagogy from the following: atmosphere (air), biosphere (life), hydrosphere (water), and/or lithosphere (land/rock). Repeatable, under different subtitles.

ESCI 584 Earth Sciences Field Experiences (1-15)
Consent of instructor. Field studies in astronomy, geology, meteorology and/or oceanography, usually preceded by on-campus orientation. Schedule of classes lists specific area and topic to be investigated when course is offered. Repeatable under different subtitles.

ESCI 599 Seminar in Earth Sciences (1)
Consent of instructor. Invited speakers, including graduate students, faculty and guests, present current earth science research topics in seminar format. Repeatable, maximum six semesters they are in residence at UNC. S/U graded. Unlimited repeatability.

ESCI 600 Introduction to Earth Science Research (2)
Consent of instructor. Nature and methods of research in the earth sciences. Development of research proposal that will provide the basis for thesis or graduate research project. Required of all first year Earth Sciences graduate students.

ESCI 695 Special Topics in Earth Sciences (2)
Consent of instructor. Faculty and students select an earth sciences topic for intensive study beyond the scope of existing departmental course offerings. Repeatable, no limitations.

ESCI 697 Graduate Research (1-6)
Consent of instructor. Qualified graduate students select and research a problem and present professional quality written report. Repeatable, maximum of six credits.

ESCI 699 Thesis (1-6)
Intensive study of selected earth sciences topic under the direction of student's graduate studies committee. S/U graded. Repeatable, no limitations.

ESL - ENGLISH AS A SECOND LANGUAGE

ESL 051 Writing for Foreign Students (1-3)
Designed to help foreign students with college writing tasks, including essays, term papers, theses. For students whose English language skills are at advanced level, This is a Basic Skills course offered through Continuing Education and does not count in term, cumulative or total credits and will not be calculated in the GPA. Unlimited repeatability.

ET - EDUCATIONAL TECHNOLOGY

ET 100 Computer Applications for Composition (1)
Taken concurrently with composition classes. Word processing, graphics and stylistic analysis applications to improve student's writing process. Includes CAI tutorials and tests.

ET 247 Technology in Education for Elementary Teaching (1)
Corequisites: EDFG 200. Provisional or full admittance to PTEP required. Instruction and practice using a variety of technology tools. Issues related to the application of these tools (intellectual freedom, critical viewing skills, technology access and equity) within the elementary classroom setting will be emphasized.

ET 248 Technology in Education for Middle Grades Teaching (1)
Corequisites: EDFG 200. Provisional or full admittance to PTEP required. Instruction and practice using a variety of technology tools. Issues related to the application of these tools (intellectual freedom, critical viewing skills, technology access and equity) within the middle grades classroom setting will be emphasized.

ET 249 Technology in Education for Secondary Teaching (1)
Corequisites: STEP 161. Provisional or full admittance to PTEP required. Instruction and practice using a variety of technology tools. Issues related to the application of these tools (intellectual freedom, critical viewing skills, technology access and equity) within the secondary classroom setting will be emphasized.

ET 347 Educational Technology Applications for Elementary Teaching (1)
Prerequisite: ET 247. Corequisite: EDEL 430. Full Admittance to PTEP required. Sophomores or above. Integration of various instructional delivery systems within teaching. Content-specific and elementary applications of computing, video, print, hypermedia and multimedia, telecommunications and issues of relevance to the elementary education community.

ET 348 Educational Technology Applications for Middle Grades Teaching (1)
Prerequisite: ET 248. Corequisites: EDMG 440, and ETSE 411. Full Admittance to PTEP required. Sophomores or above. Integration of various instructional delivery systems within teaching. Content-specific and middle grades applications of computing, video, print, hypermedia and multimedia, telecommunications and issues of relevance to the middle grades education community.

ET 349 Educational Technology Applications for Secondary Teaching (1)
Prerequisite: ET 249. Corequisites: STEP 363, EDRD 324 and appropriate secondary methods course for the secondary education program. Full Admittance to PTEP required. Sophomores or above. Integration of various instructional delivery systems within teaching. Content-specific and secondary applications of computing, video, print, hypermedia and multimedia, telecommunications and issues of relevance to the secondary education community.

ET 401 Classroom Applications of Educational Technology (2)
Prerequisite: Full Admittance to PTEP required. Includes instructional design and media selection, design and utilization of microcomputers applications.

ET 422 Directed Study (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

ET 425 Computer Applications (3)
Course content includes spreadsheets, word processing, data base, presentation software, communication software, graphics and content specific software applications. S/U graded.
ET 495 Special Topics in Educational Technology (1-3)
Consent of instructor. Scheduled on irregular basis. Explore special topics in Educational Technology. An appropriate subtitle will explain each course. Repeatable two times, under different subtitles.

ET 500 Introduction to Educational Technology (3)
A survey course examining the field of educational technology, especially its impact on teaching and learning. Includes historical and current perspectives, as well as trends and issues in the field.

ET 501 Introduction to Applications of Educational Technology (3)
Instruction and practice using a variety of educational tools including computer systems. Specific applications include word processing, spreadsheets and presentation software. Issues related to the application of these tools (visual literacy, information literacy skills, copyright, trends) within a variety of contexts will be explored. Video component included.

ET 502 Instructional Design (3)
Covers design procedures and analysis techniques for determining instructional content. Evaluation tools for determining instructional efficiency at the systems, curriculum, course and lesson levels are explored.

ET 503 Computers in Education (3)
Prerequisite: ET 501 or permission of instructor. Instruction for intermediate to advanced applications of current computer-based technologies. Introduction to a variety of other technology related topics with an emphasis on educational applications and integration.

ET 504 Instructional Materials Design (3)
Procedures for designing and developing instructional materials. Includes scripting and production specifications for graphic, audio, slide/tape and/or video formats.

ET 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

ET 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

ET 524 Design of Computer Assisted Instruction (3)
Prerequisite: ET 503. A study of the design and development of computer assisted instruction, introducing both authoring system and general purpose programming language paradigms.

ET 530 Media Cataloging and Classification (3)
Study the purpose, theory and principles of cataloging and classifying media. Includes Dewey Decimal, Library of Congress and other systems, as well as on-line cataloging.

ET 533 Reference and Information Management (3)
Discuss suitable materials for elementary, secondary and post-secondary resource centers as well as data bases and research indices for students, instructors and administrators.

ET 535 Administration of Instructional Resources (3)
Learn the essentials of organizing and administering instructional resource centers at elementary, secondary and post-secondary levels. Includes budget preparation and personnel management.

ET 536 Media Selection, Utilization and Evaluation (3)
Selection principles, utilization strategies and evaluative criteria for print and non-print media for individuals, groups, different ages and cultural groups. Includes CAI/CMI evaluation.

ET 601 Strategies for Teaching Technology Skills (3)
Prerequisites: ET 502, ET 503. This course is specifically designed for individuals responsible for teaching technology-related skills to a diverse group of learners. Pedagogical skill development will apply to the teaching/training of K-12 students, college students, inservice and preservice teachers, community college and university faculty and corporate trainees. The focus is on using appropriate instructional design strategies, theories and models to create learning environments that are more efficient, effective and appealing. It also addresses issues related to ethics and interpersonal skills as they relate to the topic.

ET 602 Instructional Analysis and Design (3)
Prerequisite: ET 502. Application of contemporary methods of assessment, design, development, implementation and evaluation of instructional courses, programs and systems.

ET 604 Advanced Design of Instructional Materials (3)
Prerequisites: ET 504, EPSY 540. Application of principles of human learning, perception, and motivation to the design and production of materials to support learning and performance.

ET 613 Instructional Telecommunications (3)
Conceptual issues and production techniques for developing instructional telecommunication systems and programs.

ET 615 Distance Education: Theories and Practice (3)
Includes an overview of distance education foundations, design issues systems development and applications across curricula.

ET 622 Directed Study (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

ET 627 Computer Assisted Instruction Authoring Systems (3)
Prerequisites: ET 503, ET 524. The generation and validation of computer based courseware using programming languages and authoring systems.

ET 628 Design of Multimedia Learning Environments (3)
Prerequisites: ET 503, ET 524. Investigation of the theory, implementation, practice, and research on interactive, computer based instructional systems including videodisk, videotape, digital video, CD-ROM, and image capture technologies.

ET 650 Corporate Course Design (3)
Consent of instructor. Reviews issues related to corporate course design. RFP preparation, human factors, incentive systems, pluralism and resource management are also featured.

ET 680 Integration of Technology into Curricula (3)
Prerequisite: ET 503 or consent of instructor. Deals with issues and methodologies for integrating technology into existing K-12 curricula. Specific approaches and problems with current models will be investigated and directions for research discussed.

ET 684 Seminar in Educational Technology (3)
Consent of instructor. For graduate students wishing to develop advanced competency in educational technology. Periodically, seminar may focus on topic reflecting instructor's interest area or on developing a student's inquiry.

ET 692 Internship (3)
Advisors recommendation and permission of program director. Individual field experience in educational technology. Field experience and summative report format must be approved by advisor. S/U graded. Repeatable, under different subtitles.

ET 693 Practicum (1-3)
Supervised professional activity requiring a minimum of 10 hours per week. Develop project, product or technological device unique to the field. An approved end of semester project report is required. S/U graded. Repeatable, under different subtitles.

ET 695 Special Topics in Educational Technology (1-3)
Consent of instructor. Scheduled on irregular basis. Explore special topics in Educational Technology. An appropriate subtitle will explain each course. Repeatable, under different subtitles to a maximum of three credits.

ET 702 Instructional Design Theory and Research (3)
Prerequisite: ET 602. Includes examinations of theories underlying instructional design methods. Review and critique of basic and applied research bases is featured.

ET 735 Design of Complex Technology Systems (3)
Exploration of the design, organization and administration of large and complex technology systems. Investigation of the essential elements necessary for the successful operation of large complex systems.

ET - Educational Technology
ET 780 Diffusion of Technological Innovations (3)
Investigation of the literature and research base in diffusion of innovations. Application of theoretical and research findings to the diffusion of technological innovations.

ET 784 Doctoral Seminar in Educational Technology (3)
Prerequisite: ET 500. Investigation of the development of the field of educational technology including the theoretical and research bases for the field. Exploration of current research problems and directions for future research in educational technology.

ET 797 Doctoral Proposal Seminar (1-4)
Design of research proposals and conducting pilot studies to examine feasibility of proposed hypothesis. Summarize existing research, identify problems, develop hypotheses and justify selection of design components. S/U graded. Repeatable, maximum four credits.

ET 799 Doctoral Dissertation (1-12)
Required of all doctoral candidates. Student must earn 12 hours of credit for the dissertation as partial fulfillment of requirements for all doctoral degrees. Repeatable, no limitations.

FL - FOREIGN LANGUAGES

FL 341 Methods of Teaching in the Secondary School (3)
Full admission to PTEP or permission of instructor required. Prerequisite to student teaching. Emphasize teaching techniques, curriculum and classroom organization, testing and evaluation, procedures and materials, relationship of subject area to entire secondary program.

FL 395 Special Topics (1-4 credits)
Explore a special topic related to foreign language study. Conducted in English or in any language taught in the Department of Foreign Languages. Repeatable, under different subtitles.

FL 400 Traditions in International Film (3)
Research and discuss film in international and cross-cultural contexts, especially Western film in relation to ongoing European film traditions and theories. Conducted in English.

FL 508 Workshop (1-10)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

FL 513 Professional Renewal (1-10)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

FL 531 Teaching of Foreign Languages (1-4)
Study problems in teaching at secondary and elementary school levels, content development for course of study, organization of learning materials, teaching procedures, testing and evaluating. Normally conducted in workshop format. Repeatable, under different subtitles.

FL 601 Practicum (1-10)
Open only by invitation to resident graduate students. Supervised professional activity in student's area of interest. Repeatable, maximum 10 credits.

FLD - FOOD, NUTRITION AND DIETETICS

FND 210 Medical Terminology (2)
For students of any major. Terminology used in medical sciences. Development of medical vocabulary.

FND 250 Principles of Nutrition (3)
For students of any major. Investigation of the principles of nutrition as applied to humans.

FND 251 Introductory Nutrition (3)
Prerequisite: CHEM 108 or CHEM 131. Basic nutrient concepts including individual nutrients and their interactions.

FND 252 Nutrition in the Life Cycle (3)
Prerequisite: FND 250. Nutrition applied to the various stages of life, from conception to the later years. Socioeconomic, psychological, physiological factors affecting food intake.

FND 258 Workshops in Food, Nutrition and Dietetics (1-3)
Investigate various issues in Food, Nutrition and Dietetics. Each workshop has a subtitle and no credit may be repeated for credit. Repeatable, under different subtitles.

FND 342 Food Science (4)
(2 lecture, 2 laboratory) Prerequisites: CHEM 108, FND 250. Study of the chemical and physical properties of food and the effects of processing and preparation, preservation and storage.

FND 357 Nutrition in Health and Illness (4)
Prerequisites: CHEM 108, ZOO 245 or take concurrently. Basic nutrition concepts including individual nutrients and their association with disease states. Course is intended for nursing and other allied health professional students.

FND 410 Professional Development Seminar (3)
Dietetic majors only. Development of the dietetic profession. Examination of topics in nutrition and dietetics not covered in previous coursework. Methods of teaching nutrition in different educational settings. S/U graded.

FND 420 Maternal and Child Nutrition (3)
Prerequisite: FND 250 or FND 357. The study of developmental stages, nutrient requirements, appropriate diet and eating behaviors for children from conception through school age, common nutrition related conditions of children and nutrition for the pregnant and lactating woman.

FND 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

FND 430 Clinical Nutrition I (3)
(2 lecture, 1 laboratory) Prerequisites: FND 252, ZOO 245, CHEM 109. Nutrition assessment and intervention during acute and chronic disease. Theory and practical application presented.

FND 431 Clinical Nutrition II (3)
(2 lecture, 1 laboratory) Prerequisite: FND 430. Continuation of FND 430. Laboratory arranged. Nutrition assessment and intervention during acute and chronic disease. Theory and practical application presented.

FND 446 Foodservice Systems Management (4)
(3 lecture, 1 laboratory) Prerequisites: FND 252, FND 342. Systems approach applied to commercial and noncommercial food service facilities including: procurement, production, distribution, service and maintenance. Management of foodservice operations. Laboratory required.

FND 451 Advanced Nutrition (3)
Prerequisites: FND 250, CHEM 109, ZOO 245. Metabolic, physiological and biochemical functions of nutrients and subcellular components and their role in maintaining the integrity of the organism.

FND 452 Community Nutrition (3)
Prerequisites: FND 250 and FND 252. Systematic analysis of community food and nutrition problems and programs. Role of public and private sectors in community health promotion.

FND 453 Nutrition Intervention Practicum (1-2)
Prerequisites: FND 430, FND 431 or take concurrently. Consent of instructor. Majors only. Application of the principles of clinical and community nutrition through laboratory and clinical experiences. Repeatable, maximum 2 credits.

FND 455 Nutrition for Fitness and Athletic Performance (3)
The study of nutrition principles as they apply to the promotion of optimal physical fitness and athletic performance. Current research and evaluation of nutritional recommendations will be stressed.
FR - French

FND 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

FND 513 Professional Renewal (1-3)
Consent of instructor. Enrollment restricted. Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

FND 520 Maternal and Child Nutrition (3)
Prerequisite: FND 250 or FND 357. The study of developmental stages, nutrient requirements, appropriate diet and eating behaviors for children from conception through school age, common nutrition related conditions of children and nutrition for the pregnant and lactating woman.

FND 555 Nutrition for Fitness and Athletic Performance (3)
The study of nutrition principles as they apply to the promotion of optimal physical fitness and athletic performance. Current research and evaluation of nutritional recommendations will be stressed.

FR - French

FR 101 Elementary French I (4)
Corequisite: FR 151. For students with no previous French. Develop four language skills, especially speaking. Stresses practical communication, comprehension, pronunciation, fluency and cultural awareness.

FR 102 Elementary French II (4)
Prerequisite: FR 101 or equivalent. Corequisite: FR 152. Continuation of FR 101 or equivalent. Develop four language skills, especially speaking. Stresses practical communication, comprehension, pronunciation, fluency and cultural awareness.

FR 116 Contemporary France (3)
Become familiar with the culture and society of France with special emphasis on contemporary French issues. Conducted in English.

FR 151 Elementary French Lab I (1)
Practice elementary French skills through workbook and lab activities commensurate with skill level in FR 101. Repeatable, may be taken 2 times.

FR 152 Elementary French Lab II (1)
Practice elementary French skills through workbook and lab activities commensurate with skill level in FR 102. Repeatable, may be taken 2 times.

FR 201 Intermediate French I (3)
Corequisite: FR 251. Review language structures and develop reading and writing skills. Gain vocabulary through conversational practice on topics of cultural interest.

FR 202 Intermediate French II (3)
Prerequisite: FR 201 or equivalent. Corequisite: FR 252. Review language structures and develop reading and writing skills. Gain vocabulary through conversational practice on topics of cultural and literary interest.

FR 251 Intermediate French Lab I (1)
Practice intermediate French skills through the use of workbook exercises and computer software commensurate with skill level in FR 201. Repeatable, may be taken 2 times.

FR 252 Intermediate French Lab II (1)
Practice intermediate French skills through the use of workbook exercises and computer software commensurate with skill level in FR 202. Repeatable, may be taken 2 times.

FR 301 France: Its People and Culture (3)
Prerequisite: FR 202 or equivalent. Develop fluency in writing and conversation and build vocabulary through discussion and compositions about everyday life in contemporary France.

FR 302 Current Events in France (3)
Prerequisite: FR 202 or equivalent. Acquire advanced reading, writing and conversation skills through discussions and compositions about current events in France.

FR 311 French Civilization and Literature Survey I (3)
Prerequisite: FR 202 or equivalent. Study of French civilization from prehistoric times up through the eighteenth century, including the historical, geographical, economic, political, artistic and literary development of France. Conducted in French.

FR 312 French Civilization and Literature Survey II (3)
Prerequisite: FR 202 or equivalent. Study of French civilization from the French Revolution to the present, including the historical, economic, political, social, artistic and literary development of France. Conducted in French.

FR 401 Intensive French (1-8)
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. Conducted in French. Repeatable, maximum eight credits (if course content varies).

FR 402 Contemporary Life in France (1-6)
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. Conducted in French. Repeatable, maximum six credits (if course content varies).

FR 403 France of the Ancient Regime (1-8)
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, theatre and music. Conducted in French. Repeatable, maximum eight credits (if course content varies).

FR 404 Modern France (1-8)
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, theatre and music. Conducted in French. Repeatable, maximum eight credits (if course content varies).

FR 405 Business French (3)
Prerequisite: FR 202 or equivalent. Learn language skills for use in commercial, professional and government activities. Emphasize acquiring professional vocabulary, building reading and conversational skills and developing mechanics, style and translation of correspondence. Conducted in French.

FR 407 French for Oral Proficiency (3)
Intermediate oral proficiency in French required. Designed to develop oral proficiency by exposing students to advanced and superior linguistic functions, as defined in the American Council on the Teaching of Foreign Languages (ACTFL) proficiency guidelines for the Oral Proficiency Interview (OPI).

FR 411 France Then and Now (2)
Prerequisite: FR 202 or equivalent. Study of the importance of selected periods of French history. Examine the role and the art, literature and philosophy of these periods in the development of contemporary French civilization. Repeatable, under different subtitles.

FR 412 French Politics and Society (2)
Prerequisite: FR 202 or equivalent. Study the political and social systems of modern France. Learn of France’s involvement in the European Community and the implications of this involvement for French politics and society.

FR 413 The Francophone World (2)
Prerequisite: FR 202 or equivalent. Study the differing cultures of countries and/or regions of the non-European francophone world, in particular Quebec, the French West Indies, and French-speaking Africa.

FR 414 Language and Society (2)
Prerequisite: FR 202 or equivalent. Study areas of the evolving French language relative to contemporary French society. Topics include commercial French, French in the popular press, familiar language and slang, and regionalism.

FR 422 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

FR 450 Readings in French Literature (3)
Prerequisite: FR 202 or equivalent. Study the masterpieces and literary movements of French literature. Learn to read and discuss complete works of literature in French. Acquire the skills to write research papers on course topics. Repeatable, under different subtitles.
FR 502 Contemporary Life in France (3)
Graduate status in French. 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. Conducted in French. Repeatable, maximum six credits (if course content varies).

FR 505 Topics in French Civilization (1-3)
Graduate status or consent of 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. Repeatable, under different subtitles to a maximum of 15 credits.

FR 506 Topics in French Literature (1-3)
Graduate status or consent of instructor. Reading and discussion of significant works in French-language literature. Works selected and discussed with a focus on their applicability to the secondary classroom. Conducted in French. Repeatable, under different subtitles to a maximum of 10 credits.

FR 507 French for Oral Proficiency (3)
Graduate status in French. Designed to develop oral proficiency by exposing students to advanced and superior linguistic functions, as defined in the American Council on the Teaching of Foreign Languages (ACTFL) proficiency guidelines for the Oral Proficiency Interview (OPI).

FR 508 Workshop (1-10)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

FR 511 French Civilization and Literature Survey I (3)
Graduate status in French. Study of French Civilization and prehistoric times up through the eighteenth century, including the historical, geographical, economic, political, artistic and literary development of France. Conducted in French.

FR 512 French Civilization and Literature Survey II (3)
Graduate status in French. Study of French civilization from the French Revolution to the present, including the historical, economic, political, social, artistic and literary development of France. Conducted in French.

FR 513 Professional Renewal (1-10)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

FR 521 Problems in Advanced Grammar (1-3)
Graduate status or consent of instructor. Learn the more difficult grammatical structures with special emphasis on structures presenting special difficulties in teaching French. Conducted in French. Repeatable, under different subtitles to a maximum of five credits.

FR 522 Problems in Advanced Composition (1-3)
Graduate status or consent of instructor. Emphasize written expression, style and idiomatic usage of the French language. Conducted in French. Repeatable, under different subtitles to a maximum of five credits.

FR 622 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

GEOG - GEOGRAPHY

GEOG 100 World Geography (3)
Introduction to the complex relationships that link humans with their physical, cultural and spatial environments. Students will investigate these diverse relationships through a variety of worldwide examples.

GEOG 110 Geography of the United States and Canada (3)
An analysis of the cultural and environmental patterns of North America, with emphasis on the geographic processes that shape them.

GEOG 200 Human Geography (3)
Study the role of location and locational questions in human behavior including how locational factors influence behavior and resulting social and cultural modifications.

GEOG 232 Physical Geography (4)
(3 lecture, 2 laboratory). Study the natural environments that cover the earth, the processes that shape them and their role as settings for human action. Field trip required.

GEOG 264 Maps and Imagery (3)
Learn effective use of maps and globes and develop skill in reading and interpreting maps and imagery.

GEOG 300 Advanced Human Geography: Topics (3)
Prerequisite: GEOG 200. Examine the evidence and imprint of cultural values on geographic landscapes; utilize techniques of spatial diffusion, cultural ecology and integration and landscape analysis to identify and investigate culture regions. Repeatable, under different subtitles.

GEOG 302 Cartography (3)
Required laboratory arranged. Prerequisite: GEOG 264. Study the fundamentals, theory and practice of maps and graphic representation. Two one-hour lectures and one credit hour for arranged laboratory work.

GEOG 312 Economic Geography (3)
Prerequisite: GEOG 200. 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)
Prerequisite: GEOG 232. Explore the theoretical nature of human-environment systems from a geographical viewpoint and examine locational factors that influence behavior and resulting geographic patterns.

GEOG 318 Australia (2)
Prerequisite: GEOG 100. 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 320 Population Geography (3)
Prerequisite: GEOG 200. Analysis of world population distribution and change utilizing geographic themes and demographic measures, with particular attention to migration, urbanization, environmental impact, and national planning.

GEOG 325 Advanced Physical Geography: Topics (3)
Prerequisite: GEOG 232 or equivalent. Study the complexities of the physical world and investigate the interactions between human activities and the physical environment. Repeatable, under different subtitles.

GEOG 326 Africa (3)
Prerequisite: GEOG 100. Identify and analyze relationships between the physical and cultural patterns, including land use, resource development, social, political and economic problems.

GEOG 335 Geography of Middle America (3)
Prerequisite: GEOG 100. Study the complex patterns of population, politics, economy and life-styles as they relate to the diverse physical and multicultural environments of Middle America. Analyze the strategic location of this region as it pertains to United States foreign relations.

GEOG 340 Europe (3)
Prerequisite: GEOG 100. Study the relationships between the physical and cultural environments, including land use, resources, economics and political problems.

GEOG 344 Asia: Special Topics (3)
Prerequisite: GEOG 100. Study the regions of Asia through variable offerings. Examine patterns of physical and cultural landscapes, social organization and economic activities. Repeatable, under different subtitles.

GEOG 350 Colorado (3)
Prerequisite: GEOG 110. Study the geographical and human resources of Colorado, including physical features, climate, landmark regions and natural resources and their utilization and conservation.

GEOG 360 Political Geography (3)
Prerequisite: GEOG 100. Learn about political phenomena as they relate 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 365 Russia and Eurasia (3)
Prerequisite: GEOG 100. A regional analysis of geographic conditions, their historical importance and their relation to economic, social and political problems in Russia and the other republics of the former Soviet Union.
GEOG 370 Urban Geography (3)
Prerequisite: GEOG 200. 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 (1-6)
Study and apply the techniques used in solving geographic problems in the field and effectively present the results of such studies. Repeatable, may be taken two times.

GEOG 407 Theory and Use of Geographic Information Systems (3)
Prerequisites: GEOG 264, GEOG 302. An introduction to the basic concepts and operations of computer-based geographic information systems.

GEOG 410 Teaching Geography in Secondary Curriculum (1)
Prerequisite: SOSC 341 or equivalent. Full admission to PTEP or current licensure required. Study fundamental thematic map communication concepts emphasizing data collection and processing, symbolization, map design and computer-assisted drafting.

GEOG 420 Directed Studies (1-3)
Prerequisite: GEOG 302 or consent of instructor. Study fundamental thematic map communication concepts emphasizing data collection and processing, symbolization, map design and computer-assisted drafting.

GEOG 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

GEOG 438 South America (3)
Prerequisite: GEOG 100. Analyze physical features and patterns, placing major emphasis on land utilization, agriculture, resource development, settlement and migration patterns and processes of industrialization.

GEOG 453 Geography of the Great Plains (3)
Prerequisite: GEOG 110. 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. Field trips encouraged.

GEOG 475 Quantitative Techniques in Geography (3)
Prerequisite: STAT 150 or consent of instructor. Examine elementary statistical techniques useful to the analysis of geographical data. Some background in mathematics useful.

GEOG 492 Internship (1-6)
Advanced undergraduate majors and minors use geographic training while working in local, state or federal agencies. Participants must meet university internship requirements. Unlimited repeatability.

GEOG 495 Senior Seminar (3)
Research selected geographic topics based on the student's major emphasis. Course focuses on the assessment of students' geographic knowledge base, research and analysis skills.

GEOG 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

GEOG 510 Topics in Teaching Geography (2)
Appraise and become familiar with various concepts, theories and skills in geography and with the techniques and methodologies appropriate for teaching them. Repeatable, maximum six credits.

GEOG 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

GEOG 520 Topics in Systematic Geography (2)
Graduates only or consent of instructor. Examine a selected area of systematic geography; consider appropriate pedagogical approaches in teaching about that geographic topic.

GEOG 525 Topics in Regional Geography (2)
Graduates only or consent of instructor. Examine a selected geographic region; consider appropriate pedagogical approaches in teaching the geography of the region.

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 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. Field trips encouraged.

GEOG 560 Maps and Mapping in Geographic Education (1-6)
Graduates only or consent of instructor. Study concepts of location on the earth's surface, map projections, data acquisition and processing, thematic mapping. Work with computer-assisted drafting and thematic mapping packages. Develop applications for teaching geography.

GEOG 565 Computer Applications in Geographic Education (2)
Graduates only or consent of instructor. Examine computer-based resources for managing and displaying geographic information; develop applications for teaching geography.

GEOG 570 Classroom Technology in Geographic Education (2)
Graduates only or consent of instructor. Introduce non-interactive and interactive technology appropriate for teaching K-12 geography. Develop units using interactive technology for teaching geography.

GEOG 575 Seminar in Quantitative Geography (3)
Prerequisite: GEOG 475 or equivalent. Undertake selected research projects that provide experience in the use of quantitative techniques in interpreting geographical data.

GEOG 592 Field Course in Geography (1-6)
Study and apply techniques used, solve geographic problems in the field and effectively present results of such studies. Unlimited repeatability.

GEOG 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.
GEOL 390 Colorado Geology (3)
Prerequisite: GEOL 100 or equivalent.
Colorado rocks, minerals, fossils, landforms, oil, coal, oil shale, geologic history and geologic hazards explored in informal atmosphere.
Includes four-day field trip to investigate geological features in natural settings.

GEOL 410 Groundwater Geology (2)

GEOL 421 Optical Mineralogy and Petrography (4)
(2 lecture, 4 laboratory) Prerequisite: GEOL 320. Use of the petrographic microscope to study minerals in immersion media and in rock thin sections and the hand sample and microscopic description of rocks.

GEOL 422 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

GEOL 450 Sedimentology and Stratigraphy (4)
(3 lecture, 3 laboratory) Prerequisite: GEOL 202. Sedimentary processes; depositional environments; classification and structures of sedimentary rocks; field and laboratory methods of analyzing and interpreting outcrops and samples. Regional stratigraphy of northeastern Colorado investigated. Field trips required.

GEOL 460 Geomorphology (3)
(2 lecture, 3 laboratory) Prerequisite: GEOL 100 or GEOL 201. 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 and lithologic, climatic and structural controls.

GEOL 464 Glacial and Quaternary Geology (3)
Prerequisite: GEOL 100 or GEOL 201. A survey of geologic phenomena that characterized the Quaternary Period, with emphasis on the behavior of glaciers, glacial landforms and sediment and climatic implications. Two Saturday field trips required.

GEOL 470 Structural Geology (4)
(3 lecture, 3 laboratory) Prerequisites: GEOL 201, PHYS 220, 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 481 Geologic Field Techniques (2)
(4 laboratory) Prerequisites: GEOL 202, GEOL 470. Techniques of obtaining and recording geological data in the field and constructing geological maps. Includes use of Brunton compass, plane table and aerial photographs and the preparation of geological reports.

GEOL 482 Geology Field Camp (6)
Prerequisites: GEOL 421, GEOL 470, GEOL 481. Six weeks of field geology including mapping of a variety of geological terrains using topographic maps, aerial photographs, plane table and other methods.

GEOL 510 Groundwater Geology (2)

GEOL 521 Optical Mineralogy and Petrography (4)
(2 lecture, 4 laboratory) Prerequisite: GEOL 320. Use of the petrographic microscope to study minerals in immersion media and in rock thin sections and the hand sample and microscopic description of rocks.

GEOL 525 Economic Geology (3)
Prerequisite: GEOL 320. Deals with the origin and occurrence of metallic and related mineral deposits and also with the origin, migration and accumulation of oil and natural gas deposits. Field trip required.

GEOL 533 Sedimentary Petrology (2)
(1 lecture, 3 laboratory) Prerequisite: GEOL 421 or GEOL 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. Field trip required.

GEOL 535 Tectonics (2)
Prerequisite: GEOL 202. The earth's tectonic features and the models which have attempted to explain them. Detailed study of modern plate tectonic theory and the evidence which supports it.

GEOL 540 Paleontology (4)
(2 lecture; 6 laboratory) Prerequisite: GEOL 202. Fossil animals and plants - fossilization origins and methods of investigating them. Field trips required.

GEOL 542 Fossil Animal and Plant Paleontology (2)
(3 laboratory) Prerequisite: GEOL 420. The use of fossils as a means of interpreting the history of the earth from the origin of life to the present.

GEOL 550 Sedimentology and Stratigraphy (4)
(3 lecture, 3 laboratory) Prerequisite: GEOL 202. Sedimentary processes; depositional environments; classification and structures of sedimentary rocks; field and laboratory methods of analyzing and interpreting outcrops and samples. Regional stratigraphy of northeastern Colorado investigated. Field trips required.

GEOL 560 Geomorphology (3)
(2 lecture, 3 laboratory) Prerequisite: GEOL 100 or GEOL 201. 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 and lithologic, climatic and structural controls.
GER - GERMAN

GER 101 Elementary German I (4)
Corequisite: GER 251. For students with no previous German. Develop four language skills, especially speaking. Stresses practical communication, comprehension, pronunciation, fluency and cultural awareness.

GER 102 Elementary German II (4)
Prerequisite: GER 101 or equivalent. Corequisite: GER 152. Continuation of GER 101 or equivalent. Develop four language skills, especially speaking. Stresses practical communication, comprehension, pronunciation, fluency and cultural awareness.

GER 116 Contemporary Germany (3)
Become familiar with the culture and society of Germany with special emphasis on contemporary German issues. Conducted in English.

GER 151 Elementary German Lab I (1)
Practice elementary German skills through workbook and lab activities commensurate with skill level in GER 101. Repeatable, may be taken 2 times.

GER 152 Elementary German Lab II (1)
Practice elementary German skills through workbook and lab activities commensurate with skill level in GER 102. Repeatable, may be taken 2 times.

GER 201 Intermediate German I (3)
Corequisite: GER 251. Review language structures and develop reading and writing skills. Gain vocabulary through conversational practice on topics of cultural interest.

GER 202 Intermediate German II (3)
Prerequisite: GER 201 or equivalent. Corequisite: GER 252. Review language structures and develop reading and writing skills. Gain vocabulary through conversational practice on topics of cultural and literary interest.

GER 251 Intermediate German Lab I (1)
Practice intermediate German skills through the use of workbook exercises and computer software commensurate with skill level in GER 201. Repeatable, may be taken 2 times.

GER 252 Intermediate German Lab II (1)
Practice intermediate German skills through the use of workbook exercises and computer software commensurate with skill level in GER 202. Repeatable, may be taken 2 times.

GER 301 Germany and the Germans I (3)
Prerequisite: GER 202 or equivalent. Practice advanced language skills and acquire flexibility in written and spoken expression using a wide variety of authentic materials.

GER 302 Germany and the Germans II (3)
Prerequisite: GER 202 or equivalent. Continue to study complex elements of German syntax and structure. Use authentic materials to acquire idiomatic expressions and versatility in speaking and writing.

GER 311 German Civilization and Literature Survey I (3)
Prerequisite: GER 202 or equivalent. Study of German civilization from prehistoric times up to the 19th century, including the historical, geographical, economic, political, artistic and literary development of Germany. Conducted in German.

GER 312 German Civilization and Literature Survey II (3)
Prerequisite: GER 202 or equivalent. Study of German civilization from the Revolution of 1848 to the present, including the historical, economic, political, social, artistic and literary development of Germany. Conducted in German.

GER 405 Business German (3)
Prerequisite: GER 202 or equivalent. Learn language skills for use in commercial, professional and government activities. Emphasize acquiring professional vocabulary, building reading and conversational skills and developing mechanics, style and translation of correspondence. Conducted in German.

GER 407 German for Oral Proficiency (3)
Intermediate oral proficiency in German. Designed to develop oral proficiency by exposing students to advanced and superior linguistic functions, as defined in the American Council on the Teaching of Foreign Languages (ACTFL) proficiency guidelines for the Oral Proficiency Interview (OPI).

GER 411 Germany Then and Now (2)
Prerequisite: GER 202 or equivalent. Examine one important period in German history and understand its Zeitgeist as an interaction among politics, economics, social aspects, philosophical developments and the arts. Repeatable, under different subtitles.

GER 412 Politics and Society (2)
Prerequisite: GER 202 or equivalent. Study the political and social systems of Germany; interpret current events from the complex interaction of German history, today's society and Germany's role in the world.

GER 413 German Cultural Identity (2)
Prerequisite: GER 202 or equivalent. Examine surface-culture phenomena of deep culture in both the U.S. and Germany. Explore the ramifications of immigration on German culture and the impact of German-American culture on the U.S.

GER 414 Language, Society and the Profession (2)
Prerequisite: GER 202 or equivalent. Learn about many aspects of German, especially language history dialects and sociocultural. Study specific professional vocabulary and terminology of a field determined by the student's interest.

GER 422 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.
GER 450 Literature, Self and Society (3)
Prerequisite: GER 202 or equivalent. Variable topics include analysis and discussion of literary genres and periods from the Middle Ages to present, including how literature reflects personal and social issues. Repeatable, under different subtitles.

GER 501 Intensive German (4)
Graduate status in German. 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. Conducted in German. Repeatable, maximum eight credits (if course content varies).

GER 502 Contemporary Life in Germany (3)
Graduate status in German. 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. Conducted in German. Repeatable, maximum eight credits (if course content varies).

GER 503 Practicum in Germany (4)
Graduate status in German. Available only on Study Abroad. Experience work environment of the German business person, artisan, worker or professional through direct work experience. Conducted in German. Repeatable, maximum eight credits (if course content varies).

GER 504 Modern Germany (4)
Graduate status in German. 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. Conducted in German. Repeatable, maximum eight credits (if course content varies).

GER 507 German for Oral Proficiency (3)
Graduate status in German. Designed to develop oral proficiency by exposing students to advanced and superior linguistic functions, as defined in the American Council on the Teaching of Foreign Languages (ACTFL) proficiency guidelines for the Oral Proficiency Interview (OPI).

GER 508 Workshop (1-10)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

GER 511 German Civilization and Literature Survey I (3)
Graduate status in German. Study of German civilization from prehistoric times up through the 19th century, including the historical, geographical, economic, artistic and literary development of Germany. Conducted in German.

GER 512 German Civilization and Literature Survey II (3)
Graduate status in German. Study of German civilization from the Revolution of 1848 to the present, including the historical, economic, political, social, artistic and literary development of Germany. Conducted in German.

GER 513 Professional Renewal (1-10)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

GER 575 Seminar in German Literature (2)
Graduate status in German. Analyze and discuss German literature pertaining to a specific topic. Prepare a research paper for class discussion and critique. Conducted in English. Repeatable, under different subtitles.

GER 622 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

GERO - GERONT OLOGY

GERO 205 Introduction to Gerontology (3)
Survey of the field of gerontology with attention to the physical, psychological, social, economic and cross-cultural aspects of aging.

GERO 394 Practicum in Gerontology (1-4)
Make application to the department before registration. Repeatable, maximum eight credits.

GERO 422 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

GERO 460 Community Resources for the Elderly (4)
Field experience required. Review service needs of older persons and existing community resources. Evaluate the full continuum of long-term care in relation to program models, service gaps and funding mechanisms.

GERO 465 Management Concepts in Aging Services (3)
Examines basic concepts of management and administration of human service organizations. Emphasizes principles and practices currently used in public, private nonprofit and proprietary aging programs.

GERO 490 Senior Seminar and Research in Gerontology (3)
Traces history and current status of the field of Gerontology through the integration of previous coursework. Emphasizes research and research methodology. Explores career goals and internship opportunities.

GERO 492 Undergraduate Internship in Gerontology (6-15)
Completion of 21 hours of required gerontology courses. Only 12 credits may be counted towards degree program. S/U graded. Repeatable, maximum 15 credits.

GERO 495 Special Topics in Gerontology (1-4)
Course designed to investigate specific aspect of Gerontology. Repeatable, under different subtitles to a maximum of six credits.
GERO 660 Financial Management and Budgeting for Aging Programs (3)
Overview of financial and budgeting functions within human services. Emphasizes public and private non-profits. Directed to non-accountants. Develop basic skills in financial control and fund-raising.

GERO 665 Grant Development and Administration (3)
Overview of proposal planning and grant development process. Application of skills in identifying funding options, program planning, proposal writing, budgeting and establishing controls for grant administration.

GERO 692 Graduate Internship in Gerontology (6-15)
S/U graded. Repeatable, maximum 15 credits. Only 12 credits may be counted towards degree program.

GERO 694 Practicum in Gerontology (1-4)
Make application to the department before registration. Repeatable, maximum eight credits.

GERO 699 Thesis (1-6)
S/U graded. Repeatable, no limitations.

HHS - Health and Human Sciences

HHS 515 Bio-Physical Changes in Aging (3)
Prerequisite: ZOO 115, ZOO 245 or equivalent. Study of systemic, physiological and psychomotor changes that take place during normal human aging. Theorized and known effects of behavioral changes will be examined relative to their impact on the biological and physical aging processes.

HHS 758 Seminar in Collaborative Research in Human Sciences (3)
Doctoral students only. Students will receive supervised experience in conducting collaborative research in the field of human sciences. This collaborative research experience will provide students with hands-on experience in research methods, design, and statistical analyses. Students will submit their research paper to an academic journal of their choice. Repeatable, maximum six credits.

HISP - Hispanic Studies

HISP 101 Introduction to Mexican American Studies (3)
A general course designed to provide the student with an understanding of Mexican American culture. Taught in English.

HISP 102 Hispanic Cultures in the United States (3)
A study of the development of cultural patterns among the three largest Hispanic communities in this country: Chicanos, Puerto Ricans and Cuban-Americans — their differences and commonalities. Taught in English.

HISP 110 Contemporary Chicano Literature (3)
Course provides students with basic understanding of literature written by outstanding Chicano authors. Focus is on major works contemporary fiction, theater, poetry, autobiography. Socio-historical context plus cultural images, style, structure, technique, themes studied.

HISP 111 Introduction to Hispanic Literature (3)

HISP 121 Spanish Civilization and Culture (3)
Introduction to the general trends of Spanish civilization and culture. Historical, economical, political and artistic developments of Spain from prehistoric times to the present. Taught in English.

HISP 130 Latin American Civilization and Culture (3)
Introduction to the general trends of Latin American civilization and culture. Historical, economic, political and artistic development from the pre-Columbian period to the present. Taught in English.

HISP 141 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 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

HISP 625 Testing in Bilingual Classrooms (3)
Prepared to work with bilingual students. Emphasis on assessment and testing in bilingual classrooms.

HISP 630 Social Stratification in the Mexican-American Community (3)
Examines the variables affecting the social stratification of the Mexican-American community in the Anglo-American society, social class differences in Mexican-American communities and Mexican-American social mobility. Taught in English.

HISP 632 La Chicana (3)
Chicana presented through variety of historical, psychological, social, political issues. Students expected to integrate theory and empirical data, personal experiences to identify and discuss many variables that impact contemporary Chicana.

HISP 635 History of the Chicano in the Southwest (3)
Prerequisite: HISP 101 or consent of instructor. Examines the history and heritage of the contemporary Chicano or Mexican-American. Deals with contributions of the Spaniard, the Indian and the Mestizo. Taught in English.

HISP 640 Topics in Chicana Social Science (3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

HISP 645 Chicano Psychology (3)
In this course we will examine traditional psychological theory and methodology as applied to Mexican Americans. In addition, we will learn about innovative theory and methodology developed by Mexican American and other Hispanic social scientists specifically for Chican/o populations. We will examine the major themes in contemporary Chicano psychology.

HISP 692 Practicum in Gerontology (1-4)
Make application to the department before registration. Repeatable, maximum eight credits.

HISP 694 Practicum in Gerontology (1-4)
Repeatable, under different subtitles.

HISP 101 Contemporary Chicano Literature (3)
In this course we will examine traditional psychological theory and methodology as applied to Mexican Americans. In addition, students will learn about innovative theory and methodology developed by Mexican American and other Hispanic social scientists specifically for Chican/o populations. We will examine the major themes in contemporary Chicano psychology.

HISP 320 La Chicana (3)
Chicana presented through variety of historical, psychological, social, political issues. Students expected to integrate theory and empirical data, personal experiences to identify and discuss many variables that impact contemporary Chicana.

HISP 325 History of the Chicano in the Southwest (3)
Prerequisite: HISP 101 or consent of instructor. Examines the history and heritage of the contemporary Chicano or Mexican-American. Deals with contributions of the Spaniard, the Indian and the Mestizo. Taught in English.

HISP 370 Chicano Psychology (3)
In this course we will examine traditional psychological theory and methodology as applied to Mexican Americans. In addition, students will learn about innovative theory and methodology developed by Mexican American and other Hispanic social scientists specifically for Chican/o populations. We will examine the major themes in contemporary Chicano psychology.

HISP 395 Historical, Philosophical, Legal and Cultural Dimensions of Bilingual Education (3)
Designed to examine the linguistic, political and cultural assumptions underlying American public education. Taught in English.

HISP 400 Methods and Assessment for Bilingual Education and ESL (3)
Prepare teachers to work with bilingual students. Emphasis on assessment and testing in bilingual classrooms.

HISP 405 Comparative Global Ethnic Accommodation in Relationship to the Mexican American (3)
The course is designed as a comparative analysis of public policy focusing on ethnic accommodation in first and third world states. The course will examine the Mexican American ethnic experience given United States public policy in comparison to national minorities of other nation states across the globe.

HISP 410 Assessment and Diagnostic Testing in Bilingual Classrooms (3)
Designed to give bilingual and ESL teachers expertise in the area of assessment and diagnostic testing.

HISP 414 Contemporary Chicano Issues (3)
A study of external and internal issues affecting the Chicano community.

HISP 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

HISP 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

HISP 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

HISP 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.
HIST - History

HIST 100 Survey of American History from Its Beginnings to 1877 (3)
Survey of American history through Reconstruction to examine efforts to found New World communities, gain an American identity, secure independence and to define and secure the union under a federal government.

HIST 101 Survey of American History from 1877 to the Present (3)
Survey of American history from Reconstruction to the present to examine geographical expansion, the rise of industrial and military power, five American wars, reform cycles and the shaping of modern America.

HIST 110 African Civilization (3)
An introduction to the society, economy, culture and politics of traditional Africa from the Empire of Ghana to the European conquest in the nineteenth century.

HIST 111 Asian Civilization I: From Prehistory to the 1600s (3)
Introduction to the historical development of pre-modern cultures in East, South and Southeast Asia.

HIST 112 Asian Civilization II: The Modern Transformation (3)
Examination of the modern transformation of East, South and Southeast Asian societies.

HIST 118 History of Mexico (3)
Mexican history from pre-Columbian times to the present emphasizing 19th and 20th centuries. Covers socioeconomic, political and cultural change.

HIST 120 Western Civilization from Ancient Greece to 1689 (3)
A survey of Western Civilization from ancient Greece to the Glorious Revolution.

HIST 121 Western Civilization from 1689 to the Present (3)
A survey of Western Civilization from the Glorious Revolution to the present.

HIST 130 Middle East History I (3)
The Middle East from the rise of Islam to the fall of Baghdad in 1258 with an emphasis on political and cultural achievements.

HIST 131 Middle East History II (3)
The Middle East from the Mongols to the present with an emphasis on Ottoman institutions and European imperialism.

HIST 216 History of Spain and Portugal (3)
A survey of Iberian history from the Reconquista to the post-Franco era emphasizing political and cultural developments.

HIST 217 Europe and Islam: Myth and Reality (3)
With reference to literature, art, film and memoir, this course examines the changing ways in which European society (Christendom) has viewed its Middle Eastern counterpart (Islam) over the centuries and vice versa.

HIST 218 The Modern Middle East (3)
Chronologically surveys the political and social history of the modern Middle East over the past two hundred years with an emphasis on the Arab states, Iran and Turkey.

HIST 224 History of Colorado (3)
A survey of Colorado history from prehistoric times to the post-World War II era.

HIST 230 Class and Culture in America (3)
An introduction to the role of class distinctions and cultural pluralism in American life. Emphasis is on timeline of culture and class from 1492 to the present.

HIST 240 Modern America, 1914-Present (3)
A tracing of American history topically since World War I, emphasizing foreign policy, presidential politics, civil rights, the growth of the welfare state and the changing American character.

HIST 250 United States Military History, 1775-Present (3)
Survey of American military and naval history from the Revolution to the present, with an emphasis on the strategies, tactics and technologies employed.

HIST 260 History of Science and Technology of the West (3)
Origins and development of science and technology from antiquity to the 20th century with the emphasis on the intellectual, social and cultural implications.

HIST 262 American Cultural History (3)
Prerequisites: HIST 100 or HIST 101. An examination of the growth and development of American thought and culture by surveying major works of literature and examples of popular culture in their historical context.

HIST 263 European Intellectual History (3)
A consideration in depth of selected topics in European intellectual history from the Enlightenment to the present.

HIST 265 Women in Europe to 1700 (3)
A thematic study of personalism, nationalism, militarism, foreign influences and ideological revolutionary upheavals since the 17th century. Emphasis will be on comparative analysis and applicability of this analysis to 20th century revolution or liberation movements.

HIST 266 Women in Europe 1700 to the Present (3)
A consideration in depth of selected topics in European intellectual history from the Enlightenment to the present.

HIST 267 Age of Revolution Since the 17th Century (3)
An examination of selected political and ideological revolutionary upheavals since the 17th century. Emphasis will be on comparative analysis and applicability of this analysis to 20th century revolution or liberation movements.

HIST 268 History of Imperial Russia, 1700-1917 (3)
A history of imperial Russia from the reign of Peter the Great to the coming of the Russian revolutions and the end of the Romanov Dynasty in 1917.

HIST 290 American Immigration (3)
An examination of immigration to the United States, emphasizing 19th and 20th centuries. Includes Irish, English, German, Italian, Scandinavian, Jewish, Asian and Latin American immigrants as well as nativist and immigration legislation.

HIST 300 Themes in Middle Eastern History (3)
Designed to emphasize certain select topics in Middle Eastern history, ranging from ancient origins and development of religions to Arab nationalism and Islamic fundamentalism as a background for today's challenges.

HIST 307 History of China to 1840 (3)
A study of the development of Chinese civilization from antiquity to the Opium War, stressing social, political and cultural change.

HIST 309 Modern Southeast Asia (3)
An analysis of the historical experience of Vietnamese, Filipinos, Indonesians, Thais and others caught between China/India, religions of the West and East, colonialism/nationalism and traditional vs. modern life-styles.

HIST 310 Modern China (3)
An analysis of the Chinese experience from the impact of Western imperialism in the mid-19th century to the present. Emphasizes internal changes in China's political, social, economic and cultural institutions.

HIST 311 Modern Japan (3)
An historical analysis of the late Tokugawa period to the present. Emphasizes internal changes in political, social, economic and cultural institutions.

HIST 313 India (3)
A study of the layers in Indian history, including the Indus Civilization, Brahmnic and Buddhist culture, the Gupta classical age, Islam's impact, Mughal India, the British Raj, the nationalist period and independent India.

HIST 314 History of Latin America to 1855 (3)
A survey of Spanish America and Brazil from pre-Columbian civilizations to 1855. Covers conquest, church, Indian labor, administration, independence and beginning of nations.

HIST 315 History of Latin America: 1855 to the Present (3)
A thematic study of personalism, nationalism, militarism, foreign influences and socioeconomic classes with particular reference to Nicaragua, Cuba, Chile, Argentina and Brazil.

HIST 316 Modern Africa (3)
A study of the social, political, economic and cultural transformation of 20th century Africa.

HIST 320 Colonial America, 1492-1763 (3)
An examination of the European background of colonization, the founding of New World communities, the growth of an Anglo-American identity and the growing tension and conflict between England and her colonies.
HIST 321 The New American Nation, 1763-1800 (3)
A study of the background of the American Revolution, the Revolution itself, the Confederation, the framing of the Federal Constitution and the social, economic, political and religious patterns of the Early Republic.

HIST 327 The Early American West (3)
Divides the American frontier into two parts: the Spanish and English language frontiers. Included is analysis of themes of environment, culture and perception of the frontier before 1846.

HIST 328 The United States West Since 1846 (3)
Analyzes the themes of modernization, cultural change, environment and perception that arose from the American presence in the West after the war with Mexico, including the 20th century.

HIST 329 American Indian History (3)
 Covers the American Indian experience from prehistory to the present, emphasizing themes of environment, diversity and perception of native peoples by outside observers.

HIST 330 Age of Jackson (3)
An examination of post-1815 nationalism, the political and economic trends in the Jacksonian Era and the ramifications of the expansionist, religious, sectionalist and reform movements, which characterized the period.

HIST 331 Civil War and Reconstruction (3)
Major topics studied include political upheavals in the 1850s, the growth of southern nationalism, attempts at compromising constitutional differences, the Civil War and problems in recon uniting the Union.

HIST 332 United States Diplomatic History to 1914 (3)
A survey of American foreign policy from the War for Independence to World War I, emphasizing territorial expansion and the emergence of the United States as a great world power.

HIST 333 United States Diplomatic History Since 1914 (3)
A survey of American foreign policy from World War I to the present, emphasizing the problems of war and peace and the internationalist-isolationist conflict in the 20th century.

HIST 337 History of American Education (3)
The development of American education from colonial times to the present, focusing on the European roots of the educational system to its impact on America’s character.

HIST 340 American Constitutional History to 1870 (3)
An analysis of the origins of the constitution, differences over constitutional philosophy and the drafting, ratification and subsequent shaping of the federal constitution to 1870 by executive, legislative and judicial actions.

HIST 341 American Constitutional History from 1870 (3)
A thematic survey of the development of constitutional interpretation from the post-Civil War era to the present by examining major cases in their historical context.

HIST 345 Baseball and American Society, 1840-1992 (3)
Examines American society from the perspective of professional baseball and its development. It deals with the rise of professionalism as well as changes in racial attitudes, technology and business practices.

HIST 347 United States Women’s History to 1877 (3)
A survey of women in the United States to 1877. Examines gender ideologies, population movements, patterns of work, reform activities, and early women’s rights from Colonization through Reconstruction.

HIST 348 United States Women’s History Since 1877 (3)
A survey of women in the United States since 1877. Examines gender ideologies, population movements, patterns of work, reform activities, and feminist politics from Reconstruction to the present.

HIST 350 Industrial America (3)
Focus on the industrial transformation of the United States during the late 19th century. The economic developments as well as the political, social and cultural ones will be examined.

HIST 352 History of World War II (3)
A survey of World War II from the rise of the totalitarian states to the dropping of the atomic bombs, with an emphasis on American military and naval operations.

HIST 354 The United States and the Vietnam Wars (3)
Prerequisite: HIST 101. Through a variety of readings, the course will concentrate on the political, social and cultural importance of Vietnam for American history from 1945 to 1975 and beyond.

HIST 361 History of Classical Greece and Rome (3)
A survey of Greek and Roman civilization from the origins of Greece to the decline of Rome. Emphasis will be placed on their cultural and intellectual heritage.

HIST 362 Medieval History (3)
A survey of the Christian, Islamic, Greek and Jewish civilizations from the decline of Rome to the Renaissance (500-1500).

HIST 367 History of the Renaissance and Reformation (3)
A survey of the social, economic, religious and cultural developments in Western Europe from approximately 1300 to 1600.

HIST 368 Tudor-Stuart England, 1485-1689 (3)
An investigation of the history of England, Scotland, Wales and Ireland from 1485 to 1689, focusing on political, constitutional, social and cultural developments.

HIST 369 Britain in the Modern Age, 1689 to the Present (3)
An investigation of the emergence of modern Britain and Ireland through the growth of Parliament/Cabinet government, the development of a complex society and economy and the flowering of culture.

HIST 374 Old Regime, 1648-1789 (3)
An examination of Western European political, economic, intellectual and cultural developments, beginning with the Peace of Westphalia and ending with the outbreak of the French Revolution. Focus is France in its greatest century.

HIST 375 France in Revolution, 1774-1848 (3)
A study of the causes and consequences of the French Revolution of 1789 and its impact on 19th century France and Europe. After Napoleon, the course will analyze strains of politics, intellectual life and society leading to 1848 upheaval.

HIST 376 France from 1848 (3)
A study of the significant personalities and political and constitutional issues in French history from the Revolution of 1848 to the present, examining the Second Republic, Second Empire, Third, Fourth and Fifth Republics.

HIST 382 Hitler’s Germany 1890-1945 (3)
The recent history of Germany focusing on the forces, events and individuals that gave rise to National Socialism and contributed to the decline of Europe into war and revolution.

HIST 385 History of the Holocaust, 1933 to the Present (3)
An examination of the intellectual and racial antecedents of the Holocaust, its bureaucracy, operating mechanics for murder and the steps taken toward the “final solution,” the elimination of European Jewry.

HIST 386 Twentieth Century Russia (3)
A detailed consideration of the establishment of the Soviet Union, its dissolution, and the contemporary role of Russia in the world.

HIST 387 Russian Intellectual-Cultural History, 1700-Present (3)
A detailed discussion of Russian-Soviet intellectual and cultural history, 1700 to the present at the advanced level.

HIST 389 Modern Europe (3)
A consideration in depth of European historical development from 1815 to the present, focusing on political, diplomatic and economic matters. Repeatable, under different subtitles to a maximum of nine credits.

HIST 390 The World Wars, 1914-1945 (3)
A course on the two great European wars of the 20th century, emphasizing the interaction between political objectives, social resources and military strategy.

HIST 397 History Colloquium (3)
Introduction to major historical and interdisciplinary works; discussion of their historiographical significance.
HIST 400 Teaching History in the Secondary Curriculum (1)
Prerequisites: SOSC 341 (may be taken concurrently). Provisional or full admittance to PTEP required, or current licensure in social studies. Teaching history methods, emphasizing content based history standards at secondary school level. S/U graded.

HIST 422 Directed Study (1-6)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

HIST 480 Senior Seminar (3)
Seniors. Students will examine a specific topic and write a critical essay incorporating research, historical methodology, analysis and expository skills. Repeatable, under different subtitles to a maximum of six credits.

HIST 492 Internship (1-3)
Independent, individualized projects jointly directed by faculty supervisors and staff of cooperating office or institution. Repeatable, maximum six credits.

HIST 495 Topics in American History (3)
Seniors. In-depth examination of various aspects related to American social and cultural history since the American Revolution. Repeatable, under different subtitles to a maximum of six credits.

HIST 508 Workshop (1-3)
Graduates only. A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

HIST 509 Modern Southeast Asia (3)
Graduates only. An analysis of the historical experience of Vietnamese, Filipinos, Indonesians, Thais and others caught between China/India, religions of the West and East, colonialism/nationalism and traditional vs. modern life-styles.

HIST 510 Modern China (3)
Graduates only. An analysis of the Chinese experience from the impact of Western imperialism in the mid-19th century to the present. Emphasizes internal changes in China's political, social, economic and cultural institutions.

HIST 511 Modern Japan (3)
Graduates only. An historical analysis of the late Tokugawa period to the present. Emphasizes internal changes in political, social, economic and cultural institutions.

HIST 512 Seminar in Asian History (3)
Graduates only. Investigates selected topics in the history of China, Japan, India and Southeast Asia. Repeatable, under different subtitles to a maximum of six credits.

HIST 513 Professional Renewal (1-3)
Graduates only. Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

HIST 514 History of Latin America to 1855 (3)
Graduates only. A survey of Spanish America and Brazil from pre-Columbian civilizations to 1855. Covers conquest, church, Indian labor, administration, independence and beginning of nations.

HIST 515 History of Latin America: 1855 to the Present (3)
Graduates only. A thematic study of personalism, nationalism, militarism, foreign influences and socioeconomic classes with particular reference to Nicaragua, Cuba, Chile, Argentina and Brazil.

HIST 516 Seminar in Latin American History (3)
Graduates only. Investigates selected topics in Latin American history. May focus on colonial or post-independence period. May be taken twice under different subtitles.

HIST 518 Modern Africa (3)
Graduates only. A study of central issues of modern African history, including social transformation, the emergence of the nation-state, economic underdevelopment and the problem of southern Africa.

HIST 520 Colonial America 1492 to 1763 (3)
Graduates only. Investigates topics in the history of colonial and revolutionary America through direct research and/or readings.

HIST 522 Seminar in Southwest History (3)
Graduates only. Focus of seminar will be on research and writing topics for the American Southwest from the Spanish period through the territorial period to the statehood period when full admission secured.

HIST 529 American Indian History (3)
Graduates only. Covers the American Indian experience from prehistory to the present, emphasizing themes of environment, diversity and perception of native peoples by outside observers.

HIST 530 Topics in American History (3)
Graduates only. Investigation of a topic in American history. Content depends on instructor. Repeatable, under different subtitles to a maximum of fifteen credits.

HIST 533 United States Diplomatic History Since 1914 (3)
Graduates only. A survey of American foreign policy from World War I to the present, emphasizing the problems of war and peace and the internationalist-isolationist conflict in the 20th century.

HIST 535 Advanced Placement Program-US History (1-3)

HIST 536 Advanced Placement Program in European History (1-3)
Graduates only. Intensive course in European historiography and interpretation, designed for secondary school teachers teaching advanced placement courses in European history. Includes writing of model syllabi and extensive historical analysis and assessment. S/U graded. Unlimited repeatability.

HIST 537 Advanced Study in the History of American Education (3)
Graduates only. Review of the development of American education from colonial times to the present, focusing on the European roots of the educational system to its impact on America's character.

HIST 544 Seminar in European Intellectual History (3)
Graduates only. A consideration of selected topics in European Intellectual History from the Enlightenment to the present in a seminar format.

HIST 550 Industrial America (3)
Graduates only. Focus on the industrial transformation of the United States during the late nineteenth century. The economic developments as well as the political, social and cultural ones will be examined.

HIST 552 History of World War II (3)
Graduates only. A survey of World War II from the rise of the totalitarian states to the dropping of the atomic bombs, with an emphasis on American military and naval operations.

HIST 557 Seminar in Medieval and Renaissance History (3)
Graduates only. A seminar for advanced undergraduate and graduate students that will investigate select topics in Medieval and Renaissance history through research and readings.

HIST 559 Modern Europe (3)
Graduates only. A consideration in depth of European historical development from 1815 to the present, focusing on political, diplomatic and economic matters. Repeatable, under different subtitles to a maximum of fifteen credits.

HIST 560 Introduction to Graduate Historical Study (3)
Examines the nature of history, historical research and the writing of history.

HIST 622 Directed Studies (1-6)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

HIST 699 Thesis (1-6)
Optional for Master of Arts programs on recommendation of the major advisor. S/U graded. Repeatable.

HON - HONORS PROGRAM
HON 401 Honors Connections Seminar I (2)
A variable content seminar for Honors students only, emphasizing the connections between areas of knowledge such as the Sciences, Arts, Philosophy, History, Literature and Sociology.
SERVICES

alcoholics. Emphasis on treatment, effects on family and adult children of cultural problems related to substance abuse, psychological, biological, sociological and psychological aspects of Disability for Human Service Workers (3)

Cultural and Psychological Aspects of Disability (3)

Psychological, biological, sociological and cultural problems related to substance abuse, effects on family and adult children of alcoholics. Emphasis on treatment, multidimensional assessment program development and community resources.

Rehabilitation Principles and Case Management (3)

Introduction to comprehensive rehabilitation history, philosophy, legislation and process. Details role and functions of case management and coordination with community, government, industry.

Working with Families in Rehabilitation (3)

Prerequisite: HRS 290 or consent of instructor. Provides an analysis of relevant issues and critical problems concerning the effective utilization of family members in rehabilitation. Concerns of families in different cultures are addressed.

Practicum in Human Services (1-4)

Supervised experience in service agency. Supervisor evaluation and written report describing agency experience must be filed with instructor. S/U graded. Repeatable, maximum eight credits.

Rehabilitation of the Substance Abuser (3)

Psychological, biological, sociological and cultural problems related to substance abuse, effects on family and adult children of alcoholics. Emphasis on treatment, multidimensional assessment program development and community resources.

Directed Studies in Human Rehabilitation (1-4)

Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

Client Assessment (3)

Basic principles and practices utilized in vocational assessment. Emphasis on the unique interpretation necessary for handicapping conditions and special adaptations of assessment tools for persons with disabilities.

Human Service Helping Skills (3)

Study and develop effective interpersonal communications and human relations skills for human service workers.

Medical/Psychological Aspects of Disability for Human Service Workers (3)

Juniors or above. An introduction to the nature of specific disabling conditions as well as various disease entities common among human service clients.

Career Planning and Placement (3)

Investigate career development process and sources of occupational information. Focus on developing skills in job development, job analysis and job placement through self-exploration.

Clinical Internship (1-18)

Application to Department one semester before registration. Supervised experience in service agency. Time participation in an approved setting. Minimum of 600 clock hours over the 18 credit hours. S/U graded. Repeatable, maximum 18 credits.

Special Topics in Rehabilitation (1-4)

Course designed to investigate a specific aspect of rehabilitation. Repeatable, under different subtitles, maximum of nine credits.

Special Topics in Rehabilitation (1-4)

Course designed to investigate a specific aspect of rehabilitation. Repeatable, under different subtitles, maximum of nine credits.

Career Planning and Placement (3)

Investigate career development process and sources of occupational information. Focus on developing skills in job development, job analysis and job placement through self-exploration.

Clinical Internship (1-18)

Application to Department one semester before registration. Supervised experience in service agency. Time participation in an approved setting. Minimum of 600 clock hours over the 18 credit hours. S/U graded. Repeatable, maximum 18 credits.

Special Topics in Rehabilitation (1-4)

Course designed to investigate a specific aspect of rehabilitation. Repeatable, under different subtitles, maximum of nine credits.

Workshop in Human Services (1-4)

Course designed to investigate a specific aspect of human services. Repeatable, under different subtitles to a maximum of nine credits.

Rehabilitation Principles and Case Management (3)

Introduction to comprehensive rehabilitation history, philosophy, legislation and process. Details role and functions of case management and coordination with community, government, industry.

Working with Families in Rehabilitation (3)

Prerequisite: HRS 290 or consent of instructor. Provides an analysis of relevant issues and critical problems concerning the effective utilization of family members in rehabilitation. Concerns of families in different cultures are addressed.

Practicum in Human Services (1-4)

Supervised experience in service agency. Supervisor evaluation and written report describing agency experience must be filed with instructor. S/U graded. Repeatable, maximum eight credits.

Rehabilitation of the Substance Abuser (3)

Psychological, biological, sociological and cultural problems related to substance abuse, effects on family and adult children of alcoholics. Emphasis on treatment, multidimensional assessment program development and community resources.
HRS 611 Vocational Evaluation Planning and Reporting (3)
Prerequisite: HRS 581. Consent of instructor. Principles and techniques of planning in the vocational evaluation process and integration of assessment data and behavioral observations in report writing.

HRS 612 Seminar in Vocational Evaluation Systems (3)
Prerequisite: HRS 581. Examination of various vocational evaluation systems, their uses and limitations in assessing vocational potential of the handicapped.

HRS 622 Directed Studies in Human Rehabilitation (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

HRS 630 Human Services Counseling Theories and Techniques (3)
An integrated perspective of counseling theories as they are applied to human services. Develop basic counseling skills.

HRS 631 Group Processes in Rehabilitation (3)
An integrated perspective of the stages of groups, basic concepts and goals of groups with rehabilitation clients.

HRS 650 Human Resources System (3)
Addresses leadership issues in human resource planning, management and development necessary for achieving responsible change. Examines various organizational components and their interrelationships and interdependence with other organization systems.

HRS 659 Seminar in Rehabilitation Counseling Supervision (2)
An investigation of the major approaches to counseling supervision intended to increase the student's understanding of clinical supervision as it relates to rehabilitation counselor training. Students will develop their individual model of supervision upon a detailed examination of relevant literature.

HRS 660 Advanced Seminar in Client Assessment (3)
Consent of instructor. Practices individual client assessment, particularly vocational implications of assessment techniques and the application of information in client treatment plans.

HRS 692 Clinical Internship in Rehabilitation (1-18)
Prerequisites: HRS 630, HRS 694. Field experience for qualified human service major at department approved location. Written application to department at least one semester before registration. S/U graded. Repeatable, maximum 18 credits.

HRS 693 Practicum in Vocational Evaluation (6)
Prerequisite: HRS 581. Consent of instructor. Meets minimum of 12 hours per week. Qualified human services majors engage in vocational evaluation activities in department's clinic under the supervision of one or more university staff. S/U graded.

HRS 694 Supervised Counseling in Human Services (6)
Prerequisite: HRS 630. Meets minimum of 12 hours per week. Qualified human services majors engage in counseling interviews and activities under the supervision of one or more university staff members. S/U graded.

HRS 695 Seminar in Foundations of Human Rehabilitation (3)
This graduate seminar will focus on core issues confronting the field of rehabilitation. Issues will be examined from a historical, theoretical and research perspective to understand the current status and future of human rehabilitation society.

HRS 696 Advanced Rehabilitation Counseling Theories and Approaches (3)
Prerequisite: HRS 630 or equivalent. Consent of instructor. Major counseling theories are comprehensively reviewed in terms of their utility with individuals who have disabilities and in order to enhance student preparation for rehabilitation counselor education and supervision.

HRS 706 Advanced Seminar in Psychosocial Aspects of Disability (3)
Theoretical and conceptual frameworks of adjustment of various disabling conditions are comprehensively investigated. A thorough review of the research literature regarding psychosocial aspects of disability will be undertaken, in order to enhance student preparation for rehabilitation counselor education and research.

HRS 755 Supervised Practicum in College Teaching (3)
Majors only. Experiences in observation and supervised practice in teaching at college or university level. Repeatable, maximum nine credits.

HRS 757 Advanced Seminar in Rehabilitation Administration (3)
Majors only. Students will receive supervised experience in administration, program planning, evaluation and grant writing. Approximately 150 clock hours per semester are required for three credits. Repeatable, maximum nine credits.

HRS 759 Advanced Practicum in Rehabilitation Counseling Supervision (3)
Majors only. Students receive supervised experience in studying problems in training rehabilitation counselors. Approximately 150 clock hours per semester required for three credits. Repeatable, maximum nine credits.

HRS 797 Doctoral Proposal Research (1-4)
Majors only. Required of doctoral students. Students must earn 4 hours of credit towards doctoral degrees before candidacy. S/U graded. Repeatable, maximum four credits.

HRS 799 Doctoral Dissertation (1-12)
Majors only. Required of doctoral candidates. Students must earn 12 hours of dissertation credit for doctoral requirements. S/U graded. Repeatable, no limitations.

HUM - HUMANITIES

HUM 111 The Classical Period Through the Middle Ages (3)
Study values, beliefs, customs of the period through literature, visual arts, philosophy, mythology and history.

HUM 120 Introduction to Film (3)
Learn to analyze film and appreciate film as art by looking at a variety of styles, genres, and ideological directions in Hollywood and non-Hollywood films.

HUM 320 Topics in Film (3)
Prerequisite: HUM 120. Study of a particular area of film criticism, history, or theory, considering classical and contemporary debates. Repeatable, under different subtitles for a maximum of 9 credits.

HUM 331 Images of Women in Literature and the Arts (3)
Investigation of stereotypes, dreams, roles and goals of women manifested in creative works by and about women.

HUM 410 Advanced Seminar in the Humanities (3)
One or more great literary or artistic works in relation to history, philosophy and other arts. Repeatable, maximum nine credits.

HUM 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

ID - INTERDISCIPLINARY STUDIES

ID 108 Freshman Workshop (1-3)
Study topics relevant to the freshman's transition into the academic community. Emphasis on critical thinking, writing, and problem-solving skills. Repeatable, under different subtitles.

ID 308 Workshop (1-3)
Study problems in education, with area covered in any one workshop determined by title. Repeatable, under different subtitles.

ID 420 Legal Research and Writing (3)
Develop knowledge, skills and attitudes for legal research and writing. Emphasis is on practical skills which are helpful to think like an attorney about the law.

ID 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

ID 513 Professional Renewal (1-4)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.
JAPN - Japanese

Note: Not all Japanese courses are offered on a regular basis. Consult the Department of Foreign Languages for current offerings.

JAPN 101 Beginning Japanese (5)
For students with no previous Japanese. Conversational Japanese using oral techniques with reading and writing skills. Stresses comprehension, structure, pronunciation, fluency and cultural awareness.

JAPN 102 Elementary Japanese II (5)

JAPN 105 Conversational Japanese I (3)
For students with no previous Japanese. Develop a basic conversational ability. Emphasis on language use in business or tourism. Discussion of important aspects of Japanese culture and thought.

JAPN 106 Conversational Japanese II (3)
Prerequisite: JAPN 105. Continuation of JAPN 105. Basic Conversational Japanese with emphasis on language use in business or tourism. Discussion of important aspects of Japanese culture and thought.

JAPN 116 Contemporary Japan (3)
Become familiar with the culture and society of Japan with special emphasis on contemporary Japanese issues. Conducted in English.

JAPN 201 Intermediate Japanese I (3)
Prerequisite: JAPN 102 or equivalent. Review language structures and develop reading and writing skills. Gain vocabulary through conversational practice on topics of cultural interest. Conducted in Japanese.

JAPN 202 Intermediate Japanese II (3)
Prerequisite: JAPN 201 or equivalent. Review language structures and develop reading and writing skills. Gain vocabulary through conversational practice on topics of cultural and literary interest. Conducted in Japanese.

JAPN 422 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

JMC - Journalism and Mass Communications

JMC 241 Radio Production and Broadcast Announcing (3)
Majors only. Learn to write and produce basic radio programming and to effectively announce over radio and television.

JMC 340 Broadcast Newswriting (3)
Prerequisite: JMC 210. Majors only. News for the ear and for the television camera eye: radio, television and cable newscasts.

JMC 342 Television Production (4)
Consent of instructor. Majors only. Learn the terminology, procedures and skills of basic studio television production. Application of techniques to the production of programs.

JMC 345 Broadcast Advertising and Promotion (3)
Majors/minors only. The skills and techniques necessary in the preparation and production of broadcast advertising and promotion developed through practical training in the writing of commercials and announcements.

JMC 350 News Editing and Layout (3)
Prerequisite: JMC 210. Majors only. Copy editing, headline writing and the graphic concepts needed to produce attractive and readable designs for print media. Application of skills involved in the selection and judgment of news.

JMC 380 Public Relations (3)
Majors/minors only. Consent of instructor needed for recreation majors. The concepts, procedures and theories behind public relations work. Examine current practices in business, government and other settings.

JMC 385 Media Planning and Research (3)
Majors only. A managerial approach to the study of media research and media planning strategies. Methods and procedures used in the planning and evaluation of the media mix will be examined.

JMC 387 Advertising Copywriting (3)
Prerequisite: JMC 210. Majors only. Advertising from the copywriter's standpoint: planning and writing creative strategies. Create copy for broadcast and print media and learn illustration and layout concepts.

JMC 390 Impact of Mass Communications on Society (3)
Prerequisite: JMC 100. The effects of media content and media industries on contemporary society; evaluation of current media criticism and the role of media in society.

JMC 391 Literary Journalism (3)
Juniors or above. Explores the writings of journalists, relating major themes in journalism and fiction. Questions of narrative form are stressed.

JMC 397 Journalism History (3)
The growth and development of major issues and principles of American culture as reflected in the history, writings, professional standards and social contributions of leading men and women in the mass media.

JMC 404 Practicum (1-3)
Gain experience with behind-the-scenes set-up and preparation of labs, special productions and individual projects; assist with labs, editing sessions and/or field work. Unlimited repeatability.

JMC 408 Special Topics (3)
Current issues or problems in journalism and mass communications. Repeatable, under different subtitles.

JMC 410 Advanced News and Feature Writing (3)
Prerequisite: JMC 210. Majors/minors only. Covering news beats, C-SPAN events. Researching and writing features, editorials and columns for all media.

JMC 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

JMC 443 Electronic Field Production (4)
Prerequisite: JMC 342. Majors only. Remote video production and video editing; producing short programs or segments using these techniques.

JMC 444 Cable Television Production (3)
Prerequisites: JMC 342, JMC 443. Majors only. The techniques and theories needed to produce regularly scheduled cable television programs.

JMC 460 Media Management (3)
Majors only. Procedures, issues and responsibilities that must be mastered by managers of newspapers and radio and television stations.

JMC 481 Public Relations Techniques (3)
Prerequisites: JMC 210, JMC 380. Majors only. Effective tools and techniques used by the professional public relations practitioner.

JMC 484 Advertising and Society (3)
Majors/minors only. A critical approach to the study of the effects, role and responsibilities of advertising in society. Historical, cultural, sociological and economic perspectives are used to examine philosophical and ethical issues.

JMC 492 Journalism and Mass Communications Internship (1-3)
One semester of full-time work in news, broadcast media, public relations, advertising or related organizations. Repeatable, maximum three credits.

JMC 495 Television Criticism (3)
Study television as an informative, persuasive, entertaining and culturally-indoctrinating medium.

JMC 497 Mass Communications Law (3)
Seniors or above. Current and perennial ethical and legal issues in journalism and mass communications media that affect journalists, media management and the public.
JMC 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

JMC 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

JMC 543 Electronic Field Production (4)
Majors only. The techniques of remote video production and video editing. Produce short programs or segments using these techniques.

JMC 544 Cable Television Production (3)
Prerequisites: JMC 342, JMC 443. Majors only. The techniques necessary as part of a production unit for a regularly scheduled cable television program.

JMC 580 Public Relations (3)
Majors only. Recreation majors can get consent of instructor. Concepts, procedures and theories behind public relations work. Examine current practices in business, government and other settings.

JMC 581 Public Relations Techniques (3)
Prerequisites: JMC 210, JMC 380. Effective tools and techniques used by the professional public relations practitioner.

JMC 583 Philosophies and Procedures of Public Relations (3)
Case study approach to advanced study of the public relations process and its application to a variety of institutions from business to education.

JMC 591 Seminar: International Mass Communications (3)
The economics, social impact and philosophical dimensions of international mass communications: the industries, the policies and the issues. Special focus is given to case studies of particular countries and the impact of one country's media on the life and culture of another.

JMC 592 News Media and Public Policy (3)
The structure, policies and content of the news media and how these relate to issues of public policy.

JMC 593 Professional Perspectives (3)
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 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

KINE - KINESIOLOGY

KINE 206 Overview of Kinesiology (3)
Introduction of the basic concepts, principles, and components of Kinesiology. Career opportunities and field experiences at specific worksites will cover career development.

KINE 220 Anatomical Kinesiology (3)
Study of the anatomical bases of human movement. Laboratory provides application of principles.

KINE 221 Biomechanics (3)
Prerequisites: KINE 220 and 3 Math credits or equivalent. Application of mechanical principles in the study of human movement. Laboratory provides application of concepts.

KINE 222 Physiological Kinesiology I (3)
Investigate the basic concepts in the physiological components of human movement. Laboratory provides application of principles.

KINE 224 Physiological Kinesiology II (3)
Prerequisite: KINE 222. Application of the physiological principles of human movement during special circumstances such as training, altitude, hot and cold environments, and ergogenic aids.

KINE 311 Pharmacology for Exercise Professionals (1)
The effects of basic pharmacology on the human physiological systems as related to acute and chronic exercise responses.

KINE 323 Motor Learning and Development (3)
Study of the neuropsychological components of motor behavior, with an emphasis on movement problems. Laboratory provides application of concepts.

KINE 330 Practicum in Exercise Leadership (3)
Prerequisite: KINE 220, KINE 222 or equivalent. Students will gain practical skills in exercise leadership. Students will be exposed to a wide sampling of practical experiences in the fitness/wellness area. These practical experiences will entail being exercise leaders in aerobics, step aerobics, muscle toning, weight training, fitness assessment, and other fitness related activities on the University of Northern Colorado campus. Repeatable, maximum nine credits.

KINE 333 Psychological Analysis of Sports, Exercise and Physical Activity (3)
An introduction to the theories, subject matter and latest empirical research concerning the cognitive processes and emotional states that regulate and influence performance in sports, exercise and other physical activities.

KINE 380 Prevention and Care of Sports Injuries (2)
Prerequisites: KINE 220, KINE 221 or equivalent. Emphasis on prevention of injury to the young athlete participating in sport. Includes an overview of mechanisms, initial care, reconditioning and basic wrapping and taping techniques of common sports injuries and organization of preventive programs.

KINE 381 Practical Experiences in Care of Athletic Injuries (3)
Prerequisite: KINE 380 or equivalent. Admission to Athletic Training Clinical Program required. Consent of instructor. Divided into five modules for three semester hours each. One module will be offered each semester. Modules are: anatomy applied to injury, emergency care and referral, modality application, program administration and current and appropriate training topics. Repeatable, maximum 15 credits.

KINE 390 Cardiopulmonary Resuscitation Certification (1)
Basis, skills and techniques of basic life support. Includes emergency medical systems, CPR for adult and child, obstruction for adult and child and special situation techniques. Upon successful completion, student will receive certification through the American Heart Association and/or the American Red Cross.

KINE 400 Fitness Management (3)
Majors only. Juniors or above. Management, marketing, risk management and legal strategies as related to the exercise and fitness industry. Students observe, practice and analyze management, marketing and legal strategies.

KINE 402 Human Performance Assessment (3)
Prerequisites: KINE 222. KINE 410/KINE 510 or equivalent. Majors only. Juniors or above. Uses and techniques of assessment in fitness, work capacity and sport. Experience in the use and interpretation of laboratory and field tests.

KINE 404 Exercise Nutrition and Body Composition (3)
Prerequisite: KINE 222 or equivalent. The nutritional aspects of human performance will be explored with a focus on fitness. The current methods of assessment of body composition are included.
KINE 406 Exercise Programming (3)
Prerequisites: KINE 222 and KINE 402 or equivalent. Majors only. Juniors or above. Examination of the competencies necessary for the design, the organization and the implementation of preventive and rehabilitative exercise programs.

KINE 408 Workshop in Kinesiology (1-3)
Offers a variety of workshops on special topics. S/U or letter graded. Repeatable, under different subtitles.

KINE 410 Principles of Electrocardiography (3)
Prerequisite: KINE 222 or equivalent. Majors only. Juniors or above. Basic electrocardiography and ECG interpretation will be studied. Emphasis is placed on interpretation of resting and exercise EKG's, monitoring procedures, interpretation of abnormalities and drugs that may affect exercise.

KINE 415 Senior Research Project (1-3)
Consent of instructor. Provide an opportunity for senior students to participate in a research project. S/U or letter graded. Repeatable, maximum three credits.

KINE 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

KINE 436 Social Influences on Sport and Exercise Behavior (3)
Application of sociological concepts and theories to examine current practices, problems and issues in physical activity, exercise and sport.

KINE 485 Mechanism and Evaluation of Sports Injury (3)
Prerequisite: KINE 380 or equivalent. Admission to the Athletic Training Clinical Program required and consent of instructor. Majors only. Techniques, procedures and skill for the recognition and evaluation of acute and chronic injuries. Includes history, inspection, palpation, functional testing and special evaluation techniques.

KINE 486 Clinical Methods of Sports Injury Rehabilitation (3)
Prerequisite: KINE 380 or equivalent. Admission to the Athletic Training Clinical Program required and consent of instructor. Majors only. Neurophysiological basis, techniques and skills utilized in the prevention and rehabilitation of sports injuries. Includes indications, contraindications, applications of therapeutic exercise, protective aids and return to participation parameters.

KINE 487 Therapeutic Modalities (2)
Prerequisites: admission to the Athletic Training Clinical Program required and consent of instructor. Majors only. Theory, basis and use of cold, heat, hydrotherapy, muscle stimulation, compression and other modalities utilized in the management of sports injury.

KINE 488 Athletic Training Administration (2)
Admission to Clinical Athletic Training Program required and consent of instructor. Majors only. Organization and administration of athletic training and sports medicine program. Topics include facilities, equipment, medical personal, budgets, insurance, emergency planning, risk management, professional code of ethics and other current topics.

KINE 492 Exercise and Sport Science(6-12)
Prerequisites: Completion of KINE prefix courses with a GPA of 2.7; current CPR certification and consent of the Internship Director. Supervised experience in fitness and exercise programs or cardiac rehabilitation. S/U graded. Repeatable, maximum 12 credits.

KINE 500 Fitness Management (3)
Majors only. Management, marketing, risk management and legal strategies as related to the exercise and fitness industry. Students observe, practice and analyze management, marketing and legal strategies.

KINE 502 Human Performance Assessment (3)
Prerequisites: KINE 222, KINE 410/KINE 510 or equivalent. Majors only. Uses and techniques of assessment in fitness, work capacity and sports experience in the use and interpretation of laboratory and field tests.

KINE 504 Exercise Nutrition and Body Composition (3)
Prerequisite: KINE 222 or KINE 626 or equivalent. The nutritional aspects of human performance will be explored with a focus on fitness. The current methods of assessment of body composition are included.

KINE 506 Exercise Programming (3)
Prerequisite: KINE 222 or KINE 626 or equivalent. Majors only. Examination of the competencies necessary for the design, the organization and the implementation of preventive and rehabilitative exercise programs.

KINE 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

KINE 510 Principles of Electrocardiography (3)
Prerequisite: KINE 222 or KINE 626 or equivalent. Majors only. Basic electrocardiography and ECG interpretation will be studied. Emphasis is placed on interpretation of resting and exercise EKG's and monitoring procedures, interpretation of abnormalities and drugs that may affect exercise.

KINE 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

KINE 580 Advanced Prevention, Care and Rehabilitation of Athletic Injuries (3)
Prerequisite: KINE 380 or equivalent. Analyze, evaluate and apply current techniques and practices to injuries in the school physical activity and sports programs.

KINE 581 Practical Experiences in Care of Athletic Injuries (3)
Prerequisite: KINE 380 or equivalent. This course is divided into four modules for three semester hours each. One module will be offered each semester. These modules are: anatomy applied to injury, emergency care and referral, modality application and program administration. Repeatable, maximum 15 credits.

KINE 620 Advanced Anatomical Kinesiology (3)
Prerequisite: KINE 220 or equivalent. Make an advanced study of the structural components of human movement, with special attention to the analysis of movement problems.

KINE 621 Advanced Biomechanics (3)
Prerequisite: KINE 221 or equivalent. Make an advanced study of the mechanical components of human movement, stressing the analysis of movement problems.

KINE 622 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

KINE 623 Advanced Neuromotor Kinesiology (3)
Prerequisite: KINE 323 or equivalent. Advanced study of the neuropsychological components of motor learning and control with an emphasis on physical activity applications.

KINE 624 Advanced Developmental Kinesiology (3)
Prerequisite: KINE 323 or equivalent. Advanced study of the influence of developmental and aging processes upon movement across the lifespan.

KINE 625 Laboratory Techniques in Kinesiological Research (1-3)
Consent of instructor. Titles: Laboratory Techniques in Mechanical Kinesiology; Laboratory Techniques in Exercise Physiology; Laboratory Techniques in Social Psychological Kinesiology; and Meta-analysis in KPE research. Repeatable, under different subtitles.

KINE 626 Advanced Physiological Kinesiology I (3)
Prerequisite: KINE 222 or equivalent. Advanced study of energy metabolism and exercise nutrition involved with human movement.

KINE 627 Advanced Physiological Kinesiology II (3)
Prerequisite: KINE 626 or equivalent. Advanced study of the muscular and endocrine systems involved with human movement.
KINE 629 Concepts in Kinesiology (1-3)
Experiences provided are: Mechanical-Mechanical Analysis of Locomotion Skills, Mechanical Analysis of Projection Skills, Mechanical Analysis of Manipulation Skills, Physiological-Muscle Physiology, Cardiopulmonary Physiology, Physiological Principles of Conditioning; Psychological-Perception, Motivation, Motor Learning, Neuromotor Mechanisms in Motor Control. Repeatable, under different subtitles.
KINE 635 Exercise and Sports Psychology (3)
Application of psychological concepts, principles and empirical findings to exercise programs and organized sport settings.
KINE 670 Advanced Sociological Kinesiology (3)
Advanced study of the application of sociological concepts and theories to current issues in kinesiology.
KINE 690 Graduate Seminar in Kinesiology (3)
Prerequisites: 12 hours of graduate coursework in Kinesiology. Multidisciplinary examination of professional and scholarly issues in Kinesiology.
KINE 692 Graduate Internship in Kinesiology (6)
Consent of instructor. Supervised experience structured to the special philosophy and functions of the student's graduate program. S/U graded.
KINE 694 Special Topics in Kinesiology (1-3)
Engage in a course of study designed to investigate a special topic. Repeatable, maximum three credits.
KINE 699 Thesis (1-6)
Optional for Master of Arts students on recommendation of major advisor. S/U graded. Repeatable, no limitations.
KINE 755 Supervised Practicum in College Teaching (1-6)
Experience supervised teaching of undergraduate kinesiology lessons. Develop course outlines and effective teaching techniques. S/U graded. Repeatable, maximum six credits.
KINE 797 Doctoral Proposal Research (1-4)
Required of all doctoral students. Students must earn four hours of credit for the doctoral dissertation proposal research in partial fulfillment of doctoral requirements before admission to candidacy. S/U graded. Repeatable, maximum four credits.
KINE 799 Doctoral Dissertation (1-12)
Required of all doctoral candidates. Students must earn 12 hours of credit for dissertation as partial fulfillment of the doctoral requirements. S/U graded. Repeatable, no limitations.

MATH - Mathematics

MATH 023 Intermediate Algebra (3)
Elementary concepts of algebra including quadratic equations, the function concept and systems of linear equations. This is a Basic Skills course offered through Continuing Education and does not count in term, cumulative or total credits and will not be calculated in the GPA.
MATH 113 Professional Renewal (1-8)
Concentrate on various topics in mathematics, depending on instructor conducting course. Repeatable, under different subtitles.
MATH 120 Mathematics and Liberal Arts (3)
Minimum of one full year of high school algebra with a grade of “C” or better and score at a predetermined level on the placement exam. Non-majors only. 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 124 College Algebra (4)
Full year of modern, second year high school algebra with the grade of “C” or better and score at a predetermined level on the placement exam. Treat quadratic, exponential and logarithmic functions. Topics from matrices and the theory of equations.
MATH 125 Plane Trigonometry (3)
Prerequisite: MATH 124 or score at a predetermined level on the placement exam. Study circular functions and their applications, inverse trigonometric functions and identities and cover complex numbers through DeMoivre's Theorem.
MATH 127 Elementary Functions (4)
Full year of modern, second year high school algebra with the grade of “B” or better and score at a predetermined level on the placement exam. Develop those skills required in calculus, including polynomial functions, exponential and logarithmic functions, trigonometric functions, vectors, analytic geometry and polar coordinates.
MATH 131 Calculus and Analytic Geometry I (4)
High school mathematics through trigonometry with the grade of “C” or better and score at a predetermined level on the placement exam. First course in 3-course sequence in analytic geometry and calculus. Limits, derivatives, extrema, related rates, applications of integral to problems in area, volume, work and centers of mass.
MATH 132 Calculus and Analytic Geometry II (4)
Prerequisite: MATH 131 with the grade of “C” or better. Second course in 3-course sequence in analytic geometry and calculus. Exponential and logarithmic functions, trigonometric functions, their inverses, derivatives and integrals, sequences and series.
MATH 175 Topics in Finite Mathematics (3)
Two years of high school algebra with a grade of “C” or better and score at a predetermined level on the placement exam. Standard topics from finite mathematics: algebra, matrices, sets and probability.
MATH 176 Topics in Calculus (3)
Prerequisite: MATH 124 or MATH 175 or equivalent; or two years of high school algebra with a grade of “C” or better and score at a predetermined level on the placement exam. Techniques and applications of differential and integral calculus.
MATH 181 Fundamentals of Mathematics I (3)
First of a 3-course sequence particularly pertinent to prospective arithmetic teachers, presenting arithmetic and algebra from modern approach. Understand mathematical structures, including natural numbers, integers, rational numbers, relations, functions and equations.
MATH 182 Fundamentals of Mathematics II (2)
Prerequisite: MATH 181. Continuation of MATH 181. Includes probability, statistics, measurement and applications of mathematics in science.
MATH 221 Elementary Linear Algebra (3)
Prerequisite: MATH 131 with the grade of “C” or better. Vector spaces, linear transformations, matrices, determinants, eigenvalues and eigenvectors, applications.
MATH 228 Discrete Mathematics (3)
Prerequisite: MATH 132 with the grade of “C” or better. A survey course of non-calculus based mathematics used extensively in computer science and other disciplines. Study sets, types of proofs, logic, recursion and related topics.
MATH 229 Graph Theory (3)
Prerequisite: MATH 132 or MATH 228 with the grade of “C” or better. Study concepts of graph theory and several applications. Topics: planar graphs, chains, cycles, trees, map coloring, Euler's formula, matching and optimization problems.
MATH 233 Calculus and Analytic Geometry III (4)
Prerequisite: MATH 132 with the grade of “C” or better. Third course in 3-course sequence in analytic geometry and calculus. Arc length, surface of revolution, parametric equations and vectors functions of several variables.
MATH 283 Informal Geometry (2)
Study informal Euclidean geometry suitable for the K-8 curriculum, employing laboratory techniques where applicable.
MATH 305 Mathematics of Finance (3)
Ability to solve algebraic equations and use logarithms required. Study simple and compound interest, bank discount, annuities, amortization and insurance. Scientific or business calculator required.
MATH 321 Introduction to Abstract Algebra (4)
Prerequisites: MATH 221 and MATH 228 with the grade of “C” or better. Standard concepts of abstract algebra including groups, rings, integral domains and fields.
MATH 335 Differential Equations I (3)
Prerequisite: MATH 233 with the grade of “C” or better. Study the theory and solutions of ordinary differential equations including applications.
MATH 336 Differential Equations II (3)
Prerequisite: MATH 335 with the grade of “C” or better. Continuation of MATH 335. The existence and uniqueness theory, systems of equations, boundary value problems and an introduction to partial differential equations.

MATH 341 Introduction to Modern Geometry (4)
Prerequisites: MATH 221, MATH 228 and high school synthetic geometry with the grade of “C” or better. Build on Euclidean geometry background by proving classical and modern Euclidean theorems. Study the foundations of geometry through investigating non-Euclidean and projective geometries.

MATH 350 Elementary Probability Theory (3)
Prerequisite: MATH 132 with the grade of “C” or better. Learn about discrete and continuous probability, Bayes' theorem, one-dimensional random variables and the expected values of random variables, Bernoulli, binomial, Poisson geometric, hypergeometric and multinomial probability law.

MATH 351 Elementary Statistics Theory (3)
Prerequisite: MATH 350 with a grade of “C” or better. A continuation of MATH 350. Learn about jointly distributed random variables, central limit theorem, sampling distributions, maximum likelihood estimation, properties of estimation, confidence intervals and tests of hypothesis.

MATH 375 Elementary Numerical Analysis (3)
Prerequisites: MATH 221 with the grade of “C” or better, MATH 233 and ability to program. Numerical solutions of equations and systems of equations; interpolation and approximation; numerical differentiation and integration; numerical solutions of differential equations.

MATH 391 Introduction to Number Theory (3)
Prerequisites: MATH 221, MATH 228. Topics will include basic properties of the Natural Numbers, prime numbers, divisibility, factorization, consequences, Euler's phi function, cryptography, introduction to Diophantine Equations and selected topics.

MATH 395 Topics in Mathematics for Teachers (3)
Emphasis will be on problem solving skills, reasonableness of answers, using calculators and computers and on problem posing.

MATH 403 Structure of Numbers (3)
Prerequisite: MATH 132 with the grade of “C” or better. Beginning with Peano's postulates for the natural numbers, the integers are obtained by extension. Rational and real and complex numbers are then obtained by further extensions. Isomorphisms are stressed.

MATH 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

MATH 431 Basic Analysis I (4)
Prerequisite: MATH 233 with grade of “C” or better. Sequence of two courses to extend studies of calculus and analysis into the mathematical rigor and logic of analysis. Includes: real numbers, sequences, topology, limits, continuity, differentiation, series and integration.

MATH 432 Basic Analysis II (4)
Prerequisite: MATH 431 with grade of “C” or better. Continuation of MATH 431.

MATH 437 Mathematical Modeling (3)
Prerequisites: CG 120 with grade of “C” or better, MATH 221 and MATH 233. Use mathematical tools to develop models of practical problems. Emphasize development, verification and interpretation of models and communication of results.

MATH 460 Introduction to Complex Analysis (3)
Prerequisite: MATH 233 with a grade of “C” or better 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 464 Introduction to History of Mathematics (3)
Prerequisites: MATH 221, MATH 228, MATH 341. Junior or above in Mathematics. Survey of mathematical conceptual development and the people involved from antiquity to the present, including pedagogical applications, content connections, and use of reference resources.

MATH 495 Topics in Mathematics (1-3)
Consent of instructor. Surveys topics in areas such as geometry, analysis, algebra, statistics, numerical analysis, topology and number theory not in existing courses, which reflect specific interests of instructors and students. Repeatable, under different subtitles.

MATH 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

MATH 510 Seminar in Mathematics (1)
Study discussion and student presentation of topics in mathematics. S/U graded. Repeatable, under different subtitles.

MATH 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

MATH 520 Functions and Equations (3)
Graduates only. Polynomial equations including DeMoivre’s Theorem, the Fundamental Theorem of Algebra, methods of root extraction (e.g. Newton, Graffe), multiplicities, symmetric functions, matrices and determinants. Elementary computer applications.

MATH 521 Vectors and Matrices (2)
Graduates only. Study of vectors and matrices, connections to other areas, and topics in mathematics and the use of vectors and matrices in applications.

MATH 523 Modern Algebra (3)
A study of groups, rings and fields with a special emphasis on groups and fields.

MATH 525 Linear Algebra I (3)
Prerequisite: MATH 321. Vector spaces, linear transformations, matrices, eigenvalues, canonical forms, quadratic forms and other selected topics.

MATH 528 Discrete Mathematics (3)
Graduates only. A broad, yet deep, survey of topics in combinatorics and graph theory addressing three broad categories of problems: existence, enumeration and optimization. Blend of mathematics, real-world applications and development of mathematical reasoning skills, guided by the NCTM Yearbook.

MATH 529 Mathematical Problem Solving (2)
Graduates only. Techniques in problem solving applied to algebra, number theory, geometry, probability, discrete mathematics, logic and calculus. A study of Polya's heuristic rules of mathematical discovery.

MATH 534 Continuous Mathematics (3)
Graduates only. Students will explore selected topics in mathematical analysis such as differential mappings and chaotic systems.

MATH 537 Mathematical Modeling (3)
Graduates only. Introduction to the process of mathematical modeling and its use in teaching secondary school mathematics. Emphasizes development and communication of models.

MATH 540 Introduction to Topology (3)
Point-set topology and the foundations of real analysis.

MATH 543 Modern Geometry (3)
A survey of both traditional Euclidean geometry and contemporary geometries, in which applications of geometry are integrated into the study of the mathematical structure of geometrical systems.

MATH 544 Introduction to Differential Geometry (3)
Prerequisite: MATH 432 or equivalent. The geometry of curves and surfaces will be studied. The notions of curvature for lines and surfaces will be analyzed and their relationships to topology discussed.

MATH 545 Introductory Analysis (3)
Prerequisite: MATH 540. Sequences, series, differentiation, Riemann-Stieltjes Integral, series of functions, special functions and functions of several variables.

MATH 550 Applied Probability and Statistics (3)
Graduates only. Applied statistics and probability concepts to include history, counting techniques, distributions and inference (confidence intervals, point estimation, testing, ANOVA, regression, non-parametrics) will be covered in a context for use in secondary mathematics.

Course Descriptions 1999-2000
MATH 560 Introductory Complex Variables (3)
Prerequisite: MATH 432 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)
Explore a period of time, an area of mathematics and/or a group of mathematicians. Consult instructor for emphasis. Repeatable, under different subtitles.

MATH 591 Abstract Algebra and Number Theory (3)
Basic methods of problem solving in abstract algebra and number theory with applications in secondary school mathematics.

MATH 609 Symmetry in Mathematics (3)
Prerequisite: A graduate level course in Algebra. Course provides an overview of the theoretical and practical roles of group structures in various fields of mathematics.

MATH 622 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

MATH 623 Topics in Advanced Algebra (3)
A graduate level course in algebra required. Topics in Groups, Rings, Fields, polynomials over Rings and Fields. Content depends on instructor's choice. Repeatable, may be taken two times under different subtitles.

MATH 632 Complex Variables (3)
A course in complex analysis required. Analytic and meromorphic functions in the complex plane. Integration, conformal mapping and advanced topics.

MATH 633 Geometric Analysis (3)
Prerequisites: MATH 525; MATH 540 recommended. Analysis of functions of several variables, unifying and extending ideas from calculus and linear algebra. Includes the implicit function theorem and Stokes' Theorem.

MATH 635 Real Analysis II (3)
Prerequisite: MATH 635. Topics from real and functional analysis such as: measure theory, distributions, metric spaces and other topics of the instructor's choice.

MATH 727 Representation Theory (3)
Prerequisite: MATH 678. A broad yet deep survey of current topics in combinatorics and graph theory essential for teachers K-16, including applications to probability, coding theory, sorting and matching algorithms and optimization.

MATH 728 Discrete Mathematics (3)
Prerequisite: MATH 678. A broad yet deep survey of current topics in combinatorics and graph theory essential for teachers K-16, including applications to probability, coding theory, sorting and matching algorithms and optimization.

MATH 736 Real Analysis II (3)
Prerequisite: MATH 635. Topics from real and functional analysis such as: measure theory, distributions, metric spaces and other topics of the instructor's choice.

MATH 738 Topics in Discrete Mathematics (3)
Topics from various fields of mathematics, for example, algebraic topology, functional analysis, Lie groups and algebras or nonlinear analysis. Repeatable, may be taken two times under different subtitles.

MATH 700 Advanced Seminar (2)
Consent of Instructor. An advanced seminar in an active area of mathematical research. Content depends upon instructor's choice. Repeatable, may be taken two times under different subtitles.

MATH 722 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

MATH 724 Methods of Teaching Mathematics (3)
Corequisite: EDLS 363. Full admission to PTEP required. For prospective teachers seeking certification at the middle school, junior high or senior high school level. Gain skill in constructing teaching strategies, understanding curriculum problems and applying basic theories in teaching and learning mathematics. Early field experience desirable.

MATH 736 Real Analysis II (3)
A survey of topics in arithmetic and analytic number theory, such as Euler's function, quadratic reciprocity, continued fractions and the distribution of prime numbers.

MATH 754 Intern Teaching in Mathematics (1-4)
Primarily for doctoral 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. Repeatable, may be taken two times.

MATH 797 Doctoral Proposal Research (1-4)
Required of all doctoral students. Four hours of credit for doctoral dissertation proposal research must be earned in partial fulfillment of requirements before admission to candidacy. Repeatable, maximum four credits.

MATH 799 Doctoral Dissertation (1-12)
Required of all doctoral candidates. S/U grading. Repeatable, no limitations.

MCS - MULTICULTURAL STUDIES

MCS 101 Multiculturalism in the United States: Concepts and Issues (3)
An introduction to concepts and issues of multicultural behavior and group dynamics in contemporary United States society. The course will focus on the experiences of ethnic minority groups and women.

MED - MATHEMATICS EDUCATION

MED 272 Mathematics Tutoring (1)
Upon completion of 2 hours of instruction on how to tutor in mathematics, the student will complete 30 clock hours of tutoring. S/U graded. Repeatable, may be taken two times.

MED 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

MED 441 Methods of Teaching Mathematics (3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

MED 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

MED 509 Advanced Placement Program AB and BC Calculus (1-3)
Topics in calculus and pedagogical information related to establishing and maintaining a calculus advanced placement program. S/U graded. Unlimited repeatability.

MED 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

MED 528 Teaching of Discrete Mathematics (2)
Graduates only. Methods of teaching discrete mathematics including using technology, projects, cooperative groups and the development of curriculum materials. Topics will include the teaching of existence problems, counting problems and optimization problems.
MED 534 Teaching Algebra and Trigonometry (2)
Graduates only. Current research on instruction in algebra/trigonometry; current curricular issues and their impact on teaching of Algebra and Trigonometry from a conceptual and problem solving point of view.

MED 543 Teaching Geometry (2)
Graduates only. Students will develop teaching modules and models based on current theories of cognition and recommendations of professional societies.

MED 550 Teaching Applied Probability and Statistics (2)
Graduates only. Methods of teaching topics of probability and statistics including hands-on experience in collecting and analyzing data. Topics include descriptive techniques, random variables, curve fitting and use of technology.

MED 577 Mathematics Teachers Workshop (1-3)
No more than six credits may be applied on any one graduate degree. Work on problems K-14. S/U graded. Repeatable, under different subtitles to a maximum of 12 credits.

MED 585 Teaching Elementary and Middle School Mathematics (2)
Graduates only. Designed for those certified elementary/middle school teachers who will be pursuing a specialization in the teaching of mathematics. Strong mathematics content background necessary.

MED 587 Technology, Manipulatives and NCTM Standards (3)
Classroom use of mathematics software, calculators, pattern blocks, attribute blocks, geoboards, geometric solids, MIRA's and others presented to teach problem solving, skills and concepts. S/U graded.

MED 595 Teaching Advanced Topics in Secondary School Mathematics (2)
Graduates only. Methods of teaching advanced mathematics topics in high school mathematics with emphasis on pedagogy, working cooperatively and developing curriculum materials for teaching such topics as vectors, fractals and transformations.

MED 600 Introduction to Research in Mathematics Education (3)
Examination of research issues and trends in the teaching and learning of mathematics, applications to classroom practice and introduction to design and analysis of quantitative and qualitative research in mathematics education.

MED 610 Survey of Research in Mathematics Education (3)
Graduates only. The goals of this course are to synthesize and re-conceptualize past research, suggest areas of research most useful to advancing the field and provide implications for classroom practice.

MED 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

MED 630 Technology in Mathematics Education (2)
Prerequisite: MED 600 or consent of instructor. Graduates only. Hands-on training in using new software tools for the instruction of mathematics. Current research and curriculum reform efforts concerning technology in teaching will be examined. Repeatable, may be taken 2 times.

MED 672 Trends in Mathematics Education (4)
Graduates only. Current trends and issues that affect the teaching of school mathematics. Projects, readings and group work with focus on national and international studies and movements related to the teaching of mathematics.

MED 673 Preparation of Mathematics Specialists in Grades K-8 (3)
Prerequisite: B.A. in mathematics or equivalent. To prepare elementary/middle school mathematics specialists. Includes mathematics review of number theory, geometry and other content, NCTM curriculum, professional and assessment standards, use of technology and manipulatives and research.

MED 674 Teaching and Learning Mathematics on the Secondary Level (3)
Prerequisite: MED 610. Graduates only. Address and evaluate specific problems in mathematics education. Allow students to examine curricular concerns, evaluation, teaching special populations and cognitive issues relating specifically to the secondary level.

MED 675 Teaching and Learning Mathematics on the Post-Secondary Level (3)
Prerequisite: MED 610 or consent of instructor. Graduates only. Address community college and undergraduate level mathematics education issues. Focus on current curriculum reform and research into learning and teaching on the post-secondary level.

MED 678 Special Topics (2-3)
No more than six hours may be applied to any one graduate degree. Prerequisites and topics announced in Schedule of Classes. Repeatable, may be taken three times under different subtitles.

MED 700 Cognitive Processes in Mathematics (3)
Prerequisite: Consent of instructor. Analyze research concerning cognitive science in mathematics education. Conduct case study on cognition in mathematics.

MED 701 Educational Mathematics Research (3)
Learn advanced research concepts and methods that are unique in the study of educational mathematics. Includes data analysis and advanced statistical techniques.

MED 702 Qualitative Research in Mathematics Education (3)
Prerequisites: MED 700. Paradigms, issues and methods of qualitative research common in mathematics education. Immersion in and critical analysis of field-specific literature. Possible limited collection and analysis of data from mathematics learning environments.

MED 710 Seminar in Post-Secondary Mathematics Teaching (1)
Curricular, pedagogical and ethical issues in college mathematics teaching. Students and faculty reflect on and discuss ways to improve and reform teaching. S/U graded.

MED 750 Seminar on Philosophy of Educational Mathematics (3)
Prerequisite: MED 600 or consent of instructor. This seminar will foster open discussion and exploration of educational mathematics in the broadest sense of the word.

MED 765 Mathematical Structures and Education (3)
Course presents various approaches to basic and advanced mathematical structures. Analyzes educational difficulties related with each approach. Content depends on instructor's choice.

MET - METEOROLOGY

MET 110 Climate and Humans (3)
A general education course that explores the interrelationships between people and climate. The factors and elements of climate, impact of people on climate and influence of climate on historical events.

MET 205 General Meteorology (4)
(3 lecture, 2 laboratory) The basic course in meteorology. The atmosphere, its structure and composition. Radiation, temperature, pressure, wind, humidity, precipitation, clouds, air masses and fronts. Measurements. Weather maps.

MET 260 Mesoscale Meteorology (3)
Prerequisites: MET 205, MATH 131 or take concurrently. Study of atmospheric phenomena on medium time and space scales. Topics covered include mountain/valley winds, sea breeze circulations, gravity currents and waves, thunderstorms and related phenomena, hurricanes, and problems in mesoscale forecasting.

MET 306 Dynamic Meteorology I (3)
(2 lecture, 3 laboratory) Prerequisites: MET 205, MATH 131. In-depth treatment of gas laws, atmosphere thermodynamics and stability, cloud dynamics and adiabatic charts.

MET 315 Meteorological Instruments and Codes (2)
(4 laboratory) Prerequisite: MET 205 or MET 306. Meteorological instruments and their operations; weather maps and data exchange; codes and plotting of charts.

MET 360 Physical Meteorology (3)
Prerequisites: MET 205, MATH 124. Physical structure of the atmosphere, radiation in atmosphere, radiation laws, cloud microphysics, precipitation processes.

MET 376 Meteorological COOP Education (1-12)
Prerequisites: MET 205, MET 306. Credit given for participation in cooperative work/study program with National Weather Service, NOAA and/or other agencies. Summary paper required for work and/or research activities. Repeatable, maximum 24 credits.
MET 407 Dynamic Meteorology II (4)
(3 lecture, 2 laboratory) Prerequisite: MET 306. Atmospheric motion and laws governing it. Planetary and secondary circulations, jet streams, vorticity, cyclogenesis, air masses and fronts.

MET 421 Climatology (3)
Prerequisite: MET 205 or MET 500. Factors of climate; analytical methods of climatology; climatic classification. Regional distribution of climates around the world. Applied climatology.

MET 422 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

MET 441 Synoptic Meteorology (3)

MET 442 Synoptic Meteorology Laboratory (3)
Corequisite: MET 441/MET 541. Use of weather charts and data in forecasting of current weather and analysis of historical weather. Field trip to NOAA and National Weather Service Forecast Office.

MET 465 Radar Meteorology (3)
Prerequisites: MET 205, MATH 131. Majors only. Principles of radar operation and radar remote sensing techniques. Types of radar and their applications in meteorology.

MET 470 Satellite Meteorology (3)
Prerequisites: MET 407 or MET 441 or MET 507 and MET 541. Use of atmospheric data and cloud imagery from satellites for understanding the atmosphere and forecasting the weather.

MET 500 Survey of Meteorology (3)
(2 lecture, 3 laboratory) Principles of atmospheric science for teachers. Earth-atmosphere energy budget, pressure, temperature, wind, humidity, clouds, atmospheric stability, precipitation processes, air masses and fronts, current weather.

MET 507 Dynamic Meteorology II (4)
(3 lecture, 2 laboratory) Prerequisite: MET 306. Atmospheric motion and laws governing it. Planetary and secondary circulations, jet streams, vorticity, cyclogenesis, air masses and fronts.

MET 521 Climatology (3)
Prerequisite: MET 205 or MET 500. Factors of climate; analytical methods of climatology; climatic classification. Regional distribution of climates around the world. Applied climatology.

MET 536 Biometeorology (3)
Prerequisite: MET 205 or MET 500. Relationships between living organisms and atmospheric environment. Effects of weather on human health, agriculture and animals. Soil and air temperature, radiation and energy budgets, water cycle, heat units, comfort indices.

MET 541 Synoptic Meteorology (3)

MET 542 Synoptic Meteorology Laboratory (2)
(4 laboratory) Corequisite: MET 441/MET 541. Analysis and forecasting exercises and activities.

MET 560 Mesometeorology (3)
Prerequisite: MET 306. Mesoscale weather phenomena, such as thunderstorms, tornadoes, tropical cyclones, lee wave and downslope winds.

MET 565 Radar Meteorology (3)
Prerequisites: MET 205 and MATH 131. Majors only. Principles of radar operation and radar remote sensing techniques. Types of radar and their applications in meteorology.

MET 570 Satellite Meteorology (3)
Prerequisites: MET 407 or MET 441 or MET 507 and MET 541. Use of atmospheric data and cloud imagery from satellites for understanding the atmosphere and forecasting the weather.

MET 575 Air Pollution Meteorology (3)
Prerequisites: MET 205, MATH 124 and CG 105 or demonstrated abilities equivalent to these courses. Course provides background in air pollution meteorology necessary to interact knowledgeably with scientists, administrators and policy makers on environmental topics related to the atmosphere. Students will also gain hands-on experience working with air pollution and meteorological data, as well as report writing.

MET 595 Special Topics in Meteorology (1-4)
Consent of instructor. Explore topics in Meteorology beyond existing departmental offerings. Specific topics determined by student interest and instructor. Repeatable, under different subtitles.

MET 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

MIND - LIFE OF THE MIND PROGRAM

MIND 180 Great Ideas of the Western Tradition (3)
An introduction to the intellectual tradition of the western world through reading and discussion of basic works by Plato, Dante, Machiavelli, others. Credit in General Education category 4 for Philosophy or Literature or History.

MIND 181 Great Traditions of Asia: India, China and Japan (3)
Interdisciplinary study of the 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 4 for History or Literature or Fine Arts.
MS - MILITARY SCIENCE

MS 111 Introduction to Military Skills I (2)
Basic military skills to include: rifle marksmanship, repelling, customs, traditions and organization and role of the United States Army. Physical fitness training.

MS 121 Introduction to Military Skills II (2)
Basic military skills to include: first aid, winter survival, compass and map reading and orienteering. Physical fitness training.

MS 211 Contemporary Management Principles (2)
Management Simulation Program. Development of management skills to include: delegation and control, interpersonal skills and behavioral evaluation techniques. Physical fitness training.

MS 221 Dynamics of Military Leadership (2)
Theories of conflict; small unit operations; troop leading procedures; observing and classifying behavior; physical fitness training.

MS 311 Leadership Assessment (3)
Prerequisites: MS 111, MS 121, MS 211 and MS 221 or consent of instructor. Leadership Development Program. Leadership style of each student assessed through simulations and role play. Physical fitness training. Laboratory required.

MS 321 Applied Leadership (3)
Laboratory required. Consent of instructor. Techniques of command and staff functions. Development of operation orders and the conduct of tactical unit operations. Physical fitness training. Class includes 3-day field training exercises.

MS 322 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

MS 387 Practicum in Leadership and Military Operations (8)
(2 lecture, 6 laboratory) Prerequisite: MS 321 or consent of instructor. Theories and principles of leadership applied to actual field situations during 6-week paid ROTC advanced camp at Fort Lewis, Washington.

MS 401 Staff Functions and Leadership Principles (1)
Laboratory required. Consent of instructor. Corequisite: HIST 250 during fall semester of MS IV year. Application of military staff functions while serving in leadership roles in the Army ROTC.

MS 421 Role and Ethics of the Officer (3)
Laboratory required. Consent of instructor. Role of the Army Officer. Ethics and professionalism, military justice, law of land warfare and preparation for active duty. Physical fitness training.

MS 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum, 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

MT - MUSICAL THEATRE

MT 161 Introduction to Musical Theatre Performance (1)
(2 lecture; 1 laboratory) Prerequisite: THEA 160. This class is designed to provide the beginning musical theatre student with the basic mechanical, analytical and physical skills needed to perform musical theatre.

MT 260 Acting in Musical Theatre (3)
Prerequisite: THEA 160. Musical Theatre or Voice Majors only. A step-by-step process approach to acting a song. Units will be covered connecting the actor with the event/discovery of purpose/objective/relationship/choices and action clarification.

MT 261 Singing for Actors (2)
Acting Emphasis only or consent of instructor. Focus on basic singing technique for actors. Within the context of this class the acting students will study both theory and practical application of vocal technique as it applies to musical theatre and musical theatre auditioning.

MT 285 Performance in Musical Theatre (1-3)
Consent of instructor. Practical experience in the production of a musical. Techniques of acting, singing, dancing, directing and other facets necessary for preparation of a show for public performance will be offered. Unlimited repeatability.

MT 342 Workshop in Directing Musical Theatre (3)
(2 lecture; 2 laboratory) This course will increase awareness of period styles and staging musical theatre technique by choreographing musical theatre production numbers.

MT 343 Choreographing the Musical (2)
(2 lecture; 2 laboratory) This course will increase awareness of period styles and staging musical theatre technique by choreographing musical theatre production numbers.

MT 353 Musical Theatre Production (2)
Admission by audition only. Production and presentation of musical theatre or tour format before live audiences. Unlimited repeatability.

MT 360 Scene Study in Musical Theatre (3)
(2 lecture; 3 laboratory) Prerequisites: MT 260. THEA 160; two semesters of study in voice. Musical theatre literature explored through the study of period and style. The laboratory experience will include singing, dancing and acting. Laboratory section may be repeated.

MT 370 Musical Theatre Dance (2)
Prerequisites: DNCE 166, DNCE 170, DNCE 175. Gain knowledge and skill in the techniques and styles of dance required in musical theatre. Unlimited repeatability.

MT 390 Advanced Musical Theatre Scene Study (2)
(2 lecture; 3 laboratory) Prerequisites: THEA 160, MT 260, MT 360. This course will further the student’s act/sing technique with a focus on advanced partnering.

MT 465 Musical Theatre Workshop (3)
(2 Lecture; 2 Laboratory) Consent of instructor. Study of the role preparation and styles, particularly developing the necessary skills to prepare audition materials. Repeatable, maximum six credits.

MT 470 Senior Project in Musical Theatre (3)
Consent of instructor. Corequisite: MUS 407. Qualified seniors in musical theatre major only. Practical experience in the preparation and performance of a musical theatre role study.

MT 485 Performance in Musical Theatre (1-3)
Consent of instructor. Practical experience in the production of a musical. Techniques of acting, singing, dancing, directing and other facets necessary for preparation of a show for public performance will be offered. Unlimited repeatability.

MTEC - MEDICAL TECHNOLOGY

MTEC 410 Clinical Chemistry (3)
Basic principles of chemistry instrumentation, quality control and clinical chemistry tests; meaning and use of electrolyte, blood gas, protein, liver function, renal function, lipid, carbohydrate, enzyme, endocrine, drug monitoring and other clinical chemistry tests.

MTEC 411 Chemistry Laboratory I (2)
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 (2)
Additional testing procedures with emphasis on gaining proficiency in performance of tests utilizing skills learned in MTEC 411.

MTEC 413 Chemistry Laboratory III (1)
New testing procedures, methods development and more about applying quality control methods for verification of test procedures.

MTEC 430 Immunology-Immunohematology (2)
Basics of immunology and serology techniques utilized in the clinical laboratory, covering blood banking principles and methods and uses of blood transfusions and component therapy in medicine.

MTEC 431 Immunohematology Laboratory I (2)
Principles and procedures of blood banking, selection and drawing of blood donors and the processing, pretesting and cross-matching of recipient's blood for transfusion.
MTEC 432 Immunohematology Laboratory II (1)
Advanced principles of blood banking including auto-immune disorders, component usage and preparation, syphilis serology and case studies.

MTEC 440 Medical Microbiology (3)
Identification of human pathogenic bacteria, fungi and parasites. The role of viruses, rickettsia, bacteria, fungi in disease, antibiotic therapy and susceptibility testing and quality control.

MTEC 441 Microbiology Laboratory I (2)
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 Microbiology Laboratory II (3)
Less frequently isolated and clinically significant bacteria, 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-Coagulation (3)
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 Laboratory I (2)
Basic theory, techniques and skills required to perform routine analysis of patient specimens in hematology. Must be completed before MTEC 493.

MTEC 492 Hematology Laboratory II (2)
Basic theory, techniques and skills required to perform routine analysis of patient specimens in urinalysis and coagulation. Must be completed before MTEC 493.

MTEC 493 Hematology-Serology-Electrophoresis Laboratory III (1)
Prerequisites: MTEC 491, MTEC 492. Theory, techniques and skills required to perform serologic and immunologic assays, including electrophoresis, as well as diagnosis of blood dyscrasias in blood smears.

MUS - Music

MUS 100 Recitals, Concerts and Productions (0)
All undergraduate Music majors are required to attend all weekly departmental recitals in their major areas, all Convocations, plus a minimum of 12 major recitals, concerts and productions each semester in residence. S/U graded. Unlimited repeatability.

MUS 101 Sight-Singing and Theory I (4)
Sight-singing of diatonic melodies; melodic, harmonic and rhythmic dictation; study of intervals, scales, triads, the dominant seventh chord and non-harmonic tones in analysis and the construction of triads in four voice writing. Class meets 4 days a week, with the fifth day for keyboard laboratory. Class is open to all students, but is intended primarily for music majors and minors. Unlimited repeatability.

MUS 102 Sight-Singing and Theory II (4)
Prerequisite: MUS 101. Continuation of the ear-training and written materials of MUS 101 in greater depth and detail. Principles of harmonic progression, diatonic common chord modulation, non-harmonic tones, the Classic Period, developmental techniques and small homophonic forms. Class meets 4 days, with the fifth day for keyboard laboratory.

MUS 140 Introduction to Music (3)
A non-technical course aiming to increase the enjoyment and appreciation of music for students with little or no previous background. This course will be devoted to listening and discussion of the assigned listening.

MUS 141 Music Literature and Styles I (2)
An introduction to analysis and description of music, its elements and vocabulary. A survey of music literature in Medieval, Renaissance, Baroque and Classical styles.

MUS 142 Music Literature and Styles II (2)

MUS 152 Writing and Scholarship in the Performing and Visual Arts (3)
Prerequisite: ENG 122 or equivalent. Majors only. 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 159 Class Piano for Non-Music Majors (1)
For non-music majors without a background in piano. Develop basic piano skills in harmonization, sight-reading, repertoire and technique.

MUS 160 Beginning Class Piano I (1)
For music majors only without background in piano. Corequisite: MUS 101 or demonstrate an equivalent knowledge of the material covered in that class. Develop performance in sight reading, harmonization and piano technique.

MUS 161 Beginning Class Piano II (1)
Prerequisite: MUS 160 or consent of instructor. Majors only. For music majors continuing to develop reading skills, technique and style necessary for playing elementary piano music.

MUS 201 Advanced Sight-Singing and Theory I (3)
Prerequisite: MUS 102. A study of diatonic seventh chords, borrowed chords, secondary dominants, augmented sixth chords, chromatic and inharmonic modulation and musical forms of the Classic and Romantic Periods; sight-singing and harmonic and melodic dictation related to chromatic harmony; early 20th century techniques. Class meets 3 days each week, plus one half-hour keyboard laboratory.

MUS 202 Advanced Sight-Singing and Theory II (3)
Prerequisite: MUS 201. Studies of 20th century techniques, with student compositions performed and evaluated in class.

MUS 204 Music Fundamentals and Experiences (3)
For university students with minimal musical background. The purpose of this course is to acquire knowledge and understanding of musical concepts and terminology through research, critical writing, music analysis and performance.

MUS 206 Music Methods and Materials for Elementary Teachers (1)
Prerequisite: MUS 101 or MUS 204. Develop understandings and musical skills related to methodology for a multifaceted music curriculum in the elementary classroom, including the integration of music with other disciplines. Two class meetings per week.

MUS 209 Introduction to MIDI and Music Software (2)
This project orientated course introduces the language of MIDI and the basics of music sequencing and notation software. These skills allow the production of computer playback files and engraved scores.

MUS 210 Introduction to Music Education (1)
Prerequisite: MUS 102. Music majors only. For prospective teachers of music. Covers the history and present status of music in the schools, qualifications of music teachers and beginning instructional problems. Weekly observation and aiding required.

MUS 221 Small Jazz Ensembles (1)
Open to any student by audition. Groups consist of rhythm section plus three or four horns. Unlimited repeatability. Students should have an improvisation background before audition. MUS 223 is recommended.

MUS 223 Jazz Theory and Improvisation (2)
Prerequisite: MUS 102 or consent of instructor. Class will focus on chords, symbols and major, minor and dorian scales; will investigate chord progressions and substitutions; and will cover basic jazz piano and individual instrument techniques.

MUS 224 Vocal Jazz Ensembles (1)
Audition required. Each 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 225 Jazz Ensemble (1)
Audition required. For brass, woodwind and rhythm players. Concentrates on the idioms of jazz music. Get thorough preparation for teaching at both secondary and college levels. Unlimited repeatability.

MUS 230 String Ensemble (1)
Small chamber groups that rehearse regularly and are coached by a faculty member. Unlimited repeatability.

MUS 231 Brass Ensemble (1)
Small chamber groups that rehearse regularly and are coached by a faculty member. Unlimited repeatability.

MUS 232 Woodwind Ensemble (1)
Small chamber groups that rehearse regularly and are coached by a faculty member. Unlimited repeatability.

MUS 233 Percussion Ensemble (1)
Small chamber groups that rehearse regularly and are coached by a faculty member. 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 241 Perceiving the Arts (3)
The purpose of this course is to develop and extend perception and understanding of the constituent elements of music, theatre, visual arts and dance. The student will explore, encounter and discuss varied art forms and media as integral parts of the processes of reading, attending arts events and critical writing.

MUS 243 History of Music I (3)
The history of change in music from earliest times through the 16th Century to the end of the Baroque Period with emphasis on the changes in style.

MUS 244 History of Music II (3)
A study of historical changes that took place in music in the Classic and Romantic Periods and the 20th Century.

MUS 246 Music in American History and Culture (3)
The purpose of this course is to examine select areas of American music in a historical and cultural framework. Material to be discussed includes musical traditions of various ethnic groups.

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 the study of many types of folk music and an introduction to the methods of ethnomusicology.

MUS 250 Voice Class for Musical Theatre I (1)
(2 contact hours per week). Required of all Musical Theatre majors in the dance and acting emphases. Beginning instruction in singing. Study will involve the elements of a basic technique for singing and an introduction to the anatomy and physiology of the voice.

MUS 251 Voice Class for Musical Theatre II (1)
(2 contact hours per week). Prerequisite: MUS 250. Required of all Musical Theatre majors in the dance and acting emphases. Continuation of concepts learned in MUS 250 in greater depth and detail. Emphasis will be placed on developing musicianship, more independent learning and greater accuracy in singing.

MUS 260 Intermediate Class Piano I (1)
Prerequisite: MUS 102, MUS 161 or consent of instructor. Functional piano for music majors with slight background in piano. Expand basic skills in sight-reading, harmonization and technique to early intermediate piano level.

MUS 265 Individual Performance in Collaborative Piano (2-4)
Consent of instructor. In-depth study of repertoire and refinement of skills for the collaborative pianist. Unlimited repeatability.

MUS 266 Madrigal Singers (1)
Membership in the Concert Choir required or by special permission. The UNC Madrigal Singers is a highly select group of 16 to 20 performers. The group performs a wide variety of choral chamber works in concerts throughout the year. Unlimited repeatability.

MUS 267 University Symphony Orchestra (1-3)

MUS 268 Chamber Orchestra (1)
Audition required. Comprised of outstanding strings and selected winds, this group performs literature from the Baroque to the present, specializing in material specifically designed for chamber orchestra. The ensemble presents concerts regularly on and off campus. Unlimited repeatability.

MUS 269 Individual Performance in Voice for Those with Non-Voice Emphasis (2-4)
Consent of instructor. Instruction concentrates on fundamental principles of voice production. Development of rhythmic and melodic accuracy receives primary consideration. Unlimited repeatability.

MUS 270 Individual Performance in Voice (2-4)
Consent of instructor. Unlimited repeatability.

MUS 271 Individual Performance in Piano (2-4)
Consent of instructor. Unlimited repeatability.

MUS 272 Individual Performance in Organ (2-4)
Consent of instructor. Unlimited repeatability.

MUS 273 Individual Performance in Strings (2-4)
Consent of instructor. Unlimited repeatability.

MUS 274 Individual Performance in Woodwinds (2-4)
Consent of instructor. Unlimited repeatability.

MUS 275 Individual Performance in Brass (2-4)
Consent of instructor. Unlimited repeatability.

MUS 276 Individual Performance in Percussion (2-4)
Consent of instructor. 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 60-65 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 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 semester and joins with the Concert Choir in performance of large masterworks with orchestra. Unlimited repeatability.
MUS 282 University Singers (1)
Audition required; membership in Concert Choir or consent of instructor. This select group of 25 singers performs an extremely varied repertoire, from Renaissance motets to contemporary works. 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 Performance in Opera Theatre (1-3)
Audition required. Practical experience in the production and performance of a complete operatic work. Techniques of acting, singing, character analysis and stage direction will be studied. Unlimited repeatability.

MUS 286 Scene Studies in Opera (1-3)
Audition required. Studying techniques of acting, singing, character analysis and stage deportment through the staging and performing of selected opera scenes and arias. Unlimited repeatability.

MUS 287 Summer Symphonic Band (1-3)
Audition required. Open to all students interested in performing the highest quality literature available. The Summer Season consists of five outdoor concerts. Unlimited repeatability.

MUS 288 Concert Band (1-3)
Audition required. Comprised 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 289 University Brass Choir (1)

MUS 290 Symphonic Band (1-3)
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 contemporary and traditional repertoire. Unlimited repeatability.

MUS 291 Wind Ensemble (1-3)
Audition required. Comprised of the most outstanding wind and percussion majors in the School of Music. The ensemble performs a repertoire of works requiring from 8 to 35 performers. Unlimited repeatability.

MUS 292 Marching Band (1)
Audition required. Open to all university students. To develop marching/playing skills by utilizing current practices in marching band formation design and special marching band musical arrangements. Unlimited repeatability.

MUS 297 Summer Festival Orchestra (1-3)
Audition required. Serves as the nucleus of the summer music festival, presenting two concerts and accompanying the opera. Unlimited repeatability.

MUS 301 18th Century Counterpoint (2)
Prerequisite: MUS 202. A study of two- and three-voice counterpoint as found in the invention, canon, fugue and chorale prelude.

MUS 302 Form and Analysis (2)
Prerequisite: MUS 202. The study of homophonic forms, beginning with the motif and continuing with the analysis of the sonata, rondo and variation forms.

MUS 303 Instrumentation (2)
Prerequisite: MUS 202. 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 307 History of Instruments and Instrumental Practice (3)
A historical study of the development of musical instruments and the performance practices associated with them.

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. S/U graded. Unlimited repeatability.

MUS 309 Music for Video (2)
Prerequisite: MUS 209. An introduction to skills needed for success in the music industry. Among the topics discussed will be creating “humanized” computer playback, and synchronizing computer playback to video and other sources.

MUS 310 Teaching General Music in Elementary Schools (2)
Prerequisite: MUS 210. Admission to PTEP required. A comprehensive study of the teaching of music to students in elementary school general music classes. Clinical experiences required.

MUS 311 Teaching General Music in Secondary Schools (2)
Prerequisite: MUS 310. Study the role and nature of required and elective general music, arts and humanities courses in junior and senior high schools.

MUS 312 Teaching Instrumental Music in Elementary Schools (2)
Prerequisite: MUS 210. Admission to PTEP required. Examine materials, methods and procedures for teaching instrumental music in elementary schools. In-class presentations and clinical experience required.

MUS 313 Synthesis and Sampling (2)
(2 hours lecture) Prerequisites: MUS 209. This project oriented course gives students a professional level familiarity with electronic musical instruments. The class will focus on the production and design of synthetic and sampled sounds.

MUS 314 Guitar in the Classroom (1)
Music majors only or consent of instructor. Learn to play guitar, including basic folk and classical techniques. Approach from a functional, accompaniment and conceptual standpoint useful for the development of a guitar program in public school music curriculum and for accompaniment development in the general music and vocal public school program.

MUS 317 Teaching Instrumental Music in Secondary Schools (2)
Required clinical experience arranged. Prerequisite: MUS 312. Full admittance to PTEP required. Investigate the factors relating to the teaching of instrumental music in the secondary school and develop an understanding of the administrative skills necessary to develop and maintain an outstanding secondary instrumental music program.

MUS 318 Music in Early Childhood (2)
Prerequisite: MUS 202 or MUS 206. Explore a broad range of teaching ideas that nurture musicality in children ages two to seven.

MUS 319 Instrumental Techniques and Conducting (1)
Prerequisite: MUS 202. Develop effective hand and baton technique; learn drill and various meter patterns, tempo, style, dynamics, musical terms; study and perform musical scores, using a laboratory band and orchestra.

MUS 320 Wind Literature, Pedagogy and Conducting (2)
Prerequisite: MUS 319. Designed to continue conducting instruction begun in MUS 319, with emphasis on wind literature and rehearsal techniques appropriate for elementary through high school bands.

MUS 323 Choral Techniques and Conducting (2)
Prerequisite: MUS 202. Develop basic conducting technique as a choral musician. Study and apply meter patterns, preparatory beats, cueing and releases. Discuss the production, diction, blend, score preparation and rehearsal techniques.

MUS 324 Choral Conducting and Pedagogy for Elementary and Secondary Schools (2)
Prerequisite: MUS 323. Continue work begun in MUS 323, refining conducting techniques; studying more complex scores; other advanced problems in conducting; examining materials, methods and procedures relevant to teaching vocal music in elementary and secondary schools.

MUS 325 Choral Methods and Literature for Elementary and Secondary Schools (1)
Prerequisite: MUS 320 or MUS 323 or consent of instructor. Examine choral literature for use with elementary through high school choral organizations.

MUS 328 Intermediate Jazz Improvisation (2)
Prerequisite: MUS 223 or consent of instructor. 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 330 String Techniques (1)
The study of the problems of string playing through performance on string instruments and the study of available literature for teaching string ensemble in preparation for establishing string classes upon graduation.

MUS 331 String Pedagogy and Literature for the Instrumental Music Teacher (2)
Prerequisites: MUS 319, MUS 330 or consent of instructor. Laboratory required. Full admittance to PTEP required. Additional studies in string performance and literature are presented for the instrumental B.M.E. major.

MUS 332 Observation and Study of Audio Engineering (1)
(1 hour lecture) Prerequisites: MUS 209, MUS 308/MUS 508 Audio Engineering Workshop. This course is designed for students interested in audio recording. It will stress basic audio definitions and concepts as well as audio components and their use.

MUS 333 Practicum in Audio Engineering (2)
(2 hours lecture) Prerequisites: MUS 332. This course is a continuation of MUS 332 Observation and Study of Audio Engineering. This course is designed for students interested in audio recording. It will stress basic audio definitions and concepts as well as audio components and their use.

MUS 334 Acting for Singers (2)
Instruction in the special needs of the singer/actor: staging of arias, improvisation, freeing the voice through movement. Repeatable up to one time.

MUS 336 German Art Song (3)
An introduction to the origins of the art song form with in-depth study of the German art song from its historical beginnings through the present day.

MUS 338 French/Italian Art Song (2)
Course in the performance of 19th and 20th Century French and Italian Art Song with particular emphasis upon style, technical requirements and dictio.

MUS 339 British/American Art Song (2)
In-depth study of British and American art song. Emphasis will be on research and performance of 20th century materials.

MUS 340 Survey of History and Literature of Jazz (3)
An in-depth study of the history and literature of jazz from its beginnings to the present. Listening skills and critical writing skills are stressed. Open to all students.

MUS 346 Jazz Arranging, Small Ensembles and Big Bands (2)
Prerequisite: MUS 202 or consent of instructor. Learn the art of calligraphy, the basics for arranging for small jazz ensembles and work with big band scoring.

MUS 347 Jazz Arranging, Vocal Jazz and Studio Orchestra (2)
Prerequisite: MUS 346/MUS 546 or consent of instructor. Continuation of MUS 346 with focus on vocal jazz and studio orchestra composition. Performance of material at end of semester by studio orchestra and vocal jazz ensemble.

MUS 348 Accompanying and Coaching I (2)
Consent of instructor. Acquaint students with necessary skills for collaborative performance through the study of listening, rhythm, sightreading, technique and 4-hand repertoire. Class performances required. Unlimited repeatability.

MUS 349 Accompanying and Coaching II (2)
Prerequisite: MUS 348/MUS 548 or consent of instructor. Acquaint students with skills needed for collaborative performance through score reduction and discussion, listening and performance of song and instrumental literature. Class performances required. Unlimited repeatability.

MUS 352 Principles of Piano Teaching I (2)
Compare current piano methods. Study technical and musical problems with a beginning student. Offered every other year.

MUS 353 Principles of Piano Teaching II (2)
Prerequisite: MUS 352/MUS 552 or consent of instructor. A survey of the methods of teaching musicianship and pianistic skills. Observation of private and group lessons. Supervised teaching internship required. Offered every other year.

MUS 356 Marching Band Techniques (1)
Designed to develop the necessary skills and knowledge needed to organize, administer, plan and teach marching band shows. Clinical experience required.

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. Study will involve the elements of a basic technique for singing and beginning solo repertoire.

MUS 361 Clarinet and Saxophone Class (1)
Develop a teaching knowledge of clarinet 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 Double Reed and Flute Class (1)
Develop a teaching knowledge of the flute, oboe and bassoon. As a prospective teacher, learn pedagogic and concert literature and sufficient skills to demonstrate the instruments.

MUS 364 Brass and Percussion Class (2)
Prerequisite: MUS 102. Develop a teaching knowledge of the brass and percussion instruments. Acquire sufficient playing skill for purposes of demonstration.

MUS 367 Materials and Techniques for Brass and Percussion (1)
Required of all music majors with vocal, piano and general music emphasis (B.M.E.). Covers the teaching fundamentals of brass and percussion instruments.

MUS 403 Acoustics of Music (2)
A study of the physical properties of sound as compared with the psychoacoustical characteristics of perceived experience. Emphasis is placed on practical applications in music that are of value to the musician.

MUS 404 Jazz Methods and Materials (1)
Majors only. An overview of literature, methodologies, and teaching strategies for the junior high/high school music educator. Hands on experience with conducting and rehearsing literature appropriate to the age level.

MUS 406 UNC String Project Pedagogy and Supervised Teaching Practicum (1-2)
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 semester, dependent upon classroom/clinical experience hours assigned. Unlimited repeatability.

MUS 407 Individual Coaching in Musical Theatre Repertory (2)
Consent of instructor. Qualified seniors in musical theatre major only. Corequisite: MT 470. Performance experience providing the advanced student with training in integration of music and theatre techniques. Culminates in the musical theatre major's final project.

MUS 410 Vocal Pedagogy (2)
An introduction to the science and 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 Contemporary Issues in Music Education (2)
Prerequisite: MUS 206 or MUS 310. Full admittance to PTEP required. Designed to examine contemporary issues in music education. Study will include issues such as the inclusion of students with handicapping conditions into the classroom and trends in assessments of musical growth for all students.

MUS 415 Keyboard Literature I (2)
Sightreading at Level III or above required. The study of keyboard music from its earliest beginnings through the works of Frederic Chopin and Robert Schumann. Offered every other year.

MUS 416 Keyboard Literature II (2)
Sightreading at Level III or above required. Concentrate on keyboard works from Franz Liszt and Johannes Brahms through the Twentieth Century. Offered every other year.

MUS 421 Small Jazz Ensembles (1)
Open to any student by audition. Groups consist of a rhythm section plus 3 or 4 horns. Unlimited repeatability.

MUS 422 Directed Studies in Music (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>MUS 424</td>
<td>Vocal Jazz Ensembles (1)</td>
<td>Audition required. Each 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.</td>
</tr>
<tr>
<td>MUS 425</td>
<td>Jazz Ensemble (1)</td>
<td>Audition required. For brass, woodwind and rhythm players. Concentrate on jazz idioms. Get thorough preparation for teaching at both secondary and college levels. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 426</td>
<td>Orchestral Excerpts: Percussion (1)</td>
<td>Consent of instructor. Emphasis is on professional level performance of standard orchestral literature. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 427</td>
<td>Orchestral Excerpts: Strings (1)</td>
<td>Consent of instructor. Emphasis is on professional level performance of standard orchestral literature. Separate classes in violin, viola, cello and bass, depending on need. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 428</td>
<td>Orchestral Excerpts: Brass (1)</td>
<td>Consent of instructor. Emphasis is on professional level performance of standard orchestral literature. Separate excerpts classes in trumpet, horn and low brass offered. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 429</td>
<td>Orchestral Excerpts: Woodwind (1)</td>
<td>Consent of instructor. Depending on need, separate excerpt classes in bassoon, clarinet, flute and oboe are offered. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 430</td>
<td>String Ensemble (1)</td>
<td>Small chamber groups that rehearse regularly and are coached by a faculty member. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 431</td>
<td>Brass Ensemble (1)</td>
<td>Small chamber groups that rehearse regularly and are coached by a faculty member. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 432</td>
<td>Woodwind Ensemble (1)</td>
<td>Small chamber groups that rehearse regularly and are coached by a faculty member. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 433</td>
<td>Percussion Ensemble (1)</td>
<td>Small chamber groups that rehearse regularly and are coached by a faculty member. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 435</td>
<td>Classical Guitar Ensemble (1)</td>
<td>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.</td>
</tr>
<tr>
<td>MUS 444</td>
<td>English Diction (1)</td>
<td>A course in the performance of English Song Literature with particular emphasis upon the problems of singing in one's own language.</td>
</tr>
<tr>
<td>MUS 445</td>
<td>German Diction (1)</td>
<td>A course in the performance of 19th and 20th century German art song, with particular emphasis upon style and diction.</td>
</tr>
<tr>
<td>MUS 446</td>
<td>French Diction (1)</td>
<td>A course in the performance of 19th and 20th century French art song, with particular emphasis upon style and diction.</td>
</tr>
<tr>
<td>MUS 447</td>
<td>Italian Diction (1)</td>
<td>A course in the performance of songs and airs written before the 19th century, with particular emphasis upon style and diction.</td>
</tr>
<tr>
<td>MUS 448</td>
<td>Collegium Musicum (1)</td>
<td>Audition required. 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. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 450</td>
<td>Seminar in Student Teaching for Music Educators (1)</td>
<td>Full admittance to PTEP required. This seminar is designed to provide student teachers in music education with pertinent information and a support system that will aid them during their field experience.</td>
</tr>
<tr>
<td>MUS 452</td>
<td>Orff Schulwerk and Kodaly Choral Method in American Schools (2)</td>
<td>Prerequisite: MUS 206 or MUS 310. A comparative study of Orff and Kodaly approaches to teaching music including philosophy, instructional principles, activities and current materials.</td>
</tr>
<tr>
<td>MUS 454</td>
<td>Pedagogical Approaches to Keyboard Literature (2)</td>
<td>Evaluate various approaches to the study of keyboard literature through student participation in teaching and performing. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 457</td>
<td>Multicultural Music Education (2)</td>
<td>Prerequisite: MUS 210. Study of potential music educational practices within a multicultural school environment. Emphasis is given to concepts of pluralism in American society.</td>
</tr>
<tr>
<td>MUS 465</td>
<td>Individual Performance in Collaborative Piano (2-4)</td>
<td>Prerequisites: MUS 348, MUS 349, MUS 265 or consent of instructor. In-depth study of repertoire and refinement of skills for the collaborative pianist. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 466</td>
<td>Madrigal Singers (1)</td>
<td>Membership in the Concert Choir required or by special permission. The UNC Madrigal Singers is a highly select group of 16 to 20 performers. The group performs a wide variety of choral chamber works in concerts throughout the year.</td>
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<tr>
<td>MUS 468</td>
<td>Chamber Orchestra (1)</td>
<td>Audition required. Comprised of outstanding strings and selected winds, this group performs literature from the Baroque to the present, specializing in materials specifically designed for chamber orchestra. The ensemble presents concerts regularly on and off campus. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 470</td>
<td>Individual Performance in Voice (2-4)</td>
<td>Consent of instructor. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 471</td>
<td>Individual Performance in Piano (2-4)</td>
<td>Consent of instructor. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 472</td>
<td>Individual Performance in Organ (2-4)</td>
<td>Consent of instructor. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 473</td>
<td>Individual Performance in Strings (2-4)</td>
<td>Consent of instructor. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 474</td>
<td>Individual Performance in Woodwinds (2-4)</td>
<td>Consent of instructor. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 475</td>
<td>Individual Performance in Brass (2-4)</td>
<td>Consent of instructor. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 476</td>
<td>Individual Performance in Percussion (2-4)</td>
<td>Consent of instructor. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 477</td>
<td>Individual Instruction in Composition (2-4)</td>
<td>Consent of instructor. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 478</td>
<td>Individual Performance in Harp (2-4)</td>
<td>Consent of instructor. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 479</td>
<td>Individual Performance in Guitar (2-4)</td>
<td>Consent of instructor. Unlimited repeatability.</td>
</tr>
<tr>
<td>MUS 480</td>
<td>Mixed Concert Choir (1)</td>
<td>Audition required. Limited to approximately 60-65 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 concerts on campus and tours annually. Unlimited repeatability.</td>
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<tr>
<td>MUS 481</td>
<td>Women's Gee Club (1)</td>
<td>Audition required. Membership in this group of 30-40 singers is open to all female students. The Gee Club performs concerts on campus each semester and joins with the Concert Choir in performance of large masterworks with orchestra. Unlimited repeatability.</td>
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</tbody>
</table>
MUS 482 University Singers (1)
Membership in Concert Choir required.
Audition required. This select group of approximately 25 singers performs an extended and varied repertoire, from Renaissance motets to contemporary works. 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 Performance in Opera Theatre (1-12)
Audition required. Practical experience in the production and performance of a complete operatic work. Techniques of acting, singing, character analysis and stage direction will be studied. Unlimited repeatability.

MUS 486 Scene Studies in Opera (1-3)
Audition required. Studying techniques of acting, singing, character analysis and stage department through the staging and performing of selected opera scenes and arias. Unlimited repeatability.

MUS 487 Summer Symphonic Band (1-3)
Audition required. Open to all students interested in performing the highest quality literature available. The Summer Season consists of five outdoor concerts. Unlimited repeatability.

MUS 488 Concert Band (1-3)
Audition required. Comprised 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 489 University Brass Choir (1)

MUS 490 Symphonic Band (1-3)
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 contemporary and traditional repertoire. Unlimited repeatability.

MUS 491 Wind Ensemble (1-3)
Audition required. Comprised of the most outstanding wind and percussion majors in the School of Music. The ensemble performs a repertoire of works requiring from 8 to 35 performers. Unlimited repeatability.

MUS 492 Marching Band (1)
Audition required. Open to all university students. To develop marching/playing skills by utilizing current practices in marching band formation design and special marching band musical arrangements. Unlimited repeatability.

MUS 493 University Wind Ensemble (1-3)
Audition required. Open to all students interested in performing. The ensemble performs on campus and in the community, and tours throughout the United States. Limited to 60 students. Unlimited repeatability.

MUS 494 Wind Band (1-3)
Audition required. Open to all students interested in performing on campus and in the community. The ensemble performs on campus and in the community, and tours throughout the United States. Limited to 80 students. Unlimited repeatability.

MUS 495 University Jazz Band (1-3)
Audition required. Open to all students interested in performing on campus and in the community. The ensemble performs on campus and in the community, and tours throughout the United States. Limited to 30 students. Unlimited repeatability.

MUS 496 Jazz Ensemble (1-3)
Audition required. Open to all students interested in performing on campus and in the community. The ensemble performs on campus and in the community, and tours throughout the United States. Limited to 20 students. Unlimited repeatability.

MUS 497 Summer Festival Orchestra (1-3)
Audition required. Serves as the nucleus of the summer music festival presenting two concerts and accompanying the opera. Unlimited repeatability.

MUS 501 18th Century Counterpoint (2)
Prerequisite: MUS 102. Study of two- and three-voice counterpoint as found in the invention, canon, fugue and chorale prelude.

MUS 502 Harmony and Form I (3)
Study 18th and early 19th century harmonic and formal concepts.

MUS 503 Harmony and Form II (3)
Prerequisite: MUS 502 or consent of instructor. The study of late 19th and 20th century harmonic and formal concepts.

MUS 504 19th and 20th Century Counterpoint (3)
Prerequisite: MUS 503. Study of the style of 19th and 20th century polyphonic music, emphasizing actual period music as well as theoretical concepts.

MUS 505 Sixthteenth Century Counterpoint (3)
Prerequisite: MUS 504. Study the style of 16th century polyphonic music, emphasizing actual period music as well as theoretical concepts. Composition of two-, three- and four-voice motets.

MUS 506 UNC String Project Pedagogy and Supervised Teaching Practicum (1-2)
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 semester, dependent upon classroom/clinical experience hours assigned. Unlimited repeatability.

MUS 507 History of Instruments and Instructional Practices (3)
A historical study of the background and development of musical instruments, with emphasis on the related performance practices.

MUS 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Unlimited repeatability.

MUS 509 Electronic Music (3)
Describe materials used in electronic music and the techniques and equipment employed to transform and organize these into compositions. Students learn to use the synthesizer.

MUS 510 Vocal Pedagogy (2)
An introduction to the science and 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 and Literature of the Wind Band (2)
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 in the United States.

MUS 512 Symphonic Repertoire (2)
Historical overview of the symphony orchestra and its literature. Addresses questions of style, performance, practice and programming. Includes a unit of study on music for younger orchestras.

MUS 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Unlimited repeatability.

MUS 515 Keyboard Literature I (2)
Sightreading at Level III or above required. The study of keyboard music from its earliest beginnings through the works of Frederic Chopin and Robert Schumann. Offered every other year.

MUS 516 Keyboard Literature II (2)
Sightreading at Level III or above required. Concentrate on keyboard works from Franz Liszt and Johannes Brahms through the twentieth century. Offered every other year.

MUS 519 Foundations of Music Education (3)
Study historical, philosophical and psychological issues and principles that provide the context for contemporary music education.

MUS 521 Saxophone Pedagogy (2)
Consent of instructor. Develop teaching techniques for the saxophone in the areas of performance, style, repertoire, intonation and historical perspective.

MUS 522 Flute Pedagogy (2)
Consent of instructor. Majors only. Develop teaching techniques for the flute in the areas of performance, style, repertoire, intonation and historical perspective. Unlimited repeatability.

MUS 523 Oboe Pedagogy (2)
Consent of instructor. Majors only. Develop teaching techniques for the oboe in the areas of performance, style, repertoire, intonation and historical perspective. Unlimited repeatability.

MUS 533 Curriculum Trends in Music Education (3)
Study curriculum trends in music education, including methods of teaching, curriculum development and aesthetic education.

MUS 534 Acting for Singers (2)
Instruction in the special needs of the singer/actor: staging of arias, improvisation, freeing the voice through movement.

MUS 536 German Art Song (3)
An introduction to the origins of the art song form with in-depth study of the German art song from its historical beginnings through the present day.

MUS 538 French/Italian Art Song (2)
Course in the performance of 19th and 20th century French and Italian Art Song with particular emphasis upon style, technical requirements and diction.
MUS 539 British/American Art Song (2)
In-depth study of British and American art song. Emphasis will be on research and performance of 20th century materials.

MUS 542 Jazz Pedagogy (2)
Graduate and qualified senior music majors only. Takes a pedagogical approach to the analysis of jazz ensemble scores, rehearsal techniques and rhythm sections. Looks at concert planning and audience building.

MUS 543 Jazz Program Administration, Planning and Development (2)
Graduate students and qualified senior Music majors. Deal with public relations, grant writing, promotion, programming, recruiting and other aspects of the development of a Jazz Studies Program. Learn planning and follow-through of the annual Jazz Festival.

MUS 546 Jazz Arranging, Small Ensembles and Big Bands (2)
Prerequisite: MUS 202 or consent of instructor. Learn the art of calligraphy, the basics for arranging small jazz ensembles and work with big band scoring.

MUS 547 Jazz Arranging, Vocal Jazz and Studio Orchestra (2)
Prerequisite: MUS 546 or consent of instructor. Continuation of MUS 546 with focus on vocal jazz and studio orchestra composition. Performance of material at end of semester by studio orchestra and vocal jazz ensemble.

MUS 550 Score Reading and Analysis (1)
A continuing course dealing with analysis of wind/orchestral/choral literature. Emphasis is placed on relating analysis techniques to preparation and performance of compositions for wind/orchestral/choral ensemble. Literature studied will vary from semester to semester. Repeatable up to four times.

MUS 551 Individual Performance in Conducting (2)
Continuing study of advanced problems in instrumental conducting. Emphasis is placed on physical and mental aspects of the art. Regular conducting experience with University ensembles is an integral part of the course. Repeatable up to four times.

MUS 552 Principles of Piano Teaching I (2)
Compare current piano methods. Study technical and musical problems with a beginning student. Offered every other year.

MUS 553 Principles of Piano Teaching II (2)
Prerequisite: MUS 352/MUS 552 or consent or instructor. A study of the methods of teaching musicianship and pianistic skills. Observe private and group lessons. Supervised teaching internship required. Offered every other year.

MUS 554 Pedagogical Approaches to Keyboard Literature I (2)
Evaluate various approaches to the study of keyboard literature through student participation in teaching and performing. Unlimited repeatability.

MUS 559 Opera and Oratorio Literature (2)
Study of the solo repertoire in opera and oratorio literature.

MUS 560 Opera Directing Seminar (1-3)
(Prerequisites: Previous opera or music theatre performance experience. Consent of instructor. A study of stage directing as it relates specifically to opera literature. This seminar will include selecting repertoire, designing floor plans, stage properties, hand properties, costume needs, make-up needs and most important, the staging itself. All production aspects and direction of specific opera scenes will be studied.

MUS 564 Problems in Teaching Voice (2)
Prerequisite: MUS 410/MUS 510 and consent of instructor. Emphasis is placed upon practical aspects of vocal pedagogy: repertoire selection, program building, learning theories and teaching concepts. Advanced studies in vocal acoustics and anatomy and vocal problems are included.

MUS 565 Principles of Ensemble Intonation (1)
Examine various tuning temperaments, emphasizing concepts of “just intonation” and its application to all flexible pitched ensembles. Employ electronic tuning devices with practical experience gained through small ensemble participation.

MUS 580 String Techniques for the Conductor (2)
The conductor will acquire the necessary skills to make musical and technical decisions based on a thorough understanding of orchestral string techniques.

MUS 585 Advanced Jazz Improvisation (2)
Consent of instructor. Develop skills in advanced jazz improvisation. Prepare highly chromatic material at various tempi. Study advanced jazz theory principles and apply to keyboard and other instrumental and vocal disciplines. Use music technology to enhance these skills. Course content will change each semester. Repeatable, no limitations.

MUS 600 Introduction to Musical Scholarship (2)
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 Masters of Music candidates. Must be taken as early as possible.

MUS 603 Analytical Studies in Music (3)
Master of traditional harmony required. Students analyze the structure of music.

MUS 606 Graduate Seminar in Elementary School Music (3)
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 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 609 Graduate Seminar in Middle and Junior High Choral and General Music (3)
Graduate standing and school music teaching experience. Discover materials, methodologies, philosophies and trends in teaching choral and general music at these levels.

MUS 610 Research in Music Education (3)
Develop concepts and skills that will enable the music educator to understand and evaluate research in music education. Study the design and techniques of empirical research in music education. Complete a research study to present for publication consideration.

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.

MUS 614 Seminar in Administration and Coordination of the School Music Program (3)
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 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 Catalog. Unlimited repeatability.

MUS 622 Directed Studies in Music (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

MUS 623 Individual Studies in Effective Teaching (1-3)
Designed according to candidate’s primary emphasis and satisfies the Seminar in Teaching (discipline) required of all D.A. candidates in Music. Repeatable, maximum three credits.

MUS 624 Vocal Jazz Ensembles (1)
Audition required. Graduate student only. Each 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. Unlimited repeatability.

MUS 625 Jazz Ensembles (1)
Audition required. 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. Unlimited repeatability.

MUS 628 Collegium Musicum (1)
Audition required. Majors only. This performing group specializes in historically informed performance of early music. Historical treatises, appropriate ornamentation and improvisation and pre-19th century styles are the focus of the class. Unlimited repeatability.

MUS 630 String Ensemble (1)
Small chamber groups that rehearse regularly and are coached by a faculty member. Unlimited repeatability.

MUS 631 Brass Ensemble (1)
Small chamber groups that rehearse regularly and are coached by a faculty member. Unlimited repeatability.

MUS 632 Woodwind Ensemble (1)
Small chamber groups that rehearse regularly and are coached by a faculty member. Unlimited repeatability.

MUS 633 Percussion Ensemble (1)
Small chamber groups that rehearse regularly and are coached by a faculty member. Unlimited repeatability.

MUS 635 Classical Guitar Ensemble (1)
Audition required. Perform in an ensemble in which melodic playing is stressed, deal with reading and notation problems and the interpretation of all styles of music. 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: Music in the Renaissance (3)
A cultural and historical examination of music and musical style during the 15th and 16th centuries. Flemish composers, the Madrigal, the Venetian School and similar subjects will receive special attention.

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 principal forms.

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.

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: Music in the Twentieth Century (3)
A study of the major trends in the music of the twentieth century accompanied by an investigation into their social and cultural bases. The technical aspects of twentieth century music are more thoroughly investigated in the companion course, MUS 503.

MUS 650 Seminar: Choral Music (2)
A seminar to allow discussion of a variety of subjects related to choral literature. Individual projects will be assigned, calling for creativeresearch.

MUS 653 Vocal Literature and Styles (3)
A study of the stylistic, aesthetic and repertorial aspects of vocal music, including opera and liturgical music, through the various historical periods in music.

MUS 657 Instrumental Literature and Styles (3)
A study of the stylistic, aesthetic and repertorial aspects of instrumental music, including orchestral and chamber music, through the various historical periods in music.

MUS 658 Brass Pedagogy (3)
Prerequisite: MUS 346 or consent of instructor. In-depth study of brass materials and performance techniques. Class is designed to help solve specific brass teaching problems encountered by the experienced teacher at the K-12 and college levels.

MUS 661 Percussion Pedagogy (2)
Prerequisite: MUS 346 or consent of instructor. Explore advanced techniques, methods and materials related to all the percussion instruments.

MUS 662 Woodwind Pedagogy (2)
Prerequisites: MUS 361, MUS 362 or consent of instructor. Majors only. In depth study of teaching material and techniques related to the flute, clarinet, saxophone, oboe and bassoon. Designed to explore the problems and solutions encountered by the teacher of woodwind instruments at the K-12 level.

MUS 665 Individual Performance in Collaborative Piano (2-4)
Prerequisites: MUS 348, MUS 349 and MUS 465 or consent of instructor. In-depth study of repertoire and refinement of skills for the collaborative pianist. Unlimited repeatability.

MUS 666 Madrigal Singers (1)
Membership in the Concert Choir required or by special permission. The UNC Madrigal Singers is a highly select group of 16 to 20 performers. The group performs a wide variety of choral chamber works in concerts throughout the year. Unlimited repeatability.

MUS 667 University Symphony Orchestra (1-3)

MUS 668 Chamber Orchestra (1)
Audition required. Comprised of outstanding and selected winds, this group performs literature from the Baroque to the present, specializing in material specifically designed for chamber orchestra. The ensemble presents concerts regularly on and off campus. Unlimited repeatability.

MUS 669 Individual Performance in Voice for Those with Non-Voice Emphasis (2-4)
Consent of instructor. Instruction concentrates on fundamental principles of voice production. Development of rhythmic and melodic accuracy receives primary consideration. Unlimited repeatability.

MUS 670 Individual Performance in Voice (2-4)
Consent of instructor. Unlimited repeatability.

MUS 671 Individual Performance in Piano (2-4)
Consent of instructor. Unlimited repeatability.

MUS 672 Individual Performance in Organ (2-4)
Consent of instructor. Unlimited repeatability.

MUS 673 Individual Performance in Strings (2-4)
Consent of instructor. Unlimited repeatability.

MUS 674 Individual Performance in Woodwinds (2-4)
Consent of instructor. Unlimited repeatability.

MUS 675 Individual Performance in Brass (2-4)
Consent of instructor. Unlimited repeatability.

MUS 676 Individual Performance in Percussion (2-4)
Consent of instructor. 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 60-65 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 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 semester and joins with the Concert Choir in performance of large masterworks with orchestra. Unlimited repeatability.

MUS 682 University Singers (1)
Audition required. Membership in Concert Choir required or consent of instructor. This select group of 25 singers performs an extremely varied repertoire from Renaissance motets to contemporary works. 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 Performance in Opera Theatre (1-12)
Audition required. Practical experience in the production and performance of a complete operatic work. Techniques of acting, singing, character analysis and stage direction will be studied. Unlimited repeatability.

MUS 686 Scene Studies in Opera (1-3)
Audition required. Studying techniques of acting, singing, character analysis and stage deportment through the staging and performing of selected opera scenes and arias. Unlimited repeatability.

MUS 687 Summer Symphonic Band (1-3)
Audition required. Open to all students interested in performing the highest quality literature available. The Summer Season consists of five outdoor concerts. Unlimited repeatability.

MUS 688 Concert Band (1-3)
Audition required. Comprised 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 689 University Brass Choir (1)

MUS 690 Symphonic Band (1-3)
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 contemporary and traditional repertoire. Unlimited repeatability.

MUS 691 Wind Ensemble (1-3)
Audition required. Comprised of the most outstanding wind and percussion majors in the School of Music. The ensemble performs a repertoire of works requiring from 8 to 35 performers. Unlimited repeatability.

MUS 692 Marching Band (1)
Audition required. Open to all university students. To develop marching/paying skills by utilizing current practices in marching band formation design and special marching band musical arrangements. Unlimited repeatability.

MUS 693 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. Unlimited repeatability.

MUS 695 Special Topics in Music (1-4)
A seminar covering areas in performance, research, education, history and theory that are of concern to the contemporary graduate student. Topics will vary according to student interest and needs. Repeatable, under different subtitles.

MUS 697 Summer Festival Orchestra (1-3)
Audition required. Serves as nucleus of the Summer Music Festival, presents two concerts and accompanies the opera. Unlimited repeatability.

MUS 699 Thesis (1-6)

MUS 700 Introduction to Doctoral Research (3)
Analytical studies in music writing and research techniques for dissertation and field studies; survey critical problems in music; prepare research and proposal outlines.

MUS 704 Supervised Practicum in College Teaching (2)
Observe and practice college teaching under supervision and as a basis for analysis of learning experiences. Repeatable, maximum six credits.

MUS 707 Advanced Composition (3)
Concentrate on composition of large masterworks with orchestra. Select from contemporary and traditional repertoire. Teach students to write and perform large masterworks with orchestra. Repeatable, maximum six credits.

MUS 709 Doctoral Proposal Research (1-4)
Required of all doctoral students. Repeatable, maximum four credits.

MUS 799 Doctoral Dissertation (1-12)
Required of all doctoral candidates. Unlimited repeatability.

NURS 200 Women's Health Care (3)
For students of any major. Examines women's health care concerns over the adult life span and the accompanying psychological, sociological and cultural implications. Includes an historical perspective.

NURS 310 Foundations of Professional Practice I (3)
Majors only. Admission into clinical program. Explores the roles of the professional nurse in multidimensional health care settings. Concepts of professionalism, accountability and theory-based practice are introduced.

NURS 312 Health Assessment (3)
Corequisite: NURS 314. Majors only. Admission into clinical program. A theoretical health assessment course for healthy individuals, families and communities. It focuses on physical, mental, nutritional, developmental, cultural and community appraisals.

NURS 314 Health Assessment Practicum (1)

NURS 317 HIV/AIDS Issues in Health Care (1)
Clinical level nursing student, RN, LPN or other health care professionals. Emphasizes psychosocial, ethical, legal and policy issues related to HIV/AIDS. Public health interventions will be explored and evaluated and the role of the health care professional. S/U graded.

NURS 318 Health Care Systems (3)
For students of any major. Introduces the concepts of health and health care systems: explores philosophical, historical, political and professional relationships that exist in health care delivery.

NURS 319 Cultural Issues in Health Care (1)
Identifies and cultural influences on health care and emphasizes the application of transcultural theory concepts to nursing practice. S/U graded.
NURS 320 Basic EKG Interpretation (2)
Prerequisites: ZOO 341, ZOO 350. Clinical level nursing student or RN. An introduction to the basic concepts of EKG and arrhythmias recognition. S/U or letter graded.

NURS 321 Interpretation of Laboratory Data (3)
Clinical majors or consent of instructor. Designed to assist the nurse in understanding laboratory data. Emphasis is placed on those tests utilized for health promotion, maintenance and monitoring of disease progress.

NURS 324 Therapeutic Interventions (4)
Clinical nursing majors only. Emphasis is on therapeutic interventions appropriate for individuals, families and communities across the lifespan in a variety of settings, focusing on psychomotor and communication skills. S/U graded.

NURS 326 Pathophysiology (3)
Prerequisites: A previous basic anatomy and physiology course. A systems approach to alteration and disruption of physiologic functions. Focus on differentiation of pathophysiologic findings and identification of treatment modalities.

NURS 328 Health Assessment (for RNs only) (4)
Consent of instructor. A health assessment course for RNs which focuses on healthy individuals, families, and communities with particular emphasis on family and beginning community appraisal.

NURS 331 Nursing Informatics (2)
Course provides participant opportunity to gain basic skills in nursing informatics and use of computer technology. Focuses on information technologies for nurses, electronic communication, knowledge resources online and related software.

NURS 335 Foundations of Professional Practice II (3)
Prerequisites: STAT 250, ENG 123. Majors only. Develops beginning research skills in relationship to the health outcomes throughout the lifespan. The emphasis will be on economics, education and culture.

NURS 354 Healthy Individuals and Families Practicum (6)
Corequisite: NURS 355. Majors only. Completion of Semester I courses. Provides clinical opportunities for health promotion, disease prevention and therapeutic interventions for healthy individuals across the lifespan and their families within their communities. S/U graded.

NURS 355 Healthy Individuals and Families Across the Lifespan (4)
Corequisite: NURS 354. Majors only. Completion of Semester I courses. Explores the role of nursing in health promotion, disease prevention, and therapeutic interventions for healthy individuals across the lifespan and families within their communities.

NURS 408 Nursing Workshop (1-3)
Offers undergraduate students an opportunity to increase nursing knowledge and skills. Repeatable, under different subtitles.

NURS 409 Applied Nursing Research (1-3)
Qualified undergraduate students will conduct original research or implement the utilization of nursing research in clinical practice. Repeatable, maximum five credits.

NURS 410 Foundations of Professional Practice III (3)
Majors only. Completion of Semester II courses. This course emphasizes issues in professional nursing practice as they relate to the changing health care environment. Students will utilize principles of learning, research, team building and collaboration.

NURS 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

NURS 424 Episodic Alterations in Adult/Child Health Practicum (7)
Corequisite: NURS 425, NURS 426. Majors only. This course focuses on the application of therapeutic intervention guided by application of the nursing process in the acute, episodic care of individuals and their families across the lifespan. S/U graded.

NURS 425 Episodic Alterations in Adult/Child Health I (4)
Corequisite: NURS 424, NURS 426. Majors only. Completion of Semester II courses. Emphasis is on understanding of therapeutic interventions guided by the nursing process to maximize self-care capabilities in the episodic care of children, adults and their families.

NURS 426 Episodic Alterations in Adult/Child Health II (3)
Corequisite: NURS 424, NURS 425. Majors only. Completion of Semester 1 and 2 courses. Emphasis is on further understanding of therapeutic interventions guided by the nursing process to maximize self-care capabilities in the episodic care of children, adults and their families.

NURS 435 Foundations of Professional Practice IV (3)
Majors only. Completion of Semester III courses. The emphasis of this course is on the nurse as leader/manager in society with respect to current issues and trends.

NURS 444 Community and Mental Health Nursing Practicum (6)
Corequisite: NURS 445. Majors only. This course focuses on therapeutic nursing interventions applied to psychiatric and community health nursing. An emphasis will be placed on nursing management of complex and chronic health problems in community settings. S/U graded.

NURS 445 Community and Mental Health Nursing (6)
Corequisite: NURS 444. Majors only. Completion of Semester 3 courses. Nursing theory applied to psychiatric disorders, chronic illness and community health concepts. Focus will be placed on nursing management and facilitation of optimal health for individuals, families and communities.

NURS 453 Community Health Nursing for RNs (4)
Majors only. Admission into clinical nursing program. Nursing theory applied to chronic illness and community health concepts. A focus will be placed on nursing management and facilitation of optimal health for individuals, families and communities.

NURS 454 Community Health Nursing Practicum for RNs (4)
Majors only. Admission into clinical program. This course focuses on therapeutic nursing interventions applied to chronic illness management and community health nursing. An emphasis will be placed on case management of complex and chronic health problems in community settings. S/U graded.

NURS 455 Hemodynamic Monitoring (2)
Clinical nursing major or RN status. An overview of hemodynamic monitoring with emphasis on nursing management of the patient being monitored. S/U or letter graded.

NURS 464 Professional Roles for RNs (5)
Majors only. Admission into clinical program. A combination of seminar and preceptored practicum that provides socialization into the role set of the professional nurse with an emphasis on leadership and management. S/U graded.

NURS 465 Professional Roles with Individuals, Families and Communities (10)
Majors only. Completion of Semester IV courses. A combination of seminar and preceptored practicum that provides socialization into the role set of the professional nurse with an emphasis on leadership and management. S/U graded.

NURS 471 Care of the Terminally Ill (1)
Admission to Clinical Level III required. Discuss historical and contemporary attitudes toward death and dying. Examines clinical management techniques used in symptom control. Explore emotional and spiritual concerns. Analyze professional, organizational and societal factors. S/U graded.

NURS 505 Nursing Research (3)
Introduction of advanced research and methodology. Critique of selected nursing research projects to determine cost effective outcome, relevance to nursing practice, contribution to theory development.

NURS 507 Leadership and Nursing Issues (3)
Involves comprehensive investigation and analysis of health care issues and leadership theory and skills which are imperative in today's health care environment.

NURS 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.
NURS 510 Concepts in Transcultural Nursing (3)
For seniors, post-B.S. or M.S. in nursing students. Summers only. Focuses on transcultural nursing and cultural assessment for the purpose of providing culturally congruent and competent nursing care. Describes culture care beliefs, values and practices of specific cultures.

NURS 511 Advanced Transcultural Nursing and Research (2)
Prerequisites: NURS 510 and a graduate elective; ANT 580 or SRM 680 or others with instructor approval. Summers only. The use of ethnounging, ethnography and other qualitative research methods to generate and analyze cultural differences and similarities in care, health beliefs, values and practices of various cultures.

NURS 512 Transcultural Nursing Field Experience (2-3)
Pre or Co-requisite: NURS 511. Summers only. The application of the ethnounging research methodology to analyze differences and similarities within a cultural experience as determined by the student and faculty. S/U graded.

NURS 531 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

NURS 595 Special Topics (1-3)
Graduate students only. Intensive study of advanced nursing topics beyond the scope of existing departmental course offerings. Two copies of scholarly paper must be filed before credit is given. Repeatable, under different subtitles.

NURS 600 Nursing Theory (3)
Admission to Master's Program required. Introduction to theoretical foundations for advanced nursing practice. Application of theory to clinical nursing practice and to nursing education. Emphasis on the development, application and critique of nursing models.

NURS 602 Concepts in Chronic Illness (4)
Admission to master's program required. Required laboratory arranged. The impact of chronic illness across the lifespan is examined using a conceptual approach. Health promotion and illness management are emphasized through case management care delivery.

NURS 604 Care of Chronically Ill Adult and Child (4)
Prerequisites: NURS 600, NURS 602; NURS 505 or take concurrently. Required laboratory arranged. Application of the nursing process and case management is examined in the development of health promotion and illness management strategies for the chronically ill adult and child.

NURS 610 Health Assessment (3)
Majors only. Required laboratory arranged. Emphasis in health history taking, physical assessment and interviewing of individuals across the life span. Spends 45 hours with an MD or NP in clinical application.

NURS 612 Advanced Pharmacology (4)
Examine clinical pharmacokinetics and pharmacotherapeutics. Focus on selected drug groups and their safe and appropriate utilization in primary care practice.

NURS 614 Advanced Pathophysiology (3)
Focus on pathophysiology, symptomology and etiology of commonly encountered acute and chronic clinical entities of children and adults.

NURS 622 Directed Studies (1-3)
Graduate students only. Individualized investigation under the supervision of a faculty member. Two copies of scholarly paper must be filed before credit is given. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

NURS 630 Teaching Strategies in Nursing (3)
Prerequisites: EPSY 540, EPSY 674. Practice teaching of nursing students, practicing nurses and/or clients. Analyze teaching strategies in academic and clinical settings.

NURS 640 Health Care of Families I (4)
Majors only. Required laboratory arranged. Prerequisites: NURS 610, NURS 612 and NURS 614. Application of theoretical and research based developmental approaches to primary health care of families with particular emphasis on childhood/adolescence.

NURS 645 Health Care of Families II (4)
Majors only. Required laboratory arranged. Prerequisites: NURS 600, NURS 612 and NURS 614. Application of theoretical and research based developmental approaches to primary care of families with particular emphasis on women's health and adult episodic care.

NURS 650 Health Care of Families III (4)
Prerequisites or Corequisites: NURS 505, NURS 507. Majors only. Required laboratory arranged. Application of theoretical and research based developmental approaches to primary care of families with particular emphasis on chronically ill and older adults and psychosocial adjustment disorders.

NURS 660 Nursing Education Seminar (4)
Prerequisites: EPSY 540 or equivalent. Synthesis of concepts from nursing theory, research and education courses. Experience with curriculum development and analysis.

NURS 680 Family Nurse Practitioner Role Practicum (9)
Prerequisite: NURS 650. Corequisite: NURS 690. Graduates and majors only. Final clinical experience (24-32 hrs/week) provides students opportunity to practice primary care intervention with families in underserved and/or rural areas. S/U graded.

NURS 690 Advanced Clinical Role (2-3)
Prerequisites: NURS 602, NURS 604, NURS 650. Majors only. Advanced practice role development in health maintenance and illness management is examined from several perspectives.

NURS 691 Applied Nursing Research (3)
Majors only. Application of concepts from graduate research in a completed scholarly project, under direction of a graduate faculty member.

NURS 699 Thesis (1-6)
Terminal program course. All other courses should be taken before or concurrently with this course. Guided research project that demonstrates evidence of original thought as well as advanced knowledge of the research process. S/U graded. Repeatable, no limitations.

OCN - OCEANOGRAPHY

OCN 110 Oceans and Humankind (3)
Various aspects of people and technology concerning the oceans, including foods and minerals, coastal erosion, submersibles, diving, recent technological developments, pollution and international political implications.

OCN 200 General Oceanography (4)
(3 lecture, 2 laboratory) For non-science majors only. Geological, physical, chemical and biological aspects of oceans and ocean basins. Field trip required.

OCN 301 Physical and Chemical Oceanography (4)
(3 lecture, 2 laboratory) Historical, physical and chemical aspects of oceanography including general character of water masses, ocean circulation and currents, waves, tides, ocean-atmosphere interactions and chemical oceanography.

OCN 302 Geophysical and Biological Oceanography (4)
(3 lecture, 2 laboratory) Geophysical and biological aspects of the ocean including origin of oceans and ocean floors, marine sediments and geomorphology, distribution and ecology of marine organisms and ocean productivity. Required field trip.

OCN 422 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

OCN 500 Survey of Oceanography (3)
Principles of oceanography 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 622 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

PE - PHYSICAL EDUCATION

Courses numbered 100 to 195 have unlimited repeatability.

PE 100 Basketball (1)
Gain knowledge and skill in the game of basketball.

PE 101 Flag Football (1)
Gain knowledge and skill in the game of flag football.
PE 102 Soccer (1)
Gain knowledge and skill in the game of soccer.

PE 103 Softball (1)
Gain knowledge and skill in the game of softball.

PE 104 Volleyball (1)
Gain knowledge and skill in the game of volleyball.

PE 110 Badminton (1)
Gain knowledge and skill in the game of badminton.

PE 111 Bowling (1)
Gain knowledge and skill in the game of bowling. Participation fee.

PE 113 Fly Fishing/Trap Shooting (1)
Gain knowledge and skill in the activities of fly fishing and trap shooting.

PE 114 Golf (1)
Gain knowledge and skill in the game of golf. Participation fee.

PE 115 In-Line Skating (1)
Gain knowledge and skill in the activity of in-line skating.

PE 116 Water Safety Instructor (2)
A current Basic and Emergency Water Safety or Lifeguard Training certificate is required. Purpose of this instructor course is to train instructor candidates to teach the American Red Cross Water Safety courses.

PE 117 Racquetball (1)
Gain knowledge and skill in the game of racquetball. Participation fee.

PE 118 Swimming (1)
Gain knowledge and skill in the activity of swimming.

PE 119 Tennis (1)
Gain knowledge and skill in the game of tennis.

PE 120 Lifeguard Training (1)
Designed by the American Red Cross to focus attention on the skills and knowledge required for an individual to properly assume the responsibilities of a lifeguard at a swimming pool or a protected (non-surf) open water beach.

PE 121 Basic and Emergency Water Safety (1)
Purpose of this course is to teach personal and community water safety. Students successfully completing this course will receive American Red Cross Certification.

PE 125 Backpacking and Hiking (1)
Gain knowledge and skill in the activities of backpacking and hiking.

PE 126 Canoeing (1)
Gain knowledge and skill in the activity of canoeing.

PE 127 Cross-Country Skiing (1)
Gain knowledge and skill in the activity of cross-country skiing. Participation fee.

PE 128 Cycling (1)
Gain knowledge and skill in the activity of cycling.

PE 129 Downhill Skiing (1)
Gain knowledge and skill in the activity of downhill skiing. Participation fee.

PE 130 Kayaking (1)
Gain knowledge and skill in the activity of kayaking. Participation fee.

PE 131 Orienteering (1)
Gain knowledge and skill in the activities of orienteering.

PE 132 Challenge Ropes Course (1)
Students will participate in high and low level rope adventure activities.

PE 133 Scuba Diving (1)
Gain knowledge and skill in the activity of scuba diving. Participation fee.

PE 134 Self Defense (1)
Gain knowledge and skill in the activity of self defense.

PE 135 Rock Climbing (1)
Gain knowledge and skill in the activity of technical climbing.

PE 136 Intermediate Challenge Ropes Course (1)
Prerequisite: PE 132. Designed to provide students with increased challenges on the UNC adventure course. The course will culminate in a field trip in the mountains.

PE 145 Activity for Stress Management (1)
Use of a variety of physical activities to control stress.

PE 146 Aerobics (1)
Improve personal skills and fitness through aerobic activities.

PE 147 Aquacize (1)
Improve personal skills and fitness through aquacize activities.

PE 148 Exercise and Weight Control (1)
Improve personal skills and fitness through exercise and weight control activities.

PE 149 Fitness and Conditioning (1)
Improve personal skills and fitness through fitness and conditioning activities.

PE 150 Jogging and Walking (1)
Improve personal skills and fitness through jogging and walking.

PE 152 Swimming Conditioning (1)
Improve personal skills and fitness through swimming activities.

PE 153 Weight Training (1)
Improve personal skills and fitness through weight training activities.

PE 165 American Square and Folk Dance (1)
Gain knowledge and skill in the activity of square and folk dance.

PE 169 Gymnastics (1)
Gain knowledge and skill in the activity of gymnastics.

PE 174 Social Dance (1)
Gain knowledge and skill in social dance. Includes traditional dance steps: polka, foxtrot, waltz, two-step; Latin American Rhythms: Cha Cha, Rhumba, Tango; country swing and swing, social etiquette and mixers.

PE 185 Varsity Baseball (1)
Consent of instructor. Participate in the sport of varsity baseball.

PE 186 Varsity Basketball (1)
Consent of instructor. Participate in the sport of varsity basketball.

PE 187 Varsity Football (1)
Consent of instructor. Participate in the sport of varsity football.

PE 190 Varsity Swimming (1)
Consent of instructor. Participate in the sport of varsity swimming.

PE 191 Varsity Tennis (1)
Consent of instructor. Participate in the sport of varsity tennis.

PE 192 Varsity Track and Field (1)
Consent of instructor. Participate in the sport of varsity track.

PE 193 Varsity Volleyball (1)
Consent of instructor. Participate in the sport of varsity volleyball.

PE 194 Varsity Wrestling (1)
Consent of instructor. Participate in the sport of varsity wrestling.

PE 195 Varsity Women’s Soccer (1)
Participate in Varsity Women’s Soccer.

PE 207 Analysis and Teaching of Individual Sports (2)
Develop knowledge, skills, analysis techniques and teaching competencies in the sports of golf, archery and bowling. Participation fee.

PE 208 Analysis and Teaching of Tumbling and Gymnastics (2)
Develop knowledge, skills, safety procedures, teaching progressions and analysis techniques in the sport of tumbling and gymnastics.

PE 209 Analysis and Teaching of Dance (2)
Develop knowledge, skills, analysis techniques and teaching competencies in various types of dance.

PE 210 Movement Fundamentals and Motor Development (3)
Majors/minors only. Movement integrated approach to the study of maturational, growth and experiential components of motor development. Focus on performance and analysis of fundamental and sport related movement skills in teaching school-aged populations.

PE 211 Weight Training and Anatomy (3)
Majors/minors only. An integrated study of structural anatomy and weight training as the two areas relate to enhancing performance in human movement.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE 212</td>
<td>Fitness and Conditioning and Physiology (3)</td>
<td>Majors/minors only. Learn and apply physiological principles to human movement through specific health-related activities.</td>
</tr>
<tr>
<td>PE 213</td>
<td>Sports and Mechanics (3)</td>
<td>Majors/minors only. Study and apply biomechanical analysis of human movements through the specific sports of track and field, swimming and golf.</td>
</tr>
<tr>
<td>PE 214</td>
<td>History and Philosophy (2)</td>
<td>Review different perspectives of physical education, sport and fitness. Historical and philosophical implications for today's physical education programs will be identified and discussed.</td>
</tr>
<tr>
<td>PE 215</td>
<td>Analysis and Teaching of Basketball (2)</td>
<td>Teach movement skills, rules and game strategies of basketball to professional preparation degree candidates completing a major or minor in physical education.</td>
</tr>
<tr>
<td>PE 216</td>
<td>Analysis and Teaching of Football (2)</td>
<td>To teach movement skills, techniques, rules and game strategies of football. Develop knowledge, skills and analysis techniques in the sport of football.</td>
</tr>
<tr>
<td>PE 217</td>
<td>Analysis and Teaching of Soccer (2)</td>
<td>The objective is to provide students with an understanding of teaching and analyzing the correct techniques, skills and basic knowledge to teach/coach the game of soccer.</td>
</tr>
<tr>
<td>PE 218</td>
<td>Analysis and Teaching of Softball (2)</td>
<td>Develop knowledge, physical skills, teaching competence and analysis techniques in the sport of softball.</td>
</tr>
<tr>
<td>PE 219</td>
<td>Analysis and Teaching of Volleyball (2)</td>
<td>Teach movement skills, rules and game strategies of volleyball to professional preparation degree candidates completing a major or minor in physical education.</td>
</tr>
<tr>
<td>PE 220</td>
<td>Analysis and Teaching of Baseball (2)</td>
<td>Develop knowledge, physical skills, teaching competence and analysis techniques in the sport of baseball.</td>
</tr>
<tr>
<td>PE 221</td>
<td>Analysis and Teaching of Racquet Sports (2)</td>
<td>Develop knowledge, skills, teaching and analysis techniques in the sports of tennis and badminton; and an overview of racquet sport techniques.</td>
</tr>
<tr>
<td>PE 222</td>
<td>Analysis and Teaching of Track and Field (2)</td>
<td>Develop knowledge, skills, teaching and analysis techniques in the sport of track and field.</td>
</tr>
<tr>
<td>PE 223</td>
<td>Analysis and Teaching of Wrestling (2)</td>
<td>Develop knowledge, skills, analysis and teaching techniques in the sport of wrestling.</td>
</tr>
<tr>
<td>PE 224</td>
<td>Adventure Activities and Motor Learning (3)</td>
<td>Majors/minors only. Presents content, method, safety and management of adventure ropes courses activities, as well as critical topics in the study of motor learning.</td>
</tr>
<tr>
<td>PE 225</td>
<td>Analysis and Teaching of Self Defense (2)</td>
<td>Develop knowledge, skills, teaching and analysis abilities in the study of self defense techniques for men, women and children.</td>
</tr>
<tr>
<td>PE 226</td>
<td>Pedagogy of Outdoor Physical Education (3)</td>
<td>Designed to explore the history, principles, philosophy and pedagogy of outdoor physical education. Topics will include environmental understanding outdoor hazards and emergency procedures, planning and conducting outdoor physical education activities, and equipment, clothing, training, and nourishment.</td>
</tr>
<tr>
<td>PE 227</td>
<td>Advanced First Aid and Cardiopulmonary Resuscitation (2)</td>
<td>Provide advanced and additional topics relative to first aid, i.e., increase proficiency skills, update CPR knowledge, increase knowledge in preventive and causative factors of injury and illness.</td>
</tr>
<tr>
<td>PE 228</td>
<td>Analysis and Teaching of Cycling (2)</td>
<td>Prerequisite: PE 232 or equivalent. Develop students' knowledge and skills in teaching bicycle touring, cycling and mountain biking. Focus on approaches and methodology of teaching and leading bike touring. Bike racing will also be introduced.</td>
</tr>
<tr>
<td>PE 229</td>
<td>Analysis and Teaching of Backcountry Skiing (2)</td>
<td>Prerequisite: PE 232 or equivalent. Develop students' skills and knowledge in teaching backcountry skiing. Cross-country, telemark, nordic and back-country skiing included.</td>
</tr>
<tr>
<td>PE 230</td>
<td>Analysis and Teaching of Track Climbing (2)</td>
<td>Prerequisite: PE 232 or equivalent. Develop knowledge and techniques for teaching technical track climbing, particularly top-rope climbing experiences.</td>
</tr>
<tr>
<td>PE 231</td>
<td>Analysis and Teaching of Paddle Sports (2)</td>
<td>Prerequisite: PE 232 or equivalent. Focuses on approaches and methodology of teaching and leading safe lake and river travel. Students learn about paddle techniques for lakes and rivers, minimum impact camping and wilderness canoeing.</td>
</tr>
<tr>
<td>PE 232</td>
<td>Analysis and Teaching of Winter Camping (2)</td>
<td>Prerequisite: PE 232 or equivalent. Focuses on approaches and methodology of teaching and leading safe winter travel experiences. Students learn about winter environments, snow mechanics, avalanche prediction, winter camping and back country ski expeditions.</td>
</tr>
<tr>
<td>PE 233</td>
<td>Analysis and Teaching of Backpacking (2)</td>
<td>Prerequisite: PE 232 or equivalent. Focuses on approaches and methodology of teaching and leading safe backpacking and wilderness travel experiences. Students learn backpacking skills, wilderness camping, navigation skills and minimum impact camping techniques.</td>
</tr>
<tr>
<td>PE 234</td>
<td>Seminar in Management and Instruction in Physical Education (1)</td>
<td>Corequisite: EDPE 270. Focus on current issues and concerns of students during their early physical education field experience in the public schools.</td>
</tr>
<tr>
<td>PE 235</td>
<td>Physical Education Activities for Elementary School (1)</td>
<td>Elementary majors/minors only. Full PTEP admittance required. Study of effective teaching, learning theories, basic movement principles and activities included in a quality, well-rounded program of physical education in the elementary school.</td>
</tr>
<tr>
<td>PE 236</td>
<td>Coaching and Officiating of Baseball (2)</td>
<td>Study techniques and strategies of coaching competitive baseball and obtain background and understanding of rules and techniques of baseball officiating.</td>
</tr>
<tr>
<td>PE 237</td>
<td>Coaching and Officiating of Football (2)</td>
<td>Study techniques and strategies of coaching competitive football and obtain background and understanding of rules and techniques of football officiating.</td>
</tr>
<tr>
<td>PE 238</td>
<td>Coaching and Officiating of Softball (2)</td>
<td>Study techniques and strategies of coaching competitive softball and obtain background and understanding of rules and techniques of softball officiating.</td>
</tr>
<tr>
<td>PE 239</td>
<td>Coaching and Officiating of Tennis (2)</td>
<td>Study techniques and strategies of coaching competitive tennis and obtain background and understanding of rules and techniques of tennis officiating.</td>
</tr>
<tr>
<td>PE 240</td>
<td>Coaching and Officiating of Track and Field (2)</td>
<td>Study techniques and strategies of coaching competitive track and field and obtain background and understanding of rules and techniques of track and field officiating.</td>
</tr>
<tr>
<td>PE 241</td>
<td>Coaching and Officiating of Soccer (2)</td>
<td>Study techniques and strategies of coaching competitive soccer and obtain background and understanding of rules and techniques of soccer officiating.</td>
</tr>
<tr>
<td>PE 242</td>
<td>Coaching and Officiating of Wrestling (2)</td>
<td>Study techniques and strategies of coaching competitive wrestling and obtain background and understanding of rules and techniques of wrestling officiating.</td>
</tr>
<tr>
<td>PE 243</td>
<td>Coaching and Officiating of Badminton (2)</td>
<td>Study techniques and strategies of coaching competitive badminton and obtain background and understanding of rules and techniques of badminton officiating.</td>
</tr>
<tr>
<td>PE 244</td>
<td>Coaching and Officiating of Racquet Sports (2)</td>
<td>Study techniques and strategies of coaching competitive racquet sports and obtain background and understanding of rules and techniques of racquet sport officiating.</td>
</tr>
<tr>
<td>PE 245</td>
<td>Coaching and Officiating of Volleyball (2)</td>
<td>Study techniques and strategies of coaching competitive volleyball and obtain background and understanding of rules and techniques of volleyball officiating.</td>
</tr>
<tr>
<td>PE 246</td>
<td>Coaching and Officiating of Soccer (2)</td>
<td>Study techniques and strategies of coaching competitive soccer and obtain background and understanding of rules and techniques of soccer officiating.</td>
</tr>
<tr>
<td>PE 247</td>
<td>Coaching and Officiating of Track and Field (2)</td>
<td>Study techniques and strategies of coaching competitive track and field and obtain background and understanding of rules and techniques of track and field officiating.</td>
</tr>
<tr>
<td>PE 248</td>
<td>Coaching and Officiating of Football (2)</td>
<td>Study techniques and strategies of coaching competitive football and obtain background and understanding of rules and techniques of football officiating.</td>
</tr>
<tr>
<td>PE 249</td>
<td>Coaching and Officiating of Softball (2)</td>
<td>Study techniques and strategies of coaching competitive softball and obtain background and understanding of rules and techniques of softball officiating.</td>
</tr>
<tr>
<td>PE 250</td>
<td>Coaching and Officiating of Swimming (2)</td>
<td>Study techniques and strategies of coaching competitive swimming and obtain background and understanding of rules and techniques of swimming officiating.</td>
</tr>
</tbody>
</table>
PE 321 Coaching and Officiating of Volleyball (2)
Study techniques and strategies of coaching competitive volleyball and obtain background and understanding of rules and techniques of volleyball officiating.

PE 322 Coaching and Officiating of Wrestling (2)
Study techniques and strategies of coaching competitive wrestling and obtain background and understanding of rules and techniques of wrestling officiating.

PE 334 Teaching Fitness Activities (2)
Prerequisites: KINE 220, KINE 222 or equivalent. Study methods and techniques of teaching all types of fitness activities. Class management/organization, giving cues and feedback, and motivational techniques will be included, as well as instructional strategies.

PE 335 Sports Pedagogy (2)
Designed to analyze and study teaching and coaching behaviors that are necessary for students interested in the coaching profession.

PE 344 Clinical Experience in Teaching Physical Education (3)
Corequisites: PE 345, PE 346 and PE 347. Full admission to PTEP required. Teach under close supervision with immediate feedback and discussion with supervising teacher. Learn video taping and objective analysis.

PE 345 Methods of Teaching Elementary Physical Education (2)
Corequisites: PE 344, PE 346 and PE 347. Full admission to PTEP required. Study of effective teaching in elementary physical education with an emphasis on analysis of teaching, maximizing student learning time, classroom management skills and lesson, unit and program planning.

PE 346 Methods of Teaching Secondary Physical Education (2)
Corequisites: PE 344, PE 345 and PE 347. Full admission to PTEP required. Study of effective teaching in secondary physical education with an emphasis on analysis of teaching, maximizing student learning time, classroom management skills and lesson, unit and program planning.

PE 347 Tests and Measurements in Physical Education (2)
Corequisites: PE 344, PE 345 and PE 346. Full admission to PTEP required. 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 including computers.

PE 392 Internship in Physical Education (1-6)
Consent of instructor. Put into practice the knowledge and skills learned in the classroom. Assume responsibilities in administration supervision and evaluation in physical education and athletic settings. S/U graded. Repeatable, one time.

PE 408 Workshop in Physical Education (1-3)
Study in the problem areas of participants. Problems will vary with experts conducting workshops. S/U or letter graded. Repeatable, under different subtitles.

PE 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

PE 432 Adapted Physical Education (2)
Prerequisites: PE 211 and EDSE 433. Acquire skills and knowledge for serving individuals with special needs in physical education settings. Topics include designing appropriate activities and employing instructional alternatives.

PE 436 Social-Cultural Foundations in Physical Education (2)
Examine basic sociological concepts and issues, group dynamics theories and attitudes and value information as they apply to sports and physical education.

PE 461 Administration and Law (2)
Juniors or above. This course is designed to examine administrative practices and legal concerns experienced in education and physical education. Emphasis is on practical application of administrative and legal concepts.

PE 464 Legal Issues in Human Performance and Leisure Studies (3)
Course involves the study of legal issues related to the professions of physical education, athletics, fitness and leisure. Emphasis will be on understanding legal responsibilities and applying safety procedures and risk management measures.

PE 466 Seminar in Student Teaching for Physical Educators (3)
Must be taken concurrently with student teaching. Develop peer support system, discuss problems in difference between theory and practice. Improve competencies in reaching optimal levels of instruction and management time.

PE 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

PE 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

PE 550 Program Management (3)
Develop an understanding of theories and principles involved in managing a program in human performance and leisure studies.

PE 560 Issues and Ethics in Sport Management (3)
An exploration of major issues, ethical theories, moral reasoning and their impact on the operation of programs in sport, physical education, fitness, athletics and recreation.

PE 576 Sport Promotion and Marketing (3)
Develop understanding of and skill in the marketing process as it relates to promotion and public relations activities in physical education, athletics and commercial sport operations. Primary focus will be on the application of marketing principles to specific sport scenarios.

PE 602 Introduction to Research in Kinesiology and Physical Education (3)
Receive an introduction and some application of strategy and methods of research to problem solving in physical education, recreation and kinesiology.

PE 612 Measurement of Human Performance (3)
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 (3)
Present and analyze systems used in evaluating student behavior, teacher behavior and student-teacher interaction. Study strategies for planning and implementing effective teaching and supervising in physical education.

PE 615 Qualitative Research in Physical Education, Recreation and Kinesiology (3)
The epistemological and practical underpinnings of qualitative research as an alternative or complement to quantitative research will be studied in this course through readings, class discussions and a practical project.
PE 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

PE 629 Facilitating the Adventure Experience (3)
This course is recommended for all new facilitators, teachers, group leaders or anyone desiring to utilize the experiential challenge course approach to teaching/leading. It will provide the participant with an introduction to the philosophy, goals and standards of adventure activities with specific emphasis on challenge course programs. Key in this instruction will be the participant’s involvement in a group process experience while at the same time being introduced to the skills, knowledge and awareness necessary to conduct safe, ethical and effective challenge course programs.

PE 630 Challenge Course Programming (3)
Study the history, philosophy and principles of adventure ropes courses. Construction, maintenance and risk management will be stressed for public school educators.

PE 631 Outdoor Education (3)
Study the history, philosophy and principles of outdoor physical education. Focus will be on the interdisciplinary nature and educational growth through outdoor experiences.

PE 635 Seminar in Sport Administration (2)
Student will undertake an in-depth study of current topics related to the administration and management of sport, physical education, and athletic programs.

PE 640 Curriculum in Physical Education (3)
Consider the principles underlying curriculum instruction, various curriculum elements and build a curriculum in physical education.

PE 641 Instructional Strategies for Elementary School Physical Education (3)
Study of research and advanced techniques in teaching elementary physical education. Emphasis on teacher instruction and management, student skill learning time and current program planning.

PE 642 Instructional Strategies for Secondary School Physical Education (3)
Study of research and advanced techniques in teaching secondary physical education. Emphasis on understanding the role of the secondary teacher and secondary student needs in teaching physical education.

PE 650 Financial Management for Sport Organizations (3)
Develop an understanding of and skill in financial resource management for the operation of programs in sport, physical education, fitness, athletics and recreation.

PE 660 Sport Personnel Management (3)
Develop understanding of and skill in human resource management for the operation of programs in sport, physical education, fitness and athletics.

PE 675 Management of Sports Facilities and Equipment (3)
An examination of the functions of planning, management, evaluation, maintenance, operations and situational analysis as they relate to management of sport facilities and equipment.

PE 676 Sport Public Relations and Information Systems (3)
Presentation of principles, standards and guidelines in sport public relations and information systems involved in sport information management.

PE 678 Event Development and Management (3)
Provide students with the skills necessary to develop, propose and conduct sport-related contests and special events including game management and facility management.

PE 680 Perspectives in Physical Education and Sport (3)
Philosophical perspectives of issues in physical education and sport, which are influenced by contemporary trends in American education.

PE 685 Critical Pedagogy (3)
Students will examine critical pedagogical philosophies and strategies while analyzing socialization process in schools. Also, students will learn how to develop critical awareness and take transformative action in schools.

PE 688 Legal Aspects of Sport (3)
Study the law and implications relative to physical education and sport. Emphasis on legal theory and responsibilities and risk management.

PE 692 Graduate Internship in Physical Education (1-6)
Consent of instructor. Put into practice the knowledge and skills learned in the classroom. Assume responsibilities in administration supervision and evaluation in physical education and athletic settings. S/U graded. Repeatable, maximum six credits.

PE 695 Seminar in Physical Education (2)
Consent of instructor. Students will make an in-depth study of contemporary topics under guidance of qualified graduate faculty and consultants. Repeatable up to one time.

PE 696 College Teaching (3)
Consent of instructor. Examines instructional models, issues and practices specific to teaching at the college level. Presentation modes such as lecture, discussion, questioning and small group procedures will be included.

PE 699 Thesis (1-6)
Optional for Master of Arts students on recommendation of major advisor. S/U graded. Repeatable, no limitations.

PE 703 Research Seminar in Physical Education (3)
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 degree.

PE 797 Doctoral Proposal Research (1-4)
Doctoral students must earn a minimum-maximum of 4 hours credit in partial fulfillment of degree requirements. S/U graded. Repeatable, maximum four credits.

PE 799 Doctoral Dissertation (1-12)
Doctoral students must earn a minimum-maximum of 12 hours of credit for the dissertation. S/U graded. Repeatable, no limitations.

PHIL - PHILOSOPHY

PHIL 100 Introduction to Philosophy (3)
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 101 Critical Thinking and Writing (3)
Prerequisite: ENG 122. Introduction to methods of critical thinking as required for critical and evaluative writing.

PHIL 105 Philosophical Perspectives on Current Issues (3)
Offerings under this heading will examine the philosophical dimensions of specific issues of lively current interest.

PHIL 110 Figures in Western Philosophy (3)
Figures studied will include three to five of the following: Plato, Aristotle, Aquinas, Descartes, Hobbes, Leibniz, Berkeley, Hume, Kant, James, Sartre.

PHIL 115 Philosophy and Current Affairs (1-3)
Offerings under this heading will explore philosophical issues connected with matters of widespread current controversy or general public debate. Repeatable, under different subtitles.

PHIL 220 The Nature of Legal Reasoning (3)
No background in philosophy is required. A study of the reasoning involved in the law. Students will read cases, write legal briefs and argue their cases orally.

PHIL 240 Formal Logic I (3)
A first course in logic which provides an intensive introduction to the basic principles and methods of formal logic.
PHIL 241 Formal Logic II (3)
Prerequisite: PHIL 240. A second course in logic which rounds out the development of the formalized language introduced in the first semester by providing a system of inference rules for first order logic and then establishing a number of metatheorems.

PHIL 260 History of Ancient Philosophy (3)
A study of the major figures in the history of Western philosophy from the pre-Socratics to Plotinus.

PHIL 261 History of Modern Philosophy (3)
A study of the major figures in Western philosophy from Descartes through Kant.

PHIL 300 Topics in Philosophy (3)
Offerings under this heading will focus on areas of philosophical interest not regularly covered at the 300 level (e.g., Philosophy of Mind). Repeatable, under different subtitles.

PHIL 305 Ethics in Theory and Practice (3)
Acquaint students with the history of ethical theories and enable students to apply the theories to contemporary ethical problems.

PHIL 350 Ethics (3)
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 352 Business Ethics (3)
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 (3)
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 (3)
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 (3)
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 (3)
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 422 Directed Study (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

PHIL 495 Advanced Seminar (3)
Detailed investigation of a specific philosophical issue. Substantial independent research and at least one oral presentation required. Unlimited repeatability.

PHIL 497 Student Internship (1-3)
Consent of instructor. Practical training in one or more areas of the profession. Only six credits counted for major and 3 for minor. S/U graded. Unlimited repeatability.

PHIL 622 Directed Study (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

PHYS - PHYSICS

PHYS 220 Introductory Physics I (5)
(4 lecture, 3 laboratory) Prerequisite: MATH 124 or high school algebra. First semester of algebra-based physics. Areas covered are classical mechanics and heat.

PHYS 221 Introductory Physics II (5)
(4 lecture, 3 laboratory) Prerequisite: PHYS 220. Second semester of algebra-based physics. Areas covered are waves, sound, light, electricity, magnetism and modern physics.

PHYS 240 General Physics I (5)
(4 lecture, 3 laboratory) Prerequisite: MATH 131 or take concurrently. First semester of calculus-based introductory physics. Kinematics, Newton's laws, momentum, work, energy, gravity, oscillatory systems, heat and thermodynamics.

PHYS 241 General Physics II (5)
(4 lecture, 3 laboratory) Prerequisites: PHYS 240, MATH 132 or take concurrently. Second semester of calculus-based introductory physics. Electricity, magnetism, electromagnetic radiation, wave motion, sound, light, geometric and physical optics.

PHYS 301 Seminar in Physics (1)

PHYS 310 Machining Skills (2)
(4 laboratory) Scheduled individually on consent of Physics Department. Methods of using machine tools, specifications, reading and using engineering drawings, shop safety.

PHYS 320 Mathematical Applications (3)
Prerequisites: MATH 132, PHYS 241 or take concurrently. Survey of mathematical applications in advanced physical sciences, including vector calculus, integration techniques, complex variables, Laplace and Fourier transforms and matrix algebra.

PHYS 321 Elementary Modern Physics (3)
Prerequisites: PHYS 221, PHYS 241 or take concurrently. Important topics in physics of 20th century, including relativity, atomic, nuclear, quantum concepts, uncertainty, lasers, and applications in advanced physical sciences.

PHYS 325 Graphics and Modeling for Engineering and Physics (3)
Prerequisite: PHYS 241 or consent of instructor. An introductory course in the techniques of engineering design and computer modeling. Automated computer programs in engineering design, mathematics, data visualization and graphics will be used.

PHYS 340 Mechanics I (3)
Prerequisite: PHYS 241. First of a sequence 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 341 Electricity and Magnetism I (3)
Prerequisite: PHYS 241. First of a sequence of two courses. Intermediate study of electric fields, electric potential, magnetic fields and induced electromotive force.

PHYS 343 Digital and Analog Electronics (4)
(3 lecture, 3 laboratory) Prerequisites: PHYS 241 and MATH 132. DC and AC circuits. Theory and use of electronic devices and circuits including analog and digital electronics, D/A and A/D conversion and computer interfacing. Structure of solid state devices.

PHYS 345 Atomic and Quantum Physics (5)
(4 lecture, 3 laboratory) Prerequisites: PHYS 241, PHYS 321. Relativity, quantum mechanics of the atom, the Schrodinger equation in one and three dimensions, justification of the periodic chart, uncertainty, the nature of quantum theory.

PHYS 347 Optics (4)
(3 lecture, 3 laboratory) Prerequisites: PHYS 241, MATH 132. Geometric and physical optics, instrumentation, wave theory, light sources and lasers.

PHYS 420 Thermodynamics and Statistical Physics (3)
Prerequisites: PHYS 241, MATH 233 (prerequisite or concurrent). Introduction to kinetic theory and statistical mechanics, thermodynamic systems, equations of state and laws of thermodynamics.

PHYS 421 Mathematical Applications in Physics I (3)
Prerequisite: PHYS 320. Continuation of PHYS 320. Boundary value problems, partial differential equation, numerical integration, numerical solutions to differential equation, contour integration, probability and statistics. Emphasis on applications to physics and engineering.

PHYS 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

PHYS 440 Mechanics II (2)
Prerequisites: PHYS 340, MATH 233. 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 441 Electricity and Magnetism II (2)
Prerequisites: PHYS 341, MATH 233. Second in a two course sequence. Theory of dielectrics, magnetic properties of matter, electromagnetic theory.

PHYS 443 Electronic Systems and Controls (4)
(3 lecture, 3 laboratory) Prerequisites: PHYS 343 and MATH 233. Analysis and design of electronic systems for collecting and processing signals, controls and automation. Further topics in D/A and A/D conversion, structure of solid state devices, computer interfacing and computer algorithms for use in signal processing and controls.

PHYS 445 Nuclear and Condensed Matter Physics (5)
(4 lecture, 3 laboratory) Prerequisites: PHYS 345, MATH 233. Nuclear reactions, decay schemes, nuclear models, detection and evaluation of radiation, fundamental particles, molecular binding, stimulated emission, electron spin statistics, properties of solids, junction theory, superconductivity.

PHYS 447 Electro-optics (4)
(3 lecture, 3 laboratory) Prerequisite: PHYS 347. Lasers, holography and holographic interferometry, fiber optics (including fiber optic communications) and electro-optic devices.

PHYS 449 Advanced Quantum Mechanics (3)
Prerequisites: PHYS 340, PHYS 345. Advanced undergraduate quantum mechanics including mathematical support for atomic theory, scattering, spin-orbit interactions, perturbation theory and many-particle systems.

PHYS 470 Senior Research (1-3)
Prerequisite: Two years of physics courses that apply to major. Independent experimental or theoretic research project in physics. Weekly conferences with research advisor. A well-written paper or oral presentation is required. Repeatable, maximum 12 credits.

PHYS 475 Seminar in Teaching Physics (2)
For prospective physics and physical science teachers at the secondary school level. Curricula and problems teachers may encounter in classrooms.

PHYS 495 Special Topics in Physics (1-3)
Prerequisites: PHYS 221 or PHYS 241. Consent of instructor. Topics of special interest in areas of physics not covered by other courses. Repeatable, under different subtitles.

PHYS 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

PPSY - Professional Psychology

PPSY 468 Psychology of Women (2)
Theory and psychological issues influencing gender identity such as definitions of abnormality, achievement and interactional influences upon development.

PPSY 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

PPSY 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

PPSY 558 Abnormal Psychology (3)
Graduate students only. Study of abnormal behavior, causes, symptoms, characteristics, classifications, prevention and treatment.

PPSY 559 Introduction to Clinical Hypnosis (2)
Prerequisites: PPSY 612 or equivalent. Consent of instructor. Graduate students only. 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 processes.

PPSY 562 Teacher Effectiveness (2)
Designed for teachers, counselors, administrators, psychologists and other school personnel to learn specific skills for developing and fostering effective relationships with students, parents, colleagues.

PPSY 565 Psychology of Prejudice (2)
Graduate students only. Examination of the development of prejudicial attitudes through consideration of the counseling and social psychological literature. Discussion will focus on current changes in the United States with regard to demographic, socioeconomic and sociocultural trends.

PPSY 566 At Risk Students: Opportunities and Strategies (3)
Gain knowledge and understanding of “high risk students” and expand the teachers' repertory of skills when educating at risk students. Prevalence, family characteristics and systems, and successful strategies will be studied.

PPSY 568 Psychology of Women (2)
Graduate students only. Theory and psychological issues influencing gender identity such as definitions of abnormality, achievement and interactional influences upon development.

PPSY 569 Violence Against Women and Children (2)
Seniors or above. Explores causes of interpersonal violence, societal conditions supporting such violence, intervention methodologies and treatment strategies for female and child victims of abuse and abusers.

PPSY 580 Computer Applications to Professional Psychology (2)
Graduate students only. Overview of effective applications of computers in professional psychological environments. Learn how to select, use, modify relevant software, legal and ethical limitations and their implications.

PPSY 585 Family Counseling and Education in School Settings (2)
Introduction to family systems and the incorporation of this knowledge into schools. A three-level program of counseling and education in schools will be presented.

PPSY 601 Practicum (1-3)
Consent of instructor. Majors only. 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 division director. S/U graded. Repeatable, maximum three credits.

PPSY 602 Foundations of School Guidance (3)
Study principles of school guidance, its application, functions of counselors, administrators, teachers and parents in meeting student needs. Focus on elementary, secondary and post-secondary school guidance.

PPSY 603 Counseling Children and Adolescents (3)
Provides a comprehensive study of a variety of therapeutic counseling approaches and techniques used effectively with children and adolescents. Focuses on how significant others in the lives of children and adolescents may be involved in therapeutic counseling within the home, school and community.

PPSY 604 Career Development and Occupational Systems (2)
Analyze career development theories, society-changing values, career development, world of work classification, labor force/employment trends and educational-vocational planning principles.

PPSY 605 Group Laboratory Experience (1)
Corequisite: PPSY 606 or PPSY 662. Consent of practicum coordinator. Provides an opportunity to participate in a group experience facilitated by an advanced doctoral student or faculty member. S/U graded.

PPSY 606 Theories and Practices in Group Guidance (2)
Corequisite: PPSY 605. Study theory and methods of group counseling including applications in school settings for helping students with educational planning, career decisions and interpersonal relations.

PPSY 607 Theories of Counseling (3)
Majors only. The study and critical analysis of the major counseling theories and elements of effective psychotherapy as they apply to the counseling process.

PPSY 608 Organization, Administration and Consultation in Guidance Services (3)
Organization, administration and consultation in guidance services within institutions and agencies with emphasis being placed on the use of personnel services, effective utilization of leadership skills, consultation and management techniques.

PPSY 610 Theories of Personality (2)
An overview of the psychological factors underlying personality and its development. Theories, critical periods, applications to counseling and education are addressed.
PPSY 611 Internship in Guidance Services (5)
Consent of instructor. Minimum of 300 on site hours required. Majors only. A culminating field experience for counseling students engaged in guidance activities in a school setting under supervision. Permission must be obtained by the end of the seventh week of the preceding semester. S/U graded.

PPSY 612 Practicum in Individual Counseling (5)
Prerequisites: PPSY 607 and consent of practicum coordinator. Requires 15 hours per week minimum. Majors only. Receive supervised experience in counseling and interview analysis, including use of audio and video tapes, client and supervisor feedback and weekly seminar. S/U graded. Repeatable, maximum 10 credits.

PPSY 613 Internship in Counseling with Children (5)
Consent of instructor. Minimum of 300 on site hours required. Majors only. A culminating field experience for counseling students engaged in counseling elementary school children under supervision. Permission must be obtained by the end of the seventh week of the preceding semester. S/U graded.

PPSY 614 Internship in Counseling with Youth and/or Adults (5)
Consent of instructor. Majors only. Minimum of 300 on site hours required. A culminating field experience for counseling students engaged in counseling activities with junior/senior high or college students in a school setting under supervision. Permission must be obtained by the end of the seventh week of the preceding semester. S/U graded.

PPSY 615 Supervision in Agencies and Schools (1)
Prerequisite: PPSY 612 and consent of instructor. Provides an overview of the supervision process and the theoretical orientation and practical skills necessary to function effectively as a supervisor of counselors.

PPSY 616 Career Theory, Counseling and Assessment (3)
Study theory and methods of career counseling, introduce and become familiar with career assessment instruments, and discuss current issues in the field of career counseling.

PPSY 617 Play Therapy: Theory and Practicum (3)
Prerequisites: PPSY 612 and consent of instructor. Study theoretical bases for play therapy and conduct play therapy under faculty supervision.

PPSY 622 Directed Studies (1-3)
Minimum of 25 clock hours required per credit hour. Individualized investigation under the direct supervision of a faculty member. Repeatable, maximum concurrent enrollment is two times.

PPSY 623 Counseling Diverse Populations (2)
Majors only. An examination of various counseling skills and strategies which may be helpful in counseling individuals from diverse cultural backgrounds. Sensitizes students to the concerns of various ethnic and non-ethnic minority groups.

PPSY 624 Assessment and Treatment of Substance Abuse (3)
Majors only. Examination of the major treatment approaches to substance abuse and their accompanying theories of etiology. Investigation of the pharmacological and medical aspects of commonly used substances. Explore meaning of addiction and abuse in relation to related compulsive behaviors.

PPSY 627 Counseling Interventions and Techniques for Talented and Gifted Students (2)
Study counseling interventions and techniques appropriate for talented and gifted students, their parents, siblings, peers, teachers and other school personnel.

PPSY 634 Death and Dying (2)
Study views of death and dying 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 (3)
Overview of applied behavioral psychology. Review and examination of applications of major theories to the etiology and treatment of psychopathology.

PPSY 654 Child Abuse and Neglect (2)
Introduce students to the major issues related to child abuse. Students will learn detection and causes for all forms of child abuse and neglect. Emphasis will be placed upon the professional responsibilities within Colorado law for reporting child abuse and on resources in assisting the child-victim.

PPSY 655 Community Psychology and Social Systems (3)
Graduate students only. Examine psychological (emphasis on social psychology) principles, theories and practices as applied to individual, family and community mental health problems.

PPSY 657 Legal and Ethical Aspects of Counseling and Psychology (3)
Covers the interrelationship of ethical standards and legal regulation in professional counseling, education and psychology. Ethical standards, litigations and legal regulation are examined in regard to professional practice.

PPSY 660 Psychological Consultation: Theory and Practice (2)
Prerequisite: PPSY 655 or equivalent. Overview of consultation theory and practice. Mental health, expert, collaborative, behavioral and organizational models will be discussed and applied to problems in school/agency settings.

PPSY 662 Group Dynamics and Facilitation (2)
Corequisite: PPSY 665. Consent of practicum coordinator. Majors only. The course is designed to study the theoretical bases of group process; including leadership roles, stages of group development, facilitation styles and the research and development of the use of groups in counseling and therapy.

PPSY 663 Research Apprenticeship: School Psychology (1-2)
Consent of instructor. Serve as research apprentice to faculty member; must complete minimum of 2 semester credits, 75 clock hours each. Repeatable, maximum two credits.

PPSY 664 Therapeutic Parenting (2)
The application and appropriate utilization of therapeutic parenting techniques in academic and mental health settings.

PPSY 665 Family Systems (3)
Study general systems theory of family development and interactions. Structured, communication and behavioral approaches to family therapy will be examined as well as ethics, legal issues and current research.

PPSY 666 Couples and Marriage Therapy (2)
Prerequisite: PPSY 665. Majors only. Study basic theories of relationship therapy and technical interventions utilized within the major approaches to couple/ marital therapy. Also includes spouse abuse, divorce mediation and adjustment and ethical considerations.

PPSY 668 Sexuality Counseling (3)
Designed to increase the effectiveness of counselors in treating various sexual issues. Topics to be covered include male and female sexual systems, sexual myths, variations in sexual behavior and common sexual concerns. Various therapeutic approaches to treatment will be presented.

PPSY 669 Advanced Methods: Marriage and Family Therapy (3)
Prerequisites: PPSY 612, PPSY 662 and PPSY 665. Course will expand on family therapy models presented in PPSY 665 and include other significant models in the field. Training activities will include diagnosis, assessment, case presentations, enactments and other experiential work. Video use and analysis is significant part of course.

PPSY 670 Psychological Testing and Measurement (2)
Understanding psychological testing through an overview of measurement principles, the psychological assessment process, test construction and development and the use of test results in individual psychological evaluations.

PPSY 671 Testing: Analysis and Interpretation (2)
Prerequisite: PPSY 670. 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 672 Neuropsychology of Learning Disabilities and Traumatic Brain Injuries (3)**
Prerequisite: PPSY 670. Theoretical and evaluative strategies for understanding learning disabilities and traumatic brain injuries. Covers dysfunctions of neuropsychological processes including perceptual, expressive, attentional, emotional and integrative manifestations; emphasizes remedial and compensatory rehabilitation.

**PPSY 673 Individual Tests of Intelligence and Personality (3)**
Prerequisite: PPSY 670. A survey course of the major intelligence and personality tests used by professional psychologists. Test interpretation and utilization of reports are addressed; test administration is not taught.

**PPSY 674 Intellectual and Cognitive Assessment (5)**
Prerequisites: PPSY 670 and consent of instructor. Historical and theoretical bases of intellectual and psycho educational testing. Supervised practice in administration, scoring, interpretation and reporting of assessment results.

**PPSY 675 Intelligence Assessment (3)**
Prerequisite: PPSY 670 and consent of instructor. Historical and theoretical bases of intelligence measurement; extensive supervised practice in administration and interpretation of Stanford-Binet Scale and Wechsler scales and integration of test data with other assessment techniques.

**PPSY 676 Infant and Toddler Neuropsychological Assessment and Intervention (3)**
Prerequisite: EPSY 630 or EDSE 501, PPSY 674 or PPSY 675. Consent of instructor. Covers developmental neuropsychology including perception, attention, emotion, communication, kinesthetic development and acquisition of abstract thinking skills with emphasis on the psychological evaluation and habilitation of infants and toddlers.

**PPSY 678 Practicum in Personality and Clinical Assessment (5)**
Prerequisites: PPSY 674 or PPSY 675 and consent of instructor. Develop major strategies and techniques for individual personality assessment of children and adults. Integrate projective assessments with cognitive and behavioral measurements.

**PPSY 680 Special Populations Practicum (1-3)**
Prerequisite: PPSY 678. School psychology students explore in depth a special population including those with handicaps that interfere with learning. Instructor arranges research and involvement with a population not included in PPSY 678. S/U graded. Repeatable, maximum three credits.

**PPSY 681 Systems Intervention Practicum (3)**
Prerequisite: PPSY 655. Consent of instructor. Supervised field experience with professional seminar. Application of consultation strategies to schools, mental health or criminal justice agencies.

**PPSY 692 Internship (2-8)**
Consent of practicum coordinator. Majors only. Minimum of 600 total on site hours required. A culminating field experience for qualified agency counseling students in areas of specialty. Permission of instructor must be obtained by the end of the seventh week of the preceding semester. S/U graded. Repeatable, maximum eight credits.

**PPSY 694 Practicum in Family Therapy (4)**
Prerequisites: PPSY 612, or PPSY 712, PPSY 666. Consent of practicum coordinator. Majors only. Receive supervised experiential training in counseling with families. Develop diagnostic and therapeutic skills in systemic approaches. Master's level students must also have completed PPSY 669. S/U graded.

**PPSY 695 Seminar: Contemporary Issues in Family Therapy (2)**
Prerequisites: PPSY 665, PPSY 666. Majors only. In-depth study of current issues and research in family therapy. Topics change with each offering.

**PPSY 701 Professional Development Seminar in Counseling Psychology (3)**
Majors only. An overview of current issues in the discipline of counseling psychology, as well as an introduction to the program and the faculty in the division.

**PPSY 702 Practicum in Counseling (4)**
Consent of practicum coordinator. Requires 12 hours per week minimum. Majors only. Supervised individual counseling experiences in a laboratory setting. Supervision will be directed toward improvement of counseling skills and case management. S/U graded.

**PPSY 703 Professional Development Seminar in Counselor Education (4)**
Majors only. An overview of current professional issues in Counselor Education with special focus on understanding and developing a professional identity in the field. Research will be strongly emphasized. Repeatable, maximum three credits.

**PPSY 707 Seminar in Personality and Counseling Theories (3)**
Majors only. A comparative and critical in-depth analysis of personality and counseling theories including the interrelationship, philosophical foundations and practical applications.

**PPSY 712 Advanced Practicum in Individual Counseling (4)**
Prerequisites: PPSY 702, PPSY 707 and consent of practicum coordinator. Majors only. 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 graded.

**PPSY 713 Practicum in Supervision of Play Therapy (3)**
Prerequisite: PPSY 617. Consent of practicum coordinator. Majors only. Doctoral candidates receive experience in supervising child psychotherapy training through working with a staff member.

**PPSY 714 Practicum in Supervision of Counseling (3-6)**
Prerequisites: PPSY 702, PPSY 712 and consent of practicum coordinator. Majors only. Students gain experience with a faculty member in supervising counseling practice. Repeatable, maximum six credits.

**PPSY 715 Seminar in Counselor Supervision and Theory (2)**
Prerequisites: PPSY 702, PPSY 707, PPSY 712 and consent of practicum coordinator. Corequisite: PPSY 714. Majors only. Study problems involved in training individuals to engage in the therapeutic process.

**PPSY 716 Research Seminar in Counselor Education (3)**
Majors only. Review and analysis of reported research in counselor education with special emphasis on research published during the last ten years in the professional journals.

**PPSY 733 Research Apprenticeship (1)**
Consent of instructor. Majors only. Requires approximately 3-5 hours per week. Serve as an apprentice to a chosen faculty member and work on professional endeavors such as course planning, writing and research, library searches. S/U graded. Repeatable, maximum 2 credits.

**PPSY 755 Supervised Practicum in College Teaching (1-6)**
Consent of instructor. Majors only. Doctoral students receive experience in observation and supervised practice in college teaching. Repeatable, maximum six credits.

**PPSY 758 Advanced Psychopathology (3)**
Prerequisite: PSY 355 or PPSY 558. Consent of instructor. Acquire understanding of developmental and behavioral disorders of childhood through adulthood. Thorough knowledge of specific pathologies and conditions through intensive reading, research or practical experience.

**PPSY 762 Practicum in Group Facilitation (4)**
Prerequisites: PPSY 605 and PPSY 662 or equivalent. PPSY 702, PPSY 712. Consent of instructor. Requires a minimum of 12 hours per week. Majors only. Receive supervised experience in the role of group facilitator, including feedback on group process, leadership and intervention skills and problem areas. S/U graded.

**PPSY 763 Seminar in School Psychology (3)**
Admission to graduate school psychology program required. Professional issues and problems concerning the school psychologist, including certification and licensure requirements, confidentiality, legal and ethical issues, roles and responsibilities. Observations in schools.

**PPSY 773 Practicum in Supervision of Group Facilitation (3)**
Prerequisite: Consent of practicum coordinator. Majors only. Doctoral candidates receive experience in supervision of group facilitator training. Work with regular faculty member supervising group practicum, observe techniques and processes and receive feedback on progress.
PSY 774 Practicum in Supervision of Family Therapy (3)
Prerequisites: PPSY 694 and consent of practicum coordinator. Majors only. 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.

PSY 775 Supervision of Psychological Testing (3-9)
Consent of instructor. Under faculty supervision, participate in instruction and supervision of students in testing courses from test administration to the final reporting of test findings.

PSY 777 Applied Neuropsychology (4)
Prerequisites: PPSY 612 or PPSY 702; PPSY 674 or PPSY 675; and PPSY 678. Study of brain-behavior relationships with emphasis on procedures for diagnosing brain dysfunction and developing appropriate neuropsychological interventions. Study of assessment techniques and professional practice issues from conception to adulthood.

PSY 778 Clinical Neuropsychology Practicum (2)
Prerequisites: PPSY 612, PPSY 672, PPSY 678, PPSY 777 or consent of instructor. Supervised practice in administering and interpreting neuropsychological tests and procedures for children, adolescents, and adults. Emphasizes rehabilitation, intervention development, neuropsychological report writing and use of the Halstead-Reitan Batteries.

PSY 779 Practicum in School Psychology (3)
Prerequisites: PPSY 674, PPSY 678 and consent of instructor. Provide opportunity to experience various roles frequently expected of school psychologists. Experience takes place in public schools or affiliated agencies with supervision by practicing licensed school psychologists.

PSY 781 Evaluation of Psychological Services (3)
Prerequisite: SRM 602. Learn the 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.

PSY 782 Introduction to Rorschach Administration and Scoring (2)
Prerequisites: PPSY 558, PPSY 675 and PPSY 678. Learn conceptual basis for comparing projective with traditional psychometric procedures and begin skills in administration and scoring of Rorschach test.

PSY 789 Internship in School Psychology (2-10)
Prerequisites: PPSY 674, PPSY 678, PPSY 779 or consent of instructor. A minimum of 12 hours credit required. Full-time field experience in school psychology under qualified supervisors in selected settings; taken at end of program. S/U graded. Repeatable, maximum 20 credits.

PSY 791 Internship in Counseling Psychology (1-5)
Consent of instructor. Majors only. For the doctoral candidate in counseling psychology who will successfully complete a 2,000-hour internship in not less than one year (register for three consecutive semesters) nor more than two years (register for six consecutive semesters) after completion of all coursework required for the Psy.D. - degree. Repeatable, maximum 18 credits.

PSY 792 Internship in Counselor Education (3-6)
Consent of instructor. For the doctoral student in Counselor Education. Must complete a total of 1200 on site hours in an approved setting for a total of 12 semester hours. Repeatable, maximum 12 credits.

PSY 793 Intake Practicum (I)
Prerequisites PPSY 702, PPSY 712 and consent of practicum coordinator. Majors only. Provides experience through the Psychological Services Clinic in the initial referral and assessment phase of therapy. The student will evaluate prospective clients and make recommendations regarding treatment. S/U graded.

PSY 794 Clinic Practicum (2)
Prerequisites: PPSY 702, PPSY 712, PPSY 793 and consent of practicum coordinator. Majors only. Students gain experience as staff clinicians in the Psychological Services Clinic by providing direct therapeutic services to clients and engaging in case management procedures. S/U graded. Repeatable, maximum four credits.

PSY 797 Doctoral Proposal Research (1-4)
Consent of instructor. Majors only. Required for all doctoral students. Student must earn a maximum of 4 hours of credit in this course in partial fulfillment of requirements for all doctoral degrees, before admission to candidacy. S/U graded. Repeatable, maximum four credits.

PSY 799 Doctoral Dissertation (1-12)
Consent of instructor. Majors only and admission to candidacy. Required of all doctoral candidates. A student must earn a minimum of 12 hours of credit for the dissertation in partial fulfillment of requirements for all doctoral degrees. S/U graded. Repeatable, no limitations.

PSCI - POLITICAL SCIENCE

PSCI 100 United States National Government (3)
Identification and analysis of the principal rules, actors and institutions of national politics and explanation of their development. Required of all PSCI majors and minors.

PSCI 105 Introduction to Political Science (3)
A comparative survey of political institutions and processes and of the various approaches to the explanation of politics. Required of all PSCI majors and minors.

PSCI 203 Colorado Politics (3)
Examination of Colorado state and local politics including the institutions and processes of policy making from a comparative perspective.

PSCI 207 Women and Politics (3)
Examination of the women's movement and its development including the strategies and tactics employed and the ends sought.

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 Politics in the European Community (3)
Prerequisite: PSCI 105. Sophomores or above. An examination of the relations among European-community states and the domestic politics of select members with emphasis on Great Britain, France and Germany.

PSCI 220 Introduction to International Relations (3)
Learn the basic principles, processes and problems of the international political system.

PSCI 301 Electoral Politics in the United States (3)
Prerequisite: PSCI 100. Sophomores or above. An examination of the process for the nomination and election of national officials. What are the roles of the electorate, interest groups, political parties and the media.

PSCI 302 Law-Making Process in the United States (3)
Prerequisite: PSCI 100. Sophomores or above. An examination of the law-making process with emphasis on the Presidency and Congress and the roles of the public interest groups, political parties and the media in the identification and resolution of issues.

PSCI 305 Politics of Education (3)
Prerequisite: One Social Science Course. An examination of the policies adopted by the states and the national government and the roles played by interest groups and formal institutions in their formation.

PSCI 306 Constitutional Law (3)
Prerequisite: PSCI 100. Sophomores or above. An analysis of Supreme Court decisions regarding civil liberties and relations among the branches of the national government and between the national and state governments.

PSCI 310 Politics of Central and East European States (3)
Prerequisite: PSCI 105. Sophomores or above. An examination of the politics of the former Communist states in the area including Russia and of relations among the members of the Commonwealth of Independent States.
PSCI 315 Comparative Public Policy (3)  
Prerequisites: PSCI 100, PSCI 105. Sophomores or above. 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 318 The Politics of the Developing States (3)  
Prerequisite: PSCI 105. Sophomores or above. Analysis of the politics of the developing states from a comparative and historical perspective. Emergence of a Third World and domestic politics of selected states will be examined.

PSCI 320 American Foreign Policy (3)  
Prerequisites: PSCI 100, PSCI 105. Sophomores or above. Analysis of American foreign policy with emphasis on the Twentieth Century and of the process by which policy is made.

PSCI 321 War and Peace (3)  
Sophomores or above. Examination of the causes and occasions of wars and of the peaceful resolution of international disputes.

PSCI 325 Conflict in the Middle East (3)  
Sophomores or above. Examination of the principal governmental and non-governmental actors and their policies in the Middle East and relations among them.

PSCI 328 International Law and Organizations (3)  
Prerequisites: PSCI 105, PSCI 220. Sophomores or above. An examination of international organizations, e.g. U.N. and O.A.S. and international agreements concerning the environment, health, finance, trade, etc.

PSCI 331 Political Philosophy I (3)  
Juniors or above. Analysis and evaluation of the principles and institutions proposed by major philosophers from Plato to Locke.

PSCI 332 Political Philosophy II (3)  
Juniors or above. Analysis and evaluation of the principles and institutions proposed by major philosophers from Rousseau to Mill.

PSCI 335 American Political Philosophy (3)  
Juniors or above. Analysis and evaluation of the principles and institutions proposed by major American philosophers from Madison to Dewey.

PSCI 392 Internship (3-10)  
Prerequisite: Applicants must have 12 semester hours in political science. Provides opportunity for field experience as an observer and assistant to a public policymaker with supervised but self-directed research. Repeatable, maximum 10 credits.

PSCI 401 Public Policy in the United States (3)  
Prerequisite: PSCI 100. Sophomores or above. American public policy in the areas of health care, transportation, education, housing, labor-management relations, income maintenance and taxation.

PSCI 405 Problems in American Politics (3)  
Prerequisites: PSCI 100, PSCI 105 and a course in Group A. Seniors only. Select problems in American politics will be examined.

PSCI 410 Pacific Rim Politics (3)  
An examination of the politics, public policies and economic development of Pacific Rim countries (with emphasis on China, Japan).

PSCI 415 Problems in Comparative Politics (3)  
Prerequisites: PSCI 100, PSCI 105 and a course in Group D. Seniors only. Topics of current interest or controversy in comparative politics.

PSCI 422 Directed Studies (1-3)  
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Juniors and seniors only. To count for credit toward major, students must have taken two courses in the elective group they propose to do the directed study. Repeatable, maximum concurrent enrollment is two times.

PSCI 425 Problems in International Relations (3)  
Prerequisites: PSCI 100, PSCI 105 and a course in Group B. Seniors only. Select problems and theories for close and lengthy examination.

PSCI 435 Problems in Political Philosophy (3)  
Prerequisites: PSCI 100, PSCI 105 and a course in Group C. Seniors only, Select problems or philosophies for close and lengthy attention.

PSY - PSYCHOLOGY

PSY 120 Principles of Psychology (4)  
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 200 Psychological Statistics and Design (3)  
(2 lecture, 2 laboratory) Prerequisite: PSY 120. Required laboratory arranged. Introduction to scientific methods and statistical analysis procedures basic to research in psychology. Probability, distribution statistics and hypothesis testing emphasized. Includes computer applications for research report writing, data gathering and analysis.

PSY 230 Human Growth and Development (4)  
(3 lecture, 3 laboratory) Laboratory required. Negative PPD tuberculin skin test within past six months required. Study basic concepts and issues of growth and development from conception through senescence. Emphasis on cognitive, psychomotor and socioemotional development.

PSY 265 Social Psychology (3)  
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)  
Receive an introduction to psychological test theory, interpretation of results, group and individual tests (cognitive, affective and psychomotor), reliability, validity and standardization procedures.

PSY 323 Health Psychology (3)  
Prerequisite: PSY 120. Explore psychological factors in maintenance of wellness, treatment of illnesses and recovery from or adjustment to ongoing health problems. Study theory, research methods and clinical applications in health psychology.

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 331 Maturity and Aging (3)  
Prerequisite: PSY 230. Explore physical, cognitive and socioemotional variables related to adult development encompassing an age range from 20 to over 100. Emphasis in learning various research methods.

PSY 341 Principles of Learning (3)  
Prerequisite: PSY 120. Explore principles of classical and operant conditioning. Understand principles as the basis for concept learning, problem-solving, information processing and memory. Emphasis on human behavior in everyday life.

PSY 342 Cognitive and Behavioral Change: Theory, Assessment and Application (3)  
Prerequisite: PSY 341. Examine various behavioral and cognitive change procedures in terms of their theoretical basis, assessment procedures and applied strategies. Includes operant, respondent and social learning and cognitive procedures.

PSY 344 Group Processes and Roles (3)  
Majors only. Examine human interactions from perspectives of human relations, communication and group dynamics. Practice effective small and large group membership and leadership roles relevant to growth, therapy and task groups. Students may be asked to participate in personal growth groups as part of the course experience.

PSY 350 Theories of Personality (3)  
Prerequisite: PSY 120. Study psychological theories and research methods used to explain personality development and functioning including psychoanalytic, neopsychoanalytic, cognitive, behavioral, humanistic and type-trait theories.

PSY 366 Industrial Psychology (3)  
Discover basic methods employed by psychologists in selection, placement, training and motivation of industrial personnel. Examine psychological factors influencing morale, production and job satisfaction.
PSY 375 Sensation and Perception (3)
Prerequisite: PSY 120. Survey of how humans perceive the world through vision, hearing, touch, taste and smell. Examine physiological mechanisms, sensory processes, development, and theories of perception for each sensory modality. Lab arranged.

PSY 389 Research in Human Development (3)
Become familiar with methodologies, ethical issues and research literature in the study of human development. Learn critical thinking and scientific writing skills through the process of conducting research.

PSY 400 Research Design and Analysis (5)
(4 lecture, 2 laboratory) Prerequisites: PSY 120, PSY 200. Psychology majors only. Advanced research methods and statistical analysis including ANOVA, regression, survey, factor analytic and qualitative research designs. Computer applications for research report writing, data gathering and analysis. Laboratory required.

PSY 407 Introduction to Counseling Theories (3)
Prerequisite: PSY 350. Survey current theoretical approaches with individuals and groups. Not intended as training in counseling approaches, but as basis for future study.

PSY 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

PSY 440 Cognition (3)
Prerequisite: PSY 120. Explore human cognition by examining perception, attention, memory, intelligence, problem and cognitive development. Become familiar with neural bases of cognition, theoretical perspectives and research methods.

PSY 443 Motivation (3)
Prerequisite: PSY 120. Investigate motivational concepts and related research: drive, goals, direction, incentive, reinforcement, external stimulation, emotion, homeostasis, biological aspects, instinct and self-actualization.

PSY 455 Abnormal Psychology (3)
Prerequisite: PSY 120. Juniors or above. Study abnormal behavior: causes, symptoms, characteristics, classification, prevention and treatment.

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 480 Physiological Psychology (5)
(4 lecture, 2 laboratory) Prerequisites: PSY 120, introduction to BIO/ZOO or equivalent. Required laboratory. 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 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 the science of psychology. Many graduate programs in psychology recommend taking this at undergraduate level.

PSY 491 Psychology Field Experience (1-6)
Junior and above. Psychology majors only and consent of instructor. Get full or part-time experience working with professionals in psychology, for one or more semesters. Make arrangements with instructor and supervisor during semester before registration. S/U graded. Repeatable, maximum six credits.

PSY 493 Practicum in Psychology (1-3)
Consent of instructor and department chairperson. Students assist psychology professor with research or laboratory. Thirty-eight (38) clock hours must be spent for each hour of credit. Students may apply a maximum of four (4) credits to a psychology major. S/U graded. Repeatable, maximum six credits, under different subtitles.

PSY 495 Special Topics in Psychology (1-5)
Scheduled on irregular basis. Repeatable, under different subtitles.

PSY 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

PSY 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

PSY 520 Assessment and Interviewing (1-5)
Develop verbal and written skills in interview and assessment procedures; study related ethical and legal issues.

PSY 522 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

PSY 525 Principles of Neuropsychology (3)

PSY 526 Introduction to Neuropsychological Assessment (3)

PSY 527 Psychometrics (3)
Survey of psychometric considerations within areas of personality, psychopathology, intelligence, neuropsychology. Topics include: domain theory test construction, test operating characteristics, multivariate methods within psychometrics, exemplars across major areas.

PSY 543 Theories of Motivation (3)
Biological, learned, social, cognitive, operational and stimulus-based approaches to motivation; emphasis on implications for study of human behavior.
PSY 664 Advanced Social Psychology (3)
Survey major social psychology areas, learning social observation techniques, nature and factors of human social behavior, cooperation, prosocial behavior, aggression, attitude change, interpersonal attraction and impression management. Observe social psychological phenomena in laboratory sessions.

PSY 680 Neuroscience Seminar (3)
Graduates only. Reviews current theories and research regarding neurophysiological underpinnings of typical and atypical human behavior. Topics include: neuroscientific investigation of behavioral domains, cognitive models, genetic contributions, and developmental influences.

PSY 693 Research Practicum (1-3)
Each student will collaborate in research with a psychology professor. The research topic and nature of involvement are determined by consultation between student and professor. S/U graded.

PSY 694 Practicum (3)
Consent of instructor. Majors only. Supervised experience in diagnostics of neuropsychological deficits. Individual and group supervision emphasizing behavioral interview and psychometric data. S/U graded.

PSY 697 Master's Project in Psychology (3-6)
Majors only. Consent of advisor. 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 and report results. S/U graded. Repeatable, maximum six credits.

PSY 699 Thesis (1-6)
Recommended in place of M.A. project, especially for students applying to doctoral programs. S/U graded. Repeatable, no limitations.

REC - RECREATION

REC 203 Introduction to Recreation and Leisure (3)
Designed to orient the beginning recreation major in the scope, breadth and nature of the professional recreation education program. Students will also be made aware of the influence of leisure on American society.

REC 204 Introduction to Therapeutic Recreation (3)
Orientation to therapeutic recreation service. Learn the philosophy, principles and goals of adapted recreation activities that meet the needs of individuals with handicaps, disabilities or are in treatment hospitals, schools, homes, recreation and rehabilitation centers through reports, discussions, observations and visitations.

REC 251 Leisure, Recreation and the Older Adult (3)
Discover the role of leisure and recreation in the lives of the elderly and how aging influences recreation programming methods and techniques. Learn concepts, practices, trends, current issues in aging and research. Visits, observations and practicum required.

REC 264 Social and Cultural Recreation Skills (3)
Designed to acquaint students with an understanding of individuals and groups in recreational settings. Cultural arts, playgrounds and special events are covered in depth.

REC 269 Recreation Management Skills (4)
Acquaint the student with the skills necessary to organize and manage recreation activities and facilities.

REC 294 Practicum in Recreation and Leisure (1-3)
Prerequisite: REC 203. Consent of instructor. Supervised experience in agency, which includes recreation and leisure services. Supervisor evaluation and written report required. S/U graded. Repeatable, maximum of six credits.

REC 305 Special Topics in Recreation (1-3)
Designed to investigate a specific aspect of recreation. S/U graded. Repeatable, maximum of six credits under different subtitles.

REC 408 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

REC 415 Clinical Aspects of Therapeutic Recreation (3)
Prerequisite: REC 204. Concentrate on treatment issues, needs and procedures and/or medications and their side effects in this introduction to common disabilities and illnesses and their implications to therapeutic recreation. Considerations of the current clinical practices will be explored. Restricted course.

REC 416 Procedures and Techniques of Therapeutic Recreation (3)
Prerequisite: REC 415. Gain exposure to methods and techniques used for assessing leisure needs, problem areas, treatment issues and effective treatment planning. Develop facilitation techniques for achievement of client goals and objectives. Restricted course.

REC 421 Contemporary Problems in Therapeutic Recreation Service (3)
Prerequisite: REC 204. Learn the history, philosophy of the current practice of providing recreation services to special populations through educational experiences in observation, visitations, reports, required reading, discussions and special projects. Explore current issues and research data.

REC 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

REC 426 Seminar in Recreation Program Development in Therapeutic Recreation (3)
Study the foundations, principles and procedures utilized in developing recreation programs in therapeutic recreation.

REC 451 Administration of Leisure Delivery Systems (3)
Prerequisite: REC 269. Majors only. Focus on the organization and administration of community recreation agencies, studying 10 essential areas: fact-finding, legal aspects, municipal organization, department structure, financing, records and reports, publicity, public relations, personnel and professionalism.

REC 468 Programs in Recreation (3)
Prerequisites: REC 203, REC 204, REC 269. Majors/minors only. Learn to effectively plan varied types of recreation programs for community centers, pools, parks, sports complexes and playgrounds. Concern will be given to special groups such as teens, the aged, young adults and the handicapped.

REC 472 Recreation Leadership (3)
Prerequisites: REC 203, REC 269. A study of the philosophy, techniques, nature and methods of leadership as it relates to the leisure services profession. The course includes observation and practical experience.

REC 492 Internship in Recreation (12)
Consent of instructor. Make the transition from the classroom to the professional field. Assume the normal responsibilities as the entry level professional in the practical situation. Requires one semester of full time activity under professional guidance.

REC 495 Senior Seminar (3)
Majors only. Research, observe, participate, present and finalize the necessary requirements prior to enrolling in REC 492 Internship in Recreation. Study concepts important to transition from student to professional. Review of evaluation and research techniques.

RUS - RUSSIAN
Note: Russian courses are not offered on a regular basis. Consult the Department of Foreign Languages for current status of the program.

RUS 101 Elementary Russian I (5)
For students with no previous Russian. Conversational Russian using oral techniques with reading and writing drills. Stresses comprehension, structure, pronunciation, fluency and cultural awareness.

RUS 102 Elementary Russian II (5)
Prerequisite: RUS 101. Continuation of RUS 101. Conversational Russian using oral techniques with reading and writing drills. Stresses comprehension, structure, pronunciation, fluency and cultural awareness.

SCED - SCIENCE EDUCATION

SCED 422 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.
SCED 441 Methods of Teaching Secondary School Science (3)
Full admission to PTEP or certification at the undergraduate level required. 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, 2 laboratory) Full admission to PTEP or certification at the undergraduate level required. Develop a knowledge of objectives, methods and materials needed for teaching a functional elementary science program.

SCED 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

SCED 513 Professional Renewal (1-12)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

SCED 541 Methods of Teaching Secondary School Science (3)
Full admission to PTEP or certification at the undergraduate level required. 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 570 Teaching Science in the Elementary School (3)
(2 lecture, 2 laboratory) Full admission to PTEP or certification at the undergraduate level required. Develop a knowledge of objectives, methods and materials needed for teaching a functional elementary science program. Laboratory activities included.

SCED 622 Directed Studies (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

SCED 671 Elementary and Middle School Science Curriculum (2)
Analysis of elementary and middle level science programs in terms of learning theory research and application including teaching strategies and influence of science, technology and society on science teaching.

SCED 678 Science Education Seminar (1-2)
Investigate current science education research, report on topics of interest in recent literature, discuss individual research problems. Repeatable, maximum four credits.

SCED 680 Science Curricula in Secondary/College Settings (3)
A survey of contemporary trends and issues associated with designing, implementing and evaluating science curricula at the secondary and tertiary levels.

SCED 694 Science Education Research (3)
Prerequisite: SRM 502 or equivalent. An introduction to research in discipline-based science education, providing background and experience in the major activities associated with current practice in both field-based and quantitative studies.

SCI - SCIENCE

SCI 103 Physical Science for the 21st Century (3)
Important concepts in physical science applications to 20th century problems and anticipated applications in the 21st century. Taught by Physics or Chemistry faculty.

SCI 106 Introduction to Spaceflight (3)
Topics to be covered include history of spaceflight, mechanics of propulsion and satellite motion, living and working in space and the space shuttle. Taught by Physics faculty.

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 faculty.

SCI 115 Equity Issues in a Technological Society (3)
Develop science/mathematics process skills. Become familiar with activities designed to increase the interests and skills of subgroups under-represented in science/mathematics/technology professions.

SCI 265 Physical Science Concepts for Elementary Teachers (4)
(3 lecture, 2 laboratory) Investigation of basic physical science concepts, emphasizing their application to the physical world. For elementary education majors interested in a general understanding of science.

SCI 291 Scientific Writing (3)
Prerequisite: ENG 122. Techniques of problem identification, literature survey, data interpretation and synthesis and technical reports.

SCI 391 Computer Applications in Science (2)
(1 lecture, 2 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 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

SCI 535 Principles of Physics I (3)
(2 lecture, 3 laboratory) Investigation of basic principles of kinematics, dynamics, momentum, work and energy with technological applications. For certified teachers interested in improving understanding and pedagogical delivery of physics concepts.

SCI 536 Principles of Physics II (3)
(2 lecture, 3 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 pedagogical delivery of physics concepts.

SCI 537 Principles of Physics III (3)
(2 lecture, 3 laboratory) Prerequisites: SCI 535, SCI 536 or equivalent. Investigation of basic principles of electricity and magnetism with technological applications. For certified teachers interested in improving understanding and pedagogical delivery of physics concepts.

SCI 538 Principles of Physics IV (3)
(2 lecture, 3 laboratory) Investigation of basic principles of quantum physics and special relativity with applications in atomic, nuclear and astrophysics. For certified teachers interested in improving understanding and pedagogical delivery of physics concepts.

SCI 591 Computer Applications in Science (2)
(1 lecture, 2 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.

SOC - SOCIOLOGY

SOC 100 Principles of Sociology (3)
Overview of basic theories, methods, concepts and issues central to the discipline of sociology. Examine the relationship between social behavior and society.

SOC 120 Introduction to Family Studies (3)
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 (3)
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 170 Social Problems (3)
Theoretical and conceptual perspectives on social problems and related social policy implications. Definitional and social causation models of social problems are examined.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisite</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 221</td>
<td>Sociology of Gender (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Examine gender stratification and social inequality. Topics include cultural definitions of masculinity and femininity, socialization and social change.</td>
</tr>
<tr>
<td>SOC 235</td>
<td>Social Change (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Study various sociological approaches to change including social movements and revolutions as the product of multiple social factors. Compare the processes of change in underdeveloped countries with change in industrial societies.</td>
</tr>
<tr>
<td>SOC 237</td>
<td>Sociology of Minorities (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Examine intergroup relations and the dynamics of power relating to ethnicity and other dimensions of social life that have produced tension and conflict among groups historically and in the present.</td>
</tr>
<tr>
<td>SOC 247</td>
<td>Social Deviance (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Study social deviancy, particularly in terms of types, sources, functions, dysfunctions and social control mechanisms that operate relative to those departures form conformity.</td>
</tr>
<tr>
<td>SOC 270</td>
<td>World Population Problems (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Examine population problems in various societies in the world. Review theories of population growth. Relate the population problem to factors that indicate the web of interdependency.</td>
</tr>
<tr>
<td>SOC 272</td>
<td>The Community (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Study the community from small to large as a complex of human relations. Explore the community historically and functionally on a cross-cultural basis through a critical perspective.</td>
</tr>
<tr>
<td>SOC 275</td>
<td>Sociology of Mental Illness (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Examine conceptual models of mental illness, social epidemiological help-seeking behavior, social impacts of treatment, mental health delivery systems and social policy issues.</td>
</tr>
<tr>
<td>SOC 277</td>
<td>Social Movements (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Explore significant aspects of unconventional political, economic, religious and cultist organizations. Study institutionalized and uninstitutionalized groups and their members.</td>
</tr>
<tr>
<td>SOC 302</td>
<td>Variable Topics in Sociology (1-4)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Topics may include sociology of religion, human ecology, social conflict, fascism, urban sociology, etc. Repeatable up to two times, under different subtitles.</td>
</tr>
<tr>
<td>SOC 322</td>
<td>Women and Aging (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Aging from a female perspective. Aspects of maturity and old age such as widowhood, work and retirement, and living situations are examined with particular reference to women.</td>
</tr>
<tr>
<td>SOC 324</td>
<td>Issues in the Family (3)</td>
<td>Prerequisite: SOC 100 or SOC 120.</td>
<td>Examine theoretical perspectives and research issues in the family. Analyze current issues in the family studies area. Possible topics: singleness, prenuptial contracts, dual career households, divorce, parenting, cohabitation, custody arrangements.</td>
</tr>
<tr>
<td>SOC 326</td>
<td>Sociology of Childhood and Adolescence (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Examine the societal definition of childhood and adolescence and how social institutions influence socialization.</td>
</tr>
<tr>
<td>SOC 330</td>
<td>Social Organizations (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Study the social structure of modern bureaucratic organizations. Review human behavior in organizations from a social psychological perspective.</td>
</tr>
<tr>
<td>SOC 332</td>
<td>Social Psychology (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Examine the relationships between individuals and social systems. Focus on language interaction, self-conceptualizing behaviors and change. Review dominant social psychological theories and issues.</td>
</tr>
<tr>
<td>SOC 333</td>
<td>Social Class and Inequality (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>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.</td>
</tr>
<tr>
<td>SOC 340</td>
<td>Juvenile Delinquency (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>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.</td>
</tr>
<tr>
<td>SOC 346</td>
<td>Criminology (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Survey criminal behavior generally, including theories of causation, types of crime, extent of crime, law enforcement, criminal justice, punishment and treatment.</td>
</tr>
<tr>
<td>SOC 347</td>
<td>Sociology of Corrections (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Survey of the history and structure of punishment in Western societies. Review of the major philosophies and practices of modern corrections.</td>
</tr>
<tr>
<td>SOC 351</td>
<td>Classical Social Theory (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>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.</td>
</tr>
<tr>
<td>SOC 352</td>
<td>Contemporary Social Theory (3)</td>
<td>Prerequisite: SOC 100, SOC 351.</td>
<td>Review the major modern theoretical paradigms and prominent contemporary theorists in sociology. Examine contemporary issues in sociology.</td>
</tr>
<tr>
<td>SOC 360</td>
<td>Computer Applications in the Social Sciences (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>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.</td>
</tr>
<tr>
<td>SOC 361</td>
<td>Social Research (3)</td>
<td>Prerequisite: SOC 100 or equivalent, STAT 150.</td>
<td>Introduce research methodologies in the social sciences. Study the logic of research, role of theory, measurement, sampling and research designs.</td>
</tr>
<tr>
<td>SOC 362</td>
<td>Social Statistics (3)</td>
<td>Prerequisite: SOC 100 or equivalent, STAT 150.</td>
<td>Introduce applied statistics in social science research. Levels of measurement; measures of central tendency and variability; probability; estimation and hypothesis testing; measures of association - reduction in error and variance models; chi square.</td>
</tr>
<tr>
<td>SOC 371</td>
<td>Sociology of Aging (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Survey theories and research on the social aspects of aging with emphasis on later maturity and old age.</td>
</tr>
<tr>
<td>SOC 372</td>
<td>Gangs, Schools and Community (3)</td>
<td>Prerequisite: SOC 100.</td>
<td>An examination of why today's youth join, remain in and leave gangs. This course also provides prospective teachers with strategies for dealing with gangs in their classroom, school and community.</td>
</tr>
<tr>
<td>SOC 373</td>
<td>Political Sociology (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Evaluate structural strains and alternatives of left and right development in society. Analyze the state, its relationship to the masses, elites and problems of legitimacy.</td>
</tr>
<tr>
<td>SOC 378</td>
<td>Sociology of Education (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>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.</td>
</tr>
<tr>
<td>SOC 409</td>
<td>Senior Seminar in Sociology (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>Culminating seminar to provide opportunity for students to experience sociology by conducting a research project on a topic of interest.</td>
</tr>
<tr>
<td>SOC 422</td>
<td>Directed Studies (1-3)</td>
<td>Prerequisite: SOC 100.</td>
<td>Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.</td>
</tr>
<tr>
<td>SOC 423</td>
<td>Violence and the Family (3)</td>
<td>Prerequisite: SOC 100 or equivalent.</td>
<td>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.</td>
</tr>
<tr>
<td>SOC 444</td>
<td>Sociology of Criminal Law (3)</td>
<td>Prerequisite: SOC 100.</td>
<td>Majors only. Seniors or above. Focus on substantive and procedural criminal law in the context of sociological theory, research and jurisprudence. Capstone course for criminal justice emphasis.</td>
</tr>
</tbody>
</table>
SOC 445 Comparative Justice Systems (3)
Prerequisites: SOC 100 and SOC 141. Examine the criminal justice systems in a variety of countries throughout the world. Compare and contrast those systems with each other and with the United States' justice system.

SOC 490 Internship (3-9)
Prerequisite: SOC 100 or equivalent. Study the basic principles of field research by working as a volunteer intern with a community service agency. Repeatable, maximum of nine credits.

SOC 491 Internship in Social Issues (3-9)
Prerequisites: SOC 100, SOC 272, SOC 351 or equivalent. Social Issues Internship provides the student with an opportunity to study and gain experience in a social issue by working with a community agency or group. Repeatable maximum nine credits.

SOC 493 Practicum in Family Studies (3-9)
Prerequisites: SOC 100, SOC 324, SOC 352, SOC 361. Majors only. Seniors or above. Complete an individualized applied research project for a family service agency. Classroom component addresses issues in applied research, professional socialization and family policy. Capstone course for the Family Studies emphasis.

SOC 508 Workshop (1-6)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

SOC 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individuals professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

SOC 520 Seminar in the Family (3)
Explore family in depth, focusing primarily on American family. Also, contrast the American system with that of other societies.

SOC 523 Violence and the Family (3)
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 (3)
Study the social structure of modern bureaucratic organizations. Review human behavior in organizations from a social psychological perspective.

SOC 539 Seminar in Clinical Sociology (3)
Examine important current issues and activities related to clinical sociology, survey research methods and intervention techniques used by clinical sociologists, consider ethics of clinical sociology, emphasize critical thinking, research and writing.

SOC 544 Sociology of Criminal Law (3)
Graduates only. Focus on substantive and procedural criminal law in the context of sociological theory, research and jurisprudence.

SOC 550 Philosophical Issues in Sociology (3)
Prerequisite: SOC 351 or equivalent. Explore a variety of philosophical problems, issues and contentions forming a backdrop to theoretical and empirical sociology.

SOC 551 Classical Social Theory (3)
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 Applied Social Theory (3)
Provide understanding of the role of theory in the social sciences, provide knowledge of major paradigms utilized in contemporary social science theory, assess applied explanatory strengths and weaknesses of paradigms.

SOC 554 Criminological Theories (3)
Analyze and evaluate the major historical and contemporary theories of criminal behavior.

SOC 561 Social Research (3)
Prerequisites: SOC 100 or equivalent, STAT 150. Introduction to research methodologies in the social sciences. Study the logic of research, role of theory, measurement, sampling and research designs.

SOC 562 Social Statistics (3)
Prerequisites: SOC 100 or equivalent, STAT 150. Introduction to applied statistics in social science research. Levels of measurement; measures of central tendency and variability; probability; estimation and hypothesis testing; measures of association - reduction in error and variance models; chi square.

SOC 563 Qualitative Methods (3)
Examination of major qualitative methods in sociology: ethnography, participant observation, phenomenological sociology, ethnomethodology, verstehen sociology, hermeneutics and other methods. Emphasis is on field research and application of specific qualitative methods.

SOC 571 Sociology of Aging (3)
Prerequisite: SOC 100 or equivalent. Survey theories and research on the social aspects of aging with emphasis on later maturity and old age.

SOC 580 Social Policy Analysis (3)
Examine relationship between social policy and society. Socio-cultural conditions and social institutions which affect policy formation are studied. Utilization of sociological concepts and methods in applied settings.

SOC 602 Seminar in Perspectives in Sociology (3)
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. Repeatable up to two times, under different subtitles.

SOC 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

SOC 632 Seminar in Social Psychology (3)
Prerequisite: SOC 332 or equivalent. 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 660 Applied Social Research (3)
Apply techniques of applied sociological research to an approved community project in applied social research, understand the relationship between basic and applied social research.

SOC 690 Practicum in College Teaching of Sociology (2)
Masters students arrange with individual faculty to receive experience in observation and supervised practice. S/U Graded.

SOC 691 Research Internship (1-9)
Prerequisites: Nine hours of graduate credit in sociology and consent of instructor. S/U graded. Put classroom learning into practice with research in an organizational setting. Repeatable, maximum nine credits.

SOC 699 Thesis (1-6)

SPAN - SPANISH
SPAN 101: Elementary Spanish I (5)
First part of a two-semester sequence emphasizing the development of a functional proficiency in the four basic skills of listening, speaking, reading, and writing. Oral communication is stressed.

SPAN 102: Elementary Spanish II (5)
Prerequisite: SPAN 101 or equivalent. A continuation of SPAN 101.

SPAN 201: Intermediate Spanish I (3)
Prerequisite: SPAN 102 or two years of high school Spanish. Review the basic principles of the language and emphasize oral Spanish communication. Become familiar with Spanish and Latin American civilization.

SPAN 202: Intermediate Spanish II (3)
Prerequisite: SPAN 102 or two years of high school Spanish. Review basic principles of the Spanish language and emphasize oral communication. Become familiar with Spanish and Latin American civilization.

SPAN 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 literature will be studied in their cultural perspectives. Course helps to develop Spanish language, vocabulary and pronunciation. Taught in Spanish.

SPAN 301: Spanish Grammar (3)
Prerequisite: At least 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: Spanish Composition (3)
Prerequisite: SPAN 301. 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 (3)
Prerequisite: At least three years of high school Spanish or equivalent. A course designed to develop a high level of proficiency in spoken Spanish. Language functions are practiced in the context of practical everyday situations.

SPAN 304: Introduction to Hispanic Literature (3)
Prerequisite: At least three years of high school Spanish or equivalent. To acquaint the student with the elements of the various literary genres and literary criticism. The MLA Handbook will be introduced for research writing.

SPAN 321: Spanish Civilization and Culture (3)
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 prehistoric times to the present.

SPAN 331: Latin American Civilization and Culture (3)
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 350: Masterpieces of Spanish Literature (3)
Prerequisite: SPAN 321. Study Spanish Golden Age, Spanish and Spanish American Baroque and Latin American works of the 19th and 20th century after independence. Includes poetry, novel, essay and drama.

SPAN 351: Masterpieces of Latin American Literature (3)
Prerequisite: SPAN 350. Study the masters of contemporary Latin American literature and the late 19th and 20th century Spanish literature.

SPAN 405: Spanish Phonetics and Dialects (3)
Prerequisite: Three years of high school Spanish or equivalent. The study of the major semantic, syntactic and phonological aspects of the Spanish language dialects and the standard Latin American Spanish found in the Americas.

SPAN 406: Introduction to Translation (3)
Prerequisites: SPAN 301, SPAN 302, SPAN 303, SPAN 405. Introduction to translation techniques and resource material in a wide variety of subjects and styles. Emphasis will be placed on translation accuracy.

SPAN 407: Spanish for Oral Proficiency (3)
Prerequisite: Four years of high school Spanish or equivalent. A course designed to develop oral proficiency by exposing students to advanced and superior linguistic functions.

SPAN 408: Study Abroad Program: Coursework (9)
Prerequisite: Two years of college Spanish or permission of department. Gives the student practical experience in the use of Spanish. 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 (3)
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 410: Chicano Spanish Linguistics (3)
Prerequisite: SPAN 202. This course examines concepts and theories relevant to the linguistic situation of the Chicano in the Southwest. Focus of the course will be on Spanish and English varieties pertinent to Chicanos, and the linguistic/cultural situation that emerges when these two languages come into contact along the U.S.-Mexico border and throughout the nation. Chicano Spanish linguistics draws from a variety of disciplines including: linguistics, sociology and psychology, and attempts to delve into the forces that have contributed to the present reality of Chicanos and their language.

SPAN 411: Spanish for Bilingual Education I (3)
Prerequisite: At least two years of college Spanish or equivalent. Develops Spanish language skills for teaching language arts and math. ACTFL/ETS Spanish Oral Proficiency Interview must be taken before student teaching. Can be taken after SPAN 412.

SPAN 412: Spanish for Bilingual Education II (3)
Prerequisite: At least two years of college Spanish or equivalent. Develops Spanish language skills for teaching science and social studies. ACTFL/ETS Spanish Oral Proficiency Interview must be taken before student teaching. Can be taken before SPAN 411.

SPAN 414: Contrastive Features of Spanish and English (3)
Prerequisite: At least three years of high school Spanish or equivalent. Consent of instructor. General contrastive approach to analysis of Spanish/English. Underscores areas of ease or difficulty through which native speakers of Spanish and native speakers of English pass when learning their respective second language. Course taught in Spanish, interest for teaching bilingual education, ESL.

SPAN 422: Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

SPAN 452: Mexican Literature (3)
Prerequisite: Two years of college Spanish or equivalent. A study of the most outstanding works of Mexican literature. Examines the works from the Mexican Revolution, Criollismo, Magical Realism and contemporary Social-Realism.

SPAN 455: Spanish Readings (3)
Prerequisite: Two years of college 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 456: Spanish and Latin American Short Story (3)
Prerequisite: Two years of college Spanish or equivalent. Study of the short story in Spain and Spanish America. Will review its development from the Middle Ages to the present. Includes works of Matute, Garcia Marquez, Borges and Rulfo.

SPAN 457: Literature of U.S. Hispanics (3)
Prerequisite: Two years of college Spanish or equivalent. Examines the most important works of literature written by Hispanics from the United States. Includes the four genres: poetry, drama, novel and short story.

SPAN 458: Cervantes (3)
Prerequisite: Two years of college Spanish or equivalent. To become acquainted with the life and culture of Spain during this period.

SPAN 459: Spanish Drama (3)
Prerequisite: Two years of college Spanish or equivalent. Study of Hispanic drama masterpieces from Spain’s Golden Age to the post-Civil War period; Latin America’s Contemporary Theatre of Social Protest; and the United States’ Hispanic Theatre Movement.
SPAN 501 Spanish Grammar (3)
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 Spanish Composition (3)
Prerequisite: SPAN 301. 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 (3)
Prerequisite: Three years of high school Spanish or equivalent. A course designed to develop a high level of proficiency in spoken Spanish. Language functions are practiced in the context of practical everyday situations.

SPAN 505 Spanish Phonetics and Dialects (3)
Prerequisite: Three years of high school Spanish or equivalent. The study of the major semiotic, phonetic and phonological aspects of the Spanish language dialects and the standard Latin American Spanish found in the Americas.

SPAN 507 Spanish for Oral Proficiency (3)
Prerequisite: Four years of high school Spanish or equivalent. A course designed to develop oral proficiency by exposing students to advanced and superior linguistic functions.

SPAN 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

SPAN 510 Advanced Placement Program-Spanish (1-3)
Consent of instructor. A course designed to provide content and pedagogical information related to the teaching of grammar and literature in the secondary school Spanish advanced placement program. S/U graded. Unlimited repeatability.

SPAN 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

SPAN 514 Contrastive Features of Spanish and English (3)
Prerequisite: three years of high school Spanish or equivalent. Consent of instructor. General contrastive approach to analysis Spanish/English. Underscores areas of ease or difficulty through which native speakers of Spanish and native speakers of English pass when learning their respective second language. Course taught in Spanish, interest for teaching bilingual education, ESL.

SPAN 521 Spanish Civilization and Culture (3)
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 prehistoric times to the present.

SPAN 531 Latin American Civilization and Culture (3)
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 550 Masterpieces of Spanish Literature (3)
Prerequisite: SPAN 521. Study Spanish Golden Age, Spanish and Spanish American Baroque and Latin American literary works of the period after independence. Includes poetry, novel, essay and drama.

SPAN 551 Masterpieces of Latin American Literature (3)
Prerequisite: SPAN 550. Study the masters of contemporary Latin American literature and the late 19th and 20th century Spanish literature.

SPAN 552 Mexican Literature (3)
Prerequisite: Two years of college Spanish or equivalent. A study of the most outstanding works of Mexican literature. Examines the works from the Mexican Revolution, Criollismo, Magical Realism and contemporary Social-Realism.

SPAN 555 Spanish Readings (3)
Prerequisite: Two years of college 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 560 Spanish Civilization and Culture (2)
Prerequisite: Three years of college Spanish or equivalent. Interpretation of the civilization and culture of Spain from its earliest beginnings to the present. Includes an analysis of the artistic, political and economic currents that have shaped modern Spain.

SPAN 561 Latin American Civilization and Culture (2)
Prerequisite: Three years of college Spanish or equivalent. Designed to examine the cultural heritage of Latin America and its current state of politics, economic and social development. Forces affecting the everyday life of the people is emphasized.

SPAN 562 Mexico and United States Hispanic Civilization and Culture (2)
Prerequisite: Three years of college Spanish or equivalent. The course examines the history and cultural heritage of the contemporary Mexican and of the Hispanics (Chicano, Cuban, Puerto Rican) living in the United States.

SPAN 563 Hispanic Cultural Topics (1-3)
Prerequisite: Three years of college Spanish or equivalent. Selected readings and discussion of a variety of cultural topics that make themselves in the everyday life of the Hispanic people. Customs and traditions will be emphasized. Repeatable, maximum three credits.

SPAN 570 Readings in United States Hispanic Literature (1-3)
Prerequisite: Three years college Spanish or equivalent. Designed to cover literature in English or Spanish by United States Hispanics: Mexican, Cuban or Puerto Rican Americans. Readings in narrative, theatre, poetry. Content is variable and determined by instructor. Repeatable, maximum three credits.

SPAN 571 Readings in Spanish Literature (1-3)
Prerequisite: Three years college Spanish or equivalent. Thorough coverage of topics such as any period of Spanish literature, especially the Golden Age, the generation of 1898 and post-Civil War novel. Repeatable, maximum three credits.

SPAN 572 Readings in Latin American Literature (1-3)
Prerequisite: Three years of college Spanish or equivalent. Designed to cover selected readings in Latin American literature. Course may be designed by author, themes or genre. Content is variable and will be determined by instructor. Repeatable, maximum three credits.

SPAN 573 National Literatures (2)
Prerequisite: Three years of college Spanish or equivalent. Give a basic understanding of the most important writers and their works of a given Spanish-speaking country.

SPAN 574 Masterpieces of 20th Century Spain (2)
Prerequisite: Three years of college Spanish or equivalent. Study the Masterpieces of 20th Century Spanish literature. Topics might include the generation of 1898, poetry and theatre of 20th century, pre-Civil War novel and post-Civil War novel.

SPAN 575 Masterpieces of 20th Century Latin America (2)
Prerequisite: Three years of college Spanish or equivalent. A study of the most representative Masterpieces of 20th century Latin American literature. Representative topics might include the modern novel, the essay, contemporary theatre and poetry and fantastic literature.

SPAN 576 Mexican Literature (2)
Prerequisite: Three years of college Spanish or equivalent. Provides a basic understanding of Mexican contemporary literature, its general trends and some of the most important authors in each of the four genres: poetry, novel, theatre and short story.

SPAN 580 Grammar Topics (1-3)
Prerequisite: Three years of college Spanish or equivalent. An in-depth study of difficult and selected structures of the language, which traditionally present problems; such as: the subjunctive mood, ser and estar, preterite vs. imperfect and others. Repeatable, maximum three credits.
SPAN 581 Advanced Spanish Grammar (2)  
Prerequisite: Three years of college Spanish or equivalent. An intensive study of the more complex theories and forms of Spanish grammar, with emphasis on mood, tense and voice.

SPAN 582 Spanish for Oral Proficiency (2)  
Prerequisite: Three years of college Spanish or equivalent. A course designed to develop oral proficiency by exposing students to superior linguistic functions.

SPAN 583 Oral and Written Discourse (2)  
Prerequisite: Three years of college Spanish or equivalent. Designed to enable students to speak and write extensively in Spanish, using description, narrations and exposition. Emphasis will be on fluency, accuracy and organization.

SPAN 584 Spanish Pronunciation and Dialects (2)  
Prerequisite: Three years of college Spanish or equivalent. Study the semantic, phonological and syntactic characteristics of the Spanish language dialects spoken in the United States. Special emphasis on Spanish pronunciation is included.

SPAN 622 Directed Studies (1-3)  
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

SPCO - SPEECH COMMUNICATION

SPCO 100 Basics of Public Speaking (1)  
Corequisite: SPCO 103. Overview of concepts central to effective public speaking including managing nervousness, researching and organizing information, thinking critically, delivering messages, fielding questions and influencing an audience.

SPCO 102 Introduction to Speech Communication (3)  
An introduction to the nature of speech communication as symbolic behavior including an overview of communication contexts.

SPCO 103 Speaking Evaluation (2)  
Corequisite: SPCO 100. Evaluation of basic concepts central to effective speaking, listening, responding and critical thinking in an oral context.

SPCO 111 Oral Interpretation (3)  
(2 lecture, 2 laboratory) A study in the oral interpretation of literature, especially prose and poetry. Laboratory experiences include substantial student performance in individual and group presentations.

SPCO 201 Inquiry in Speech Communication (3)  
An introduction to speech communication inquiry; includes practice with skills of critical thinking, library research and social science techniques.

SPCO 211 Argumentation and Debate (3)  
Study the basics of argumentation including reasoning, evidence and critical thinking. Practice the practical skills of public debating.

SPCO 212 Professional Speaking (3)  
Prerequisite: SPCO 100 or instructor's consent. Practical experience in presentation design and delivery to facilitate understanding of a message and for influence of others.

SPCO 221 Non-Verbal Communication (3)  
An overview of current theory and research in non-verbal communication. The course will focus on non-verbal communication message systems and their impact on the communication process.

SPCO 232 Principles of Interviewing (3)  
Study interviewing from the perspectives of both the interviewer and interviewee. Examine information seeking, employment, appraisal, grievance, firing and exit interviews.

SPCO 321 Interpersonal Theory (3)  
An undergraduate course focusing on the philosophical and theoretical issues of self-perception and relationships as they are affected by verbal and non-verbal communication.

SPCO 323 Intercultural Communication (3)  
Learn about the communication concepts and theories inherent in the process of interacting with individuals in cross-cultural and inter-ethnic situations.

SPCO 324 Family Communication (3)  
Investigate family structure from a human communication perspective.

SPCO 330 Small Group Communication (3)  
Consent of instructor. Apply problem-solving and decision-making techniques and theories, particularly in the relationship between communication and group variables such as leadership roles and cohesiveness.

SPCO 331 Organizational Communication (3)  
Study the dynamics of communication activities within an organization.

SPCO 341 Courtroom Communication (3)  
Investigate the relationship between communication and the law and legal argumentation and persuasion within courtroom advocacy. Analyze communication within the legal profession.

SPCO 343 Persuasion (3)  
Investigate major variables surrounding attitude change and human persuasion.

SPCO 350 Communication in the Classroom (3)  
Prerequisite: SPCO 201 or consent of instructor. Investigate communication theory and research related specifically to the classroom setting. Course content will focus on the development of self-concept perception, verbal and non-verbal language and group dynamics.

SPCO 352 Methods of Teaching Speech Communication (3)  
PTEP full admittance required. Focus of the course is on curriculum and classroom organization, testing and evaluation, procedures and materials specific to secondary speech communication instruction.

SPCO 404 Rhetorical Theory (3)  
Systematic review of the major contributions to rhetorical theorists for their probable impact on communication.

SPCO 422 Directed Study (1-3)  
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

SPCO 431 Communication and Leadership (3)  
Examine theories of leadership, major leadership research findings and various leadership methods. Consider how the principles derived from leadership literature can be applied to small group and organizational settings.

SPCO 444 Argumentation Theory (3)  
Investigate the nature of argumentation in personal and social relationships. Primary attention is paid to how people use reasoning processes to resolve personal and social conflicts.

SPCO 461 Seminar in Speech Communication (1-3)  
Investigate issues of current concern for SPCO professionals with subject varied according to faculty expertise. Repeatable, maximum nine credits, under different subtitles.

SPCO 491 Speech Communication Theory (3)  
Consent of instructor. Graduating seniors only. Summative course of the nature and function of human communication theory and research including an overview of the new traditions of theory and current perspectives in the discipline. Assessment of student practicum competency.

SPCO 492 Undergraduate Internship (1-10)  
Supervised work experience in area of specialization. Submit a proposal to the coordinator of internships six weeks before registration. Maximum of six semester credit hours may be counted toward the major. Repeatable, maximum five credits.

SPCO 502 Teaching College SPCO Courses (1)  
Required of all graduate teaching assistantships in SPCO. S/U graded. Repeatable, maximum three credits.

SPCO 504 Rhetorical Theory (3)  
Systematic review of the major contributions of rhetorical theorists for their probable impact on communication.

SPCO 511 Instructional Communication (3)  
This graduate seminar for educators will focus on contemporary issues, theoretical perspectives and academic research in communication instruction.
SPCO 512 Persuasion (3)
Investigate the implications of contemporary research and theory in the area of persuasion and attitude change.

SPCO 514 Interpersonal Communication (3)
An overview of current theoretical perspectives on interpersonal communication and representative supportive research.

SPCO 515 Group Communication (3)
Examine theories of group process, major group process research findings and how the principles derived from speech communication literature can be applied to small groups.

SPCO 517 Organizational Communication (3)
Examine theories of organizing, research findings on organizational communication and how the principles derived from speech communication impact institutions.

SPCO 524 Conflict Management (3)
Focus on the processes involved in conflict, conflict analysis and communication responses to conflict.

SPCO 531 Communication and Leadership (3)
Examine theories of leadership, major leadership research findings and various leadership methods. Consider how the principles derived from leadership literature can be applied to small group and organizational settings.

SPCO 541 Courtroom Communication (3)
Investigate the relationship between communication and the law and legal argumentation and persuasion within courtroom advocacy. Analyze communication within the legal profession.

SPCO 542 Seminar in Political Communication (3)
Graduate students only. Analysis and criticism of political discourse using theories and methods from the discipline of speech communication.

SPCO 544 Argumentation Theory (3)
Investigate the nature of argumentation in personal and social relationships. Primary attention is paid to how people use reason-giving processes to resolve personal and social conflicts.

SPCO 552 Methods of Teaching Speech Communication (3)
Full admittance to PTEP required. Focus of the course is on curriculum and classroom organization, testing and evaluation, procedures and materials specific to secondary speech communication instruction.

SPCO 553 Professional Speaking (3)
Prerequisites: SPCO 100, SPCO 103. Theory and practice of advanced speech composition, presentational decisions and techniques in a variety of contexts.

SPCO 561 Seminar in Speech Communication (1-3)
Investigate issues of current concern, for SPCO professionals with subject varied according to faculty expertise. Repeatable, maximum nine credits, under different subtitles.

SPCO 592 Internship (1-3)
Receive professional communicative experience. Submit a proposal to the Internship Coordinator six weeks before registration. Hours may not be credited to 30 basic hours in speech communication graduate program. Repeatable, maximum six credits.

SPCO 600 Graduate Study in Communication (3)
Orientation to graduate study with emphasis on learning to conduct literature reviews using the major journals of the speech communication discipline. Introduction to research using quantitative, qualitative and rhetorical approaches.

SPCO 601 Qualitative Methods in Communication Research (3)
Orientation to the methods of qualitative research that are most frequently used in the speech communication discipline. Practical experience in data gathering and analysis procedures.

SPCO 603 Communication Theory (3)
The study of current theories of human communication and the process of theory building.

SPCO 605 Rhetorical Criticism (3)
Systematic review of the major contributions of rhetorical criticism theorists for their probable impact on communication.

SPCO 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

SPCO 699 Thesis (1-6)
Optional for Master of Arts candidates on recommendation of major advisor. S/U graded. Repeatable, no limitations.

1889-1899 Laboratory

SRM - Statistics and Research Methods

SRM 502 Applied Statistics (4)
Hypothesis formulation and testing; estimation and confidence limits; one- and two-sample tests; and statistical decision theory. Study inferences arising from distribution functions: t, F, chi-square, binomial, normal. Study applications and interpretation of single and multiple classification designs.

SRM 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

SRM 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U graded, unless section is approved (by the Graduate School) as letter graded. Repeatable under different subtitles.

SRM 520 Introduction to Statistical Computing (1)
The course is designed to familiarize students with the use of statistical packages on both the mainframe and microcomputer platforms. Students will learn to organize, input, and analyze data.

SRM 551 Mathematical Statistics with Applications I (4)
Prerequisite: MATH 233 or Consent of instructor. Study of probability, random variables, distributions, moments, expected values and standard probability laws, probability bounds and point estimation.

SRM 552 Mathematical Statistics with Applications II (4)
Prerequisite: SRM 551. Continuation of SRM 551. Sampling distributions, estimation techniques, maximum likelihood, tests of hypothesis, confidence intervals, regression and chi-square tests.

SRM 600 Introduction to Graduate Research (3)
Principles of research, design and analysis. Read and critique published research. Required of all first year graduate students except in those departments with substitutes. Taught every semester.

SRM 602 Statistical Methods I (3)
Prerequisite: SRM 600. Brief review of descriptive statistics. Covers probability, inference and sampling, correlation, hypothesis testing one-way ANOVA and an introduction to computer statistics packages.

SRM 603 Statistical Methods II (3)
Prerequisite: SRM 602. Continuation of SRM 602. Review of one-way ANOVA. Covers multiple comparisons, factorial designs, nested and mixed models, repeated measures, analysis of covariance and use of computer statistics packages.
SRM 605 Multiple Linear Regression Analysis (3)
Prerequisite: SRM 502 or Consent of instructor. Takes the matrix approach to continuous and categorical variables, polynomial and selected non-linear models; formulation of ANOVA and ANCOVA designs and collinearity; regression methods; backward elimination, forward selection, stepwise and stagewise; and partial regression.

SRM 607 Non-Parametric Statistics (3)
Prerequisite: SRM 502 or Consent of instructor. 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.

SRM 608 Experimental Design (3)
Prerequisite: SRM 502 or SRM 603. Topics include factorial designs, nesting of factors, and crossed/nested designs, including repeated measurements. Blocking and analysis of covariance are introduced as methods for control of extraneous sources of variability. Analysis procedures presented include pre- and post-multiple comparison considerations, trend analysis, power and use of computer software in fixed, mixed and random models.

SRM 609 Sampling Methods (3)
Prerequisite: SRM 502 or Consent of instructor. 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.

SRM 610 Statistical Methods III (3)
Prerequisite: SRM 502 or SRM 603. Additional multiple regression topics. Introduction to MANOVA designs, discriminant analysis, factor analysis, cluster analysis, and path analysis.

SRM 614 Linear Models (3)
Prerequisite: MATH 525, SRM 502, SRM 551. Advanced topics in matrix algebra with applications to statistics serve as the basis for the development of the theory of linear models as a structure for handling problems in regression and correlation, analysis of variance, and experimental design.

SRM 616 Regression: Advanced Topics (3)
Prerequisites: SRM 552, SRM 606. Advanced topics in regression will include diagnostics, remedial measures, qualitative variables, ridge regression, stepwise procedures, autocorrelation, nonlinear regression and binary dependent variables.

SRM 619 Resampling Methods (3)
Prerequisite: SRM 502 or Consent of instructor. Use of computer simulation techniques to investigate problems in probability and statistics. Topics include jackknife procedures, bootstrap procedures and randomization tests.

SRM 622 Directed Studies (1-3)
Consent of instructor. Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

SRM 631 Multivariate Analysis I (3)
Prerequisite: SRM 551, SRM 614. Introduces multivariate data structures including geometrical properties and interpretations, the multivariate normal distribution, multivariate one- and two-sample tests on mean vectors and covariance matrices, one- and two-factor MANOVAs, and profile analysis.

SRM 632 Multivariate Analysis II (3)
Prerequisites: SRM 552, SRM 631. Elementary theory and application of multivariate statistical techniques to data analysis including principal components, factor analysis, canonical correlation, discriminant analysis, and cluster analysis.

SRM 641 Seminar: Special Topics (1-4)
Consent of instructor. Advanced topics in applied statistics, measurement theory and research. Specific topics will be determined by the instructor and by current student needs. Repeatable, under different subtitles.

SRM 663 Apprenticeship (1-3)
Consent of instructor. Work with faculty member on professional endeavors such as research, writing, course planning or public service. Requires 3 hours per week for each credit. S/U graded. Repeatable, maximum nine credits.

SRM 670 Evaluation: Models and Designs (3)
Prerequisite: SRM 600. Theories and methods of program evaluation, models of evaluation and the social context of evaluation. Nature and types of evaluation, planning, proposal writing and measurements.

SRM 671 Evaluation: Advanced Methods (3)
Prerequisite: SRM 670. Advanced methodological techniques for program evaluation. Topics include tailoring evaluations to the needs of clients and stakeholders, diagnostic procedures and needs assessments, program monitoring and judging the impact of programs.

SRM 680 Introduction to Qualitative Research (3)
This course introduces qualitative research. Students will explore the foundations, methods and processes of qualitative research and will learn to evaluate published research.

SRM 681 Qualitative Research Design (3)
Prerequisite: SRM 680 or equivalent. Contemporary issues regarding the design of qualitative research are discussed such as qualitative research paradigms, strategies of inquiry, data collection methods, analysis and presentation.

SRM 689 Internship in Applied Statistics (1-10)
A supervised program of observation and participation in a one-semester research assignment. The internship requires a minimum of 38 hours of student field experience for each credit hour given. Repeatable, maximum 10 credits. S/U graded.

SRM 694 Practicum (1-9)
Consent of instructor. Experiential learning in an on-campus setting in conjunction with supervision by a faculty member. Students work a minimum of 3 hours per week for each hour of credit. Repeatable, maximum 18 credits. S/U graded.

SRM 699 Thesis (1-6)
Optional for Master of Science program in Applied Statistics and Research Methods. Empirical investigation under the direction of a graduate faculty member. Thesis must be approved by the faculty committee and submitted in appropriate style and format to the Graduate School. S/U graded. Repeatable, no limitations.

SRM 700 Advanced Research Methods (3)
Prerequisites: SRM 600 and either SRM 502 or SRM 602. Advanced research designs, concepts and methods. Required of all specialist and doctoral candidates.

SRM 742 Seminar (3)
Prerequisite: SRM 502 or consent of instructor. Study advanced topics in statistics, mathematics, research design and information processing.

SRM 755 Supervised Practicum in College Teaching (1-6)

SRM 797 Doctoral Proposal Research (1-4)
Required of all doctoral students. Doctoral students must earn 4 hours as partial fulfillment of requirements for the doctorate. Check with the Graduate School regarding appropriate procedures and formats. S/U graded. Repeatable, maximum of four credits.

SRM 799 Doctoral Dissertation (1-12)
Required of all doctoral candidates. Must earn 12 hours as partial fulfillment of requirements for the doctorate. Dissertation must be approved by and defended before the dissertation committee. S/U graded. Repeatable, no limitations.

STAT - STATISTICS

STAT 150 Introduction to Statistical Analysis (3)
Prerequisite: MATH 023 with a grade of “C” or better or consent of instructor. 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 250 Statistics for Health Sciences (3)
Prerequisite: MATH 023 with a grade of “C” or better or a full year of high school modern second year algebra with a grade of “C” or better or consent of instructor. 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.
EDUCATION PROGRAM

STAT 311 Basic Statistical Methods (4)
Prerequisites: MATH 124, STAT 150 or equivalent. Testing hypothesis, ANOVA, chi-square analysis, non-parametric techniques and introduction to regression. Course primarily for statistics minors and major emphases.

STAT 406 Multiple Linear Regression (3)
Prerequisite: STAT 311 with the grade of “C” or better. Topics in multiple linear regression, estimation of model parameters, inferences, diagnostics, model assumptions, ANOVA formulation.

STAT 409 Sampling Techniques (3)
Prerequisite: STAT 311 with the grade of “C” or better. Introduction to elementary sampling concepts. Includes random sampling, stratified sampling, cluster sampling and systematic sampling. Inferences and assumptions are presented for all sampling methods.

STAT 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

STAT 495 Topics in Applied Statistics (1-4)
Consent of instructor. Topics selected from linear models, experimental designs, sampling, multivariate analysis, operations research methods or other areas in applied statistics form the focus of this course. Repeatable, under different subtitles.

STEP 363 Clinical Experience: Secondary (2)
Prerequisites: STEP 161, EDF 366, ET 249, STEP 262, EDSE 360, EPSY 349. Corequisites: EDRD 324, ET 349 and the appropriate content methods course(s). Junior or above standing. May be repeated in any semester for double majors. Full admittance to the Secondary PTEP required and consent of content area advisor. This course provides field experiences in secondary schools and classroom settings inclusive of teaching opportunities and seminars related to educational issues. STEP 363 course activities, seminars and field experiences support Phase III course work.

STEP 490 Secondary Student Teaching (1-15)
Consent of advisor. Prerequisites: EDRD 324, STEP 363, ET 349. Full admittance to PTEP required. A 15 week experience in content area teaching in junior high/senior high where the student demonstrates effective teaching from a culmination of prior knowledge, skills, and behaviors. Repeatable, under different subtitles.

TED - TEACHER EDUCATION

TED 600 Professional Seminar I (1)
This course is designed to provide students with information regarding program procedures and expectations, development of professional portfolios, and implementation of a teacher-researcher project.

TED 601 Conceptions of Schooling (3)
Examination and analysis of the nature and scope of American education, the common school tradition and what today’s schools are for; becoming a citizen in a democratic society.

TED 602 Teacher Leadership (3)
Assist teachers in exploring their professional context (socially, politically and organizationally) and their role in enhancing, general schooling conditions, learning processes and outcomes.

TED 603 Alternative Teaching and Assessment Strategies (3)
The content of this course is intended to expand teacher's repertoires in the classroom by helping them develop facility with alternate assessment and instruction strategies.

TED 604 Affirming Diversity: Implications for Educators and Schools (3)
Broad range of diversity issues, critical analysis of current educational policies and practices to support and design curricula, instructional processes, and learning environments for diverse student population.

TED 605 Professional Seminar II (2)
Prerequisites: SRM 600, TED 600. This course is designed to be a capstone experience. Synthesize and integrate what has been learned in the content and pedagogy coursework with classroom teaching and other work related experiences.

TESL - TEACHING ENGLISH AS A SECOND LANGUAGE

Note: For information on Elementary Education and Middle School Education Endorsement in English as a Second Language or the minor, see the information provided under the Department of Hispanic Studies.

TESL 301 TESL Practicum I (2)

TESL 302 TESL Practicum II (2)
Prerequisite: TESL 301. An intermediate/advanced level field experience for students taking a TESL minor. S/U graded.

TESL 400 Methods and Approaches of ESL/EFL (3)
Methodology teach ESL/EFL. Prepare teachers to develop teaching ability, meet students' needs ESL/EFL educational settings. Impart theoretical knowledge, display array of activities pertinent to teaching situation, give general information of profession ESL/EFL.

THEA - THEATRE ARTS

THEA 100 Individual Performance in Theatre (2)
For majors only or consent of instructor. Participation in Little Theatre of the Rockies productions. Students must participate in 90 hours. Unlimited repeatability.

THEA 130 Introduction to the Theatre (3)
For non-majors. A survey of Theatre history and its effects upon modern Theatre. The roles of the actor, director, choreographer, technicians, designers and critic will be explored through live presentations. Emphasis on research.

THEA 135 Playscript Analysis (3)
Majors/minors only. A survey of dramatic literature through script analysis. (This course is a prerequisite for many other courses in the Theatre Department and should be taken in the first year.)

THEA 149 Orientation to Technology (3)
Required laboratory arranged. Majors/minors only. Course for Theatre majors/minors that covers the practical application of stage construction, lighting and costume construction. Familiarizes student with equipment, hardware and safety in each area and hands-on experience with practical projects. Fall: open to Theatre major freshman and transfer only; Spring: open to anyone, but restricted to a total enrollment of 45.

THEA 150 Actor's Lab (1)
(Laboratory activity - 3 contact hours = 1 credit hour). A one semester hour credit will be given for participation as an actor in a student directed scene. The scene will be from the realistic period and is a required lab for all directors in THEA 240-Beginning Stage Directing. Repeatable, no limitations.
THEA 160 Beginning Acting (3)
The emphasis of the course is on the primary needs of acting: emotional recall and recreation, concentration, motivation, personality and character development, physical and vocal ingredients of character and believability. This course will be offered in Fall Semester for majors/minors only, and in the Spring it will be open to all students.

THEA 190 Stage Speech I (1)
A laboratory course designed to help the student develop good speech for the stage through intelligent use and care of the speaking instrument and appreciation and control of the language of the playwright, the play and the character.

THEA 191 Stage Speech II (1)
Prerequisite: THEA 190 or consent of instructor. The final course in a two-course series dealing with the development of intelligent use and care of the speaking instrument. Primary emphasis is on Linklater and Lessac approaches.

THEA 210 Drafting and Painting for the Theatre (3)
Prerequisites: THEA 135, THEA 149 or equivalent. Majors/Minors only. Required laboratory arranged. An introduction course to the basics of theatrical drafting and scenic painting. Several projects allow the student to explore the applications of this foundation class.

THEA 220 Stage Costume (3)
Prerequisites: THEA 149 or equivalent. Required laboratory arranged. Introduction to stage costume, approach to the play, survey of dress history, research, the designer's tools, rendering, sketching, fabrics, putting a show together.

THEA 221 Costume History (3)
Prerequisites: THEA 149, THEA 220 or consent of instructor. Sophomores or above. Costume from ancient to modern times with attention for theatre design. Evolution of garments, cultural influence. Western world dress with Asian influence and world cultures noted.

THEA 222 Costume Technology I (3)
Prerequisites: THEA 149, THEA 220 or equivalent. Required laboratory arranged. Sophomores or above. Introduction to technical skills and crafts used in costuming. Sewing, cutting from patterns, fabric modification, dyeing, painting, garment fitting and alterations are included.

THEA 230 Stage Lighting Design for the Theatre (3)
Prerequisites: THEA 135, THEA 149, THEA 210 or equivalent. Required laboratory arranged. An introduction to designing with light, practical applications and theatrical use. Course concentrates on the process from script analysis, concept and paperwork through actually hanging and lighting two projects.

THEA 235 Stage Dialects (1)
Prerequisites: THEA 190, THEA 191. The purpose of this course is an in-depth study of the major or most often used stage dialects. The goal will be for each actor/actress to gain special dialect skills that will increase the power and effectiveness of their performances. Acting emphasis only. Majors only.

THEA 240 Beginning Stage Directing (3)
Prerequisites: THEA 135, THEA 149 and THEA 160 or consent of instructor. A basic course in the principles of directing a play. The major focus is on contemporary theories and practices of stage directing.

THEA 245 Sound Design (3)
Prerequisites: THEA 149 or consent of instructor. Required laboratory arranged. Prepares the student to design, set-up, operate and repair sound reinforcement and recording equipment with emphasis on theatre specific practices. Digital audio and live performance mixing is also covered.

THEA 250 Stage Make Up I (1)
Prerequisite: THEA 160. A basic course designed to acquaint the student with the principles of stage make-up.

THEA 260 Scene Study (2)
Prerequisite: THEA 160. Acting or directing emphasis only. A step-by-step process approach to scene study. Units will be covered connecting the actor with the discovery of purpose/obstacle/relationships/given circumstances/character/orchestration and text scoring.

THEA 275 Stage Movement I (1)
(2 contact hours per week) Two-part series of laboratory courses in the preparation of actor’s skills in movement. Emphasis is movement analysis, body alignment and corrections.

THEA 276 Stage Movement II (1)
(2 contact hours per week) Prerequisite: THEA 275. Second in a two-part series of laboratory courses in the preparation of actor’s skills in movement. Emphasis is movement analysis, body alignment and corrections.

THEA 300 Advanced Individual Performance in Theatre (2)
Prerequisites: THEA 100, THEA 149. Majors/minors only. Advanced level work in technical theatre in a given show assignment such as properties master, master carpenter, seamstress, master electrician, etc. This credit may not be used for design assignments. Repeatable, may be taken four times.

THEA 308 Theatre Workshop (1-4)
Receive information about current important ideas in many fields of knowledge from authorities nationally known in their fields of specialization. Repeatable, under different subtiltes.

THEA 310 Beginning Scene Design (3)
(2 lecture, 1 laboratory) Prerequisite: THEA 210. A fundamental course in scene design. Emphasis is placed on the aesthetics and styles of stage design and the development of rendering skills and staging concepts.

THEA 311 Scenic Painting for the Theatre (3)
Prerequisites: THEA 135, THEA 149, THEA 210, or equivalent. Required laboratory arranged. Advanced work in scenic painting techniques including moldings, texture and foam carving. Advanced color mixing and hands on projects. Repeatable, may be taken two times.

THEA 320 Stage Costume Design (3)
Prerequisite: THEA 220 or consent of instructor. 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 322 Costume Technology II (3)
Prerequisites: THEA 149, THEA 220, THEA 222, or equivalent. Required laboratory arranged. Sophomores or above. Advanced technology skills for pattern drafting, draping, sewing and construction. Students work with current departmental theatre productions. Class develops the skills of the cutter/draiper as well as costume shop manager.

THEA 324 Masterpieces in Theatrical Production (2)
A survey of important plays that have had major impact on the evolution of the modern theatre through thematic concerns, social reflection, revolutionary genre, and production styles.

THEA 330 History of Theatre I (3)
The development of American and European Theatre from its classical roots through the mid-17th Century. Emphasis on research.

THEA 331 History of Theatre II (3)
A continuation of THEA 330, focusing on American, European and Eastern Theatre. Emphasis on research.

THEA 332 Advanced Lighting Design for the Theatre (3)
Prerequisites: THEA 149, THEA 210, THEA 230 or equivalent. Required laboratory arranged. Advanced work in stage lighting design with an emphasis on the artistic applications of lighting in plays, operas, musicals and tour shows.

THEA 335 Advanced Voice Production (1)
Prerequisites: THEA 190, THEA 191. Majors only. The purpose of this course is an advanced study of the natural resources of the human voice and body as artistic resources for the performer. The course is designed to explore both the processes and products of vocal craft work for the actor. Acting emphasis only.

THEA 340 Workshop in Directing I (3)
(2 lecture; 2 laboratory) Prerequisite: THEA 240. Basic directing techniques as applied to period styles. Focus on research for the director and application of period styles in scene work.

THEA 341 Workshop in Directing II (3)
Prerequisite: THEA 240. Basic directing techniques as applied to modern styles. Focus on various anti-realistic styles and their application to modern eclectic Theatre. Practical application in scene work.

THEA 349 Intermediate Stagecraft (3)
Prerequisites: THEA 149 or equivalent. Required laboratory arranged. A hands-on survey of the construction techniques and practices used in scenery construction, properties construction and rigging as well as drafting working drawings, problem solving and budgeting.

THEA 350 Summer Theatre (10)
Acceptance by Theatre Arts staff required. Eight weeks of eight-hour daily rehearsals for summer productions. Repeatable, maximum 40 credits.
THEA 360 Advanced Acting Styles I (2)
Prerequisites: THEA 160, THEA 260 or consent of instructor. Acting Emphasis only. Focus on modern drama from early realism through contemporary eclectic styles in this advanced acting laboratory. Repeatable, maximum four credits.

THEA 361 Advanced Acting Styles II (2)
Prerequisites: THEA 160, THEA 260 or consent of instructor, and THEA 360. For acting emphasis only. Concentration on period styles including Greek, Elizabethan, Commedia dell’Arte, English Restoration and French Neo-classic in this advanced acting laboratory. Repeatable, maximum four credits.

THEA 375 Stage Management for the Theatre (3)
Prerequisites: THEA 149. A class to teach the student how to work as a stage manager in the theatre and what to expect from the position. Focus is on problem solving.

THEA 385 Methods of Teaching Drama in the Secondary School (3)
Corequisite: EDL 363. PTEP 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)
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. Repeatable, maximum eight credits.

THEA 404 Summer Crew Work in Theatre (1)
Backstage crew work on summer Little Theatre of the Rockies. IF S/U grade is chosen for a “S,” a student must participate in a minimum of 30 hours for each hour of credit.

THEA 410 Advanced Design and Technology (3)
Laboratory required. Prerequisite: THEA 310. A survey of traditional and contemporary stage technology, including study of advanced techniques of scene design; model making and multimedia renderings; and problems in shifting the multiple set show. Repeatable, maximum of six credits.

THEA 420 Advanced Costume Technical Design (3)
(2 lecture, 1 laboratory) Prerequisites: THEA 149, THEA 320, THEA 330, THEA 331 or consent 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 the course. Emphasis on research. Repeatable, maximum six credits.

THEA 422 Directed Research in Theatre (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

THEA 430 Lighting Seminar (3)
Prerequisites: THEA 135, THEA 149, THEA 210, THEA 230, or equivalent. Required laboratory arranged. Advanced design with lighting, practical applications and theatrical use. Course continues from THEA 332 and concentrates on advanced lighting techniques, equipment, tour work and unique applications. Repeatable, may be taken two times.

THEA 440 Directing the One-Act Play (1)
Prerequisite: THEA 340 or THEA 341 or consent of the instructor. Produce a one-act play under instructor’s supervision. Extensive promptbook and well-written self-analysis required.

THEA 445 Advanced Sound Design (3)
Prerequisites: THEA 149, THEA 245, or equivalent. Required laboratory arranged. Continued work on design, set-up, operate and repair of sound reinforcement and recording equipment with emphasis on the theatre specific practices. Digital audio and live performance mixing is also covered.

THEA 449 Theatre Technical Seminar (3)
Prerequisites: THEA 149, THEA 349. Majors only. Juniors or above. Required laboratory arranged. An advanced technical theatre class covering a wide range of topics including vacuum forming, hydraulics and pneumatics, budgeting, problem solving, special costume concerns, portfolios and resumes.

THEA 450 Design and Technology Practicum (3)
Prerequisites: THEA 100, THEA 149, THEA 300. Majors/minors only. Juniors or above. Consent of Advisor. Practicum focused on mainstage production work in students emphasis area: either design, technical direction or stage management. Typically done in the senior year. This project is assigned by advisor.

THEA 460 History, Periods, Styles and Stage Decor (3)
Prerequisites: THEA 210, THEA 220, THEA 310, THEA 320. Majors only. Juniors or above. An advanced class in the study of architecture, furniture, decoration, styles and costume details throughout history as they directly relate to theatrical applications and designs.

THEA 464 Audition Techniques (2)
Prerequisites: THEA 160, THEA 260. Acting Emphasis only. Covers all the various aspects of audition techniques. Units include: extensive work on selection of material and preparing and presenting auditions. Additional experiences will include resume, picture preparations and guest instructor information.

THEA 480 Theatre Technical Director (3)
Prerequisites: THEA 100, THEA 149, THEA 300. Consent of advisor. Majors/minors only. Practicum based on major assignment of technical director or theatre architecture. Emphasis is placed on research study. Unlimited repeatability.

THEA 500 Graduate Individual Performance in Theatre (1)
Participation in Little Theatre of the Rockies productions. Open to graduate students. Students must participate in 90 hours. Unlimited repeatability.

THEA 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

THEA 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

THEA 601 Graduate Practicum in Theatre (1-4)
Qualified graduate, permission of instructor, advisor and department. This specialized, supervised field course involves theory and methodology in practice. Copies of written evaluation must be filed with instructor and department. Repeatable, maximum four credits.

THEA 610 Seminar in Technical Theatre (3)
Prerequisites: THEA 310, THEA 332 or THEA 420 or consent of instructor. A seminar to study specialized topics in scene design, stage lighting, theatre architecture, staging techniques or stage costuming. Emphasis is placed on research study. Unlimited repeatability.

THEA 622 Graduate Directed Research in Theatre (1-4)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

THEA 650 Graduate Summer Theatre (10)
Acceptance by Theatre Arts staff only. Graduate workshop in acting and technical theatre, with 8-hour daily rehearsals for 8 weeks for summer productions. May be counted for 2 hours in Individual Performance in Theatre by graduate majors. May be repeated for maximum 30 hours credit.

WS - WOMEN'S STUDIES PROGRAM

WS 101 Women in Contemporary Society (3)
Cultural analysis of social institutions and their effects on the lives of women.

WS 248 Introduction to Women's Studies (3)
Prerequisite: WS 101. Historical analysis of women's movement as (r) evolution.
WS 308 Women’s Studies Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

WS 350 Feminist Theory (3)
Prerequisite: WS 101 or equivalent. Feminist theoretical approaches as applied to current personal, social and political issues.

WS 370 Women-Identified Theory (3)
Prerequisite: WS 101 or equivalent. Critically analyze lesbian studies, literature and theory from a feminist perspective.

WS 420 Representations of Women in Popular Culture (3)
Prerequisite: WS 101 or equivalent. Examine how media and cultural representations of gender, race, class and sexuality are implicated in identity formation. Informed by critical theories, students discover how popular cultural representations of women, because they reflect traditional agendas, foreclose non-discursive identity options.

WS 422 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

WS 430 Gender Equity in Education (3)
Prerequisite: WS 101 or equivalent. Review current research regarding gender issues within education and examine the political climate for women students and professionals within the educational system.

WS 448 Women’s Studies Seminar (3)
Prerequisites: WS 101, WS 248, WS 350 and 10 semester credits in approved Women’s Studies electives. Seniors or above. This course will provide the opportunity for students to pursue individual research projects with the intent to re-construct the representations of Woman.

WS 460 Feminist Legal Studies (3)
Prerequisite: WS 101 or equivalent. Examine legal issues of particular importance to women. Informed by critical legal theories, students examine laws regarding marriage and divorce, reproduction and contraception, employment, education, sexual conduct, prostitution, pornography, rape, family violence and the political participation of women. The usefulness of legal change for promoting social change regarding gender roles will be discussed.

WS 492 Internship (2-10)
Prerequisite: WS 101 or equivalent and six additional semester hours in approved women’s studies courses required. Supervised field practice on research relating to women’s concerns and issues. Paper analyzing experience required. Maximum of 3 semester credits count toward requirements for the Women’s Studies Minor. Repeatable, maximum 10 credits.

WS 508 Workshop (1-3)
A variety of workshops on special topics within the discipline. Goals and objectives will emphasize the acquisition of general knowledge and skills in the discipline. Repeatable, under different subtitles.

WS 513 Professional Renewal (1-3)
Update skills and knowledge of professionals in the discipline. Goals and objectives will be specifically directed at individual professional enhancement rather than the acquisition of general discipline knowledge or methodologies. S/U or letter graded. Repeatable, under different subtitles.

WS 622 Directed Studies (1-3)
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

WS 692 Internship (2-10)
Knowledge of Women’s Studies techniques and concerns required. Supervised field practice on research relating to Women’s Studies concerns and issues. Graduate-quality paper analyzing experience required. Repeatable, maximum 10 credits.

ZOO - ZOOLOGY

ZOO 115 Human Biology (3)
(2 lecture, 3 laboratory) The study of humans including evolution and genetics, basic anatomy and physiology and their place in the biological world. Credit not allowed for biological science majors.

ZOO 245 Introduction to Human Anatomy Physiology (4)
(3 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 245 and ZOO 350.

ZOO 330 Ornithology (3)
(2 lecture, 3 laboratory) Prerequisite: BIO 111. Study the general biology and behaviors of birds. Laboratory emphasis will be on field identification of birds. Field trip required.

ZOO 331 General Entomology (4)
(3 lecture, 3 laboratory) Prerequisite: BIO 111. Learn the biology of the principal orders of insects by collecting and classifying specimens. Agents and vectors of disease are stressed. Insect collection is required, see instructor.

ZOO 332 Invertebrate Zoology (3)
(2 lecture, 3 laboratory) Prerequisite: BIO 111. Investigate invertebrate phyla through a phylogenetic approach, stressing form, function and evolutionary relationships. Study examples of available groups in the laboratory. Insects and parasites not stressed.

ZOO 333 General Parasitology (4)
(3 lecture, 3 laboratory) Prerequisite: BIO 111 or ZOO 115. Study the symbiotic relationships of parasitism as exemplified by typical parasites of humans, domesticated and wild animals, stressing life cycles, pathogenesis, systematics and host-parasite relationships.

ZOO 334 Mammalogy (4)
(3 lecture, 3 laboratory) Prerequisite: BIO 111. Study the functional biology, ecology and behavior of mammals. Laboratory stresses the identification and ecology of Colorado species. Field work required.

ZOO 335 Survey of Fishes, Amphibians and Reptiles (4)
(3 lecture, 3 laboratory) Prerequisite: BIO 111. Study the functional biology, ecology and behavior of vertebrates. Laboratory stresses classification, identification and biology of Colorado species.

ZOO 341 Human Anatomy (3)
(2 lecture, 3 laboratory) Prerequisite: ZOO 115 or BIO 111. Study the organ systems of the human body, their structure and integration. Laboratory includes examination of mammalian organs and cadaver.

ZOO 345 Comparative Vertebrate Morphogenesis (4)
(3 lecture, 3 laboratory) Prerequisite: BIO 111 or ZOO 115. Two semesters of introductory biology. A study of the comparative developmental processes of vertebrates as they relate to the structure of the adult organ systems. Developmental anatomy and adult morphology of the sharks through mammals are considered for laboratory study and dissection.

ZOO 350 Human Physiology (4)
(3 lecture, 3 laboratory) Prerequisites: ZOO 341 or ZOO 345 and CHEM 131. Examine in detail the functions of the organ systems of the human body, especially those involved with the maintenance of normal function.
ZOO 355 Medical Pharmacology (3)  
(2 lecture, 3 laboratory) Prerequisite: ZOO 350. Make a detailed study of the principles underlying absorption, distribution, metabolism, excretion and interaction of drugs in humans. Calculation of drug dosages required.

ZOO 362 Principles of Animal Behavior (3)  
(2 lecture, 3 laboratory) Prerequisite: BIO 111. Study behaviors of animals with emphasis on non-human forms. The ethology and ecological significance of behaviors will be stressed. Field work is required.

ZOO 533 General Parasitology (4)  
(3 lecture, 3 laboratory) Prerequisite: BIO 111 or ZOO 115. Study the symbiotic relationships of parasitism as exemplified by typical parasites of humans, domesticated and wild animals, stressing life cycles, pathogenesis, systematics and host-parasite relationships.

ZOO 534 Mammalogy (4)  
(3 lecture, 3 laboratory) Prerequisite: BIO 111. Study the functional biology, ecology and behaviors of mammals. Laboratory stresses the identification and ecology of Colorado species. Field work required.

ZOO 535 Survey of Fishes, Amphibians and Reptiles (4)  
(3 lecture, 3 laboratory) Prerequisite: BIO 111. Investigation of the biology of the cold-blooded vertebrates including their evolution, ecology and behavior. Laboratory stresses the identification and biology of Colorado species.

ZOO 542 Vertebrate Histology (4)  
(3 lecture, 3 laboratory) Prerequisite: ZOO 341 or ZOO 345. Intensive study of normal tissues and organs of vertebrates, particularly mammals.

ZOO 551 Mammalian Physiology I (4)  
(3 lecture, 3 laboratory) Prerequisites: ZOO 341 or ZOO 345 or equivalent; and CHEM 481. Examine the cardiovascular and pulmonary systems in depth, integrating the functions of the nervous and endocrine systems.

ZOO 552 Mammalian Physiology II (4)  
(3 lecture, 3 laboratory) Prerequisites: ZOO 551 or ZOO 350 or equivalent; and CHEM 481. Consider in detail the digestive, muscular and excretory systems, particularly the integrative functions of these systems in maintenance of homeostasis.

ZOO 560 Animal Ecology (4)  
(3 lecture, 3 laboratory) Prerequisite: BIO 460. Gain a comprehensive understanding of animal ecology. Animal population dynamics, behavioral ecology and quantitative methods for measurement and evaluation of animal systems.

ZOO 595 Special Topics in Zoology (2)  
Study of any zoological topic at an advanced level. Repeatable up to one time, under different subtitles.

ZOO 622 Directed Studies (1-3)  
Individualized investigation under the direct supervision of a faculty member. (Minimum of 25 clock hours required per credit hour.) Repeatable, maximum concurrent enrollment is two times.

ZOO 636 Advanced Invertebrate Zoology (4)  
(3 lecture, 3 laboratory) Prerequisite: ZOO 332. Compare the classification, anatomy, physiology, morphogenesis and natural history of the invertebrates, exclusive of insects and most parasitic forms.

ZOO 645 Comparative Vertebrate Adaptations (4)  
(3 lecture, 3 laboratory) Prerequisites: ZOO 345 and ZOO 350. Make a detailed study of selected aspects of vertebrate anatomy, stressing function and adaptive significance of organ systems. Deliver one seminar on specialized topic.

ZOO 699 Thesis (1-6)  
Prerequisite: BIO 694. S/U graded. Repeatable, no limitations.