

Course Descriptions

Doctoral-Level Courses

Education

APLF 721 Principles and Theories of Adult Learning 3 cr.

Analyze adult learning theories to understand how adults learn. Strengthen leadership skills to be more effective in one's practice. Study current brain research and its connection to adult learners. Research the impact of different approaches on leading adult learners. Develop techniques to be responsive to the needs of all adult learners. Explore diversity and inclusion as they relate to adult learning. Examine learning and teaching online/being an online learner. Variable.

APLF 722 Leading Others to Lead Adult Learning 3 cr.

Leading and supporting instructional change. Current methods of leading adults such as coaching and mentoring. Research-based practices connecting leadership to outcomes and strategic plans. The role of collaborative leadership teams and peer leaders. Selected theoretical and operational decision-making approaches. Impact of technologies on adult learning and interactions within organizations. Establishing systems to evaluate adult learning. Variable.

APLF 723 Problems of Practice in Leading Change Initiatives in Adult Learning 3 cr.

Focuses on identifying, describing, and solving problems of practice related to adult learning that participants currently face within their organizations. Explores multiple perspectives on the problem, engages in divergent, convergent and reflective approaches to understand and reveal possible pathways forward. The course uses a problem- and project-based course design to provide a hands-on experience applying a variety of methods to facilitate change in learning environments. Variable.

EDAD 742 Human Resources 3 cr.

Case-study examinations of the Human Resources functions, including recruitment, employment, evaluation, and professional development of human capital. Variable.

EDAD 743 Educational Law and Ethics 3 cr.

A comprehensive review of Federal and state Constitutional and case-law underpinnings of American education, including an emphasis on an ethical decision-making process for educational leaders. Variable.

EDAD 744 Educational Finance 3 cr.

A comprehensive review and investigation of the tenants of educational finance, the budgeting process, and the legal framework at the national, state, and local levels. Variable.

EDLP 714 Introduction to Educational Leadership Doctoral Studies 3 cr.

Introduction to Educational Leadership doctoral studies is the point of entrance to the Doctor of Education program and is designed as a foundational course for success as students begin the doctoral journey. The concepts and skill sets introduced in this course are revisited, refined and studied in more depth and practiced in the remaining courses throughout the doctoral program. This course examines doctoral studies, resources, philosophical issues and basics of research and scholarly writing. The course will include discussion of how to find a research topic, an overview of the structure and function of a dissertation and how to critically review the literature. Students will be required to complete a series of group and individual projects involving critical reading and writing on research topics. Variable.

EDLP 715 Introductory Seminar in Educational Leadership 3 cr.

An exploration into the various roles in educational leadership and the accompanying responsibilities. Candidates will focus on in depth study of the role of professional interest and choice. Variable.

EDLP 716 Organizational Change and Leadership Theory 3 cr.

A review of major organizational theorists as a background to a focus on change theory and organizational renewal and transformation from the educational leader's role. The role of Vision and Mission processes will be developed. Variable.

EDLP 781 Educational History, Politics and Policy of American Education 3 cr.

An investigation of current educational issues at the national, state and local levels and the concurrent policy decisions, legislation and regulations related to these issues within historic context. Variable.

EDLP 785 Educational Assessment 3 cr.

Strategies, skills, and techniques of assessing instruction, programs, systems, and institutions, as appropriate to candidate career needs. Variable.

EDLP 799 Independent Study for Doctoral Program 3 cr.

Focused study in the doctoral candidates dissertation interest. Repeatable.
Prerequisite: Approval of Program Coordinator.

EDLP 801 Leadership in a Diverse Educational Environment 3 cr.

Understanding the necessity to lead planning and implementation of strategies to address current and future issues related to diversity and exceptionalities in educational institutions. Variable.

EDLP 806 Educational Research I 3 cr.

Understanding the tools of quantitative statistical analysis, how to interpret the results, and how to array the findings in a meaningful way. Variable.

EDLP 807 Educational Research II 3 cr.

Using the tools of qualitative research methods to create meaningful data, how to interpret the results, and how to array the findings in a meaningful way. Variable.

EDLP 808 Applying Theory and Research to Practice 3 cr.

Understanding the terminology and conceptual underpinnings of scholarly research.

EDLP 840 Strategic Planning and Data-Informed Decision-Making 3 cr.

A case study approach to utilizing data in various leadership functions, including strategic planning and resource allocations. Assessment as a dynamic process in the planning cycle will be examined. Variable.

EDLP 900 Capstone Seminar 3 cr.

A focus on an integration of program content into the selection, design, and use of research techniques appropriate to the individual's dissertation study. Emphasis on using the FSU style guide and APA manual to format the writing. Variable.

EDLP 901 Doctoral Practicum I 3 cr.

Part one of the supervised experience in a professional placement concurrent with the student's professional position, with a focus on leadership and supervisory tasks that emanate from that role. P/N. Variable.

EDLP 902 Doctoral Practicum II 3 cr.

Part two of the supervised professional placement experience. P/N. Variable.

EDLP 912 Dissertation**1-12 cr.**

This course provides learners with resources, guidance, and peer and mentor support during the dissertation process as they complete the required milestones. Learners must register for this course for a minimum of 12 total credit hours to complete degree requirements. Grading for this course is P/N/CS. Repeatable. Variable.

EDLP 913 Dissertation CE**1-3 cr.**

Additional dissertation enrollment following the first 12 hours until defense. Should a student not complete the defense in Dissertation II, enrollment in this course will be required each semester until completion. The student must enroll for 3 credits in the semester of the dissertation defense. P/N/CS. Scheduled as needed.

HIED 752 Higher Education Structure and Governance**3 cr.**

An overview and examination of the structure of higher education in the United States and area universities and colleges, governance systems and mandates, and the role of shared faculty governance. Variable.

HIED 753 Higher Education Finance**3 cr.**

An in-depth study of higher education finance from the macro and micro levels of institutional leadership. Variable.

HIED 754 Current Issues in Higher Education Leadership and Law**3 cr.**

An examination of the current directions in higher educational leadership and recent case law impacting such leadership. Variable.

Master's-Level Courses

Art

ART 500 Introduction to Art Criticism**3 cr.**

Problems of describing, analyzing, interpreting and evaluating art. Attention given to the history, purposes, conceptual bases and methods of art criticism as well as to critical performances.

ART 508 20th-Century Art History**3 cr.**

Survey of major developments from post-impressionism to post-modernism and the contemporary: Europe and the United States. Every spring.

ART 580 Computer Graphics**3 cr.**

Introduction to terminology, methods, processes, craft and technology of the computer graphics designer; emphasis on theory and application of the Macintosh computer system. May be taken only 1 time for credit. Two hrs. lecture and 2 hrs. lab.

ART 590 Special Topics in Art**1-6 cr.**

Concepts or media not regularly presented, using special resources. Lecture and studio or lecture only. Offered irregularly. *Prerequisite: permission of instructor.*

ART 602 Philosophy of Art Education**3 cr.**

Analysis and evaluation of major competing philosophic systems. Attention to their value structures in relation to alternative theories and conceptions of art education.

ART 605 Curriculum in Art Education**3 cr.**

Concepts, problems and issues in curriculum theory in educational programs. Development of curricula for public school art instruction.

ART 607 Advanced Graphic Design Workshop**3 cr.**

Fundamentals of applied design. Graphics problems in advertising and commercial art, class problems in communication arts, commercial processes and techniques, use of professional materials. Two hrs. lecture, 2 hrs. lab. Repeatable 3 times.

ART 612 Advanced Drawing Workshop**3 cr.**

Studio investigation of drawing. Critical, conceptual and technical skills with content chosen by student and instructor. Two hrs. lecture, 2 hrs. lab.

ART 621 Advanced Painting Workshop**3 cr.**

Studio problems in painting. Emphasis on independent creative work. Seminar, discussion and criticism. Two hrs. lecture, 2 hrs. lab. Repeatable 3 times.

ART 622 Advanced Ceramics Workshop**3 cr.**

Study of ceramic form as it relates to utilitarian and environmental situations. The interaction of human scale with functional ceramic design. Seminar, discussion and criticism. Two hrs. lecture, 2 hrs. lab. Repeatable 3 times.

ART 632 Advanced Printmaking Workshop**3 cr.**

Studio investigation of printmaking. Critical, conceptual and technical skills as applied to the aesthetics of printmaking. Two hrs. lecture, 2 hrs. lab. Repeatable 3 times.

ART 635 Advanced Photography Workshop**3 cr.**

Studio investigation of photography. Critical, conceptual and technical skills. Two hrs. lecture, 2 hrs. lab. Repeatable 3 times.

ART 640 Advanced Sculpture Workshop 3 cr.
Studio problems in sculpture. Use of traditional and contemporary forming techniques in independent creative work. Two hrs. lecture, 2 hrs. lab. Repeatable 3 times.

ART 690 Special Topics in Art 3 cr.
Concepts or media not regularly presented, using special resources. Lecture and studio or lecture only. Variable. *Prerequisite: permission of instructor.*

ART 698 Readings in Art Education 3 cr.
Advanced individualized study in art education scholarship. Seminars, readings, research. *Prerequisite: completion of Professional Core.*

ART 699 Individual Research in Art Education 3 cr.
Advanced development of an investigative or creative potential. Repeatable 1 time. Prerequisites: graduate art student and recommendation of graduate faculty member.

ART 700 Master's Research Paper or Project 3 cr.
Individual investigation or project related to the area of concentration and professional education. Independent Study form to be submitted with registration. Graded P/N.

Athletic Training

ATTR 500 Foundations of Injury Management 3 cr.
This course is designed to be a basic introduction into injury management within the field of Athletic Training. It is meant to give students their first exposure to this field. It is also intended to give students the knowledge necessary to give assistance to an injured student, athlete, and/or client. Emphasis is placed on musculoskeletal injuries that occur during exercise or athletic competition. Additionally, professional rescuer CPR and first aid will be covered. Lecture. Summer MSAT only.

ATTR 505 Orthopedic Assessment I: Lower Extremity 4 cr.
General and specific athletic injury assessment procedures are covered. Emphasis is placed on the lumbar spine, pelvis, and lower extremity including on field/clinic evaluation processes, SOAP Note documentation and gait and posture analysis. 3 hrs. lecture, 2 hrs. lab. Fall MSAT only.

ATTR 510 Orthopedic Assessment II: Upper Extremity 4 cr.
General and specific athletic injury assessment procedures are covered. Emphasis is placed on the cervical spine, head/face, and upper extremity including on field/clinic evaluation processes and SOAP Note documentation. 3 hrs. lecture, 2 hrs. lab. Spring MSAT only.

ATTR 515 Emergency Medical Techniques 3 cr.
Knowledge and skills in the evaluation, immediate management and treatment of medical emergencies of acute injuries and illnesses are covered. Also the use of various equipment used in emergency medical management. Lecture. Fall MSAT only.

ATTR 520 Rehabilitation Exercise in Athletic Training I 4 cr.
Various aspects of the rehabilitation process for the injured patient. Goals, techniques, evaluation methods, and specific rehabilitation programs covered. 3 hrs. lecture, 2 hrs. lab. Fall MSAT only.

ATTR 530 Athletic Training Administration 3 cr.
Administration and management strategies in athletic training. Human resource management, financial management, facility design and planning, client management, and ethics and legal liability issues. Lecture. Summer MSAT only.

ATTR 600 Clinical Education I 3 cr.
Provides the student in Athletic Training extensive exposure to the field. Focuses on the theoretical base of the field as well as introductory injury prevention,

management concepts, and prophylactic taping and bracing within the collegiate athletic setting. Students will also be assigned to clinical education rotations under the direct supervision of a Preceptor and will be required to complete 200 clinical education hours within the collegiate athletics setting (maximum hours = 250). Practicum. Fall MSAT only

ATTR 605 Research Methods 3 cr.
Research design and methods oriented to prepare students for performing effective and responsible graduate level research in any discipline of choice. It is primarily oriented towards beginning graduate students working on a M.S. degree in Athletic Training, but will provide the tools necessary for students in other disciplines to perform and communicate research effectively. This course will introduce research topics and the data collection and application of statistical methods used in Athletic Training and related research. The emphasis is oriented towards physiology research, but nearly the entire course applies to other areas of health science, sports science, and athletic training. Lecture. Spring MSAT only.

ATTR 615 Clinical Education II 3 cr.
Participation within the daily management of the athletic training clinical environment. It is designed to help students develop athletic training clinical skills in a professional manner and dress and act appropriately as an allied health care professional. Students will also be assigned to clinical education rotations under the direct supervision of a Preceptor and will be required to complete 200 clinical education hours within the secondary school setting (maximum hours = 250). Practicum. Spring MSAT only.

ATTR 620 Rehabilitation Exercise in Athletic Training II 4 cr.
Advanced study in the science and application of safe rehabilitative exercise techniques for both the general population as well the physically active. Hands on manual based techniques for patients will be the primary emphasis. Prerequisite: ATTR 520 [Rehabilitation Exercise in Athletic Training I]; 3 hrs. lecture, 2 hrs. lab. Fall MSAT only.

ATTR 625 General Medical Conditions 3 cr.
Pathology and clinical information of various general medical conditions commonly seen in the physically active. Also includes information on pharmacological issues in Athletic Training. Lecture. Fall MSAT only.

ATTR 630 Clinical Education III 3 cr.
Continued in-depth study of both the theoretical and practical clinical aspects of athletic training. The student will learn to utilize many of the previously learned Athletic Training skills and knowledge's by integrating these into their clinical education and clinical experience. Students will also be assigned to clinical education rotations under the direct supervision of a Preceptor and will be required to complete 200 clinical education hours within orthopedic and non-orthopedic medical settings (maximum hours = 250). Practicum. Summer MSAT only.

ATTR 635 Therapeutic Modalities in Athletic Training 4 cr.
Study of both the theoretical basis and practical usage of various therapeutic modalities. Designed for individuals who routinely treat sports-related injuries. 3 hrs. lecture, 2 hrs. lab. Spring MSAT only.

ATTR 640 Capstone in Athletic Training 3 cr.
Designed to be the continued in-depth study of both the theoretical and clinical application of Athletic Training competencies and proficiencies. It is intended to be a course for the student to refine and master competencies and proficiencies learned previously in other courses. Clinical Integrated Proficiencies will be utilized so that students can make the connection from the classroom to the clinic. The course is also intended to review pertinent information to become better prepared to take the BOC certification examination. Lecture. Spring online MSAT only.

ATTR 645 Psychosocial Intervention 3 cr.
Provides a theoretically sound basis for the integration of psychosocial aspects related to athletic training. Lecture. Summer MSAT only.

ATTR 650 Graduate Project/Research 4 cr.

Prepares student to conceptualize and conduct independent research. In this course, students will execute a project designed to expand the students' knowledge of athletic training by working with a mentor (students' choice). The student will devise a research topic related to a domain in athletic training and conduct a research study/project. Students will present the mentor with a research paper that is to be submitted at a state, district, or national conference for a poster or oral presentation. Lecture. Spring online MSAT only.

ATTR 655 Clinical Education IV 3 cr.

The continued in-depth study of both the theoretical and practical clinical aspects of athletic training. The student will learn to utilize many of the previously learned Athletic Training skills and knowledge's by integrating these into their clinical education and clinical experience. Students will also be assigned to clinical education rotations under the direct supervision of a Preceptor and will be required to complete 200 clinical education hours within the collegiate setting. (maximum hours = 250). Practicum. Fall MSAT only.

ATTR 660 Evidence Based Practice in Athletic Training 3 cr.

This course will examine scientific experimentation vs. anecdotal case description in Athletic Training. Student learns to systematically find, appraise, and use the most current and valid research findings as the basis for clinical decisions. Lecture. Fall MSAT only.

ATTR 695 Clinical Education V: Immersive Clinical Education Experience 5 cr.

Gives students the opportunity to utilize their classroom knowledge in a practical setting. This course will provide students with the opportunity to obtain direct experience involving specific Athletic Training issues. The location of the experience will be decided by the student (on or off-campus) under the direction of a Preceptor. Students must complete at least 300 clinical education hours at their designated clinical site. Emphasis is placed on the evaluation skills as defined by the clinical proficiencies delineated and published by the CAATE. (maximum hours = 350). Practicum. Spring MSAT only.

Biology

Note: Equivalent courses taken at other institutions will be considered as prerequisites.

BIOL 502 Evolution 3 cr.

Theories, evidences and mechanisms of evolution. Three hrs. lecture. Fall, spring, summer. *Prerequisite: BIOL 150 or permission of instructor.*

BIOL 503 Plant Physiology 3 cr.

Higher-plant growth and differentiation. Case-study method. Topics include general differentiation, photometabolism, translocation and water relations. Three hrs. lecture, 3 hrs. Fall of even-numbered years.

BIOL 504 Histology 4 cr.

Microscopic structure and function of tissues and selected organs of vertebrates. Basic laboratory preparative techniques and tissue recognition. Two hrs. lecture, two 2-hr. labs. Spring of even-numbered years.

BIOL 506 Ornithology 4 cr.

Anatomy, physiology, behavior, ecology and evolution of birds. Laboratory emphasis on identification of regional birds at the species and family level. Two hrs. lecture, one 4-hr. lab. Binoculars required. Every spring. *Prerequisite: vertebrate zoology or permission of instructor.*

BIOL 507 Biological Systematics 3 cr.

Principles, concepts and methodologies used in systematic biology. Methods for reconstructing the evolutionary relationships of plant and animal taxa (including phenetic and cladistic analyses). Procedures for description, classification and analysis

of earth's biodiversity. Three hrs. lecture. Spring of odd-numbered years. *Prerequisite: BIOL 402 or permission of instructor.*

BIOL 510 Plant Diseases 3 cr.

Nature, cause and control of disease in plants. Plant pathogens: nematodes, viruses, bacteria and fungi in greenhouse, field and forest plants. Laboratory on preparing specimens according to phytopathological principles. Two hrs. lecture, one 2-hr. lab. Spring of odd-numbered years.

BIOL 511 Invertebrate Zoology 4 cr.

Structure, physiology, life history and natural history of invertebrate groups. Emphasis on local fauna. Two hrs. lecture, two 2-hr. labs. Spring of odd-numbered years.

BIOL 512 General Parasitology 4 cr.

Principles of parasite structure, function and host-parasite relations. Two hrs. lecture, two 2-hr. labs. Spring of odd-numbered years.

BIOL 514 Quantitative Analysis of Vertebrate Populations 3 cr.

A survey of quantitative techniques used to describe, analyze and model vertebrate population phenomena and interactions among populations. Three 2-hr. lectures, one 3 hr. lab. Spring. *Prerequisites: MATH 120 and graduate standing.*

BIOL 517 Ichthyology 3 cr.

The study of fishes with emphasis on structure and function, development, behavior, ecology and systematics. Two hrs. lecture, one 2 hr. lab. Fall of even-numbered years.

BIOL 520 Fish Management and Culture 3 cr.

Contemporary problems encountered with Fisheries Management. Study of fish culture; alternatives of commercial harvest and culture. Three 1-hr. lectures, one 3-hr. lab. Field trips to be arranged. Spring of odd-numbered years. *Prerequisites: MATH 209 Introduction to Probability and Statistics or permission of instructor.*

BIOL 521 Sample Design and Analysis of Plant Communities 3 cr.

The ecology of plant communities in the mid-Atlantic; plant community concepts and attributes; environmental factors influencing the distribution and abundance of plants: light, temperature, fire, soil, water, methods of sampling vegetation; quantitative analysis of vegetation data; multivariate methods of data interpretation, including classification and ordination; collection and interpretation of field data; emphasis on modern computer methods. Lecture/lab. Every fall. *Prerequisites: BIOL 314 and BIOL 340.*

BIOL 522 Herpetology 3 cr.

The structure, behavior, ecology, evolution and taxonomy of amphibians and reptiles. Laboratory emphasis on identification, anatomy and ecology of local species; techniques of collecting; estimating population sizes, and home ranges. Two hrs. lecture, one 3-hr. lab. Every spring. *Prerequisite: BIOL 150.*

BIOL 523 Mammalogy 4 cr.

The structure, taxonomy, behavior, ecology, evolution and public health significance of mammals and history of the science of mammalogy. Laboratory emphasizes anatomy, identification, capture techniques, habitat analysis and home-range and population characterization. Three hrs. lecture, one 3-hr. lab. Every fall. *Prerequisite: BIOL 150.*

BIOL 525 Forest Ecology 3 cr.

Investigation of forest ecology, management, conservation, policy, research and history; silviculture, stand dynamics and improvement, reforestation, soils, disturbances and anatural pests and pathogens. Patterns and processes of forest communities. Forest products and measurements. Two hrs. lecture, one 2-hr. lab. Fall.

BIOL 526 Vertebrate Zoology 4 cr.

The biology of vertebrates: origin, evolution, classification, structure, ecology, reproduction. Identification of regional examples. Three hrs. lecture, one 2-hr. lab. Spring, even numbered years.

BIOL 527 Comparative Anatomy 4 cr.

Emphasis on structural relationships among fish, amphibians, reptiles, birds and mammals based on the evolution and development of organ systems. Dissection of representative chordates. Two hrs. lecture, two 2-hr. labs. Fall. *Prerequisite: BIOL 150.*

BIOL 530 Limnology 4 cr.

The study of inland waters; physical, chemical and biological aspects. An overview of hydrobiology. Laboratory emphasis on collection and analysis of data from aquatic environments. Graduate-level credit requires supplemental activity (usually a project and written report) by student. Two hrs. lecture, one 4-hr. lab per week. Fall of odd-numbered years. *Prerequisite: BIOL 340.*

BIOL 535 Molecular Biology 4 cr.

Modern molecular concepts and techniques such as molecular cell function, DNA replication, PCR, protein synthesis, restriction enzyme analysis, DNA sequencing and DNA fingerprinting. Two hrs. lecture, two 2-hr. labs per week. Variable. *Prerequisite: BIOL 304.* Course not repeatable.

BIOL 537 Molecular Biology Seminar 1 cr.

Current topics in molecular biology presented by students, faculty and invited speakers coupled with in-depth analysis and discussion. Repeatable for maximum of 4 credits if topics are substantially different. Fall of even-numbered years. *Prerequisites: graduate standing; BIOL 435 or permission of instructor.*

BIOL 538 Biotechnology Laboratory 3 cr.

Advanced techniques in molecular biology. Topics vary depending on instructors. Topics may include cell culture methods, PCR and DNA sequencing, immunocytochemistry, electrophoretic separation and analysis. One 1-hour lecture and two 2-hour labs. Spring of even-numbered years. *Prerequisites: BIOL 435/535 or permission of the instructor.*

BIOL 545 Immunology 4cr.

Introduction to the complex network of cells and soluble mediators that recognize and react to substances foreign to the individual. Principles of immunity, techniques resulting from the study of this system and pathologies resulting from its malfunction. Two hrs. lecture, two 2-hr labs. Fall. *Prerequisite: BIOL 304 or BIOL 310 or permission of instructor.*

BIOL 550 Ecology and Management of Wildlife Populations 3 cr.

Study of factors that determine the distribution and abundance of wildlife populations and current management practices used to manipulate wildlife populations. Two-three field trips will be used to gain knowledge of regional management practices. Three hrs. lecture. Fall. *Prerequisite: BIOL 406, 423 or 426.*

BIOL 556 Advanced Microscopy 4 cr.

Principles and techniques of light microscopy and scanning electron microscopy. Preparation of biological specimens for light microscopy (including immunofluorescence) and scanning electron microscopy. Two hrs. lecture, two 2-hr. labs. Spring, odd-numbered years. *Prerequisite: cumulative GPA 3.0 or higher, BIOL 304 or 404, or permission of instructor.*

BIOL 600 Methods of Research in Biological Sciences 2 cr.

Understanding the scientific method, improving scientific writing skills and practical experience in computer analysis of biological data. Major projects include writing a thesis research proposal and a scientific paper. Every fall. *Prerequisite: MATH 680 (or concurrent enrollment) or instructor's permission with a basic knowledge of statistics.*

BIOL 609 Plant Ecology 3 cr.

Ecological principles and relationships at the organism, population and community levels. The plant and the ecosystem. Field trips and field analysis of plant communities. One hr. lecture and 4 hrs. lab. Spring of odd-numbered years. *Prerequisites: BIOL 340, 314 or 603, 8 hrs. general chemistry or permission of instructor.*

BIOL 610 Animal Physiology 3 cr.

Physiological systems and experiments on laboratory animals. Two hrs. lecture and 2 hrs. lab. Fall of even-numbered years. *Prerequisites: 1-year college chemistry and major in biology or chemistry.*

BIOL 612 Animal Ecology 3 cr.

Ecological principles and relationships of organism, population and community levels. The animal's relation to ecosystems. Three hrs. lecture. Spring of even-numbered years. *Prerequisites: 1-year bioscience or zoology, BIOL 411, 340 and 8 hrs. general chemistry or permission of instructor.*

BIOL 640 Population and Conservation Genetics 3 cr.

Importance of genetics in the management of game and non-game species will be emphasized with special reference to genetic management of threatened, rare or endangered species. Two hrs. lecture, one 3-hr. lab. Fall. *Prerequisite: one course in genetics.*

BIOL 641 Conservation Biology and Reserve Design 3 cr.

Examination of modern topics in conservation biology emphasizing impacts of habitat insularization and related landscape perturbations on population dynamics, social structure, genetic diversity and ecological interactions of organisms. Application of these factors in the design of nature reserves and maintenance of biodiversity. Three-hr. lecture. Fall of odd-numbered years. *Prerequisite: graduate standing.*

BIOL 643 Ethics, Economics and Politics in Conservation 2 cr.

An examination of political and economic considerations associated with protection of endangered species and special habitats. Case histories of conflicts among competing forces for natural resources. Two-hr. lecture. Fall only of odd-numbered years.

BIOL 650 Special Topics in Fisheries/Wildlife/Applied Ecology and Conservation Biology 2-4 cr.

Course content and credit hours vary depending on the course topic and instructor. Course topics will include Ecology, Evolution and Management of Tropical Fishes; Techniques in Field Ecology; Advanced Animal Behavior; Aquatic Entomology; and Conservation and Management in Tropical Ecosystems. Consult director of AL or chair of Biology for current offerings. Repeatable for maximum of 12 credits if topics are substantially different. Fall, spring.

BIOL 694 Graduate Seminar in Fisheries/Wildlife/Applied Ecology and Conservation Biology 1 cr.

Readings and discussion of current subjects in the fields of ecology and management. Student presentations coupled with in-depth analysis and discussion of the scientific merit and political ramifications of biological research. Repeatable for maximum of 4 credits if topics are substantially different. Variable.

BIOL 699 Individual Research in Fisheries/Wildlife/Applied Ecology and Conservation Biology 2-4 cr.

Topic and study outline to be approved by the Biological Science graduate program coordinator prior to registration. Repeatable for credit each semester of enrollment. Fall, spring. *Prerequisites: graduate standing, consent of instructor and consent of chair of the Biology Department or director of AL.*

BIOL 710 Thesis 1-9 cr.

Activities related to the production of a research thesis on an approved topic. Graded P/NC. Fall, spring, summer.

Chemistry

CHEM 511 Inorganic Chemistry 3 cr.

Theories of bonding, symmetry concepts, group theory, reaction mechanisms, spectroscopy, structure, stereochemistry and biological aspects. Three hrs. lecture. *Prerequisite: CHEM 441 or permission of instructor.*

CHEM 541 Physical Chemistry Lecture I 3 cr.

Theory and applications of the principles of physical chemistry. Equilibria, gas laws, thermodynamics, electrochemistry, structures and properties. Three hrs. lecture. *Prerequisites: 16 cr. in chemistry from the following: CHEM 101, 102, 201, 301, 302; MATH 227, 228 and 320 or 432; and Physics 215 and 216 or equivalent or permission of instructor.*

CHEM 542 Physical Chemistry Lecture II 3 cr.

Quantum theory, statistical thermodynamics, chemical dynamics, spectroscopy and structures. Three hrs. lecture. *Prerequisite: CHEM 541.*

CHEM 545 Physical Chemistry Laboratory I 1 cr.

Experimental physical chemistry. One 3-hr. lab. *Prerequisite or co-requisite: CHEM 541.*

CHEM 546 Physical Chemistry Laboratory II 1 cr.

Continuation of CHEM 545. One 3-hr. lab. *Prerequisite or co-requisite: CHEM 542.*

CHEM 555 Biochemistry I 3 cr.

The chemistry and metabolism of biological compounds, biochemical thermodynamics, enzyme mechanisms and kinetics. Three hrs. lecture. Fall semester. *Prerequisites: CHEM 301 and 302; BIOL 149 or permission of the instructor.*

CHEM 557 Biochemistry II 3 cr.

This course is a continuation of Biochemistry I. Metabolic processes and their conservation among widely divergent organisms. Cell processes, their interrelation and regulation. Biochemical technics and their applications to a variety of current biological problems. Three hrs. lecture. Spring semester. *Prerequisite: CHEM 455.*

CHEM 560 Environmental Chemistry 3 cr.

This course will investigate the chemical nature of the environment. It will develop the chemical interactions found in the atmosphere, hydrosphere, lithosphere and biosphere. Considerations of energy and energy usage will also be discussed. *Prerequisites: Completion of CHEM 101 and 102, and any one of the following courses: BIOL 430, GEOG 432, CHEM 320 and 321.*

Communication Studies

CMST 590 Special Topics in Communication Studies 1-6 cr.

Research or applied experience on an announced selected topic. May be repeated to a maximum of 6 credits. *Permission of department required.*

CMST 699 Individual Research in Communication Studies 1-6 cr.

Individual research in a topic related to communication. Topic and study outline to be approved by department chair prior to registration. Written and oral reports required. Can be repeated to a total of 6 credits.

Computer Science

NOTE: FSU graduate students may take any computer science graduate courses by permission of instructor.

COSC 510 Data and Computer Communication 3 cr.

Fundamentals of data communications. Transmission media characteristics, data encoding and multiplexing. Causes of transmission errors and data link control. Circuit switching, message packing and packet switching. Local area networks, introduction to terrestrial and satellite networks, ISDN and future trends. *Prerequisite: COSC 365 or permission of instructor.*

COSC 520 Robotics and Computer Control 3 cr.

Introduction to field of robotics: applications, safety, sensors, Robotics Languages Model for Computer-Aided Design (CAD), speech recognition and generation. Integration of robots with artificial intelligence. *Prerequisites: PHYS 215 or PHYS 261, COSC core courses or permission of instructor.*

COSC 530 Computer Education 3 cr.

A practical study of contemporary topics for students with a computing background. Emphasis on development and use of training/teaching materials. *Prerequisite: permission of instructor.*

COSC 550 Programming Language Structures 3 cr.

Features of existing programming languages and underlying concepts. Syntax and semantics, simple statements, grouping of statements, scopes and storage allocations, subroutines. List processing and string manipulation languages. *Prerequisite: COSC 310 or permission of instructor.*

COSC 555 Artificial Intelligence 3 cr.

An introduction to knowledge representation and inference: topics include logic, semantic networks, frames and rule-based reasoning. Natural language processing; topics include pattern recognition, pattern association and computer vision. *Prerequisite: COSC 310 or permission of instructor.*

COSC 560 Operating Systems Concepts 3 cr.

Detailed study of operating systems concepts. Process management, scheduling, time slicing, concurrency, mutual exclusion, semaphores, resource management, memory mapping, virtual systems, mass storage, file systems. Case studies of operating systems. *Prerequisites: COSC 201 and COSC 365 or permission of instructor.*

COSC 565 Computer Systems Architecture 3 cr.

Architecture of large computing systems. Instruction set architecture and RISC. Design of high-speed arithmetic units, I/O subsystems, DMA and channels. Interrupt structures. Horizontal vs. vertical microprogramming. Memory system hierarchy with emphasis on cache, virtual memory and interleaving. Introduction to parallel processing and advanced architectural trends. *Prerequisite: COSC 365 or permission of instructor.*

COSC 570 Compiler Designs and Constructions 3 cr.

Detailed study of the concepts and techniques used in design and construction of a compiler. Topics include lexical analysis, syntactic and semantic analysis, intermediate code generation, final code generation and optimization techniques. Each student will be required to design and implement a functional compiler or interpreter for a given language. *Prerequisites: COSC 310 and COSC 365 or permission of instructor.*

COSC 575 Interactive Computer Graphics 3 cr.

Concepts of computer graphics. Terminology and programming primitives, raster vs. vector hardware, interaction devices, software packages, geometrical transformations, two- and three-dimensional viewing, hidden line and surface removal, object hierarchy. *Prerequisites: COSC 310 and COSC 350 or permission of instructor.*

COSC 580 Knowledge-Based Information Systems 3 cr.

Concepts of knowledge-based systems with an emphasis on expert systems. Topics include production systems, building of knowledge-based systems and future trends with expert systems. *Prerequisite: COSC 380 or permission of instructor.*

COSC 585 Theory of Computation 3 cr.

Basic theoretical principles embodied in formal languages, automata, computability and computational complexity. Emphasis is placed on developing formal description of computers and computational processes, and practical implications of theoretical results. *Prerequisite: COSC 310 or permission of instructor.*

COSC 591 Seminar in Computer Science 3 cr.

Group study of advanced topics under faculty supervision. Departmental approval is required. *Prerequisite: department approval.*

COSC 594 Field Experience in Computer Science 3 cr.

Work experience in industry, government or small business providing an opportunity for practical application of academic training in computer science. The course requirements are: (1) minimum of 120 hours of field experience, (2) a written report describing in detail the work performed in the field in conjunction with an oral presentation to interested faculty and students and (3) a project paper on a topic related to the work experience. Previous work experience may not be substituted for this course. More than one field experience may be completed, but the number of credits applied to Master of Science in Applied Computer Science major is limited to 3. Every semester. *Prerequisite: department approval required before registering.*

COSC 599 Individual Problems in Computer Science 3 cr.

Independent study of advanced topics under faculty supervision. Departmental approval is required. Repeatable for maximum of 6 credits; up to 3 credits count towards degree. *Prerequisite: department approval.*

COSC 600 Computer Programming Concepts 3 cr.

Object oriented programming and programming design; sequential, selection and iteration statements; objects and relationship among objects, abstraction, encapsulation and hierarchy. *Prerequisite: permission of instructor.*

COSC 601 Digital Logic and Computer Design 3 cr.

Basic switching theory. Design and analysis of combinational logic circuits and synchronous sequential systems. Minimization of techniques. Programmable logic and basic computer architecture. Register transfer language. Memory decoding, microprogramming and bus structure operation. Detailed study of an actual simple minicomputer or microcomputer system. Students are required to implement a project. *Prerequisite: Admission to the Applied Computer Science master's program.*

COSC 602 Advanced Programming Concepts 3 cr.

Continues introduction to the methodology of programming from an object-oriented perspective. Design and implementation of data structures used in programming such as linked lists, stacks, queues, and simple trees. Basic sorting and searching. Recursion. Performance analysis of algorithms. *Prerequisite: Admission to the Applied Computer Science Master's Program and permission of instructor.*

COSC 610 Advanced Data Structures and Algorithms 3 cr.

Object-oriented data structures such as linear data structures recursions, trees, graphs, searching and sorting algorithms, and file organizations using object-oriented programming language. *Prerequisite: admission to Applied Computer Science master's program.*

COSC 620 Security in Computing 3 cr.

Principles and practices of computer security in various computing environments, with the focus on computational methods providing secure computing and Internet communication. Topics include security threats in communication systems and information systems; cryptography technologies including conventional substitution/transposition codes; block ciphers and advanced encryption standards; distribution of secret key over the Internet; principles of public-key cryptography; authentication and digital signature; network security such as IPSec, SSH, Web and e-mail security; system security such as firewall; OS security and hardware security. *Prerequisite: admission to Applied Computer Science master's program.*

COSC 625 Advanced Software Engineering 3 cr.

Design and implementation of software using a formal specification language. Topics include management implications, software cost estimation, defect testing, software engineering environments. *Prerequisite: admission to Applied Computer Science master's program.*

COSC 630 Web Development and Programming I 3 cr.

Fundamentals of Web programming and Web technologies. Topics include Web design and implementation using JavaScript, Java Beans and XML. Developing interactive, secure and powerful projects for the Web. *Prerequisite: admission to Applied Computer Science master's program.*

COSC 631 Web Development and Programming II 3 cr.

Advanced Web programming and Web technologies concepts. Topics include Perl programming, server installation and configuration, PHP, secure sockets layer and Web services. Offered once every year and a half. *Prerequisites: admission to Applied Computer Science master's program and COSC 630.*

COSC 635 Network and Data Communications I 3 cr.

Basic elements of modern computer and telecommunications networks. A hybrid five-layer reference model resembling the popular TCP/IP model will be discussed. In each layer, the state-of-the-art hardware and software technologies are introduced. These include, for example, network programming in the Application Layer, TCP/UDP in the Transport Layer, Unicast and Multicast protocols in the Network Layer, Ethernet/TDM/WDM in the Data Link Layer, fiber-optic and Mobile/Cellular in the Physical Layer. *Prerequisite: admission to Applied Computer Science master's program.*

COSC 636 Network and Data Communications II 3 cr.

Advanced topics, enabling technologies of networks and data communications. Introduction to important topics, including distributed networks, IPV6 and advanced routing protocols, network reliability, network security and converged network management. Enabling technologies for typical modern networks, including wireless/mobile networks, multimedia networking and optical networks will also be covered. *Prerequisites: admission to Applied Computer Science master's program and COSC 635.*

COSC 640 Database Systems I 3 cr.

Database design and implementation, data models, database programming using relational database management systems, database administration and issues, data recovery, concurrency and integrity. An implementation of a comprehensive project using a commercial DBMS. *Prerequisite: admission to Applied Computer Science master's program.*

COSC 641 Database Systems II 3 cr.

A continuation of database systems with exploration of modern data storage structures such as non-relational persistent storage mechanisms. Concluding with scalable data solutions, key-value based storage and non-normalized data. An implementation of a comprehensive project(s) using an open source and commercially available systems. *Prerequisites: COSC 640 and admission to Applied Computer Science master's program.*

COSC 645 Data Mining 3 cr.

Overview of data mining and its application in business. Topics include data-mining models such as decision trees, genetic algorithms, neural nets, agent network technology; data-mining process; and discussion of practical available data-mining tools. *Prerequisite: admission to Applied Computer Science master's program.*

COSC 646 Data Cloud 3 cr.

A hands-on approach to the major issues facing online scalable cloud data warehouse systems. Discussion of data analytics and design in the cloud via the creation of cube and OLAP tools. Application of data warehouse in a business cloud environment using

one or more information systems. *Prerequisite: admission to Applied Computer Science master's program.*

COSC 647 Information Assurance 3 cr.

A comprehensive, in-depth discussion of the data security and information assurance, including models, systems architectures and standards. Additional topics covered through case studies include data analytics, personally identifiable information and relevant laws. *Prerequisite: admission to Applied Computer Science master's program.*

COSC 690 Special Topics in Database Systems 3 cr.

Study and discussion of the most recently developed topics in Database Management Systems. Repeatable for maximum of 6 credits if topics are substantially different; 3 for degree. *Prerequisites: admission to Applied Computer Science master's program and COSC 640.*

COSC 691 Special Topics in Data Analytic Instruments 3 cr.

A study and discussion of topics in the latest development in data mining and data warehousing. Students are required to write a paper or implement a project related to the topic. Repeatable for maximum of 6 credits if topics are substantially different; 3 for degree. *Prerequisites: admission to Applied Computer Science master's program and COSC 645 and COSC 646.*

COSC 700 Master Research Paper or Project 3-9 cr.

Independent research paper or project related to the area of concentration. The topic of the paper or project description must be approved by the department graduate committee prior to registration. Graded P/N. Fall, spring, summer. *Prerequisites: admission to Applied Computer Science master's program and COSC 610, COSC 620 and COSC 625. Graded P/N.*

Economics

ECON 510 Resource & Environmental Economics 3 cr.

Economic analysis of problems and policies affecting natural resource industries and the environment. Economic framework, mineral, forest, energy industries and environmental use and misuse are analyzed. Fall of even-numbered years. *Prerequisite: Economics 202 or permission of instructor.*

ECON 598 Readings in Economics 3 cr.

Selected readings for primarily independent research in a field not covered by regular courses. Summaries of readings and findings compiled in a written research report. *Prerequisites: ECON 201, 202, 351, 352, and permission of instructor and department chair.*

Education

CUIN 602 Becoming a Teacher Leader 3 cr.

Theory and practice of teacher leadership in the classroom within the context of student achievement and a focus on increasing knowledge of learners and learning; subject matter and curriculum; effective teaching models, strategies and practices; and implementation of this expertise in the classroom. Variable.

CUIN 603 The Highly Effective Practitioner 3 cr.

A comprehensive exploration of principles and the process of distinguished teaching to enhance student learning; practices for the development of skills and knowledge in teacher leadership and mentorship. A study and design of effective professional development practices. Monitor professional growth through reflective practice. Variable.

CUIN 604 Introduction to National Board for Professional Teaching Standards 3 cr.

A comprehensive overview of the history of the National Board for Professional Teaching standards (NBPTS) within the context of accomplished teaching. Introduction to the certification process, analysis of standards and criteria, personal reflection on teaching practices and impact on student learning in candidates' certificate area. Variable.

CUIN 605 National Board for Professional Teaching Standards Pre-Candidacy 3-6 cr.

Candidates are introduced to the National Board for Professional Teaching Standards. During the semester, they will complete the fieldwork that will allow them to collect and organize the evidence needed to formally apply for certification. The instructor/mentor will assist individuals in preparing specific content and pedagogy portfolio materials.

CUIN 606 National Board Certification Professional Portfolio 3 cr.

Strategies, skills and techniques for analyzing candidate's classroom practice within the context of impact on student learning. Introduction to the National Board for Professional Teaching Standards (NBPTS) portfolio process and self-assessment of teaching practices through rigorous analysis of research-based standards and performance-based assessments. Variable.

CUIN 610 Transdisciplinary Approach to Teaching and Learning 3 cr.

Transdisciplinary approach to designing STEM instruction. Examination of the Standards of Practice incorporated into all elementary content areas and standards. Inquiry and problem-based teaching and learning strategies. Research on STEM education in the elementary and middle grades setting. Variable.

CUIN 611 STEM Integration I: Science Focus 3 cr.

Next Generation Science Standards with a focus on Science and Engineering Practices and Crosscutting Concepts to incorporate science perspectives into transdisciplinary approach to teaching and learning. Inquiry-based teaching; problem and design-based learning. STEM curriculum infusion into all elementary content areas. Variable.

CUIN 612 STEM Integration II: Mathematics Focus 3 cr.

College and Career Readiness Standards for Mathematical Practice with a focus on using the engineering design process to solve problems in a global society. Mathematical content standards applied to all elementary content areas through a transdisciplinary approach to teaching and learning. Mathematical processes and proficiencies in an inquiry-based learning environment. Variable.

CUIN 614 Elementary School Mathematics Programs 3 cr.

Content and organization of elementary school mathematics.

CUIN 650 Curriculum Leadership—Models and Strategies 3 cr.

Curriculum planning as a strategic educational process for impacting student learning and achievement. Study of standards-based frameworks that have proven effective to enable all individuals to gain knowledge, skills and enthusiasm for learning, and whenever planning curriculum improvement projects to meet the ever-changing educational landscape of the 21st century across all grade levels K through 12. Variable.

CUIN 651 Instructional Design for Understanding 3 cr.

Research-based instructional models for increasing student achievement. Instructional design that is responsive to the needs and interests of students and considers factors that affect K-12 teaching and learning specific to grade level and content specialization. Variable.

CUIN 652 Assessment and Accountability in the Context of Student Learning 3 cr.

Current trends of education reform regarding accountability in the classroom. Models of assessment as they apply to classroom practice, teacher evaluation, teacher effectiveness and student learning. Designing assessments that will meet the national and state-level accountability standards. Variable.

CUIN 654 Cultural and Technological Awareness in the Context of Global Education 3 cr.

A critical examination of the meaning of being an educated American in a changing world, and effectively educating culturally, ethnically, racially different and differently able students to meet demands of the 21st century. A critical review of the role of technology as a key element in the changing picture of education globally, and the role of educators as agents of reform as intelligent consumers of emerging technology in the classrooms. Variable.

CUIN 693 National Board Certification Practicum 3 cr.

Supervised experience in a professional placement concurrent with candidate's professional position, with a focus on building learning communities of professional inquiry for completion of requirements for professional portfolio. Graded P/N. Variable.

CUIN 694 Teacher Leadership Practicum 3 cr.

Supervised experience in a professional placement concurrent with candidate's professional position, with a focus on teacher leadership tasks that emanate from that role. Graded P/N. Variable.

CUIN 700 Research Applications in Education: Action Research 3 cr.

Concepts, strategies and tools for planning and carrying out systematic investigations of practice in school and classroom settings. Exploration of research techniques, data analysis procedures and interpretation of educational research as it relates to the analysis of student learning in a teacher's daily decision-making process. Graded P/N. Variable.

EDAD 611 Educational Organization and Leadership 3 cr.

Responsibilities, philosophies and techniques of the principal; student activities and supporting services; necessary technical skills; reading in the field; professional organizations, research literature and ethics in administration. Theories and concepts, societal forces that affect educational administration, administrative process and division of responsibility, organizational variables, the administrator as an individual and leader and professional organizations. Variable.

EDAD 612 Applied Problems in Educational Leadership 3 cr.

The responsibilities, philosophies and techniques of the principal; approaches to the theoretical and practical considerations for planning and implementing data-driven decision-making processes in schools and school districts; the basic concepts of developing efficient, reliable data resources and choosing appropriate analytical approaches; the practitioner's perspective of the area of human resource leadership at the school level; content specifically identified as helpful to the practitioner. Variable.

EDAD 628 School Law 3 cr.

Legal bases of education, including hiring and dismissal of personnel, tenure, staff liability, contractual rights and relationships, and rights of staff and clients. Spring, summer.

EDAD 640 Accountability & Data-Driven Decision Making in Public Education 3 cr.

Theoretical background and practical considerations for planning and implementing data-driven decision-making processes in schools and school districts. Basic concepts of developing efficient, reliable data resources and choosing appropriate analytical approaches to meet the diverse needs of students. Variable.

EDAD 644 Public School Finance 3 cr.

Theory, principles and general practices. The problems of financing education, budgeting, equalization, management of school funds, and the role of local, state and federal governments in the financing of public education. Variable.

EDAD 693 Practicum in Administration – Supervision 3 cr.

Supervised experience based on a problem identified by the student. Emphasis on the integration of learned administrative/supervisory skills. Administrative/supervisory responsibilities of limited depth for limited periods under joint college/school supervision. Problem areas must be submitted and approved prior to registration. Repeatable to 6 credits. Fall, spring, summer. *Prerequisite: approval of the chair of Educational Professions Department.*

EDAD 694 Practicum in Administration – Supervision II 3 cr.

Continuation of EDAD 693 practicum. Supervised practicum in administration–supervision (see EDAD 693). Production and submission of standards-aligned portfolio. Fall, spring, summer. *Prerequisites: approval of program coordinator and completion of EDAD 693.*

EDSU 643 Supervision and Human Resources 3 cr.

Nature and scope of educational supervision, including human relations skills, technical skills, social systems as they relate to educational supervision and the "intersection" of evaluation and human resources, professional organizations, literature and ethics; evaluation case studies, compensation and collective bargaining and the ways in which strategic planning impacts the conduct of the human resources functions at the building level. Variable.

EDSU 648 Supervision of Student Teachers 3 cr.

Student teaching programs and the relationship of the public schools and colleges.

EDUC 522 Logo: Educational Programming and Instructional Techniques 3 cr.

Learn about Logo as a language for learning about computers, computer programming and thinking, and as a philosophy of education. Emphasis will be on learner-controlled and learner-directed explorations of intellectual problems of interest.

EDUC 523 AIDS: Information, Instruction and Counseling 3 cr.

Designed to facilitate learning current information about HIV and AIDS, prepare individuals to teach and/or give others correct information and provide basic training for those interested in becoming peer counselors for persons with, or exposed to, HIV/AIDS. Fall, summer.

EDUC 530 Technology Specialist in Education 3 cr.

Technology specialist in the school/school district. Includes practical issues for managing the technology infrastructure, managing and strategies for using local area network systems for classroom use, models for delivering staff development, process of school improvement, role in communication with public in building support for technology, issues facing technology leaders, emerging technologies. Variable.

EDUC 541 Classroom Management Strategies 3 cr.

A study of the elements of developmentally appropriate classroom management, including cultural variables, skills of effective teaching, major theorists' view of school management, character and values education, and the impact of school climate and organization. In addition, specific techniques for managing special problems and disruptive youth will be studied.

EDUC 544 Cooperative Learning Workshop: Level I 3 cr.

A study of cooperative learning through an analysis of the underlying theory and observation, planning and implementation of cooperative learning activities. Summer.

EDUC 545 Middle School Curriculum & Methods 3 cr.

The middle school movement, the middle school student and curriculum, teaching in the middle school, middle school organization. Every semester. *Prerequisite: Phase II admission or permission of department chair.*

EDUC 546 Using Databases for Critical Thinking 1 cr.

Use databases in learning to organize, access, manipulate and evaluate information. Learn to find and interpret information, find patterns and make inferences based on established patterns. Develop techniques for using databases in elementary and secondary curricula.

EDUC 547 Making Quality Instructional Materials 1 cr.

Learn to develop instructional activities based on a specific theme. Learn to use the computer to create instructional materials for these activities.

EDUC 548 Using Spreadsheets in Mathematics Education 1 cr.

Use spreadsheets to learn to explore relationships, predict outcomes, analyze information and draw conclusions. Learn to experiment and to explore concepts without having to perform tedious calculations. Develop techniques for using spreadsheets in elementary and secondary curricula.

EDUC 550 Art Education Methods for the Secondary Teacher 2 cr.

Curriculum, goals, content and organization of secondary art education. Theories of visual development and artistic development in behavior age-appropriate students; materials, resources and processes for teaching art; classroom management; and technology applications. One-hr. lecture, 2-hr. lab. Summer. *Prerequisite: admission to MAT-Secondary program or permission of department chair.*

EDUC 551 Art Education Methods for the Elementary Teacher 2 cr.

Curriculum, goals, content and organization of secondary art education. Theories of visual development and artistic development in behavior age-appropriate students; materials, resources and processes for teaching art; classroom management; and technology applications. One-hr. lecture, 2-hr. lab. Summer. *Prerequisite: admission to MAT-Secondary program or permission of department chair.*

EDUC 552 General Music Methods in the Elementary School 3 cr.

Music teaching, emphasizing the elementary school level: materials and techniques of instruction for general music classes; general educational theories and their relevance to music education; computer-assisted instruction and integrated technology; facility with accompanying folk instruments; and exposure to the Orff, Kodaly and Dalcroze approaches to music education. Research on educational trends and professional literature review. Development of research informed practice. Fall. *Prerequisites: Successful completion of the Sophomore Evaluation and Piano Proficiency Exam and conditional admission to the MAT program. Departmental approval required.*

EDUC 553 General Music Methods in the Secondary School 3 cr.

Music teaching emphasizing the secondary school level: materials and techniques for general music classes; computer-assisted instruction and integrated technology; facility with accompanying folk instruments; historical and philosophic foundations of music education; and program development and instructional design. Research on trends in education and professional reviews of literature. Development of research informed practice. *Prerequisites: Successful completion of the Sophomore Evaluation and Piano Proficiency Exam and conditional admission to the MAT program. Departmental approval required.*

EDUC 558 Educational Technology for Teachers 3 cr.

Selecting, designing and managing online and distance education from among multiple options. Emerging trends and standards for online instruction explored. Variable.

EDUC 564 Induction Into the Classroom 1 cr.

An introduction to schools, their structure and climate, research on school effectiveness, the legal issues and school professional ethics. Specific PDS school policies regarding student behavior and the school system conceptualization of the school improvement process. The course will also require the completion of computer competencies: e-mail, word processing, Web research, presentation skills and sophistication in integration of curricular software. Offered in spring. *Prerequisite: admission into the Master of Arts in Teaching program or permission of program coordinator.*

EDUC 565 Induction to Technology for Teaching and Learning in the 21st Century 3 cr.

Experiences and practice in using 21st century technology skills and applications to support P-12 curriculum. Summer.

EDUC 590 Special Topics in Education 1/2-6 cr.

Special workshop on a current topic, as arranged. Repeatable if topics are substantially different.

EDUC 599 Individual Problems in Education 1-3 cr.

Independent study under supervision. Research paper on a special topic. Requires proposal approval by the chair of the Department of Educational Professions prior to registering. Repeatable for maximum of 6 credits. Every semester, summer.

EDUC 601 Current Trends in Curriculum 3 cr.

Historical survey of the development of the curriculum and the influences upon its development. Trends and their causes, including the identification, analysis and appraisal of current trends.

EDUC 602 History of Education 3 cr.

Significant historical periods in education in the context of social, political and economic history, with emphasis on contemporary developments.

EDUC 603 Principles and Practices of Research 3 cr.

Definitions of research; the research process; chronological development of educational research; library use and research literature; the research abstract; historical, descriptive and experimental types of research. Identification of researchable problems and the formulation of research designs, descriptive and inferential statistical techniques, style for writing the research report. Fall, spring, summer.

EDUC 606 Developmental Theory and Experiential Growth 3 cr.

Understanding the concept of self, logical decision making, communication theory, effects of the various social-cultural factors on learners; effects of the individual, the group and the system on the learning process; leadership theory and skills; studies in human growth and development. Fall, spring, summer.

EDUC 607 Comparative Education 3 cr.

Educational systems in the major and developing countries in relation to the American systems. Programs of various organizations that work for international understanding.

EDUC 613 Classroom Assessment 3 cr.

Intended to assist students in the attainment of a theoretical understanding and knowledge related to the design, implementation and use of various assessment instruments that include, but are not limited to, formal and informal observation, paper-and-pencil instruments, oral questioning, student records, authentic performance tasks and student portfolios, as well as the qualitative analysis of pupil performance—product and process. Fall. *Prerequisite: admission to MAT-Secondary program or permission of department chair.*

EDUC 624 Teaching in the Distance Learning Classroom 1 cr.

A study of the development and practice of teaching via an interactive network. Includes an overview of the development of “distance” education, an introduction to using the associated technology, an analysis of appropriate delivery strategies and techniques, and an opportunity for hands-on practice teaching content area lessons.

EDUC 625 Philosophy of Education 3 cr.

Philosophies of education. The individual educator’s rationale for designing curricula and developing ways of working with students.

EDUC 626 Technology Applications in Early Childhood Education 1 cr.

Explores the use of various technologies and software in the early childhood classroom. Activities include the use of multimedia, discovery learning, writing tools and tools to encourage creativity in young children. Research, exploration and project oriented.

EDUC 627 Human Relations in Education 3 cr.

Helping relationships, human behavior in groups and organizations, multicultural issues and applications, interpersonal teaching skills, applications of human relations principles.

EDUC 629 Elements of Statistics 3 cr.

The elements of descriptive statistics and their application to educational measurement.

EDUC 630 Tests and Measurements 3 cr.

Standardized and teacher-made testing and measurement. Standardized testing concepts. How to scientifically develop, revise, administer and interpret teacher-made tests.

EDUC 631 Mental Hygiene for Teachers 3 cr.

Problems of personal and social maladjustment and their impact on teaching.

EDUC 633 Multimedia Design and Publication for Instruction 3 cr.

An introduction to multimedia tools, design, development, publication and evaluation. Work with text, graphics, video and sound to create instructional activities that incorporate various approaches to teaching and emphasize K-16 student learning. Plan for integration of multimedia in the curriculum. Variable.

EDUC 634 Telecommunications for Educators 1 cr.

Introductory course to familiarize educators with telecommunications in a “hands-on” environment. Intended to provide the opportunity for educators to become proficient in the use of telecommunications activities in the classroom.

EDUC 635 Evaluation and Integration of Technology in Instruction 3 cr.

Develop competencies in evaluation and selection of technology resources for instruction. Study the nature of curriculum development and examine strategies for integrating technology into K-16 curriculum with an emphasis on performance-based teaching and learning to enhance student achievement. Explore assessment tools to monitor student progress toward performance indicators. Variable.

EDUC 638 Online Instruction 3 cr.

Selecting, designing and managing online and distance education from among multiple options. Emerging trends and standards for online instruction explored. Variable.

EDUC 640 Curriculum Theory, Development and Analysis 3 cr.

The nature of curriculum theory, design and analysis from historical, cultural and current educational reform perspectives. Spring.

EDUC 645 Advanced Instructional Design 3 cr.

Advanced seminar dealing with the application of Instructional Systems Design principles for multimedia educational systems. Explore various theories of learning and information presentation as they apply to multimedia technologies and delivery systems. Design and develop performance-based units and assessments using advanced technology tools techniques. Variable.

EDUC 647 Advanced Educational Psychology 3 cr.

Principles of effective human learning. Major learning theories and their significance for classroom procedures and for general education theory.

EDUC 655 Design and Administration of Instructional Games 3 cr.

Theory, design and administration of reality and simulation games for classroom use. Practice in designing a variety of games suitable for instruction in content areas. Variable.

EDUC 656 Diagnosis in Arithmetic 3 cr.

Diagnosis of student competencies, skills, errors; treatment plans; evaluation materials; teaching tips. *Prerequisite: ELED 471 or SCED 315 or permission of instructor.*

EDUC 658 Mathematics Workshop for Teachers 3 cr.

Construction of mathematical activities tailored to individual teacher needs. Novel methods, ample materials developed for future classroom use. *Prerequisite: mathematics methods course for early childhood, elementary or secondary level, or permission of instructor.*

EDUC 661 Mathematics: Curriculum, Instruction and Assessment 3 cr.

Current theory and practice for mathematics instruction in elementary education. Review of the research on children’s developing conceptions and misconceptions about mathematics, children’s problems in achieving literacy in another symbol system, children’s error patterns and principles of learning in elementary mathematics. Study of Maryland Outcomes and National Standards for Mathematics. *Prerequisite: admission into the Master of Arts in Teaching program or permission of the program coordinator.*

EDUC 662 Science and Health: Curriculum, Instruction and Assessment 3 cr.

Research and best practices for health and science instruction in the elementary school. National Science Standards, Health Education Standards and Maryland Outcomes are addressed. An overview of health education and health issues for elementary children. *Prerequisite: admission into the Master of Arts in Teaching program or permission of program coordinator.*

EDUC 663 Management and the Learning Environment 3 cr.

Analysis and management of students in the classroom based on research. Organizational practices to create a positive classroom climate through proactive management of the classroom and social skills development of the students. Summer. *Prerequisite: admission into the Master of Arts in Teaching program or permission of program coordinator.*

EDUC 664 Diversity in the Classroom 3 cr.

Study of teachers’ responsibilities in providing an appropriate program for diverse children, including children with special needs. The development and implementation of instructional strategies and materials and appreciation of diverse populations based on research and best practices. School visitations required. Offered during Intersession. *Prerequisite: admission into the Master of Arts in Teaching program or permission of program coordinator.*

EDUC 665 The Arts: Contrasts and Connections 3 cr.

Examination of elements, forms and concepts in art and music. Interdisciplinary, team-taught approach to arts appreciation, criticism and creation utilizing a variety of

cultural resources. *Prerequisite: admission into the Master of Arts in Teaching program or permission of program coordinator.*

EDUC 668 Social Studies: Curriculum, Instruction and Assessment 3 cr.

Addresses current theory and practice for social studies instruction in elementary education. Covers appropriate content and strategies for instruction as well as Maryland Outcomes and National Standards for Social Studies. *Prerequisite: admission into the Master of Arts in Teaching program or permission of program coordinator.*

EDUC 667 Management and the Learning Environment 3 cr.

Analysis and management of students in the classroom based on research. Organizational practices to create a positive classroom climate through proactive management of the classroom and social skills development of the students. *Prerequisite: admission into the Master of Arts in Teaching program or permission of program coordinator.*

EDUC 680 Travel Study Tour of Maryland 3 cr.

A 7-day travel study tour of environmental, economic and historical resources in western, central and southern Maryland. Completion of a curriculum project. Sites studied include industrial facilities (Westvaco to Calvert Cliffs Nuclear Power Plant), environmental and recreational areas (Swallow Falls to Inner Harbor) and places of historical significance (Garrett County Museum to St. Mary's City). Additional costs include meals and shared automobile expenses. Accommodations are provided.

EDUC 690 Current Concepts in Education 1/2-6 cr.

Analysis and discussion of current critical issues confronting education. Repeatable for maximum of 6 credits if topics are substantially different.

EDUC 691 Seminar in Education 3 cr.

Discussion of assigned research. Formal research paper required. *Prerequisite: admission to degree status and permission of instructor.*

EDUC 695 Clinical Experience 3 cr.

Discussion of assigned research. Formal research paper required. *Prerequisite: admission to degree status and permission of instructor.*

EDUC 696 Internship Part I 3 cr.

Intensive experience in the professional development school for the initial certification student. Experience centers on the knowledge, skills and dispositions of a quality teacher with emphasis on collection of data and assessment of learning to drive instruction. Cohort group remains as a critical element of the student's experience along with substantial time with a mentoring teacher. Peer coaching and collaborative efforts emphasized. Involvement with the school improvement process and study of school reform. Emphasis given to student's professional portfolio prior to the final assessment is part of the practicum experience. *Prerequisite: admission into the Master of Arts in Teaching program or permission of program coordinator.*

EDUC 697 Internship Part II 3 cr.

Intensive experience in the professional development school for the initial certification student. Knowledge, skills and dispositions of a quality teacher with emphasis on collection of data and assessment of learning to drive instruction. Cohort group remains a critical element of the student's experience, but this semester along with substantial time with a mentoring teacher. Peer coaching and collaborative efforts emphasized. School improvement process and study of school reform. Attention given to the student's professional portfolio and to the student's final assessment course is a continuation of the spring semester practicum experience designed to extend time in the Professional Development School and to provide students with the experiences of ending a school year. *Prerequisite: admission into the Master of Arts in Teaching program or permission of program coordinator.*

EDUC 700 Master's Research Paper or Project

variable with a minimum 3 cr.

Individual investigation or project related to the area of concentration and professional education. Enroll in final credit(s) of Master's Research Paper or Project in the semester in which you expect the paper or project to be approved. Should you not complete the paper or project in the final semester, you will receive a CS grade in this course and will be required to re-enroll in a minimum of 1 additional credit of Master's Research Paper or Project each fall and spring semester thereafter until the paper or project is completed. Your progress and the decision of the thesis advisor will determine the number of credits for which you must register. Course is graded P/N.

EDUC 710 Thesis **variable with a minimum 3 cr.**

Intensive investigation of an approved topic in the specialized area within the Master of Education degree. Proposal required prior to registration. Enroll in final credit(s) of Thesis in the semester in which you expect the thesis to be approved. Should you not complete the thesis in the final semester, you will receive a CS grade in this course and will be required to re-enroll in a minimum of 1 additional credit of Thesis each fall and spring semester thereafter until the thesis is completed. Your progress and the decision of the thesis advisor will determine the number of credits for which you must register. Graded P/NC.

HIED 600 Foundations of Higher Education 3cr. I

Introduction to the historical foundations of higher education and its primary areas of responsibility, the historical purpose and development of higher education, college and university organizational structures, mission and purpose in American higher education, access to higher education, student experiences, and current external forces (such as accreditation, funding, degree worth, and college readiness, retention and completion). Variable

HIED 601 College Student Development Theory 3cr.

A review of a range of human development theories that offer insight into the processes of student learning, growth, and development during the postsecondary years (including theory to practice through developmental assessment, programing, and the creation of environments which support college student growth and development. Variable.

HIED 602 Foundations of Student Affairs 3cr.

A comprehensive introduction to the field of student affairs and its role within the context of American higher education, including the nature of student affairs as a field of study and a profession, major functional areas with student affairs administration, and professional competencies required for good student affairs practice. Variable

REED 517 Content Area Reading I 3 cr.

This course identifies the essentials of the reading process for content reading. Instructional strategies and best practices are explored, including student-centered instruction, motivation, and assessment

REED 518 Reading and Writing Connections 3 cr.

Reading and writing activities in daily instruction. The role and use of authentic assessments in determining student reading performance and selection of materials appropriate to student ability levels. Fall. *Prerequisite: admission to the M.A.T. Secondary program.*

REED 530 Processes and Acquisition of Language and Reading 3 cr.

Study of basic linguistic and psycholinguistic insights into language acquisition and the primacy of language development processes in literacy, how the brain responds to language and reading, and the role of experiential background, prior knowledge, phonemic awareness and personal significance in developing readers. The central concept of literacy will be introduced. *Prerequisite: admission into the Master of Arts in Teaching program or permission of program coordinator.*

REED 531 Literacy Instruction 3 cr.

Definitions of reading and emergent literacy and the research, best practices and instructional strategies that focus on reading from initial exploration of print through critical processing of literary experiences and content materials. Role of print, word study, text structure, comprehension and classroom organization in developing a variety of strategies with developing readers. Early identification and intervention strategies for low-achieving readers will also be analyzed. Concept of emerging literacy will be related to other areas of knowledge. *Prerequisite: admission into the Master of Arts in Teaching program or permission of program coordinator.*

REED 532 Reading Materials 3 cr.

Research-based principles and precepts to the selection and use of a variety of reading materials. Teachers' role for developing the long-term motivational support for developing literacy within a framework of inquiry. Research on motivation and its relation to reading. Variety of texts to be used in classes when reading for literary experience, reading to perform a task and reading for information and relate them to current research on reading. Strategies for selecting materials, retrieving materials and evaluating materials. Accessibility, variety of media, multicultural materials, text features and oral and written responses to literature. Research and best practices on the role of parents and community in supporting the reading program. *Prerequisite: admission into the Master of Arts in Teaching program or permission of program coordinator.*

REED 533 Reading Assessment 3 cr.

Knowledge of best practices and research using data from state, local and classroom assessments of reading to make ongoing modifications in their PDS classrooms that include strategies for prevention and intervention. Understanding of how to implement a variety of reading assessments and adjust the curriculum. Understanding of the circumstances under which the following types of reading assessments are valuable: teacher observations, running records, learning logs, performance assessment, portfolios, projects, rubrics and norm-referenced assessments. Knowledge of how to provide meaningful input to Individualized Educational Plan (I.E.P.) teams. Communicate assessment data about individual student reading performance to parents. *Prerequisite: admission into the Master of Arts in Teaching program or permission of program coordinator.*

REED 540 Children's Literature 3 cr.

Content and form of children's literature in books other than school textbooks. How to evaluate literature and use literary materials in teaching. Summer.

REED 610 Foundation of Teaching Reading 3 cr.

Methods and materials for teaching reading, including the elementary school reading program. The application of research to the teaching of beginning readers, reading as a learning process. This course must be taken first in the reading core sequence. Fall.

REED 617 Teaching Reading in the Content Areas 3 cr.

Methods to develop reading skills as part of the teacher's regular classroom instruction. Problems related to teaching students the skills specifically needed to read subject areas. Spring.

REED 620 Diagnosis and Correction of Reading Difficulties 3 cr.

Investigation of causes of reading disabilities and treating them. Individual and group testing and remedial techniques. Spring. *Prerequisite: REED 610.*

REED 625 New Literacies: Integrating 21st-Century Skills 3 cr.

Research-based practices across print and digital literacy worlds into engaging learning communities in Pre-K – 12 Literacy Education. Fall.

REED 695 Reading Clinic 3-6 cr.

Combined class lecture and lab experience focusing on diagnosing and tutoring disabled readers. Students required to complete two 3-credit clinics, Part 1 in the fall

semester, Part 2 in the spring semester. 6 credit hours when clinic is offered in the summer. Repeatable for maximum of 6 credits. *Prerequisite: REED 620.*

REED 700 Literacy Master's Research Paper/Project 3 cr.

Individual investigation or project related to the area of concentration and professional education. Enroll in final credit(s) of Master's Research Paper or Project in the semester in which you expect the paper or project to be approved. Conduct action research in diverse school environments as a means of influencing literacy practices and instruction. Assume coaching role during practicum experiences to support teachers' professional development. Share field research findings through school and symposium presentations. Variable. *Prerequisite: permission of instructor; recommended this be taken during final semester.*

SCCO 600 Core Counseling Skills 3 cr.

Introduces the broad field of counseling, and specifically, school-oriented counseling in grades K-12. Core elements include the nature of the helping relationship, introduction to basic counseling skills and exploring attitudes and beliefs involved in developing and maintaining the helping relationship and how these fundamental core elements apply to the school counselor. Lab experience included that focuses on the counseling relationship and its personal implications. Fall. *Prerequisite: admission to the School Counseling program or permission of instructor.*

SCCO 601 Program Planning and Service Delivery 3 cr.

The development, organization and administration of the school counseling program, K-12. Included are the principles upon which the program is built, appropriate procedures for successful program implementation and professional counselor strategies and behaviors. Not open to students who have received credit for the former GUCCO 601. Fall. *Prerequisite: admission to the School Counseling program or permission of instructor.*

SCCO 606 Social and Cultural Diversity: Issues and Counseling Interventions 3 cr.

Designed to promote understanding of social and cultural diversity relevant to a K-12 educational setting. Examines how one's cultural identity impacts one's beliefs, values and actions in a counseling situation. Provides a framework and skills for competent ethical practice with such issues as gender, race, ethnicity, socioeconomic status, religion, sexual orientation, exceptionalities, family structure and geographic location. Assignments focus on identification and development of one's values, beliefs, cultural identity and biases and their impact on the counseling process. Spring. *Prerequisites: SCCO 600 and admission to the School Counseling program or permission of instructor.*

SCCO 608 Lifestyle, Career Development and Decision Making 3 cr.

Designed to provide prospective counselors with knowledge and skills in helping students develop a realistic career plan through the synthesis of knowledge of self and the world of work. Not open to students who have received credit for the former GUCCO 608. Fall. *Prerequisite: admission to School Counseling program or permission of instructor.*

SCCO 609 Theories and Techniques in School Counseling 3 cr.

Designed to familiarize school counseling students with the primary theories and techniques that are applicable to the K-12 setting. Emphasis placed on application of the theories to the needs of K-12 school children and their families. Additional focus on development of a personal theoretical approach to counseling children and understanding of how the techniques support the theory. Spring. *Prerequisites: Admission to the School Counseling program or permission of instructor, SCCO 600, SCCO 601.*

SCCO 610 Legal, Ethical and Professional Issues in School Counseling 3 cr.

Designed to present a legal and ethical framework for school counselors. Provides prospective school counselors with a basis for developing their professional code of ethics within the framework of the standards established by the American Counseling Association. Topics such as relevant court cases, child abuse issues and confidentiality will be explored. Not open to students who have received credit for the former GUCCO

610. Fall. *Prerequisites:* SCCO 600, 601, 606, 609, 619, admission to School Counseling program, or permission of instructor.

SCCO 612 Practicum 3 cr.

An academic and experiential class designed to provide candidates with in vivo learning experiences regarding the role of the professional school counselor in the K-12 environment. Supervised experience at one level (elementary, middle or high school) for a total of 100 clock hours. Represents the initial hands-on experience as part of the professional training program for school counseling. Taken in the third semester of course work for full-time students, concurrent with the SCCO 610 Ethics course and prior to the internship semester. Offered once per year for full-time students. Fall. *Prerequisites:* completion of core School Counseling course, EXCEPT for SCCO 610 and SCCO 613 (which may be taken concurrently), SCCO 692, SCCO 693 and permission of program coordinator.

SCCO 613 Group Dynamics and Interventions in the School Setting 3 cr.

Provides prospective school counselors with knowledge and skills in the application of group procedures to the school setting K-12, including appropriate techniques in group guidance, group counseling and school consultation. Not open to students who have received credit for the former GUCO 613. *Prerequisites:* admission to School Counseling program or permission of instructor; SCCO 600 and 609.

SCCO 619 Assessment Issues in the School Setting 3 cr.

Provides prospective school counselors with knowledge and skills related to the philosophy, selection and implementation of student appraisal techniques, including the development, content and trends in school testing programs. Review of standardized and teacher-made testing and measurement. Interpretation of testing results. Not open to students who have received credit for the former GUCO 619. Fall. *Prerequisite:* EDUC 603, admission to the School Counseling program or permission of instructor.

SCCO 625 Counselor as a Person 3 cr.

Exploration of the interface between the person of the counselor and the professional role demands. Focus on elements and issues in the personal and professional arenas of counselor's life as they impact ability to function effectively in the counseling process. Emphasizes self-awareness and maintenance of balance and healthy boundaries as essential components of ethical practice. Not open to students who have received credit for the former EDUC 590 or PSYC 692 special topics Counselor as a Person course. Summer. *Prerequisite:* PSYC 510 or 600, or SCCO 600, admission to the School Counseling program or permission of instructor.

SCCO 692 School Counseling Seminar 3 cr.

Through the study of recent professional literature in selected topic areas, students will increase their awareness and knowledge of significant trends in issues in guidance and will become more familiar with the current guidance procedures and techniques. Not open to students who have received credit for the former GUCO 692. Spring. *Prerequisite:* admission to the School Counseling program or permission of instructor.

SCCO 693 Internship in School Counseling 1-6 cr.

An academic as well as experiential class in which the student is responsible for providing 500 clock hours of counseling services to young people enrolled in grades K-12. Supervised experience in elementary, junior high (middle) school and secondary school counseling. A total of 6 graduate credits is required and may be taken over a one or two semester time period. Represents an integration of learned guidance and counseling skills as well as the relation of theory to practice, which includes a research project. Taken during the last semester(s) of a student's program of study. Not open to students who have received credit for the former GUCO 693. Repeatable for maximum of 6 credits. Spring. *Prerequisites:* completion of all core school counseling courses and permission of program coordinator.

SCED 510 Secondary Methods and Curriculum 3 cr.

Evolution of the philosophy of secondary education. Current curricula, planning, issues and instructional methodologies in all secondary teaching areas. Summer. *Prerequisite:* admission to the M.A.T. Secondary program.

SCED 511 English in the Secondary School 3 cr.

Subject methods course required for secondary certification in teaching English. Modern trends in curriculum and instruction. Summer. *Prerequisite:* admission to the M.A.T. Secondary program.

SCED 514 Mathematics in the Secondary School 3 cr.

Subject methods course required for secondary certification in teaching mathematics. Modern trends in curriculum and instruction. Summer. *Prerequisite:* admission to the M.A.T. Secondary program.

SCED 515 Methods of Teaching World Languages 3 cr.

Subject methods course required for prekindergarten – grade 12 certification in teaching world languages. *Prerequisite:* admission to the M.A.T. Secondary/PreK-12 program.

SCED 516 Computer Science Methods 3 cr.

This course offers a study of current standards, methods, materials, and procedures used in the development of secondary school computer science instruction. In addition, this course provides the candidate with the opportunity to design and teach secondary computer science lessons in specific content areas within a middle and high school environment. The emphasis is on procedures and methodology that can be used successfully during internship and teaching scenarios.

SCED 519 Science in the Secondary School 3 cr.

Subject methods course required for secondary certification in teaching science. Modern trends in curriculum and instruction. Summer. *Prerequisite:* admission to the M.A.T. Secondary program.

SCED 520 Social Studies in the Secondary School 3 cr.

Subject methods course required for secondary certification in teaching social studies. Modern trends in curriculum and instruction. Summer. *Prerequisite:* admission to the M.A.T. Secondary program.

SCED 696 Practicum I with Secondary Seminar 6 cr.

An intensive experience in the secondary school setting for the initial certification student. Experience centers on the knowledge, skills and dispositions of a quality teacher with emphasis on collection of data and assessment of learning to drive instruction. Peer coaching and collaborative efforts emphasized. Involvement with the school improvement process and school reform. Emphasis given to development of intern's professional portfolio. Fall. *Prerequisite:* admission to the M.A.T. Secondary program.

SCED 697 Practicum II with Secondary Seminar 6 cr.

An intensive experience in the secondary school setting for the initial certification student. Experience centers on the knowledge, skills and dispositions of a quality teacher with emphasis on collection of data and assessment of learning to drive instruction. Peer coaching, collaborative efforts emphasized under the direction of a mentoring teacher. School improvement process and school reform. Continued development of the intern's professional portfolio. Course is a continuation of Practicum I. Seminar is designed to address topics, issues and concerns as scheduled or needed and to integrate portfolio development and the research component and other aspects of the program within the practicum experience. Spring. *Prerequisites:* admission to the M.A.T. Secondary program; completion of SCED 696.

SCED 700 MAT Secondary/P-12 Capstone: Action Research and Professional Portfolio 3 cr.

Capstone. Individual action research project and paper related to the content area of certification and exit electronic portfolio meeting standards. Course is graded A, B, C or F. Blended format. Spring.

SPED 506 Arithmetic: Learning Disabilities & the Reluctant Learner 3 cr.

Introduction to learning disability interference with arithmetic performance in elementary school. Variable.

SPED 551 Adapting Instruction in Diverse Classrooms 3 cr.

An understanding of the instructional and social development needs of students with/without disabilities in inclusive classrooms. Special attention to collaboration, diversity, technology, legislation, educational programming, instructional strategies, and inclusion models of instruction. Summer. *Prerequisite: admission to the M.A.T. Elementary and Secondary program.*

SPED 561 Characteristics of Exceptional Children 3 cr.

Etiology, diagnosis, physical, emotional and social characteristics of exceptional children, including the gifted. Fall.

SPED 562 Introduction to the Education of Exceptional Children 3 cr.

History of special education in public schools. Study of legislative mandates and educational intervention procedures and resources. Definitions, characteristics and prevalence of specific disabilities. Understanding the educational needs of exceptional children including etiology and diagnosis of disabilities; diverse & gifted populations, preventive and remedial education will also be discussed. Fall, Spring.

SPED 581 The Gifted Learner 3 cr.

Study of recent research in characteristics and needs of gifted learners; model programs; future possibilities. Summer.

SPED 601 Assessment, Diagnosis and Evaluation of Exceptional Children 3 cr.

Basic concepts, ethical concerns, legal issues and typical procedures related to the assessment and monitoring students with disabilities. . Appropriate application and interpretation of testing results. Appropriate use of widely accepted assessment instruments. Strategies that consider the influence of diversity in the special education process. Fall. *Prerequisites: SPED 562.*

SPED 602 Instructional Content & Practices for Exceptional Children 4 cr.

Instructional strategies and practices to meet the needs of students with disabilities, including academic, behavioral, medical self-management, communication, vocational/career and general curriculum integrative needs. Strategies for communication and collaboration in working with individuals with exceptional learning needs, parents, school personnel and community agencies. 3 credit lecture, 1 credit practicum. Fall, Spring. *Prerequisites: SPED 562 and SPED 601.*

SPED 603 Planning and Managing the Teaching and Learning Environment for Individuals With Disabilities 4 cr.

Basic classroom management theories, methods and techniques for individuals with exceptional learning needs. Research-based best practices for effective management of teaching and learning. Use of technology in planning and managing the teaching and learning environment. 3 credit lecture, 1 credit practicum. Fall, Spring. *Prerequisites: SPED 562 and SPED 601.*

SPED 604 Managing Student Behavior and Social Interaction Skills 4 cr.

Strategies for promoting learning for students when behavior interferes with learning. 3 credit lecture, 1 credit practicum. Fall. *Prerequisites: SPED 562 and SPED 601.*

SPED 605 Communication and Collaborative Partnerships in Special Education Programs 3 cr.

Strategies for communication and collaboration in working with individuals with exceptional learning needs, parents, school personnel and community agencies. Field experience component. Winter, spring. *Prerequisite: 6 hours in special education courses.*

SPED 607: Educating Students on the Autism Spectrum 3 cr.

Designed to provide basic and introductory information to the professional working with students diagnosed in the Autism Spectrum. Characteristics and current issues of the individuals in the autism spectrum; including behavior, social interactions, communication, and introduction to sensory/motor issues, advocacy for social responsibility and classroom strategies for inclusion, and the identification of global disability issues related to the autism spectrum across the lifespan. Elective for the Special Education M.Ed. candidate. Intersession and Summer.

SPED 691 Seminar in Special Education 3 cr.

A case study approach to dealing with issues and problems that individuals with disabilities and those who provide educational services for them encounter during the school experience. Demonstrations of competency in appropriate technology required during the course. Elective for Special Education program. Repeatable for maximum of 6 credits if topics are substantially different. Spring (alternating years on Frostburg campus and USMH).

SPED 696: Special Education Practicum 3 cr.

The Special Education Practicum is focused on the legal, administrative, and implementation of Individualized Education Plans, that all Special Education specialists must be skilled in to successfully move into leadership roles including case management. All practicum experiences are completed with the involvement of appropriately certified supervising or mentoring teachers who submit evaluation forms at the conclusion of the semester. Fall, Spring, Summer.

SPED 700: Special Education Action Research 3-6 cr.

Individual investigation (action research) related to an area in Special Education. Candidates enroll in the semester in which you intend to graduate. Should you not complete the action research in the semester, you will receive a continuing research credit, and, be required to enroll in an additional credit hour each semester until the action research project is completed. Your progress and the decision of completion will be determined by your advisor. Fall, Spring, Summer.

English

ENGL 502 Editing and Production 3 cr.

Design, layout and editing techniques for professional publications. Reinforcement of copy editing and proofreading skills. Spring, even-numbered years. *Prerequisite: ENGL 308, 309, 310, 330 or 338.*

ENGL 516 History of the English Language 3 cr.

From the beginnings to contemporary usage; changes in sounds, grammatical and spelling forms, syntax and vocabulary. Spring only.

ENGL 518 Second Language Acquisition: Theory and Application 3 cr.

Introduction to theories of how people learn second languages, with application to conducting research or to the teaching/tutoring of second/foreign languages (principally English as a second language). Spring of even-numbered years. *Prerequisite: ENGL 306 or 416 or LING 301 or permission of instructor.*

ENGL 530 The Composing Processes 3 cr.

A survey of theory and research on the composing process. *Prerequisite: 6 hrs. of writing courses.*

ENGL 536 Advanced News and Feature Writing 3 cr.

Skills in gathering and writing news. Techniques of New Journalism and writing for magazines. Spring only. *Prerequisite: ENGL 336 or permission of instructor.*

ENGL 540 Literature of the Environment 3 cr.

Critical, multicultural and historical study of literature of the environment, emphasizing the variety of attitudes toward the land in essays and poetry. Fall, odd-numbered years.

ENGL 550 Women and Literature 3 cr.

A cross-cultural study of womanhood as portrayed by male and female writers over the centuries. Variable. *Prerequisite: C or better in ENGL 101 or 111 or permission of instructor.*

ENGL 571 Seminar in Critical Theory 3 cr.

Study of literary critical theory and application to an independent student project. Required of English majors in the literature concentration. Fall. *Prerequisites: C or better in ENGL 101 or 111 or permission of instructor; senior status.*

ENGL 590 Selected Topics in English 3 cr.

A select aspect or body of literature of limited scope and topical interest. Subject varies; see Academic Schedule for specific titles. Repeatable for maximum of 6 credits if topics are substantially different. Offered at variable intervals.

ENGL 599 Independent Study 1-3 cr.

Reading and writing on a specific topic defined by the student with a faculty director and the chair of the Department. Repeatable for maximum of 6 credits if topics are substantially different.

Exercise & Sport Science

EXSS 501 Physiology of Exercise 3 cr.

Exercise and the circulatory, respiratory and nervous systems; efficiency of muscular work; fatigue; age, gender and body type. Two hrs. lecture, one 2-hr. lab. *Prerequisites: BIOL 201 and 202 and PHSC 201 and 202 or equivalent.*

EXSS 510 Advanced Strength Training 3 cr.

The study of the principles and practices of advanced strength training. Emphasis on the practical application of this knowledge to athletic performance and a health/wellness setting. Spring only. *Prerequisites: EXSS 401/ESSX 501 or permission of instructor.*

EXSS 511 Evaluation and Prescription for Fitness 3 cr.

In-depth examination of evaluation of and components applicable to the development of exercise programs. Fall only. *Prerequisites: EXSS 401/ESSX 501 or permission of instructor.*

EXSS 535 Physical Activity and the Older Adult 3 cr.

The aging process, current theories of aging and how physical activity, nutrition, and psychological and sociological variable influence the well-being of individuals as they biologically age.

Foreign Languages and Literature

Special Topics**MDFL 507 Latin American and Spanish Films 3 cr.**

A study principally of the most recent films from Latin America and Spain. Taught in English (may not be taken to satisfy the Spanish major). Students who have taken this course may not take SPAN 507 and vice versa. Two hrs. lecture and 2 hrs. lab. Variable.

French**FREN 502 The French Theater 3 cr.**

French theater from 17th century to the present. Major schools and playwrights from Corneille to the antitheater of the mid-20th century. Alternate springs. *Prerequisite: FREN 315 or permission of instructor.*

FREN 504 French Fiction 3 cr.

Great novels, novellas and short stories from the 17th century to present. Alternate springs. *Prerequisite: FREN 315 or permission of instructor.*

FREN 590 Special Topics in French Language and Literature 3 cr.

A selected topic such as an author or work, a genre or theme, translation or interpreting. Repeatable for maximum of 9 credits if topics are substantially different. *Prerequisites: two 300-level French courses and permission of instructor.*

Spanish**SPAN 501 Spanish Poetry and Drama I 3 cr.**

Drama and poetry from the Middle Ages through the Golden Age. *Prerequisite: SPAN 315 or equivalent.*

SPAN 502 Spanish Fiction 3 cr.

Novels and short stories from Cervantes to the present. *Prerequisite: SPAN 315 or equivalent.*

SPAN 503 Spanish Poetry and Drama II 3 cr.

Drama and poetry from the Romantics to the present. *Prerequisite: SPAN 315 or equivalent.*

SPAN 504 Spanish Nonfiction Prose 3 cr.

The essay as literature. Principal Spanish and Latin American essayists. *Prerequisite: SPAN 315 or equivalent.*

SPAN 590 Special Topics in Hispanic Language and Literature 3 cr.

A selected topic such as an author or work, a genre or theme, translation or interpreting. Repeatable for maximum of 9 credits if topics are substantially different. *Prerequisites: two 300-level Spanish courses and permission of instructor.*

SPAN 599 Individual Problems in the Spanish Language 1-4 cr.

Individual research or activity requiring submission of a final paper or completed project. Repeatable for maximum of 6 credits if topics are substantially different. *Prerequisites: three 300-level Spanish courses and permission of instructor.*

Geography

GEOG 501 Geography of Europe 3 cr.

Physical, historical and cultural features that have shaped the current landscapes of Europe. *Prerequisites: GEOG 103 (or 113) and GEOG 104 (or 114) or permission of instructor.*

GEOG 502 Geography of Russia and the Former Republics 3 cr.
Population, agriculture, mining, manufacturing, trade and transportation of Russia and adjacent states. Human adjustment to the physical environment of the various regions. *Prerequisites: GEOG 103 (or 113) and 104 (or 114) or permission of instructor.*

GEOG 503 The Geography of Sub-Sahara Africa 3 cr.
The cultural, economic, physical and political potentials of Sub-Sahara Africa. The complex spatial patterns that define the Sub-Sahara African landscape are examined. *Prerequisite: GEOG 104 (or 114) or permission of instructor.*

GEOG 506 Management and Conservation of Natural Resources 3 cr.
Current problems associated with the use and misuse of natural resources. *Prerequisites: GEOG 103 (or 113) and 104 (or 114) and/or permission of instructor.*

GEOG 507 Political Geography 3 cr.
The world patterns of nations; geographic factors affecting the background and present development of countries. *Prerequisite: GEOG 104 (or 114) or permission of instructor.*

GEOG 510 Locational Analysis 3 cr.
Theories and methods of analyzing and explaining the spatial location of economic activities. Emphasis is on theoretical, methodological and practical issues. The relationship between consumer behavior and the location of industrial service facilities is examined. *Prerequisite: GEOG 104 (or 114) or permission of instructor.*

GEOG 513 Remote Sensing—Image Interpretation 3 cr.
Fundamental principles of remote sensing and image interpretation applications in Geography; the remote sensing process, Earth surface energy/matter interactions, photogrammetry basics, color theory & digital image display, introductory digital image processing, and a survey of image types including panchromatic, color-infrared, multispectral, thermal, and radar. Two hrs. lecture and 2 hrs. lab. Fall. *Prerequisite: GEOG 275 or permission of instructor.*

GEOG 520 Trends in the Mapping and Geospatial Sciences 3 cr.
Trends in the mapping and geospatial sciences. A project-based course covering current trends in the mapping sciences and geospatial intelligence. Projects may include digital image processing, advanced cartographic design and/or geospatial analyses. Two hrs. lecture/discussion and 2 hrs. lab per week. May be repeated for up to 6 hours provided the projects are different. Spring. *Prerequisite: instructor approval.*

GEOG 521 Regional Planning 3 cr.
Contemporary topics in regional planning and development. Group and individual projects and research. *Prerequisite: GEOG 325 or permission of instructor.*

GEOG 527 Geography of Language and Religions 3 cr.
Languages and religions examined from a geographic perspective. Emphasis placed on the five geographic themes of culture region, cultural diffusion, cultural integration, cultural landscapes and cultural ecology. Three hrs. lecture. *Prerequisite: GEOG 104 (or 114) or permission of instructor.*

GEOG 530 Surface Water Hydrology 4 cr.
Physical principles governing occurrence and movement of water, including precipitation, evaporation and transpiration; runoff; infiltration; soil water movement; and stream channel morphology. Lab/field experience with stream gauging, infiltration measurement, soil hydraulic conductivity, flow frequency analysis and related phenomena. Human influence on surface water hydrology. Three hrs. lecture and 2 hrs. lab. Spring. *Prerequisite: GEOG 103 (or 113) or permission of instructor.*

GEOG 532 Groundwater Hydrology 3 cr.
Principles governing the physical and chemical nature of water below the earth's surface, including fundamental concepts of groundwater flow, water-rock interaction

and groundwater-surface water interactions. Exploration of human influence on the hydrological environment. Fall. *Prerequisite: GEOG 530 or permission of instructor.*

GEOG 545 Biogeography 3 cr.
Patterns of plant and animal distributions in the landscape are stressed and are considered in light of historical, environmental and biotic influences. Historical development of contemporary regional distributions, survey of world biomes and the importance of disturbance and human-induced changes on biotic distributions are considered. *Prerequisites: GEOG 103 or BIOL 100. BIOL 340 is recommended.*

GEOG 550 Urban Planning 3 cr.
City Planning: needs assessment, land use suitability, policy and design. Participation in limited scope planning projects. *Prerequisite: GEOG 324 or permission of the instructor.*

GEOG 554 Geography of Tourism 3 cr.
A review of geographical distribution of tourism, travel patterns and tourism impacts on natural environments and local populations. *Prerequisite: Completion of 6 credits of geography or senior standing.*

GEOG 555 Tourism Planning 3 cr.
Planning activities associated with the development and marketing of tourist activities. Consideration of both business and leisure travel. Group project focus. *Prerequisite: GEOG 454 or 554.*

GEOG 560 Natural Hazards in the Physical Environment 3 cr.
Study of hazards to human society arising from wind, water and earth, either independently or from human activities. Perception, prevention and mitigation of hazards; spatial distribution and impact on global population. *Prerequisites: GEOG 103 and senior standing or permission of instructor.*

GEOG 572 Environmental Planning 3 cr.
Principles and methods used in environmental assessments and site analysis. Students will prepare an environmental impact statement, site development plan and mine reclamation plan. Two hrs. lecture and 2 hrs. lab. Spring.

GEOG 573 Environmental Law 3 cr.
A survey of federal and state environmental laws and regulations. History and role of environmental regulation related to air and water pollution, waste disposal and resource development. Fall.

GEOG 599 Research in Geography 3 or 6 cr.
Research in field of interest chosen by student and faculty. Repeatable for maximum of 6 credits. *Prerequisites: minimum of 15 hrs. of geography completed, GEOG 380 and permission of the Chair of the Department.*

Health & Physical Education

Health

HEED 504 Health Instruction 3 cr.
Basic concepts of health education. Implementing a health education program for grades K-12.

HEED 508 Therapeutic Modalities in Sports Medicine 3 cr.
The study of the theoretical basis and practical usage of various therapeutic modalities. Designed for individuals who routinely treat sports-related injuries. Fall only. *Prerequisite: EXSS 305 or permission of instructor.*

HEED 516 Curriculum Design in Health Education 3 cr.
Health Education curriculum development, implementation and evaluation; implementation of program strategies from evaluation results. Spring.

HEED 518 Current Issues in Health 3 cr.
Identification and investigation of problems and solutions relevant to existing or emergent health topics. Spring.

History

HIST 503 Imperial Russia 3 cr.
The political, economic, social and cultural history of the Russian empire, from its roots in the ninth-century Kievan state to its fullest expansion under the last Romanov tsar, Nicholas II.

HIST 504 Revolutionary and Soviet Russia 3 cr.
Russia since the revolution of 1905: political developments, both domestic and foreign; economic system and organization; social and cultural evolution.

HIST 515 History of American Women 3 cr.
The experience of all groups of women in America from pre-Columbian times to the present. How female roles are shaped by changing socio-economic circumstances.

HIST 536 Women's Issues in World History 3 cr.
The historical study of the major issues affecting women's lives in the modern age (18th-21st centuries) and across multiple cultures. Variable.

HIST 550 The History of Mexico 3 cr.
The development of Mexican society from the pre-Columbian period to the present. The Aztec and Mayan civilizations, the implanting of Spanish control, the origins of the Mexican Revolution and its long-range impact.

HIST 552 Traditional Africa 3 cr.
The African pre-colonial states; their government, economic systems, cultural patterns, achievements and relations with other African and non-African peoples.

HIST 553 Contemporary Africa 3 cr.
The 20th-century emergence of representative African nations; the achievements of these nations; their current political, economic and social problems.

HIST 555 Latin American Revolutions 3 cr.
Twentieth century revolutions in Latin America. Theories of revolution, the causes, leaders and followers, post-revolutionary developments and the international consequences of Latin American revolutions.

HIST 561 Colonial American, 1607-1763 3 cr.
From settlement of Jamestown through the French and Indian War: European backgrounds, religious development, regional differences, Indian relations and cultural life.

HIST 562 Revolutionary America, 1763-1789 3 cr.
From the conclusion of the French and Indian War to the formulation of the United States Constitution: British-American imperial relations; cultural developments in the 18th century; origins, impact and general nature of the American Revolution; and the formation of the Federal Union.

HIST 563 The Age of Jefferson and Jackson, 1789-1848 3 cr.
From Washington's presidency through the administration of James K. Polk. The philosophies of Hamilton and Jefferson, the origins of political parties, politics of the

Jacksonian era, Indian removal, the development of transportation, the frontier and emerging sectionalism.

HIST 564 The Civil War and Reconstruction, 1849-1877 3 cr.
From the end of the Mexican War through the period of Southern Reconstruction: sectionalism, slavery, abolitionism and the social, political, military and economic impact of the War Between the States.

HIST 565 Gilded Age America, 1877-1913 3 cr.
From the presidency of Hayes through the Progressive Era; the labor movement, growth of the city, immigration, imperialism, art and architecture, and politics.

HIST 566 The United States in the 20th Century, 1914-1945 3 cr.
The home front during World War I, post-war reaction, the 1920s, the Stock Market Crash, the Great Depression, the New Deal and American society during World War II.

HIST 567 The United States in the 20th Century, 1945-Present 3 cr.
The Truman, Eisenhower and Kennedy years; the Cold War and McCarthyism; the 1920s, black and student movements; Johnson and Vietnam; Nixon and Watergate; and more recent presidencies.

HIST 575 Genocide and Mass Violence 3 cr.
Genocides of the modern era from that of Herero of German Southwest Africa (early 20th century) to that of Darfur in the Sudan (early 21st century). Variable.

HIST 576 Modern Europe 3 cr.
European history in the modern period, from the Napoleonic era (1799-1815) to the present day, with particular attention to geographic, historical, political and economic distinctions between western and eastern Europe.

HIST 698 Readings in History 3 cr.
Independent reading under direction of a history department faculty member. Repeatable for maximum of 6 credits if topics are substantially different.

Mathematics

MATH 525 Introduction to Real Analysis 3 cr.
Topology of real numbers; sequences, cluster points, continuity, theory of differentiation and integration; elements of measure theory; infinite series. Variable. *Prerequisite: MATH 237.*

MATH 526 Introduction to Complex Analysis 3 cr.
Analytic functions: Cauchy's Theorem, Taylor and Laurent series, meromorphic functions: residue theory, conformal mapping. Variable. *Prerequisite: MATH 237.*

MATH 532 Differential Equations 3 cr.
Solution of ordinary differential equations, Laplace transforms, numerical methods using mathematical software, solution by series. Fall, spring, summer. *Prerequisite: MATH 237.*

MATH 537 Combinatorics and Graph Theory 3 cr.
General enumeration techniques, elements of graph theory, matrix representations of graphs and applications of graph theory. Variable. *Prerequisite: MATH 237 or permission of instructor.*

MATH 540 Modern College Geometry 3 cr.
An introductory synthetic study of geometry; finite, absolute, affine, Euclidean, hyperbolic, elliptic and projective geometries. Variable. *Prerequisite: MATH 237.*

MATH 551 Modern Higher Algebra 3 cr.
Basic study of the structure of groups and rings: isomorphism theorems, special kinds of rings, additional topics. Variable. *Prerequisite: MATH 237.*

MATH 552 Linear Algebra 3 cr.
Basic study of vector spaces and their relationships to matrix algebra: the algebra of linear transformations, linear functionals and dual spaces, inner product spaces and decomposition theorems. Variable. *Prerequisite: MATH 237.*

MATH 560 Introductory Topology 3 cr.
The topology of metric spaces, introduction to general topological spaces, the separation axioms, compactness, connectedness. Variable. *Prerequisite: MATH 237.*

MATH 561 History of Mathematics 3 cr.
Historical development of mathematics and its concepts. Contributions of individuals and societies to the development of mathematics. Variable. *Prerequisite: MATH 237.*

MATH 565 Theory of Numbers 3 cr.
Divisibility, Diophantine equations, congruences, sums of squares, additional topics. Variable. *Prerequisite: MATH 237.*

MATH 570 Mathematical Models and Applications 3 cr.
Model-building processes, the assumptions underlying mathematical models and the generation and interpretation of results from models. Theory and illustrative applications of modeling. Analyses of models constructed by students. Spring. *Prerequisite: MATH 237 or permission of instructor.*

MATH 575 Theory of Secondary Mathematics Education 3 cr.
Theoretical aspects of teaching mathematics at the secondary level. Philosophical and psychological principles of learning mathematics and their application.

MATH 580 Probability and Statistics 3 cr.
A deeper study of probability and statistics. Continuous probability distributions and their statistical applications. Variable. *Prerequisite: MATH 237, MATH 380 or permission of instructor.*

MATH 590 Selected Topics in Mathematics 3 cr.
A specialized topic or recent development in mathematics. Does not duplicate any other course offered by the Department of Mathematics. Repeatable for maximum of 6 credits if topics are substantially different. Variable. *Prerequisite: MATH 237 or permission of instructor.*

MATH 591 Seminar in Mathematics 3 cr.
Individual reports and group discussions on mathematical topics and applications. Written project required. *Prerequisite: permission of instructor.*

MATH 592 Internship Seminar 3 cr.
Academic component of internship. Requires co-registration in 595. Graded A-F.

MATH 595 Internship in Mathematics 6 or 12 cr.
Experiential component of internship; guided work experience with MATH 592; must directly relate to academic program. Full-time interns register for 12 credits in MATH 595 and 3 credits in MATH 592. Graded P/F. Variable. *Prerequisites: good academic standing, submission of the Internship Agreement form to the internship director prior to registering, completion of MATH 236 and 237 and four math courses at 300 or 500 level (or enrollment in the fourth 300- or 500-level mathematics course at time of application), GPA of at least 3.0 in mathematics and any requirements of the sponsoring agency.*

MATH 680 Research Statistics 3 cr.
Applied statistical methods. Experimental design, analysis of variance, multiple regression and correlation. *Prerequisite: MATH 209 or equivalent.*

MATH 690 Current Concepts in Mathematics Education 3 cr.
Secondary school mathematics teaching. Development of units of instruction, methods of informal evaluation, contemporary learning theories, trends in secondary school mathematics curricula and teaching strategies.

MATH 698 Reading in Mathematics 3 cr.
Library research and individual study.

MATH 699 Individual Research in Mathematics 3 cr.
Selected advanced topics in mathematics. Repeatable for maximum of 9 credits if topics are substantially different.

MATH 700 Master's Research Paper or Project 3 cr.
An individual investigation or project related to the area of concentration and professional education.

MATH 710 Thesis in Mathematics 6 cr.
A research project in mathematics. Written report and oral presentation required. Graded P/NC.

MBA

MBA Essentials:

ACCT 507 Essentials: Accounting and Finance 3 cr.
Overview of financial accounting, financial statements, and financial reporting issues. Importance of accounting as the language of business. Construction of financial statements. Evaluation of financial condition through ratio analysis. Ethical issues. Cost behavior. Fall, spring, summer.

MKTG 508 Essentials: Management and Marketing 3 cr.
Basic overview of the management and marketing functions carried out in organizations. Focus is on the basic components of each discipline and how the two are linked in successful organizations. Fall, spring, summer.

Required MBA Courses:

ACCT 540 Financial Accounting 3 cr.
Overview of financial accounting, financial statements and financial reporting issues. Importance of accounting as the language of business. Concepts and procedures underlying financial accounting. Financial statement analysis for decision-making. Ethical issues. Variable. *Prerequisite: BUAD 507.*

ACCT 546 Managerial Accounting 3 cr.
Overview of management accounting and its use in managerial decision-making. Behavior of costs and their impact on organizational planning and control. Responsibility accounting and budgeting. Capital budgeting and present value analysis. Other managerial topics. Fall, spring, summer. *Prerequisite: ACCT 507 or waiver from the course.*

BMIS 607 Information Management 3 cr.
Employs information technology to support organizational decision-making through data collection, integration and conveyance. Explores how the process is influenced by factors both internal and external to the organization. Examines challenges to information system efficacy, assessment of structural and process sufficiency and conduct of cost/benefit assessment of existing systems, as well as of prospective improvements. Variable.

- ECON 511 Economics for Managers** 3 cr.
Explores fundamental economic concepts and their relevance to organizational performance, and addresses the linkage between economic variables and normal and organizational decisions. Examines economic decisions by the firm made within the global environment. Students apply tools for both micro-economic and macro-economic analysis.
- FINA 610 Financial Management** 3 cr.
Uses analytical tools and concepts utilized by managers to make the financial decisions consistent with the goals of the firm through the application of selected cases, research project and problems. Topics include, but are not limited to, capital budgeting, risk analysis, cost of capital, capital structure, dividend policy and working capital management. Fall, spring, summer. *Prerequisite: ACCT 507 or waiver from the course.*
- MGMT 510 Leadership and Ethics** 3 cr.
Utilizes self-awareness and effective social influence as a framework for individual development as leaders; examines personality, behavior and ethics in relation to leadership effectiveness in a changing global society. Fall, spring, summer.
- MGMT 512 Management Decision Analysis** 3 cr.
Overview of management decision science. Utilizes various analytic tools and statistical techniques. Topics include data analysis, spreadsheets and statistical programs, decision theory, optimization, forecasting, regression analysis, hypothesis testing, problem solving and decision making. Fall, spring, summer.
- MGMT 542 Organizational Behavior** 3 cr.
Examines management of individual behavior and groups/teams as related to performance management, motivation, leadership, power and influence, group dynamics, teamwork and organizational structure and change for adaptation in unpredictable and ambiguous situations. Topics also include goal setting, employee socialization, training, delegation, coaching/mentoring and performance models and tools. Fall, spring, summer. *Prerequisite: MKTG 508 or waiver from the course.*
- MGMT 590 Special Topics in Management** 3 cr.
This course examines a contemporary issue/s in depth from a variety of management perspectives. Individual sections will cover such topics as global business, entrepreneurship, organizational change, consulting and conflict management. While there are no prerequisites, it is recommended this course be taken near the end of the student's coursework. Fall, spring, summer.
- MGMT 620 Strategic Human Resource Management** 3 cr.
Integrates the macro and micro perspectives of Human Resource Management; examines the vital role of acquiring and retaining individuals with the skills, knowledge and abilities needed to accomplish the tasks necessary for achievement of organizational strategic goals. The course also discusses the ethical issues associated with HR responsibilities, and emphasizes motivating individuals to exhibit the behaviors (performance) essential to overall organizational success in the global environment. Fall, spring, summer. *Prerequisite: MKTG 508 or waiver from the course.*
- MGMT 621 Foundations of Analytics** 3 cr.
Introduces data analytics process and practices in business world and explains how data can be utilized in decision-making. Explores foundation of computational and quantitative methods and tools. Fall, spring, summer.
- MGMT 622 Data Management** 3 cr.
Explores collection, storage, organization and retrieval of various data types using different data management solutions in a business context. Explains how to choose the proper data management models and tools based on a business needs and how to work with various data management systems. Introduces big data management systems. Variable. *Prerequisite: MGMT 621.*
- MGMT 623 Data Analysis** 3 cr.
Explains how to prepare data for analysis, summarize data, apply various analysis methods, interpret the results and communicate the findings properly. Explores data preprocessing, descriptive analytics, statistical and quantitative modeling and visualization. Variable. *Prerequisite: MGMT 621.*
- MGMT 624 Predictive Analytics** 3 cr.
Explores predictive analytics in business. Explains statistical modeling, machine learning, data mining and text mining along with case studies and how to interpret, visualize and present the findings of predictive models. Variable. *Prerequisite: MGMT 623.*
- MGMT 625 Prescriptive Analytics** 3 cr.
Explains prescriptive analytics and how it can be used to assess multiple future scenarios and advise a proper course of action that optimizes the desired outcome under a deterministic or uncertain situation. Explains several decision-making tools including linear programming. Variable. *Prerequisite: MGMT 623.*
- MGMT 631 Health Care Management and Finance** 3 cr.
Provides an overview of the U.S. health care system. This course will focus on the characteristics of Health Care delivery, discussions on the major issues and challenges that impact the Iron Triangle of Health Care (access, cost containment, and quality). The U.S. historical context of health care will be discussed, as well as significant policies that regulate health care organizations. Students will be introduced to issues that are essential to managing in the health care environment, i.e., financing, reimbursement, legal, and strategic planning. Variable.
- MGMT 632 Health Care Policy, Law and Ethics** 3 cr.
Provides an overview of comprehensive issues in health care as they pertain to policy, laws and ethics. This course will focus on historical occurrences in medical experiments that resulted in today's view of health ethics involving human research. Also, students will be challenged on major ethical problems and dilemmas in the health care industry. Students will become aware of the current regulatory and legal system and its impact on the health industry and issues of compliance. Students will learn how to make well-reasoned and defensible decisions via awareness of ethical considerations and analytical problem solving. Variable.
- MGMT 633 Principles of Population Health Management** 3 cr.
This course will examine population-based approaches to improve the health of the public. Students will gain more insight into determinants of population health that impact health outcomes. The focus will be on learning methods for community health improvement—from assessment to finding and implementing evidenced-based public health interventions. Students will also gain insight into community-based health needs for the improvement of health services delivery. This course will provide students with valuable information to better understand and be able to respond to challenges to improve health within and across various populations. Variable.
- MGMT 634 Health Care Information Management Systems** 3 cr.
This course will discuss the concepts and application of major information systems methodology and approaches in the delivery of health care systems. It will also provide an overview of the Health Care information technology system, as well as clinical information systems devoted to direct management of the patient. Students will gain valuable information on implementing, managing, and assessing clinical information systems in various health care settings. Discuss electronic health records, e-health, health information technology (HIT), meaningful use, Health Information Portability and Accountability Act (HIPAA), telehealth, and telemedicine. Also, information will be provided on data breaches, hacks, and the need for increased security. This course will also explore new technology creation and adoption processes and the impact of rapidly evolving technologies in the health care organizations. Variable.

MGMT 680 Strategic Analysis and Planning 3 cr.

The development of a useable, integrated, comprehensive analysis process applicable to a broad range of industry and firm contexts and situations. Students prepare an in-depth written report for a firm chosen from the studied industry that includes a review and analysis of complex internal and external factors, an understanding of the competitive positioning among firms, a range of strategic options and a recommendation on strategic choice with implementation and evaluation plans for the chosen strategy. Students integrate prior knowledge as well as acquire new strategic analysis techniques. Fall, spring, summer. This course must be taken in the student's last 6-9 credits of study. *Prerequisite: ACCT 546.*

MGMT 691 Seminar in Management 3 cr.

Specific management topic not covered in the regular curriculum. Offered in response to petition of seven or more students. Does not apply to MBA requirements. Repeatable for maximum of 6 credits if topics are substantially different. Variable.

MGMT 699 Individual Research in Management 3 cr.

Directed study for topics and issues not covered in the regular curriculum. Does not apply to MBA requirements. Open to undergraduates. Repeatable for maximum of 6 credits if topics are substantially different. Variable. *Prerequisites: Approval of department chair and submission of independent study request.*

MKTG 640 Marketing Management 3 cr.

Course focuses on application of marketing concepts and principles at both a micro and macro level. Students will be expected to demonstrate analytical and reasoning skills in applying the concepts and principles in a wide variety of circumstances, integrating marketing into an overall business strategy and understanding the role of marketing in a global context. Fall, spring, summer. *Prerequisite: MKTG 508 or waiver from the course.*

Music

MUSC 552 Choral Music Methods K-12 3 cr.

Materials and techniques of choral instruction, computer-assisted instruction and integrated technology, and choral performance at all levels of public music education. Required of voice and piano majors in the music teacher education program. Spring. 150 minutes. *Prerequisites: Completion of the Sophomore Evaluation and Piano Proficiency Exam and conditional admission to the MAT program. Departmental approval required.*

MUSC 553 Instrumental Music Methods K-12 3 cr.

Materials and techniques of instrumental music instruction, computer-assisted instruction and integrated technology, and instrumental performance at all levels of public music education. Required of all instrumental majors in teacher education. Spring. 150 minutes. *Prerequisites: Completion of the Sophomore Evaluation and Piano Proficiency Exam and conditional admission to the MAT program. Departmental approval required.*

MUSC 590 Special Topics in Music Education 5-6 cr.

A selected aspect of music education. Subject varies; see Academic Schedule for specific titles. Repeatable for maximum of 12 credits if topics are substantially different. *Prerequisite: permission of instructor.*

MUSC 599 Individual Research in Music 1-6 cr.

Intensive individual study in an area of special interest under the direction of a staff member. Repeatable for maximum of 12 credits. Fall only. *Prerequisite: permission of the chair of the department.*

Nursing

NURS 504 Nursing Informatics 3 cr.

Designed to prepare the nurse to integrate and translate selected technologies and their application, the electronic health record, and policies governing privacy, confidentiality, and security as it relates to complex decision making and the promotion of safe, quality and effective care. Variable.

NURS 507 Health Finance 3 cr.

Conceptual and practical issues related to health care economics, finances and budgeting, including accounting, business planning, cost/benefit analysis, managing financial resources and other management tools for the nurse administrator. 3 hrs. lecture. Spring, summer.

NURS 601 Advanced Health, Physiology and Pharmacology 4 cr.

Study of normal physiologic and pathologic mechanisms of disease, comprehensive physical assessment and pharmacotherapeutics. Assessment, diagnosis and management of clients' common health problems in a safe, high-quality, cost-effective manner. Analysis of an in-depth health history, including signs and symptoms, developmental stages and psychosocial and cultural characteristics. Students will have the opportunity to practice these advanced skills in a patient care setting. Lecture/Lab ILL. 3 hrs. lecture. Fall.

NURS 602 Research and Systematic Analysis 4 cr.

Discussion of clinical, management and education leadership roles in health care. Analysis and synthesis of research with applications within specialization. 4 hrs. lecture. Variable.

NURS 603 Roles and Issues in Advanced Practice Nursing 3 cr.

Examination of the theoretical basis, scope and status of professional roles and legal and ethical responsibilities of nurses prepared for advanced clinical and managerial placements in diverse health care settings. Fall.

NURS 605 Healthcare Systems and Populations 3 cr.

Focuses on health promotion of diverse populations. Learn to critically analyze health promotion initiatives from the perspective of improving health outcomes, impact of health policy, system organization, and financial structures. Exploration of public health and program development to address identified deficits in the community to promote public wellness. Development a health promotion plan based on epidemiology, risk stratification, social determinants of health, regulatory and policy regulations, and funding opportunities. Students will have the opportunity to practice advanced skills on aggregate populations in the clinical area. Lecture/Lab ILL. Spring.

NURS 610 Administration of Health-Care Organizations 3 cr.

Examines the role of the nurse leader to include leadership theory and application, professional development and performance management, inter-professional teams and collaboration, facilitating change, and self-reflection. Contemporary topics affecting the role of the nurse leader: transformational leadership, technology to support quality and safety, emotional intelligence, mindfulness, the aging population and its effect on delivery system, strategic management, and succession planning. Fall, Spring.

NURS 611 Organizational Theory 3 cr.

Focus on social science and organizational/systems theories. Management principles, complexity science and issues related to dynamic organizational behavior in the health-care setting. Students may take MGMT 542 Organizational Behavior. Credit cannot be earned for both NURS 611 and MGMT 542. Fall, spring.

NURS 612 Health Policy 3 cr.

Examines historical and current health policy issues related to socio-political environment, persuasive argument, advocacy, legislative and regulatory influences,

and how these apply to leaders in healthcare. Experiencing the political arena through written, verbal and experiential assignments will provide confidence in navigating health policy agenda, at local, federal and global level. Fall, Spring.

NURS 613 Curriculum Development and Design 3 cr.
Theories of curriculum development and nursing education will be examined from philosophical and historical foundations. 3 hrs. lecture. Fall, spring.

NURS 614 Teaching and Learning Strategies 3 cr.
Examination of a variety of teaching strategies and evaluative approaches designed to promote a productive and effective learning environment. Students establish nurse education practicum goals and objectives and are required to obtain a nurse educator preceptor. Practicum hours involve practical observational and hands-on experiences in the clinical and classroom environments. 3 hrs. lecture. Fall, spring.

NURS 615 Evaluation and Assessment of Clinical Education 3 cr.
Selection and implementation of instructional strategies and media appropriate to variety of learning styles and behavior objectives. Didactic and experiential applications. Focuses on measurement principles of reliability and validity, test construction, assessment of skill acquisition and competence, and interpreting results. 3 hrs. lecture. Fall, spring.

NURS 624 PMHNP Board Review Course 2cr.
This course will prepare the advanced practice nursing student to take the national board certification examination. Content includes comprehensive program content review, test taking strategies, and practice examinations. Fall, Spring or Summer

NURS 625 Neurobiology of Psychiatric Disorders Across the Lifespan 2cr.
Transition students from general concepts utilized in advanced practice to specific theories that are unique to the role of the psychiatric NP. Focuses on the current and evolving biological theories as a major dimension in understanding the etiology, course, and outcomes of selected psychiatric disorders. Major biological theories of psychiatric disorders in relationship to their respective technologies, neuroanatomical structures, neurochemical pathways, specific behaviors and symptomatology are explored. Lecture. Variable. *Prerequisites:* NURS 650, 651, 653.

NURS 626 Psychopharmacology Across the Lifespan 2 cr.
Transition students from general advanced pharmacology concepts to specific theories regarding psychotropic medication. Develop an understanding of psychotropic medication mechanism of action, indications, acute vs. chronic dosing strategies, risks and benefits, short and long-term side effects, safe management practices, interactions, and discontinuation strategies. Lecture. Variable. *Prerequisites:* NURS 625, 650, 651, 653.

NURS 627 Psychiatric Diagnostic Reasoning Across the Lifespan – Theory 2 cr.
Builds upon the advanced health assessment & diagnostic reasoning across the lifespan course. Designed to prepare psychiatric NP students to develop skills in conducting comprehensive psychiatric evaluations and in the preparation of case formulations. A biopsychosocial, patient-centered perspective is emphasized. Lecture. Variable. *Prerequisites:* NURS 625, 650, 651, 653.

NURS 628 Psychiatric Diagnostic Reasoning Across the Lifespan – Practicum 3 cr.
Practicum course ensures that psychiatric NP students are experientially prepared to competently perform comprehensive psychiatric evaluations across the lifespan and develop case formulations using a biopsychosocial, patient-centered approach. 135-hour practicum. Variable. *Prerequisites:* 625, 650, 651, 653.

NURS 629 Physical Health Issues Common in Psychiatric Disorders Across the Lifespan 2 cr.
Enhances the core knowledge of the psychiatric NP student in navigating complex physical health problems commonly co-morbid in mental health populations. Provides

information, education and resources to identify primary care management issues for conditions commonly seen in patient populations and the implications for co-managing multiple morbidities. Lecture. Variable. *Prerequisites:* NURS 650, 651, 653.

NURS 630 Therapeutic Management of Adult/Geriatric Psychopathology I – Theory 2 cr.
Focus on theory and concepts relevant to management of psychopathology in adult and geriatric populations. Principles from physical, behavioral and social sciences are central in this course. Comprehensive, patient-centered care plans will be developed, implemented, then evaluated in accordance with the scope and standards of practice of psychiatric-mental health nursing. Lecture. Variable. *Prerequisites:* NURS 625, 626, 627, 628, 629, 650, 651, 653.

NURS 631 Therapeutic Management of Adult/Geriatric Psychopathology I – Practicum 3 cr.
Practicum course ensures that psychiatric NP students are experientially prepared to develop, implement, then evaluate comprehensive, patient-centered care plans in adults and geriatric with psychopathology. Advanced skills will be further developed in case management, psychopharmacology, psychobiological interventions, psychoeducation, crisis intervention and consultation/liaison. 135-hour practicum. Variable. *Prerequisites:* NURS 625, 626, 627, 628, 629, 650, 651, 653.

NURS 632 Adult/Geriatric Focused Brief Individual and Group Psychotherapy for the Psychiatric NP – Theory 2 cr.
Focus on the theory relevant to conducting brief individual and group therapy within the scope and standards of the psychiatric nurse practitioner role. Emphasis on preparing the student to provide appropriate brief models of psychotherapy within various mental health care environments. Lecture. Variable. *Prerequisites:* NURS 625, 626, 629, 650, 651, 653.

NURS 633 Adult/Geriatric Focused Brief Individual and Group Psychotherapy for the Psychiatric NP – Practicum 1 cr.
Practicum course ensures that psychiatric NP students are experientially prepared to competently perform brief, time-limited individual and group psychotherapy with adult and geriatric patients with psychopathology in accordance with scope and standards of practice. 45-hour practicum. Variable. *Prerequisite:* NURS 625, 626, 629, 650, 651, 653.

NURS 634 Therapeutic Management of Child/Adolescent Psychopathology II – Theory 2 cr.
Focus on the theory and concepts relevant to management of psychopathology in the child and adolescent populations. Principles from physical, behavioral and social sciences are central. Comprehensive, patient and family-centered care plans will be developed, implemented, then evaluated in accordance with the scope and standards of practice of psychiatric-mental health nursing. Lecture. Variable. *Prerequisites:* NURS 625, 626, 627, 628, 629, 630, 631, 632, 633, 650, 651, 653.

NURS 635 Therapeutic Management of Child/Adolescent Psychopathology II – Practicum 3 cr.
Practicum course ensures that psychiatric NP students are experientially prepared to develop, implement, then evaluate comprehensive, patient and family-centered care plans in children and adolescents with psychopathology. Advanced skills will be further developed in case management, psychopharmacology, psychobiological interventions, psychoeducation, crisis intervention and consultation/liaison. 135-hour practicum. Variable. *Prerequisites:* NURS 625, 626, 627, 628, 629, 630, 631, 632, 633, 650, 651, 653.

NURS 636 Child/Adolescent Focused Brief Individual and Family Psychotherapy for the Psychiatric NP – Theory 2 cr.
Focus on the theory relevant to conducting child/adolescent individual and family therapy within the scope and standards of the psychiatric nurse practitioner role. The emphasis is on preparing the student to provide appropriate time-limited individual

and family interventional models of psychotherapy within various mental health environments. Lecture. Variable. *Prerequisites:* NURS 625, 626, 629, 632, 633, 650, 651, 653.

NURS 637 Child/Adolescent Focused Brief Individual and Family Psychotherapy for the Psychiatric NP – Practicum 1 cr.

Practicum course ensures that psychiatric NP students are experientially prepared to competently perform individual and family-based psychotherapy with child and adolescent patients with psychopathology, and their families, in accordance with scopes & standards of practice. 45-hour practicum. Variable. *Prerequisites:* NURS 625, 626, 629, 632, 633, 650, 651, 653.

NURS638 Therapeutic Management of Vulnerable Populations Psychopathology III – Theory 2 cr.

Focuses on the theory and concepts relevant to management of psychopathology in vulnerable sub-populations experiencing psychopathology across the lifespan. Principles from physical, behavioral and social sciences are central. Comprehensive, patient-centered care plans will be developed, implemented, then evaluated in accordance with the scope and standards of practice of psychiatric-mental health nursing. Lecture. Variable. *Prerequisites:* NURS 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 650, 651, 653.

NURS 639 Therapeutic Management of Vulnerable Populations Psychopathology III – Practicum 3 cr.

Ensures that psychiatric NP students are experientially prepared to holistically care for and manage psychopathology in vulnerable patient populations across the lifespan. Advanced skills further developed in population health, psychopharmacology, psychobiological interventions, psychoeducation, crisis intervention and consultation/liaison. Comprehensive, patient-centered care plans will be developed, implemented, then evaluated in accordance with the scope and standards of practice of psychiatric-mental health nursing. 135-hour practicum. Variable. *Prerequisites:* NURS 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 650, 651, 653. *Co-requisite:* NURS 638.

NURS 650 Advanced Physiology and Pathophysiology Across the Lifespan 4 cr.

Provides fundamental and comprehensive core knowledge of normal and abnormal body system functioning across the lifespan with emphasis on scientific basis of illness and disease. Presented in a body systems format. Includes diseases known to occur in specific populations. Prerequisite: Admission to NP Program. Lecture. Variable.

NURS 651 Advanced Health Assessment and Diagnostic Reasoning across the Lifespan 4 cr.

Intended to expand the baccalaureate prepared nurses assessment skills to the expert level providing a firm foundation for identification of normal, variations of normal and abnormal physical examination findings across the lifespan as well as identification of differential diagnosis. Includes on-campus skills lab. Course designed to align with Essentials of Master’s Education in Nursing I & IX and NONPF Competencies. 3 cr. online; 1 cr. on-campus lab. Variable. Prerequisite NURS 650, 653.

NURS 652 Advanced Health Assessment and Diagnostic Reasoning Across the Lifespan – Practicum 2 cr.

Provides experiential knowledge in advanced assessment skills and the opportunity to develop proficiency in a clinical lab setting. Utilizes simulated and live model situations to allow the advanced practice nurse to develop competency in assessment skills. 90-hour practicum (skills lab). Variable. *Prerequisite:* NURS 650, 653.

NURS 653 Advanced Pharmacology: Essential Concepts Across the Lifespan 3cr.

Teaches the essential concepts for prescribing therapeutic, supplemental and preventative medicines across the lifespan. Provides core concepts of pharmacology to ensure an understanding of drug classifications, metabolism, interactions and

appropriate therapeutic prescribing. Includes legal, ethical and safe prescribing considerations. Lecture. Variable.

NURS 659 FNP Board Review Course 2 cr.

This elective course is intended to prepare the advanced practice nursing student to successfully pass national board certification examinations. Topics include test taking strategies, prioritization of material and topics for review, effective study habits, and practice exams. Fall or Summer.

NURS 660 Adult and Geriatric Primary Care Theory 4 cr.

This course enhances the core knowledge of the advanced practice nurse providing the information, education and resources to provide primary care at an expert level to the adult and geriatric population. It is presented in a systems format with emphasis on health promotion, disease prevention and management. Course must be taken with NURS 662. 3 Credits theory and 1 credit on-campus lab (4 credits), Blended. Variable. *Prerequisites:* NURS 650, 651, 652, 653 or with permission of NP program director.

NURS 662 Adult and Geriatric Primary Care Practicum I 2 cr.

This practicum course will provide the advanced practice nurse the opportunity to experientially obtain competence in performing expert level comprehensive physical examinations to accurately formulate diagnosis and differential diagnosis. The student will develop and execute treatment plans for health promotion, disease prevention and management of acute and chronic illness in the adult and geriatric populations. 2 credits. Practicum I must be taken concurrently with NURS 660 and will have 90 clinical hours in an office setting. For full time students, NURS 663 will be taken synchronously will require an additional 90 clinical hours in an office setting. Variable. *Prerequisites:* NURS 650, 651, 652, 653.

NURS 663 Adult and Geriatric Primary Care Practicum II 2 cr.

This practicum course will provide the advanced practice nurse the opportunity to experientially obtain competence in performing expert level comprehensive physical examinations to accurately formulate diagnosis and differential diagnosis. The student will develop and execute treatment plans for health promotion, disease prevention and management of acute and chronic illness in the adult and geriatric populations. 2 credits. It requires 90 clinical hours with a qualified preceptor in a primary care or internal medicine office setting. For full time students, practicum II will be taken concurrently with NURS 660 and 662; part-time students will take it as per progression plan. Variable. *Prerequisites:* NURS 650, 651, 652, 653.

NURS 664 Primary Care Management Across the Lifespan 3 cr.

Ensures FNP students are experientially prepared for independent practice utilizing all skills developed during the program. Must be taken in the student’s last semester of attendance. Requires active participation in the clinical care of patients in a family practice setting. 135-hour practicum. Variable. *Prerequisites:* Must be taken in final semester in FNP concentration.

NURS 665 Pediatrics in Primary Care 3 cr.

Provides core knowledge for providing primary health care for the special population of pediatrics. Presented in a developmental format with emphasis on health promotion, disease prevention, childhood illnesses and their management. Includes information on diseases more prevalent in the pediatric population well as acute illness/injury and chronic care concerns. Lecture. Variable. *Prerequisites:* NURS 650,651,652,653; or with permission of NP program director.

NURS 666 Pediatrics in Primary Care Practicum 2 cr.

Provides the opportunity to experientially develop proficiency in clinical skills unique to pediatric care, from birth to adolescence. It requires the student to participate in clinical care in an office setting. 90-hour practicum. Variable. *Prerequisites:* NURS 650,651,652,653.

NURS 668 Women's Health in Primary Care Across the Lifespan 3 cr.

Addresses the special, inherent needs of women throughout stages of development across the lifespan. Provides core knowledge on gynecology, obstetrics and family planning. Discusses sexually transmitted disease identification, treatment and prevention. Discusses the developmental stages of pregnancy and specialized care as well as identification of the critical concepts in providing primary care to the pregnant patient. Lecture. Variable. *Prerequisites: NURS 650, 651, 652, 653; or with permission of NP program director.*

NURS 669 Women's Health in Primary Care Across the Lifespan Practicum 2 cr.

Provides the opportunity to experientially develop proficiency in clinical skills unique to gynecology and obstetrics in an office setting. Prepares the advanced practice nurse to perform common, basic gynecology procedures, counsel and educate patients on contraception, identify and treat sexually transmitted infections and provide appropriate health promotion and disease prevention recommendations across the lifespan with sensitivity to cultural diversity, personal beliefs and lifestyle situations. 90-hour practicum. Variable. *Prerequisites: NURS 650, 651, 652, 653.*

NURS 670 Mental Health in Primary Care Across the Lifespan 3 cr.

Building upon the advanced health assessment & diagnostic reasoning across the lifespan course, focuses on the development of skills in conducting comprehensive psychiatric evaluations and making informed DSM 5 diagnoses with differentials. A biopsychosocial, patient-centered perspective is emphasized across the lifespan. Lecture. Variable. *Prerequisites: 650, 651, 652, 653; or permission of NP program director.*

NURS 671 Mental Health in Primary Care Across the Lifespan Lab 1 cr.

Focuses on the experiential preparation to perform a comprehensive psychiatric evaluation across the lifespan and make treatment decisions that are based on best practice guidelines in the primary care setting, as well as scopes and standards of practice for FNPs. Emphasis will be on ethical and legal considerations and scope and standards of practice in the primary care setting. Variable. *Prerequisites: NURS 650, 651, 652, 653.*

NURS 675 Quality Improvement in Advanced Practice Nursing 3 cr.

Focuses on theory, methods, processes and tools of quality improvement to develop, implement, evaluate and adapt evidence-based health care practices in diverse settings. Includes focus on vulnerable populations and cultural diversity across the lifespan. Activities include quality improvement processes at the office, organizational and systems levels. Application of theories and processes to validate critical decision-making outcomes. Lecture. Fall.

NURS 691 Current Trends in Nursing Administration 3 cr.

Examines major topics in healthcare administration such as professional development and certification, shared governance, finance, and healthcare quality metrics, and reimbursement methods. Students will analyze these topics and complete a comprehensive assignment that demonstrates their ability to lead in an organization. *Prerequisite/Co-requisite NURS 610, NURS 611, NURS 612 or permission from Program Coordinator. Fall and spring.*

NURS 692 Current Trends in Nursing Education 3 cr.

Examines the contemporary issues of nursing education. While traditional contexts for learning are included, students will also focus on modern technology, professional development, and trends in nursing education. Students will explore education, leadership, communication, ethical and legal issues, evidence-based practice/practice-based evidence, research and scholarship, program and project management, and current technology in nursing education. Fall, spring. *Prerequisites/Co-requisites NURS 613, NURS 614, NURS 615 or permission by Program Coordinator.*

NURS 694 Graduate Nursing Practicum 3 cr.

Students operationalize the leader or advanced care nurse in their respective specialty areas in appropriate agencies and facilities in conjunction with an expert nurse leader or advanced care nurse/nurse educator. A project involving a topic of interest to the student and organization, using clinical practice skills along with role skills gained in their respective specialty area courses will be initiated. Varied. *Prerequisite/Co-requisite: NURS 691 or 692.*

NURS 695 Nursing Education Practicum 3 cr.

Students work with preceptors to fulfill clinical and educational objectives developed during the experience. Research project leading to the writing of a scholarly paper suitable for publication. (Minimum of 135 hours on site.) Fall, spring. *Prerequisite/Co-requisite NURS692.*

NURS 700 Capstone 2 cr.

Synthesis of theoretical and clinical knowledge for the master-prepared nurse executive or educator. Student will complete a major scholarly project to reflect the overall program objectives. Variable. *Prerequisite/Co-requisite NURS 695 or NURS 694.*

NURS 701 Transitional Role Course for the Nurse Practitioner 1 cr.

This course will assist the student nurse practitioner transition to the role of the graduate/professional nurse practitioner in preparation for clinical practice. Content will be the culmination of all previous courses and practicum experiences. Focus will be on preparing the student to sit for certification, to apply for state licensure, to apply for additional state-specific licensures necessary/required, to apply for a Drug Enforcement Agency license, to apply for a National Public Identification (NPI) number, insurance credentialing, and malpractice/liability insurance specific to state of practice. The focus will also cover the responsibility of continuing education and maintaining national certification throughout one's career. Emphasis will also be on the importance of advocacy specific to the nurse practitioner. Legal and ethical responsibilities will be reviewed within the scope and standards of the NP role. A professional portfolio will be developed in preparation for securing employment as a NP. Online lecture. Variable. *Prerequisite: Must be taken in final semester in NP program.*

Physical Education

PHEC 502 Adapted Physical Activities 4 cr.

Adapting physical activities to individual disabilities. Required prior to student teaching in Teacher Education Program. *Prerequisite: PHEC 303.*

PHEC 505 Psycho-Social Foundations of Sport 3 cr.

Study of human behavior during participation in sport, role of sport in society, psychological characteristics of sport performers, people and organizations who control sport.

PHEC 507 Motor Learning and Performance 3 cr.

Motor skill acquisition as learning. Nature of learner; guidance, results, motivation, practice, transfer, retention.

PHEC 512 Principles of Coaching 3 cr.

Introduction to coaching education and the responsibilities of the coach. Spring.

PHEC 513 Rehabilitation Techniques in Sports Medicine 3 cr.

Various aspects of the rehabilitation process for the physically active or athletic population. Goals, techniques, evaluation methods and specific rehabilitation programs covered. Spring. *Prerequisite: ATTR 318, 319 or permission of instructor.*

PHEC 520 Sports Law and Ethics 3 cr.

Legal implications of tort and liability law for coaches, case studies of ethical issues in sport, athletic eligibility and gender equity. Fall.

PHEC 580 Field Experience in Health, Physical Education, Sport and Recreation **.5-6 cr.**

Special aspects of health, physical education, sport and recreation. Site of study may vary. Repeatable for maximum of 6 credits if placement sites are different. Offered as needed.

PHEC 590 Special Topics in Health, Physical Education, Recreation and Dance **.5-6 cr.**

Unique or distinctive group study, including such activities as clinics, workshops or course work dealing with current topics related to health, physical education, recreation and dance. Repeatable for maximum of 6 credits if topics are substantially different. Offered as needed.

PHEC 598 Readings in H.P.E.R. **1-4 cr.**

Intensive readings on a selected topic. Graded or P/N. Repeatable for maximum of 4 credits if topics are substantially different. *Prerequisite: permission of instructor.*

PHEC 599 Individual Problems in H.P.E.R. **1-4 cr.**

Individual activity requiring submission of a final paper or completed project. Graded or P/N. Repeatable for maximum of 4 credits if topics are substantially different. *Prerequisite: permission of instructor.*

PHEC 602 Current Literature and Research in Health, Physical Education and Recreation **4 cr.**

Directed reading and class discussion based on recent literature in the field. Investigation of testing procedures and experimental methods for conducting research in human performance. Writing for publication.

PHEC 603 Evaluation and Measurement in Health, Physical Education and Recreation **3 cr.**

Examination of evaluation instruments, administering, analyzing and interpreting test results.

PHEC 604 Human Movement and Physical Activity for the Elementary Classroom **1 cr.**

Research-based developmentally appropriate content, skills and activities in physical education. Primary emphasis on regular classroom teacher role. Lecture and lab. Spring. *Prerequisite: admission into the Master of Arts in Teaching program or permission of the program coordinator.*

PHEC 609 The Psychology of Human Performance **3 cr.**

Consideration of factors affecting performance: motivation, aspiration incentives and arousal, discrimination and perception, learning and retention, personality and social correlates of performance.

PHEC 630 Advanced Physiology of Exercise **3 cr.**

In-depth study of acute responses and chronic adaptations to exercise, with particular emphasis on circulatory, respiratory and musculo-skeletal functions.

PHEC 634 Graded Exercise Testing and Electrocardiogram Assessment **3 cr.**

Training in protocols and procedures for administering progressively strenuous exercise tests and instruction in the evaluation of data regarding cardiac function during such testing.

PHEC 636 Using Technology in the Study of Human Performance **3 cr.**

Practical applications of the microcomputer to the health fitness/wellness domain with special attention on the specific programs that are available in diagnosis, evaluation and exercise prescription for adults.

PHEC 638 Nutrition and Weight Control in Adults **3 cr.**

Study of all aspects of nutrition related to exercise with special emphasis on body weight control programs. Both physiological and psychological mechanisms related to nutrition and weight control will be included.

PHEC 639 Practicum in Human Performance Programs **1-3 cr.**

To provide opportunities for practical experiences within the realm of exercise science by placing individuals in the field for "hands-on" skill development in the working environment.

PHEC 691 Seminar in Health and Physical Education **1-3 cr.**

Variable topic seminar. Repeatable for maximum of 3 credits if topics are substantially different.

PHEC 699 Individual Research in Health and P.E. **2-4 cr.**

Study of problem in a selected area. Written and oral reports required. Graded or P/N. Repeatable for maximum of 4 credits if topics are substantially different. *Prerequisite: approval of the chair of the department prior to registration.*

PHEC 700 Master's Research Paper or Project **variable with a minimum 3 cr.**

Individual investigation or project related to the area of concentration and professional education. Enroll in final credit(s) of Master's Research Paper or Project in the semester in which you expect the paper or project to be approved. Should you not complete the paper or project in the final semester, you will receive a CS grade in this course and will be required to re-enroll in a minimum of 1 additional credit of Master's Research Paper or Project each fall and spring semester thereafter until the paper or project is completed. Your progress and the decision of the thesis advisor will determine the number of credits for which you must register. Course is graded P/N. Repeatable for credit each semester of enrollment up to maximum of 4 credits.

PHEC 710 Thesis **variable with a minimum 3 cr.**

Intensive investigation of an approved topic in the area of Human Performance. Proposal required prior to registration. Enroll in final credit(s) of Thesis in the semester in which you expect the thesis to be approved. Should you not complete the thesis in the final semester, you will receive a CS grade in this course and will be required to re-enroll in a minimum of 1 additional credit of Thesis each fall and spring semester thereafter until the thesis is completed. Your progress and the decision of the thesis advisor will determine the number of credits for which you must register. Course is graded P/NC. Repeatable for credit each semester of enrollment up to maximum of 4 credits.

Physician Assistant Studies

DPAM 601 Human Anatomy I **2 cr.**

This first course in a series of three courses is devoted to the study of human anatomy and will cover the topography, internal structures, and functions of general overview and then select body systems (Dermatology, HEENT, Infectious Disease, Hematology/Oncology, and Neurology). 1.5 hrs. lecture; 2.5 hrs. lab. Summer. *Prerequisite: Admission to DPAM program.*

DPAM 602 Human Anatomy II **2 cr.**

This second course in a series of three courses devoted to the study of human anatomy and will cover the topography, internal structures, and functions of select body systems (Cardiovascular, Pulmonary, Gastrointestinal, Endocrine, and Oral Health). One hr. lecture; 2.0 hrs. Lab. Fall. *Prerequisite: DPAM 601.*

DPAM 603 Human Anatomy III **2 cr.**

This third course in a series of three courses is devoted to the study of human anatomy and will cover the topography, internal structures, and functions of select body systems (Musculoskeletal, Neurology – review with focus on neuromuscular and

neuropsychiatric structure and function, Genitourinary and Reproduction). One hr. lecture; two hrs. lab. Spring. *Prerequisites: DPAM 602.*

DPAM 610 Clinical Medicine I **3 cr.**

This is the first course in a three-part series designed to provide an intensive study of human diseases and disorders using a lifespan approach in the areas of clinical medicine including epidemiology, etiology, clinical presentation, progression, therapeutic management (non-pharmacologic), prevention, laboratory medicine, imaging, and prognosis. Emphasis will be on disease processes common to primary care practices and the development of a differential diagnosis and plans based upon the patient's clinical presentation. Three hrs. lecture. Summer. *Prerequisite: Admission into DPAM program.*

DPAM 611 Clinical Medicine II **6 cr.**

This is the second course in a three-part series designed to provide an intensive study of human diseases and disorders using a lifespan approach in the areas of clinical medicine including epidemiology, etiology, clinical presentation, progression, therapeutic management (non-pharmacologic), prevention, laboratory medicine, imaging, and prognosis. Emphasis will be on disease processes common to primary care practices and the development of a differential diagnosis and plans based upon the patient's clinical presentation. Six hrs. lecture. Fall. *Prerequisite: DPAM 610.*

DPAM 612 Clinical Medicine III **6 cr.**

This is the third course in a three-part series designed to provide an intensive study of human diseases and disorders using a lifespan approach in the areas of clinical medicine including epidemiology, etiology, clinical presentation, progression, therapeutic management (non-pharmacologic), prevention, laboratory medicine, imaging, and prognosis. Emphasis will be on disease processes common to primary care practices and the development of a differential diagnosis and plans based upon the patient's clinical presentation. Six hrs. lecture. Spring. *Prerequisites: DPAM 611.*

DPAM 621 Basic Sciences I **3 cr.**

This is the first course in a three-part series devoted to basic concepts and principles that are essential to comprehending the fundamental mechanisms of human physiology at the cellular, tissue and organ levels; and, the requirements for the maintenance of homeostatic control and identification of pathology. This course lays the foundation for understanding the underlying principles of the etiology, management and prevention of human disease processes. Three hrs. lecture. Summer. *Prerequisite: Admission into DPAM program.*

DPAM 622 Basic Sciences II **4 cr.**

This is the second course in a three-part series devoted to basic concepts and principles that are essential to comprehending the fundamental mechanisms of human physiology at the cellular, tissue and organ levels; and, the requirements for the maintenance of homeostatic control and identification of pathology. This course lays the foundation for understanding the underlying principles of the etiology, management and prevention of human disease processes. Four hrs. lecture. Fall. *Prerequisites: DPAM 621.*

DPAM 623 Basic Sciences III **4 cr.**

This is the third course in a three-part series devoted to basic concepts and principles that are essential to comprehending the fundamental mechanisms of human physiology at the cellular, tissue and organ levels; and, the requirements for the maintenance of homeostatic control and identification of pathology. This course lays the foundation for understanding the underlying principles of the etiology, management and prevention of human disease processes. Four hrs. lecture. Spring. *Prerequisite: DPAM 622.*

DPAM 631 Developing the PA Professional I **3 cr.**

This course is the first of three-part series designed to aid the student in the transition into the medical profession and serves as an introduction to professional issues. Three hrs. lecture. Summer. *Prerequisite: Admission into DPAM program.*

DPAM 632 Developing the PA Professional II **2 cr.**

This course is the second of three-part series designed to aid the student in the transition into the medical profession and serves as an introduction to professional issues. Two hrs. lecture. Fall. *Prerequisite: DPAM 631.*

DPAM 633 Developing the PA Professional III **2 cr.**

This course is the third of three-part series designed to aid the student in the transition into the medical profession and serves as an introduction to professional issues. Two hrs. lecture. Spring. *Prerequisite: DPAM 632.*

DPAM 641 Patient Assessment and Diagnostic Methods I **3 cr.**

This first course in a series of three will introduce students to history taking, physical examination, patient counseling and education techniques. Emphasis on learning the components of a complete physical exam and select body system specialty exams. One hr. lecture; two hrs. lab. Summer. *Prerequisites: Admission into DPAM program.*

DPAM 642 Patient Assessment and Diagnostic Methods II **4 cr.**

This second course in a series of three will continue to build on the student's ability to take an accurate medical history, physical examination, patient counseling and education techniques. Emphasis on learning the components of a Cardiology, Pulmonology, Endocrinology and Oral Health. One hr. lecture; three hrs. lab. Fall. *Prerequisites: DPAM 641.*

DPAM 643 Patient Assessment and Diagnostic Methods III **4 cr.**

This third course in a series of three will continue to build on the student's ability to take an accurate medical history, physical examination, patient counseling and education techniques. Emphasis on learning the components of a Musculoskeletal, Psychiatric/Addiction Medicine, Women's Health and Genitourinary exam. One hr. lecture; three hrs. lab. Spring. *Prerequisites: DPAM 642.*

DPAM 651 Pharmacology I **3 cr.**

This is the first course of a three-part series which explores medication delivery, its impact on the body and how it is eliminated. Topics focus on how medications work and potential benefit and risk on the human body. Special emphasis will be placed drugs used in Dermatology, HEENT, Infectious Disease, Hematology/Oncology and Neurology. Three hrs. lecture. Summer. *Prerequisites: Admission into DPAM program.*

DPAM 652 Pharmacology II **3 cr.**

This is the second course of a three-part series which explores medication delivery, its impact on the body and how it is eliminated. Topics focus on how medications work and potential benefit and risk on the human body. Special emphasis will be placed drugs used in Cardiology, Pulmonology, Oral Health, Gastroenterology, and Endocrinology. Three hrs. lecture. Fall. *Prerequisites: DPAM 651.*

DPAM 653 Pharmacology III **3 cr.**

This is the third course of a three-part series which explores medication delivery, its impact on the body and how it is eliminated. Topics focus on how medications work and potential benefit and risk on the human body. Special emphasis will be placed drugs used in Musculoskeletal System, Psychiatry and Addiction Medicine, Women's Health, and the Genitourinary System. Three hrs. lecture. Spring. *Prerequisite: DPAM 652.*

DPAM 660 Population Health **2 cr.**

This course is designed with an emphasis on social, cultural, emotional and psychological factors affecting patient care and human relationships including social determinants of health and on the PA role in disease prevention (for individual and society) rather than treatment. Two hrs. lecture. Summer. *Prerequisite: Admission into DPAM program.*

DPAM 665 Research and Evidence-Based Medicine 2 cr.

The course is designed to teach the importance of evidence-based medicine and review basic statistics, research methods, and ethical standards in research. Two hrs. lecture. Fall. *Prerequisite: Admission to DPAM program.*

DPAM 670 Functional and Preventive Medicine 1 cr.

The functional and preventive medicine course focuses on the PA role in disease prevention (for individual and society) rather than treatment. This course will introduce students to strategies that promote health and wellness to include self-monitoring of health risk behavior, goal setting, and behavior changes. One hr. lecture. Intersession. *Prerequisite: DPAM 660.*

DPAM 675 Geriatrics 2 cr.

This course focuses on healthcare delivery and issues specific to care of elderly patients. Emphasis will be on disease processes, psychosocial aspects of care and creation of treatment plans pertinent to geriatric populations. Two hrs. lecture. Intersession. *Prerequisites: DPAM 610 Clinical Medicine I and DPAM 611.*

DPAM 680 Pediatrics 2 cr.

This course focuses on healthcare delivery and issues specific to care of the pediatric patient. Emphasis will be on routine preventive care, infant and childhood development, and disease processes common to pediatric practice. Two hrs. lecture. Intersession. *Prerequisites: DPAM 610 Clinical Medicine I and DPAM 611.*

DPAM 685 Foundations of Surgery 2 cr.

This course covers concepts of surgical assessment, basic surgical skills and procedures, surgical complications, and management of surgical patients. One hr. lecture; one hr. lab. Summer. *Prerequisite: Admission to DPAM program.*

DPAM 690 Emergency Medicine Intensive 3 cr.

This course prepares students to recognize, rapidly assess, and effectively manage emergent situation, illness, or injury. Team-based activities are used to encourage the development of teamwork, collaboration, and interdisciplinary value. Basic Life Support, Advanced Cardiac Life Support, and Pediatric Advanced Life Support training is part of this course. One hr. lecture; two hrs. lab. Summer. *Prerequisites: DPAM 612 and DPAM 643.*

DPAM 695 Transition to Clinical Practice 1 cr.

The purpose of this course is to: (1) provide the student with a time of self-assessment, (2) evaluate the student's knowledge, skills, and attitude, and (3) identify the student's level of preparedness using physical exam testing, technical skills assessment, and a written examination. Students must pass each of the three testing areas prior to the start of SCPE rotations. Supervised Clinical Practice Experience (SCPE) expectations and behavior will be discussed. One hr. integrated lecture/lab. Summer. *Prerequisites: DPAM 633 and DPAM 643.*

DPAM 700 Family Medicine: Supervised Clinical Practice Experience 4 cr.

The 4-week long Family Medicine Supervised Clinical Practice Experience (SCPE) will enable students to meet program expectations and acquire the competencies needed for clinical PA practice. SCPE encounters will include patient care related to acute, chronic, and preventive medical needs associated with adult and elderly patients in a rural/underserved setting. Practicum. Variable. *Prerequisites: Completion of all pre-clinical course work.*

DPAM 701 Internal Medicine: Supervised Clinical Practice Experience 4 cr.

The 4-week long Internal Medicine Supervised Clinical Practice Experiences (SCPE) will enable students to meet program expectations and acquire the competencies needed for clinical PA practice. SCPE encounters will include patient care related to acute, chronic, and preventive medical need associated with the adult and elderly population. Practicum. Variable. *Prerequisites: Completion of all pre-clinical course work.*

DPAM 702 Pediatrics: Supervised Clinical Practice Experience 4 cr.

The 4-week long Pediatric Medicine Supervised Clinical Practice Experiences (SCPE) will enable students to meet program expectations and acquire the competencies needed for clinical PA practice. SCPE encounters will include patient care related to acute, chronic, and preventive medical needs associated with infants, children and adolescents in the pediatric setting. Practicum. Variable. *Prerequisites: Completion of all pre-clinical course work.*

DPAM 703 General Surgery: Supervised Clinical Practice Experience 4 cr.

The 4-week long General Surgery Supervised Clinical Practice Experiences (SCPE) will enable students to meet program expectations and acquire the competencies needed for clinical PA practice. SCPE encounters will include patient care related to acute, and chronic, and medical need associated with pre-operative, intra-operative, and post-operative surgical management. Practicum. Variable. *Prerequisites: Completion of all pre-clinical course work.*

DPAM 704 Psychiatry: Supervised Clinical Practice Experience 4 cr.

The 4-week long Psychiatric Medicine Supervised Clinical Practice Experiences (SCPE) will enable students to meet program expectations and acquire the competencies needed for clinical PA practice. SCPE encounters will include patient care related to acute and chronic, and medical needs associated with psychiatry patients. Practicum. Variable. *Prerequisites: Completion of all pre-clinical course work.*

DPAM 705 Women's Health: Supervised Clinical Practice Experience 4 cr.

The 4-week long Prenatal and Gynecology Supervised Clinical Practice Experiences (SCPE) will enable students to meet program expectations and acquire the competencies needed for clinical PA practice. SCPE encounters will include patient care related to acute, chronic, and preventive medical need associated with women's health to include prenatal and gynecological care. Practicum. Variable. *Prerequisites: Completion of all pre-clinical course work.*

DPAM 706 Emergency Medicine: Supervised Clinical Practical Experience 4 cr.

The 4-week long Emergency Medicine Supervised Clinical Practice Experiences (SCPE) will enable students to meet program expectations and acquire the competencies needed for clinical PA practice. SCPE encounters will include patient care related to acute and emergent medical need associated with patients across the life span to include children, adolescents, adults, and elderly. Practicum. Variable. *Prerequisite: Successful completion of all pre-clinical course work.*

DPAM 707 Elective: Supervised Clinical Practice Experience 1-4 cr.

The elective (orthopedics, endocrinology, dermatology, cardiology, surgical specialty, etc.) Supervised Clinical Practice Experiences (SCPE) will enable students to meet program expectations and acquire the competencies needed for clinical PA practice. SCPE encounters will include patient care related to acute, chronic, and preventive medical need. This course is repeatable up to 12 credits. Practicum. Variable. *Prerequisites: Completion of all pre-clinical course work.*

DPAM 709 Summative 4 cr.

The summative evaluation measures mastery in the FSU DPAM graduate competencies and outcomes and associated ARC-PA Standards and NCCPA Blueprint items. Students will participate in a population health project in their community that will be identified and described by student teams. Students will work in teams to develop and execute a plan to address the community health care need. Finally, students will also engage in preparation for the PANCE exam, Curriculum Vitae creation, and preparation for job interviews. Four hrs. lecture. Spring. *Prerequisite: Admission to the DPAM program.*

Physics

PHYS 590 Special Topics 1-4 cr.
Designed for in-service physics/science middle and high school teachers. Active physics learning, research-based workshops to enhance content, constructivist learning and teaching, use of technology, demonstrations and assessment. Repeatable for credit if topics are substantially different. Summer only.

Political Science

POSC 522 American Constitutional Law I 3 cr.
A study of the Constitution of the United States as defined in the principal decisions and opinions of the courts, with emphasis on the relationship between the federal government and the state governments and among the three branches of the federal government.

POSC 523 American Constitutional Law II 3 cr.
A study of the Constitution of the United States as defined in the principal decisions and opinions of the courts, with emphasis on the relationship of the individual to the federal and state governments.

POSC 527 The American Presidency 3 cr.
An analysis of the modern American presidency. It emphasizes the president's interaction with the bureaucracy and Congress in the making of American public policy, both domestic and foreign. Topics include the evolution of the president's role in the American political system, the nature of presidential power and the impact of the president's personality and the growth of the White House staff on executive leadership and decision making.

POSC 571 American Political Thought 3 cr.
Analytical study of the evolution of political ideas and institutions in the United States from the colonial period to the mid-20th century. Topics include our Puritan and Enlightenment heritage, the impact of political reform movements and themes in American policy.

POSC 591 Seminar in Political Science 3 cr.
Lectures, discussions, student reports, research techniques, criticism, interpretation. Individual research (senior thesis) on a common topic, with interim reports and final formal presentation of a paper. *Prerequisite: written permission of instructor.*

POSC 598 Readings in Political Science 1 to 6 cr.
Individual advanced readings on a special interest. Regular conference with instructor. Repeatable for maximum of 6 credits if topics are substantially different. Every semester. *Prerequisites: two of the following: POSC 110, 211, 321; plus written permission of instructor.*

POSC 698 Readings in Political Science 3 cr.
Advanced readings and independent study in a topic of advanced special interest. Repeatable for maximum of 6 credits if topics are substantially different. *Prerequisites: permission of instructor, graduate standing.*

Psychology

Graduate students in the M.S. Counseling Psychology program will be given priority enrolling in all graduate-level psychology courses. If you have not been admitted to the M.S. Counseling Psychology program, then you will need to be granted permission by the instructor to take any of the courses listed as graduate-level courses.

PSYC 504 Psychology of the Exceptional Child 3 cr.
Developmental and behavioral characteristics of exceptional children as they relate to inclusion, classroom management, federal laws and psychological treatment. Topics on exceptional children include mental retardation, physical disabilities, giftedness, emotional problems and autism. *Prerequisite: PSYC 210/212 or permission of instructor.*

PSYC 506 Theories of Counseling 3 cr.
Wide range of theories that have been proposed to understand the helping process, traditional to postmodern, along with ways to integrate the various theories. Emphasizes multicultural perspectives and evidence-based practice. Fall.

PSYC 508 Tests and Measurements 3 cr.
Psychological and educational tests, their validity, reliability, scale transformation, norms and standardization. Administration, uses and interpretation of various instruments of assessment. *Prerequisites: PSYC 150/151 and 3 additional credits in psychology or permission of instructor.*

PSYC 510 Individual Counseling: Evidence-Based Practices 3 cr.
Practical and theoretical foundation for further study. The nature of helping relationships, conditions for counseling, stages in the counseling process and the counselor as a professional helper. Role playing, audio and video tape experiences, and related skill-development exercises. *Prerequisites: PSYC 150/151 and 3 additional credits in psychology or permission of instructor.*

PSYC 520 Physiological Psychology 3 cr.
Characteristics of the nervous and endocrine system and their relationship to human behavior. Variable. *Prerequisites: PSYC 150/151 and 3 additional credits in psychology or permission of instructor.*

PSYC 530 Health Psychology 3 cr.
Psychological principles applied to the promotion and maintenance of health, the prevention and treatment of illness and changing public opinion about health-related matters. Behavioral components of health risk factors and improvement of the health care system are addressed. Variable. *Prerequisites: PSYC 150/151 and 3 additional credits in psychology or permission of instructor.*

PSYC 540 Survey of Family Psychology and Intervention Issues 3 cr.
General survey of the principal theories and research about family interaction patterns and interventions with families. Areas discussed include systems approaches, family life cycle development, social forces affecting families and mental health issues, including substance abuse/dependency. *Not intended to prepare students to provide family therapy. Does not meet program requirements for M.S. Counseling Psychology students. Prerequisites: one developmental course and graduate standing.*

PSYC 550 Multicultural Counseling Issues 3 cr.
Introduction to the issues of gender, class, race, culture, sexual orientation and physical ability, as these variables may influence their ability to be present and counsel individuals who are different from themselves. Students will examine between and within group differences in light of various social, cultural, historical and political contexts. The goals of this course are to increase student awareness of self and others as cultural beings and gain knowledge about various cultural groups in the United States. *Prerequisite: PSYC 150.*

PSYC 570 Research Methods Applications 4 cr.
Application of univariate and multivariate research methods and statistical procedures to analyze data from research projects in psychology and related fields. Instruction in computer data analysis and professional presentation to prepare students for work and graduate study. Lab required. Fall. *Prerequisite: PSYC 300/301 or permission of instructor.*

PSYC 581 History and Systems 3 cr.

Historical foundations of the discipline of psychology. Survey of recent and current systems of theoretical ideas in psychology. Attention to the roots of the discipline in philosophy and science, consideration of the work of great psychologists and associated systems. Variable. *Prerequisites: PSYC 150/151 and 3 additional credits in psychology or permission of instructor.*

PSYC 585 Behavioral Approaches to Human Problems 3 cr.

Therapeutic application of learning principles to problems in the behavior of children and adults; normal childhood development; education and habit disorders; depression, severely disordered behavior, anxiety; and sexual problems in adults. Behavioral assessment, behavior change programs and evaluation of such programs. Individual research and project required. Variable. *Prerequisites: PSYC 150/151 and 3 additional credits in psychology or permission of instructor.*

PSYC 590 Special Topics in Psychology 1-4 cr.

Either a practicum to develop psychological skills or a content-oriented course to provide a critical appraisal of a selected topic, as announced. Does not duplicate any other course offered by the Department of Psychology. Four credits when 5 contact hrs. are required (such as 2 hrs. lab and 3 hrs. lecture). Repeatable for maximum of 12 credits if topics are substantially different. Variable. *Prerequisites: PSYC 150/151 and 3 additional credits in psychology or permission of instructor.*

PSYC 591 Seminar in Psychology 3 cr.

Oral reports on a selected theme topic presented and discussed by students in a group setting. Written reports may also be required. Attendance at all seminar meetings expected. May be repeated for credit if topics are substantially different. Variable. *Prerequisites: PSYC 150/151 and 3 additional credits in psychology or permission of instructor.*

PSYC 600 Introduction to Counseling and Assessment 3 cr.

Practical and theoretical foundation for further study. The nature of helping relationships, conducting clinical assessment, psycho-social assessment, mental status exam, dynamic formulation, stages in the counseling process and the counselor as a professional helper. Role playing, audio and/or video tape experiences, and related skill-development exercises. *Prerequisites: Enrollment limited to students admitted to the M.S. in Counseling Psychology program or permission of instructor.*

PSYC 602 Advanced Research Evaluation and Interpretation 3 cr.

Analysis of research design theory and practice. Development of skills to evaluate and apply research to counseling (practice). *Enrollment limited to students admitted to the M.S. in Counseling Psychology program or permission of instructor.*

PSYC 610 Small Group Dynamics/ Introduction to Group Counseling 3 cr.

Small group process, including leadership, early and later stages in the development of a group; application and integration of group counseling theories and techniques. Participation in lab exercises required. *Prerequisite: PSYC 410 or PSYC 510. Enrollment limited to students admitted to the M.S. in Counseling Psychology program or permission of instructor.*

PSYC 614 Advanced Developmental Psychology 3 cr.

General survey of the principle theories and research concerning human development. Areas discussed include psychosocial, cognitive and physical development. The clinical implications of development are considered. *Prerequisites: Undergraduate developmental psychology course and admission to the M.S. in Counseling Psychology program or permission of instructor.*

PSYC 616 Psychological Issues in Career Counseling 3 cr.

The interconnectedness of work/career issues to the other facets of an individual's life, providing a framework for understanding how psychological issues affect one's ability

to function effectively in the workplace, and, in turn, how work-related issues affect one's non-work existence. Development of career counseling and assessment skills.

PSYC 617 Child and Adult Psychopathology 3 cr.

Examination of the nature, classification and etiology of child, adolescent and adult mental disorders. Developmental psychopathology and Biopsychosocial approaches are emphasized, and evidence-based treatment is considered. Enrollment is limited to students admitted to the M.S. in Counseling Psychology Program or permission of the instructor. *Prerequisite: under-graduate abnormal psychology or permission of instructor.*

PSYC 618 Child Psychopathology 3 cr.

Examination of the nature, classification and etiology of child/adolescent emotional and behavioral disorders. Developmental psychopathology and biopsychosocial approaches are emphasized. Evidence-based treatment is considered. *Enrollment limited to students admitted to the M.S. in Counseling Psychology program or permission of instructor. Prerequisite: PSYC 614.*

PSYC 619 Professional, Ethical and Legal Issues in Counseling 3 cr.

Professional standards, legal standards and ethical issues and practices in counseling, including substance abuse counseling.

PSYC 630 Theories and Techniques of Counseling I 3 cr.

Evidence-based theory and treatment strategies. Emphasis on in-class practice. *Enrollment limited to students admitted to the M.S. in Counseling Psychology program or permission of instructor. Prerequisite: PSYC 600.*

PSYC 640 Theories and Techniques of Counseling II 3 cr.

Advanced evidence-based theory and treatment strategies. Emphasis on in-class practice. *Enrollment limited to students admitted to the M.S. in Counseling Psychology program or permission of instructor. Prerequisite: PSYC 630.*

PSYC 650 Family Therapy 3 cr.

Emphasis on evidence-based family therapy approaches. *Enrollment limited to students admitted to the M.S. in Counseling Psychology program or permission of instructor. Prerequisites: PSYC 600, PSYC 614, PSYC 618 and PSYC 630.*

PSYC 660 Individual Assessment 3 cr.

Study and application of Intelligence scales and other instruments for evaluating characteristics of the individual. Case-appropriate use of materials for intellectual assessment will be emphasized with the opportunity to expand into aptitude, achievement, interests, personality assessment. *Enrollment limited to students admitted to the M.S. in Counseling Psychology program or permission of instructor. Prerequisites: PSYC 408 or PSYC 508, and PSYC 600.*

PSYC 670 Multicultural Counseling Techniques 3 cr.

Focuses on developing skills and a conceptual framework that will enhance the student's ability to counsel individuals of diverse cultural backgrounds. Self-understanding and its effect on cross-cultural relationships will also be emphasized. *Prerequisites: PSYC 600, SCCO 600 or permission of instructor.*

PSYC 680 Advanced Treatment Strategies With Children, Adolescents and Families 3 cr.

Emphasis on evidence-based treatment approaches for children, adolescents and their families. *Enrollment limited to students admitted to the M.S. in Counseling Psychology program or permission of instructor. Prerequisites: PSYC 600, PSYC 614, PSYC 618, PSYC 630 and PSYC 650.*

PSYC 686 Addictions Issues and Treatment 3 cr.

Practical application of research and theory to addiction counseling. Overview of treatment-related issues, including assessment and diagnosis. Review of psychopharmacology. *Prerequisite: PSYC 410/510 or 600, or permission of instructor.*

PSYC 692 Advanced Seminar in Counseling 3 cr.
Advanced study in major topic areas of counseling. Repeatable for maximum of 9 credits if topics are substantially different. *Enrollment limited to students admitted to the M.S. in Counseling Psychology program or permission of instructor. Prerequisite: permission of instructor.*

PSYC 695 Internship in Counseling 6-12 cr.
On-site supervised experience in vocational, educational and psychological counseling. Integration of counseling skills, theory, ethics and practices. Between 15 and 36 hours per week. Graded Pass/Non Pass. *Prerequisites: all program requirements completed except PSYC 692; permission of instructor.*

PSYC 696 Advanced Internship in Counseling 5-12 cr.
Continuation of PSYC 695. Placement in appropriate on-the-job, on-site supervised situations. Repeatable for credit each semester of enrollment. Graded Pass/Non Pass. *Prerequisite: completion of PSYC 695.*

PSYC 698 Readings in Psychology 1-6 cr.
Advanced individualized study under direction of faculty. Summaries and conclusions to form required written report. Usual credit 1-3 hrs. Repeatable for maximum of 9 credits if topics are substantially different. Proposal required. *Prerequisite: graduate standing.*

PSYC 699 Individual Research in Psychology 1-6 cr.
Research, practicum or other individualized learning experience, directed by faculty. Reading and group setting projects ineligible (see PSYC 698 and 490/491). Formal written report required. Usual credit 1-3 hrs. Repeatable for maximum of 9 credits if topics are substantially different. Proposal required. *Prerequisite: graduate standing.*

Recreation, Parks & Sport Management

Health

HLTH 505 Human Sexuality 3 cr.
Content and topics related to sexual and reproductive health relative to the individual and society. Spring.

HLTH 600 Public Health Practice 3 cr.
Foundations of community/public health concepts, practices, settings and professional responsibilities and competencies. Spring.

HLTH 603 Foundations of Health Behavior 3 cr.
Introduction and examination of the models, theories and research related to effective methods of motivating and facilitating positive health behavior changes and practices within individuals and populations. Fall.

HLTH 609 Health Communications and Resources 3 cr.
Identification, development, design and delivery of information intended to positively impact the health, health behavior and decision making of individuals and populations.

HLTH 693 Field Work in Health Agencies 1-6 cr.
Field study and participation in planned programs of official and voluntary health agencies. Repeatable up to 6 hrs. Offered as needed.

Recreation

RECR 593 Field Experience in RPM 3-6 cr.
A guided work experience directly related to the student's academic program. Course does not count toward degree requirements. Variable.

RECR 600 Foundations of Sport Management 3 cr.
Foundational principles and practices of Sport Management. Topics include the history of sport management, management principles applied in sport management, governance, social justice, career paths, and sports value to education. Fall.

RECR 601 Current Issues in Sport Management 3 cr.
Examination of current trends and global issues in the sport industry. Understanding how current sport trends and issues are linked to the past and influence the future. Spring.

RECR 603 Facilities Planning and Management 3 cr.
Principles and techniques of planning and operating recreation and sport facilities. The course will address facility development, use considerations, and auxiliary functions. Spring.

RECR 611 Concepts and Foundations of Leisure 3 cr.
A study of recreation and leisure behavior, including concepts, theories and terminology. Emphasizes a historical and literary examination of the park and recreation field as a social movement and as a leisure industry. Fall.

RECR 641 Managing Open Space Resources 3 cr.
Focus on the integration of the subsystems that comprise a resource management plan from a recreational perspective, including geology, soils, topography, vegetation, wildlife, hydrology, water quality, historical, cultural and archeological resources. Fall.

RECR 651 Organizational Behavior and Leadership in RPM 3 cr.
Addresses organizational behavior and leadership, including the following topics: management by objectives, total quality management, time management, conflict management, group dynamics, relationship to boards and commissions, and motivating employees. Fall.

RECR 652 Fiscal Management in RPSM 3 cr.
Addresses obtaining, allocating and reporting funding. Topics include planning strategies, fiscal planning, budget development, financial management tools, enterprise accounts, contracts and grants. Spring.

RECR 653 Communications and Organizational Decision Making in RPM 3 cr.
Focus on understanding the development and role of the executive as a decision maker and leader within an organization and on the development of oral and written communication skills at the executive level. Spring.

RECR 654 Developing Promotional Information Systems in RPM 3 cr.
Focus on the development of information systems to promote the agency and its programs. Topics include client-oriented marketing, needs assessments, promotion and public relations. Summer.

RECR 655 Current Management Issues in RPM 3 cr.
Focus on topics of special interest to managers in RPM, such as personnel management, the changing work place, trends in leisure services, changing role and scope of public park and recreation agencies, legal issues, contracts, negligence, liability, risk management and emerging human resource issues. Summer.

RECR 681 Research Methods and Evaluation in RPSM 3 cr.
Provides an introduction to research methods used in the RPM field. Spring.

RECR 683 Thesis/Project Preparation and Grant Writing in RPSM 3 cr.

Assists students in developing an initial thesis/project proposal and identifying alternative funding options to support their proposal. Students will gain practical experience in grant identification and writing, as well as identifying potential funding sources for agencies. Fall.

RECR 694 Mentorship Program in RPM 3 cr.

A guided experience under the direct supervision of a leader in the field. Course does not count toward degree requirements. Variable.

RECR 696 Practicum in Sport Management 3 cr.

Students operationalize the leadership role in appropriate sport agencies and facilities in conjunction with an expert sports leader. A project involving a topic of interest to the student and the organization will be initiated. Minimum 135 hours on site. Variable.

RECR 699 Individual Research in RPM 3 cr.

An individual investigation or project related to the area of concentration of the student. Course does not count toward degree requirements. Variable.

RECR 700 Research Project in RPSM 1-6 cr.

Individual investigation or project related to the area of concentration and professional education. Variable.

RECR 710 Thesis in RPSM 1-6 cr.

Activities related to the production of a research thesis on an approved topic. Variable.

Social Science

SOSC 700 Master's Research Paper or Project 3 cr.

An individual investigation or project related to area of concentration and professional education.

Sociology

SOCI 536 Sociological Aspects of Mass Communication 3 cr.

The social development of the mass media, societal influences upon them and their effects upon society. *Prerequisite: 9 hrs. of sociology or permission of instructor.*

SOCI 542 Juvenile Delinquency 3 cr.

The social causes and consequences of juvenile delinquency. Juvenile law, the police, courts and correctional institutions. *Prerequisite: SOCI 100 or SOCI 111.*

SOCI 568 Sociology of Later Life 3 cr.

The dimensions of aging, including the aging process, the implications of increasing life expectancy and societal reactions to the aged. *Prerequisite: SOCI 100 or SOCI 111.*

SOCI 591 Seminar in Sociology 3 cr.

Advanced studies in selected topics. Individual study and research for class reports. Formal paper required. *Prerequisite: permission of instructor.*

SOCI 599 Individual Problems in Sociology 1-3 cr.

Special research project open to any upper-level student who submits a proposal, prior to the semester of the project, to the professor who will supervise the project. Department chair's written approval of the project is required. Formal report of the study is required and filed. Repeatable for maximum of 6 credits if topics are substantially different. *Prerequisite: permission of the instructor.*

SOCI 625 Community Analysis for Administrators 3 cr.

Appraisal of community theory; practical applications of research to community reconnaissance. The role of community information and personnel in decision making. *Prerequisite: enrollment in the University of Maryland Administration Doctoral program.*

Theatre

THEA 500 Theatre Production 3-6 cr.

Practical application of the principles of theatre production on the advanced level, involving participation in actual production, classes and workshops of university-affiliated professional theatre. May be repeated to a maximum of 9 credits. *Permission of department required.*

THEA 590 Special Topics in Theatre 1-6 cr.

Research or applied experience on an announced selected topic. May be repeated to a maximum of 6 credits. *Permission of department required.*

THEA 593 Field Work in Theatre Practice 1-3 cr.

Participation in production and/or management for an approved theatre, or for an organization in a related communication field. Participants in university-affiliated theatre may be eligible. May be repeated to a maximum of 6 credits. *Permission of department required.*

THEA 699 Individual Research in Theatre 1-6 cr.

Individual research in a topic related to theatre. Topic and study outline to be approved by department chair prior to registration. Written and oral reports required. Can be repeated to a total of 6 credits.