

ENVS 660 **APPLIED GEOLOGY (3)** Covers all key aspects of the earth sciences including basic geologic principles such as mineral and rock identification; geomorphic processes such as faulting, volcanism, mass wasting, weathering, and sedimentation; plate tectonics; and the interactions between geologic and hydrologic processes. Special emphasis will be placed on improving laboratory and field skills of earth science teachers at middle and high school levels.

ENVS 665 **FUNCTIONAL OCEANOGRAPHY (3)** This course explores the oceans, their functions, and their processes and addresses ocean currents, water chemistry, heat and energy transfer, sea floor geology, and coastal interactions across our planet. Special emphasis is placed on improving the laboratory and field skills of middle and high school level biology and earth science teachers.

ENVS 680 **APPLIED GEOGRAPHY (3)** Comprehensive overview of geographic principles with examples from the physical and social sciences. Technologies such as Geographic Information Systems (GIS) and Global Positioning Systems (GPS) will be used to understand and demonstrate topics, with an emphasis on pedagogical approaches to applying these concepts in the classroom.

HISTORY COURSES

HIST 601 **SEMINAR IN RESEARCH METHODS FOR HISTORIANS (3)** Required course to provide grounding in the following areas: Genres of historical writing, bibliographical search methods, libraries and archives, non-written sources, oral history, electronic sources, auxiliary disciplines, source and historical criticism, quantitative methods for historians, editing, documentation of sources, and reviewing books and articles.

HIST 602 **HISTORIOGRAPHY (3)** Survey of the history of historical writing from the ancient Greeks to post-modern historians, focusing on the contributions of major historians and historical schools of thought.

HIST 603 **ATLANTIC WORLD (3)** Required course to explore the historiography of the Atlantic World (a distinct historiography), as well as the history of the regions contributing to the Atlantic World. The course also may explore the themes that connect the regions together to create the Atlantic World.

HIST 610 **SEMINAR IN EUROPEAN HISTORY (3)** Semester-long seminar to explore in depth the major events of an area of modern European history which will vary from year to year. Common readings, as well as a study of current works and trends in the period under study, will be part of the course. Fluency in a modern foreign language is not required, but if a student's research interest is continental, then knowledge beyond the introductory level is recommended.

HIST 611 **SEMINAR IN UNITED STATES HISTORY (3)** Semester-long course to fulfill the area requirement and to explore in depth various seminal events

HIST 675 SPECIAL TOPICS IN HISTORY (3) This course is an intensive study of a problem or topic in history or historiography. The focus varies according to professor or term. Students may receive credit for up to two special topics courses on different topics.

HIST 680 INTERNSHIP IN HISTORY (1-3) This course offers the opportunity for primary research in local history or supervised learning experience in public history at a museum or historical site.

HIST 685 READINGS FOR COMPREHENSIVE EXAMS (1-3) This semester-long course provides an opportunity for the student to work on an individual basis with a program faculty member to prepare for the comprehensive examination through a program of directed readings.

HIST 690 THESIS (3) The candidate for an M.A. in history completes the capstone requirement by producing a major piece of original historical scholarship, demonstrating skills of historical research, criticism, analysis, and writing on a topic related to the history of the Atlantic World. The student also conducts a successful oral defense of the thesis. After other requirements are satisfied, this course may be repeated once for credit until the thesis is successfully defended.

LEADERSHIP STUDIES COURSES

LS 800 HUMAN RESOURCE MANAGEMENT (3) This seminar is designed to introduce doctoral students to the basic functions and issues related to human resource management (HRM). The emphasis is mastering core concepts that drive research and practice, developing an understanding of the research foundations that underpin the field, and building an appreciation for the intellectual history and evolution of HRM from the perspective of organizational leaders. Topics include strategic human resource management, recruitment, selection, performance evaluation, training and development, compensation, and labor relations. While the primary goal of the course is to enhance students' scholarly insight and understanding of the development and knowledge in the field, the course will also emphasize the practical application of the research knowledge to organizations.

LS 801 EPIDEMIOLOGY OF COMMUNITY PUBLIC HEALTH ISSUES (3) Examination of community health issues from an epidemiological perspective and provides the principles for future leaders to assess and analyze health needs in an organization. Major areas addressed by leaders are concepts related to health promotion and disease prevention; ability to access accurate health information; ability to practice health-enhancing behaviors and reduce health risks; understanding the influence of culture, media, technology, and other factors on health; demonstrating the ability to use interpersonal skills to enhance health; and, demonstrating the ability to advocate for personal, family and community health.

LS 802 QUANTITATIVE RESEARCH (3) Preparation for students to inquire, explore, and engage in quantitative research design, implementation, and reporting. It further addresses generating cooperative approaches with stakeholders to solve identified

LS 892 EXTENDED DISSERTATION RESEARCH (3) Prerequisites: LS 890, LS 891. This course is intended as an option to provide doctoral students with an opportunity to extend their dissertation research.

MATHEMATICS COURSES

MATH 601 RATIONAL AND IRRATIONAL NUMBERS: THE FOUNDATION OF REAL ANALYSIS (3) This course explores the basic structure of the Real Number system, with a focus on the properties of rational and irrational numbers. Topics will include basic properties of numbers, rational and irrational approximation, and transcendental number theory.

MATH 602 POLYNOMIALS: AN EXPLORATION OF ALGEBRAIC STRUCTURES (3) This course explores the basic structure of abstract algebra using polynomials as the primary examples. Topics will include basic properties of groups, rings, fields, and properties of polynomials.

MATH 603 POINT SET TOPOLOGY (3) This course covers the beginning elements of general topology including: set theory, topological spaces, separation axioms, compact spaces, locally compact spaces, connected spaces, continuity and homeomorphism, and metric spaces.

MATH 604 THEORY OF NUMBERS (3) This course explores the properties of the integers and related structures through the use of various algebraic techniques, beginning with a study of the Euclidean algorithm, divisibility, primes, and congruence. Additional topics will be selected from the Chinese Remainder Theorem, Diophantine equations, residues, quadratic reciprocity, primitive roots, number-theoretic functions, continued fractions, unique factorization, algebraic integers, number fields, equations over finite fields, and other topics in Number Theory.

MATH 605 THE MATHEMATICS OF CODING THEORY (3) This course will explore the mathematics necessary for communicating information in the presence of noise. Topics will be selected from decoding algorithms, linear codes and basic vector space theory, Hamming codes, Reed Solomon codes, BCH codes, minimum weight and distance, and error detection and correction schemes.

MATH 606 MATH EXPLORATIONS (3) This course will allow students to explore the world of mathematical problem solving, focusing on the use of computers, models, and examples to investigate problems rather than formal rigid processes to uncover a solution. Selected topics will include, but will not be limited to, number theory, probability, mathematical modeling, graph theory, fractals, real analysis, and open math problems.

MASTER OF BUSINESS ADMINISTRATION COURSES

MBA 600 ADVANCED BUSINESS PRINCIPLES (6) This course covers key concepts in accounting, economics, statistics, and other business disciplines. Special attention is given to developing analytical tools and knowledge in support of the M.B.A. curriculum.

to apply knowledge and skills learned from different courses through cases and a single integrative exercise. Team presentations are required.

MBA 696 SPECIAL TOPICS IN BUSINESS (1, 2, 3) *Prerequisite:* *Consent of instructor.* In-depth pursuit or advanced study in a special business topic not covered (or not covered as fully) in regular course offerings and taught in a traditional course format. Topics include tax law changes, leadership development and training, family business management, mergers and acquisitions, and international market planning (under the auspices of the Virginia Department of Economic Development International Trade Services program).

MBA 697 SPECIAL PROBLEMS IN BUSINESS ADMINISTRATION (1-3) *Prerequisite:* *Consent of instructor.* Includes research, special activities, and conferences offered on an individual or group basis. Subject to the development of a plan of study acceptable to a major professor and the dean of the School of Business and Economics, a student or group of students may pursue almost any business-related topic of special interest.

MBA 698 BUSINESS INTERNSHIP (1, 2, 3) *Prerequisite:* *Graduate students with a 3.0 minimum QPA.* Internships in cooperation with a faculty sponsor who is responsible for academic quality and who assigns the final grade. Student interns may or may not be paid for their work.

MUSIC COURSES

MUSC 504 GRADUATE MUSIC THEORY REVIEW (2) Music theory course that covers basic and elaborated tonal harmonic languages, overview of sixteenth- and eighteenth-century counterpoint and rudiments of forms and analysis.

APPLIED MUSIC (1) Private instruction in applied music. An extra, non-refundable fee is required. The student will arrange his/her lesson time with the instructor.

MUSC 601	PIANO
MUSC 602	ORGAN
MUSC 603	VOICE
MUSC 604	WOODWIND
MUSC 605	BRASS
MUSC 606	PERCUSSION
MUSC 607	STRINGS

ENSEMBLE (1) Each graduate student is required to participate for credit in one of the

Music Department ensembles each semester for a total of four semester hours.

MUSC 612 GRADUATE ENSEMBLE—CHORAL UNION

MUSC 613 GRADUATE ENSEMBLE—WIND SYMPHONY

MUSC 614 APPLIED CONDUCTING—CHORAL (1)

Private conducting lessons.

MUSC 615 APPLIED CONDUCTING—INSTRUMENTAL (1)

Private conducting lessons.

MUSC 621 RESEARCH METHODS IN MUSIC (3) A survey of materials and references in the field of music and bibliography and research in music that provide a foundation for basic methods of research. Areas of emphasis include bibliographical problems, practical research, and the writing of a research document.

MUSC 622 MUSIC HISTORY AND LITERATURE I: GREGORIAN CHANTS TO MUSIC OF J. S. BACH (3) An in-depth study of the music and culture of the Middle Ages (ninth century) to the late Baroque era (ca. 1750), the course provides an overview of political, artistic, and social developments that affect the development of music during the period. Areas of emphasis include the development of polyphony, vocal genres (motet, mass, chanson, madrigal), the birth of monody and opera, and the origins and growth of instrumental music.

MUSC 623 MUSIC HISTORY AND LITERATURE II: CLASSICAL TO TWENTIETH CENTURY (3) An in-depth study of the music and culture of the Classical Era (ca. 1775) through the twentieth century that provides an overview of political, artistic, and social developments that affected the development of music during the period. Areas of emphasis include the development of the symphony and related genres (symphonic poem), Nationalism, the expansion of keyboard repertoire and vocal genres (opera, lieder, mass, and requiem), Impressionism, Expressionism, and electronic/chance music.

MUSC 626 ANALYSIS AND PERFORMANCE (3) Prerequisite: A passing grade on the music theory diagnostic exam or successful completion of graduate theory review. This course involves advanced score analysis techniques that all conductors should know. Macrocosm to microcosm analyses lead to a better understanding of music and guide in the means of conducting preparation.

MUSC 631 PRACTICUM IN CHORAL CONDUCTING (1) This is a practicum ensemble for choral conductors. The course stresses development of effective rehearsal techniques such as conducting gestures, error detection, and rehearsal pacing in a laboratory setting. Each conducting student chooses, prepares, and rehearses music with other students, and the instructor provides feedback on the student's rehearsal and conducting effectiveness.

MUSC 632 **CHORAL METHODS (3)** This is a hands-on study of choral and vocal pedagogy for choral conductors. The course explores theories and practices of vocal/choral tone, its production, and its effect in both solo and choral singing, especially with regard to quality, dynamics, blending, intonation, and diction.

MUSC 633 **CHORAL LITERATURE AND STYLE ANALYSIS (3)** This course is an in-depth study of choral literatures with emphasis on historical context, performance practice, interpretive issues, performance techniques, and conducting problems.

MUSC 641 **PRACTICUM IN INSTRUMENTAL CONDUCTING (1)**
A study of techniques and interpretive skills of the instrumental ensemble conductor to successfully realize the written score. Student participation in a lab setting is required.

MUSC 642 **INSTRUMENTAL METHOD AND PEDAGOGY (3)** A study of instrumental music education developed through the examination of instructional materials and curriculum organization. Emphasis will be placed on pedagogical literature, administrative strategies, recruitment, and special interest groups (jazz/marching band) appropriate for instrumental music programs.

MUSC 643 **SYMPHONIC LITERATURE (3)** A survey of literature for the symphony orchestra from its inception to the present with an emphasis on standard works.

MUSC 644 **HISTORIC WIND BAND LITERATURE TO 1950 (3)** A study of historical, social, and stylistic trends unique to the wind band literature from the Renaissance period (Gabrieli) to traditional wind works of Mozart, Mendelssohn, Berlioz, Holst, Grainger, Poulenc, and others up to 1950.

MUSC 645 **CONTEMPORARY WIND ENSEMBLE LITERATURE (3)**
A study of wind ensemble literature since 1950, with emphasis on performance analysis and conducting techniques in the works of Schuller, Hindemith, Persichetti, Arnold, Painter, Reed, and others.

MUSC 699 **GRADUATE PROJECT (2)** All students are required to present a full conducting recital. Students will select, study, and rehearse an approximately sixty-minute recital under the guidance of his/her major advisor. Graded pass/fail by the committee.

NURSING COURSES

NRSNG 601 **NURSING THEORY AND ROLE DEVELOPMENT (3)** This course provides the foundation for the entering graduate nurse to develop an understanding of the concepts, philosophies, conceptual models, and theories that are relevant to master's-level nursing. The emphasis of the course will be on application of this content to practice as it relates to role development as a clinical nurse leader or nurse educator.

nar discussions students will share findings and applications. This is a required course for students in the nurse educator track.

NRSG 618 CURRICULUM DEVELOPMENT AND EVALUATION (3)

This course is required for students in the nurse educator track. Methods for designing, implementing, evaluating, and revising educational programs will be examined and analyzed. Students will study traditional and contemporary ideas related to curriculum development, examining historical, philosophical, ethical, social, political, economic, and professional issues that impact curriculum design.

NRSG 624 ADVANCED PATIENT MANAGEMENT (3)

Students will explore the manifestation of illness and the management of patients with changes in wellness. They will review the physical assessment techniques and become acquainted with abnormal findings. The pathological and physiological changes occurring in an illness state are reviewed. The student will then apply principles of patient care and pharmacological knowledge to determine the best plan of care.

NRSG 625 COMMUNITY ASSESSMENT (3)

Focus is on the assessment of communities and people groups utilizing epidemiological principles to define, design, and implement culturally competent healthcare. Care of people groups that are determined to be at risk, community care following a disaster, and environmental factors upon community health are also discussed.

NRSG 690 CLINICAL NURSE LEADER PRACTICUM I (2)

Prerequisites: NRSG 610, NRSG 624, NRSG 625. This course focuses on the assessment of communities and people groups utilizing epidemiological principles to define, design, and implement culturally competent health care. Care of people groups that are determined to be at risk, community care following a disaster, and environmental factors upon community health are also discussed.

NRSG 692 CLINICAL NURSE LEADER PRACTICUM II—IMMERSION

EXPERIENCE (8) *Prerequisites: All required graduate nursing courses.* This course focuses on the integration of clinical nursing concepts with leadership and management concepts as they apply to practice as a clinical nurse leader (CNL) in a healthcare facility. The student will implement an evidence-based nursing practice project in the healthcare setting and evaluate the outcomes. The student will also assume the role of CNL in the setting and practice as such under a mentor.

NRSG 694 NURSE EDUCATOR PRACTICUM I—STAFF DEVELOPMENT (4)

Prerequisites: NRSG 601, 610, 612, 613, 615, 618; Prerequisite or concurrent with NRSG 605. This course focuses on the integration of nursing education concepts as they apply to practice as an educator in a healthcare facility. The student will engage in staff educational activities to operationalize the theoretical knowledge of nursing education.

NRSG 696 NURSE EDUCATOR PRACTICUM II—ACADEMIC (6)
Prerequisites: NRSG 601, 603, 604, 605, 610, 612, 613, 615, 618. Focus is on the integration of nursing education concepts as they apply to practice as an educator in an academic setting. The student will engage in didactic, skills lab, and clinical activities to operationalize the theoretical knowledge of nursing education.

READING COURSES

RDNG 625 SURVEY OF EFFECTIVE READING METHODS (3)
Focuses on the foundations of reading and reading development. Topics include children's basic language development as a precursor to reading and as a medium for instruction, methods for assessing and instructing the emergent reader, the beginning reader, and the instructional reader, as well as reading disability.

RDNG 640 STRATEGIES FOR TEACHING PHONICS, SPELLING, AND VOCABULARY (3) *Prerequisite or corequisite:* RDNG 625 or permission of the instructor. Examination of theoretical and practical issues surrounding access to print. Advances basic knowledge of reading process, models multi-sensory approach to teaching reading, and develops understanding of phonics, spelling, and vocabulary acquisition.

RDNG 643 TEACHING WRITING (3) This course focuses on methods and pedagogy of teaching poetry, story-writing, and expository writing to children, adolescents, and young adults. Students experience these types of writing and plan units that include character development, point of view, and other strands of writing.

RDNG 644 ADOLESCENT LITERATURE (3) An advanced course that includes intensive study of selected traditional and contemporary books that appeal to the adolescent reader and/or are about the adolescent. To encourage interdisciplinary uses, a wide variety of texts will be employed. Different approaches to literature genres, modes, and characteristics contained within the literature will be explored.

RDNG 669 SPECIAL TOPICS IN READING (3) Offered to allow for subjects that are topical and within the special expertise of the instructor; requires approval of the dean of the School of Education and Human Development. Students may receive credit for up to two special topics courses.

RDNG 672 READING AND STUDY SKILLS IN THE CONTENT AREA (3) Methods, materials, and organizational patterns for reading and writing as a means to access text in content area texts and coursework. Reading strategies and study skills are improved to maximize learning for all students through effective use of course materials.

RDNG 675 CONTEMPORARY ISSUES IN LANGUAGE ARTS INSTRUCTION (3) Examination of issues and theoretical perspectives in the teaching of language arts in the elementary classroom. The course emphasizes instructional strategies, activities, materials, and techniques to stimulate the acquisition of oral, aural, and written language skills.