hybrid format or fully online. During each module students will work on a sequence of closed-ended individual problems to build competences and problem-solving skills and add proof of their approach and results to their portfolio. All assessment for the program consists of a series of oral exams per module, during which the student will defend their work and receive feedback and advise on their disposition. The faculty will support students in the form of coaching.

The program offers additional inclusion and diversity to students which are unable to travel to the University or work during the University hours (or are otherwise engaged). The students can work on their assignments at any location and at any time. Coaching and exam opportunities can be tailored to specific individual needs.

Students completing this program will be able to:
1. Administer IT Systems.
2. Apply security and forensic policies to IT Systems.
3. Apply and administer virtualization, distributed computing, kernel modules, databases, services, and libraries.
4. Apply “best practices” to establish and implement system/network policies and procedures.
5. Able to monitor system and network behavior and detect and diagnose anomalies related to security exploits.
6. Understand and comply with laws and ethical codes that are relevant to system/network administration.
7. Apply contemporary computer forensics tools to analyze and extract information from a computer system as part of a system incident response.
8. Assess risks and vulnerabilities to the system/network and develop contingency plans for security incident mitigation.
9. Detect defects in software that exposes the system to attack.
10. Develop administration related scripts, setup integrated development environments (IDEs), and administer configuration management systems.

**Required Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>ITC 610</td>
<td>System Architecture and Administration</td>
<td>3</td>
</tr>
<tr>
<td>ITC 620</td>
<td>Distributed System Architecture and Administration</td>
<td>3</td>
</tr>
<tr>
<td>ITC 630</td>
<td>Cyber Security Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>ITC 640</td>
<td>Cyber Forensics Fundamentals</td>
<td>3</td>
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</tbody>
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**Total Hours Required** 12

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**COURSE DESCRIPTIONS**

Designation of Courses

500 - 599 Courses are post-baccalaureate courses. They do not count for credit requirements for graduate level programs. They are also open to senior level students.

600 - 699 Courses with the 600-level designation are classes offered at the master’s level.

700 - 799 Courses at the 700 level are for individuals seeking advanced (post-master’s) professional opportunities or are doctoral level.

800 - 999 Courses at the 800 and 900 level are for doctoral credit.

In Course Descriptions

(Credit in semester hours is indicated by a number in parentheses.)

**ATHLETIC TRAINING COURSES**

**AT 600 CARE AND PREVENTION IN ATHLETIC TRAINING (3)** This course is designed to introduce students to the profession of athletic training and the similarities, differences, and relationship of athletic training to other healthcare professions. This course also provides students with the skills and knowledge needed to maximize the benefit of athletic training clinical education. Skills introduced in this course include, but are not limited to, taping, wrapping, splinting/spine boarding, protective padding fabrication,
Athletic Training Courses

protective equipment fitting/removal, and modality application.

AT 605 HUMAN FUNCTIONAL ANATOMY (6) This lecture/lab is designed to focus on the detailed structure and function of the human body. It will provide a foundation in functional human anatomy using a regional approach (the back, head, neck, shoulder girdle, upper extremity, lower extremity, and thorax) that will serve as a framework for subsequent clinical practice. Emphasis is place on the identification of normal gross anatomy structures and relationships to injuries or diseases. There will be a focus on the gross anatomy and physiology of the human skeleton, muscular, nervous and vascular systems.

AT 610 EVIDENCE BASED PRACTICE (3) The course will provide students with an understanding of evidence based practice and the skills to search, read, and critically analyze literature relevant to athletic training. Broad topics in athletic training will be covered with an emphasis on position statements, systematic reviews, and meta-analyses as well as other pertinent original research.

AT 620 RESEARCH METHODS AND DESIGN (3) Students will become oriented with common methodological approaches utilized in athletic training research. Basic statistical concepts will be learned with appropriate computer software.

AT 625 ORTHOPEDIC EXAMINATION TECHNIQUES (4) Prerequisite: AT 600 and DPT 710. Students will learn appropriate orthopedic injury examination techniques for the lower extremity and lumbosacral spine. The anatomy of the lower extremities and lumbosacral spine will be reviewed, mechanisms of injury analyzed, advanced concepts in examination will be discussed, and skills necessary to accurately examine related orthopedic injuries will be practiced. Documentation in athletic training will be discussed and practiced. Evidence based practice with regard to examination techniques will be a focal point. Extensive time will be spent practicing skills in various laboratory activities.

AT 626 ORTHOPEDIC EXAMINATION TECHNIQUES II (4) Students will learn appropriate orthopedic injury examination techniques for the upper extremity, head, neck, and thorax/abdomen. The anatomy of the upper extremities, head, neck, and thorax/abdomen will be reviewed, mechanisms of injury analyzed, advanced concepts in examination will be discussed, and skills necessary to accurately examine related orthopedic injuries will be practiced. Documentation in athletic training will be discussed and practiced. Evidence based practice with regard to examination techniques will be a focal point. Extensive time will be spent practicing skills in various laboratory activities.

AT 627 EVALUATION AND TREATMENT OF THE SPINE (2) A lecture and hands-on, experiential course focusing on advanced anatomy of spinal joints, relevant soft tissue, and biomechanics. Using this as a basis, students will examine pathology related to specific athletic techniques, including patient history, postural and gait analysis, strength and range of motion testing, and neurological screening. Students will demonstrate competency in using this information to generate treatment plans with special focus on functional outcomes.

AT 630 GENERAL MEDICAL CONDITIONS AND PHARMACOLOGY (3) This course is designed to provide students with the knowledge and skills necessary to recognize and treat a variety of non-orthopedic injuries/illness, which may occur to the physically active. Students will learn basic recognition of these pathologies to ensure prompt and appropriate treatment and referral. In addition, basic pharmacological concepts will be introduced.

AT 640 CLINICAL EDUCATION I (3) Prerequisite: AT 600 and DPT 710. This course is designed to allow students to interact with certified athletic trainers (ATs) and other healthcare professionals. Students will complete assigned clinical hours of experience through one or more rotations. This experience will expose students to each professional's role in treating patients. Students will show proficiency in injury prevention and prophylactic skills as part of this course.

AT 642 CLINICAL EDUCATION II (3) Prerequisite AT 640. Students will gain experience with athletic trainers and other healthcare professionals in the clinical setting. Students will complete assigned clinical hours of experience through one or more rotations. The purpose of the clinical exposure is to give students clinical experience by observing, treating both male and female patients, and become proficient in acute care skills. This course also provides the students with the opportunity to become proficient in athletic training skills related to therapeutic interventions.
AT 644 CLINICAL EDUCATION III (1) Pre-requisite or co-requisite: AT 630. Students will gain experience in a clinical setting and complete assigned clinical hours of experience through one rotation in a general medical facility.

AT 646 CLINICAL EDUCATION IV (3) Prerequisite: AT 642. Students will gain experience with preceptors in an athletic training setting and complete assigned clinical hours of experience through one or more rotations. The purpose of the rotation(s) is to give students an opportunity to gain experience practicing skills on patients. Students are also given an opportunity to become proficient in athletic training skills related to the examination of injuries.

AT 648 CLINICAL EDUCATION V (3) Prerequisite: AT 642 Students will gain experience in a clinical setting and complete assigned clinical hours of experience through a single rotation. The purpose of this course is to give students an experience which will help prepare them for the professional responsibilities they will assume as employed athletic trainers.

AT 650 THERAPEUTIC INTERVENTION I (4) Therapeutic intervention and how it affects tissue healing and its role in the treatment of injuries will be examined. Basic components, design, and implementation of rehabilitation programs will be discussed and practiced. Therapeutic modalities will be introduced.

AT 651 THERAPEUTIC INTERVENTION II (4) This course will review therapeutic exercises and it will provide an advanced study of the use of therapeutic modalities in the field of athletic training. The indications, contraindications, and effects of physical agents such as ice, heat, electrical stimulation, and ultrasound will be studied. Students will have an opportunity to practice skills necessary to use therapeutic modalities effectively.

AT 660 PSYCHOSOCIAL INTERVENTION (3) This course is designed to instruct students in identifying, treating, and/or referring patients exhibiting abnormal social, emotional, and mental behaviors. In addition, students will be able to appreciate the role of mental health in injury and recovery. Students will learn the connection between mental health and return to physical activity.

AT 665 CPR AND FIRST AID INSTRUCTOR TRAINING (1) This course is designed to provide students with the necessary skills and knowledge to become an American Heart Association CPR and First Aid Instructor.

AT 670 ADVANCE EXERCISE PHYSIOLOGY (3) This course is designed to provide students with an in-depth study of physiology related to exercise and assessment of fitness and wellness. Topics will include control of exercise metabolism, acute and chronic adaptations to aerobic and resistance training programs, and thermoregulation. In addition, this course will cover assessing overall fitness, body composition, flexibility, muscular strength, power, speed, agility, and endurance.

AT 675 SPORTS AND EXERCISE NUTRITION (3) This course will discuss proper intake, sources of, and effect of macronutrient and micronutrient needs in relation to performance, health, and disease. Additional topics include ergogenic aids and the timing of food and fluids before, during, and after physical activity for optimal performance.

AT 680 ATHLETIC TRAINING ADMINISTRATION AND ORGANIZATION (3) Co-requisite: AT 642. This course is designed to cover a wide range of administrative topics in the health care professions. At the conclusion of the course students will be familiar with the multitude of management and administrative techniques that are required by the athletic trainer. The student will have a plan for addressing administrative issues at the completion of this course.

AT 690 PROFESSIONAL DEVELOPMENT IN ATHLETIC TRAINING (3) This course is designed to address the professional development of students pursuing a career in athletic training. At the conclusion of the course, students should be familiar with the ways in which an athletic trainer contributes to the profession as well as ways of pursuing a position within the profession.

AT 693 RESEARCH PROJECT I (2) This course will provide students with the opportunity
to explore areas of inquiry in athletic training that are of interest. The student will complete a culminating evidence based project related to the field of athletic training. Students will choose an area of inquiry and develop a literature review leading to a research question. Options will include, but are not limited to, case studies, literature review, group research project, etc.

**AT 694 RESEARCH PROJECT II (2)** This course will provide students with the opportunity to complete a culminating evidence based project in an area of interest within athletic training. Students will collect data, write a manuscript in the appropriate format, and defend their study through a poster presentation. At the conclusion of the course, students will be prepared to submit an abstract for presentation or submit a manuscript for publication.

**AT 695 THESIS I (2) Prerequisite: AT 680.** The course will provide students with the opportunity to explore areas of inquiry in athletic training that are of interest. Students will choose an area of inquiry and develop a literature review leading to a research question. At the conclusion of the course, students will defend a research design that will be used to answer a research question and submit necessary forms to the Institutional Review Board for human subject research.

**AT 696 THESIS II (2) Prerequisite: AT 695.** The course will provide students with the opportunity to complete an original research project in an area of interest within athletic training. Students will collect data, write a manuscript in the appropriate format, and defend their study through a poster presentation. At the conclusion of the course, students will be prepared to submit an abstract for presentation or submit a manuscript for publication.

**BIOLOGY COURSES**

**BIOL 605 TOPICS IN BOTANY (4)** Focuses on aspects of plant biology emphasized in K-12 curricula. Plant life cycles, functional anatomy, photosynthesis, ecology, and other topics as appropriate will be examined in detail. Laboratory experiences and projects provide students with opportunities to design and present educational activities adaptable to the classroom.

**BIOL 610 HISTORY AND PHILOSOPHY OF MODERN BIOLOGY (2)** An exploration of the history and philosophy of the biological sciences focused on development of modern biological thought built from the seventeenth-century ideas of Bacon, Descartes, Newton, and others through late-twentieth century including the ideas of Darwin, Mendel, Pasteur, into the molecular revolution sparked by Watson and Crick and their contemporaries. Coursework revolves around discussion of primary works by these and related individuals and supported by additional interpretations from various texts.

**BIOL 620 HUMAN ANATOMY (3)** A cadaver-based study of human anatomy focusing on learning human anatomical terminology, and interrelationships of bones, joints, muscles, nerves, and blood supply to all regions of the human body, using dissected human cadavers, digital human dissection simulations, digital and text images, and structural models.

**BIOL 623 APPLIED GENETICS (3)** Basic concepts and principles of prokaryotic and eukaryotic genetics are discussed, including Mendelian inheritance, polygenic inheritance, linkage and mapping, chromosome aberrations, population genetics, DNA structure and replication, gene expression, mutation, gene regulation, recombinant DNA technology, and the molecular basis of disease. Special emphasis is placed on improving laboratory skills of biology teachers at middle and high school levels.

**BIOL 630 PHYSIOLOGY: CELLS TO FUNCTION (3)** Exploration of the cellular basis of physiological function in vertebrates, primarily humans. Case studies and past/present clinical examples are frequently used.

**BIOL 641 APPLIED ECOLOGY (3)** Survey of general ecological principles from an evolutionary perspective, incorporating the three major levels of ecological study: ecosystem, community, and population. Special emphasis is placed on improving the laboratory and field skills of middle and high school-level biology and earth science teachers.

**BIOL 669 SPECIAL TOPICS IN BIOLOGY (3)** Intensive study of a problem or topic in
biology. Topic varies according to professor and term offered.

**BIOL 670 INDEPENDENT STUDY IN BIOLOGY (3)** Provides for the pursuit of individual interest and projects not covered in existing courses. May be repeated if subjects of study vary. Requires approval of the dean of the School of Sciences.

**COUNSELING COURSES**

**COUN 601 PROFESSIONAL IDENTITY AND FUNCTION OF CLINICAL MENTAL HEALTH COUNSELORS (3)** Overview of the counseling profession including the history and philosophy of the counseling profession; the roles, functions, and relationships with other human service providers of counselors; and professional organization membership and credentialing, including certification, licensure, and accreditation practices and standards.

**COUN 602 COUNSELING ACROSS THE LIFESPAN (3)** This course provides an understanding of the nature and needs of persons at all developmental levels and in multicultural contexts. Specific emphasis is placed on the development of the individual from conception through intricate changes of growth and aging over the life span, including information about related counseling theories, facilitation of optimal development and wellness, and the expansion personal insight throughout life.

**COUN 605 COUNSELING THEORIES (3)** Intensive study of counseling theories that provides the student with models to conceptualize client presentation and that helps the student select appropriate counseling interventions. This course exposes models of counseling that are consistent with current professional research and practice in the field.

**COUN 609 RESEARCH IN COUNSELING (3)** The purpose of this course is to introduce students to the basic elements of research methodology and statistical analysis as well as illustrate how to use that knowledge to critically evaluate and apply research findings. There will be an emphasis on the importance of research and its application specifically within the field of counseling as it relates to advancing the profession and informing evidence-based practices within a variety of mental health and school settings. Special attention will be given to ethical and cultural considerations when interpreting research findings.

**COUN 610 CAREER DEVELOPMENT (3)** An examination of major career theoretical approaches and decision-making models, along with the interrelationships of work with relevant life factors, including the roles of multicultural and diversity issues. In addition, career assessment instruments and techniques, general career/occupational resources, and counseling interventions will be evaluated.

**COUN 611 CRISIS COUNSELING (3)** This course provides an in-depth analysis of crisis counseling and interventions based on current crisis-related theories and models. Specific types of crises will be examined that relate to bullying and school violence, psychotic decompensation, economic loss, relationship breakups, veteran issues and war related crises, natural disasters, acts of terrorism, and severe physical injury. Crises will also be analyzed from a legal/ethical and cultural perspective.

**COUN 614 COUNSELING TECHNIQUES (3)** Prerequisite: COUN 605. An introductory counseling experience where students demonstrate counseling techniques shown to be effective when working with specific populations of clients with mental and emotional disorders. Students learn to modify interventions to make them culturally appropriate for diverse populations.

**COUN 615 CLINICAL MENTAL HEALTH COUNSELING PRACTICUM (3)** Prerequisites: COUN 601, COUN 605, COUN 620, COUN 614, COUN 670. Designed to give students an on-site, structured, introductory counseling experience in a clinical mental health setting. Under the supervision of an appropriately credentialed site supervisor, the student offers appropriate individual and group counseling services and engages in the other professional activities related to the function of the professional counselor in that setting. The course is designed to follow University, state, and Council for the Accreditation of Counseling and Related Educational Programs (CACREP) guidelines.

**COUN 616 SCHOOL COUNSELING PRACTICUM (3)** Prerequisites: COUN 605, COUN 625. Co-requisites: COUN 614, COUN 620, COUN 670. Designed to give students an on-site, structured intro-
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Introduction to the role and function of the school counselor. Under the supervision of an appropriately credentialed site supervisor, the student offers counseling services and engages in other professional responsibilities related to school guidance and counseling programs. The course is designed to meet standards set forth by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP) and the licensure regulations of the Virginia Department of Education. Note: A mandatory criminal and social services background check must be conducted in the prior semester at the student’s expense.

**COUN 618 COUNSELING CHILDREN AND ADOLESCENTS (3)** A course requiring students to integrate counseling theories, skills, and techniques relevant to counseling children and adolescents in school and community/agency settings. Application of developmental theory, appropriate technique selection and issues relevant to this specific population will be explored in the course.

**COUN 620 GROUP COUNSELING PROCEDURES AND TECHNIQUES (3)** An examination of group dynamics, ethical issues special to group work, and group leadership skills. Topics include member roles, stages of group development, and leadership styles and techniques. As required by CACREP, students participate in small group activities for a minimum of 10 hours over the course of the academic term.

**COUN 625 PROFESSIONAL IDENTITY AND FUNCTION OF SCHOOL COUNSELORS (3)** A study of the role and function of the professional school counselor. Emphasis is placed on the structure and implementation of a balanced school counseling program that incorporates developmentally sound individual, small group, and classroom guidance activities to provide academic, career, and personal/social advising and counseling. The counselor’s role within the total school program in the areas of leadership, collaboration, consultation, staffing initiatives, assessment, and the coordination of related services is also analyzed.

**COUN 630 MARRIAGE AND FAMILY COUNSELING (3)** Prerequisite: Overview of several theoretical constructs and approaches to family therapy, including a study of the structural school, systems approaches, Bowen’s theory of family systems, and the contributions of Alfred Adler. Topics include sexual dysfunctions, divorce, sexual assault, and families of poverty.

**COUN 635 PARENT AND FAMILY CONSULTATION (3)** Prerequisite: COUN 620 or permission of the instructor. Built on the principles and skills taught in COUN 620, this course gives students the opportunity to co-lead an Adlerian-based parent education group under the supervision of the course instructor and a read counseling professional. Emphasis is on the synthesis of group counseling theory through direct experience leading a group and on the mastery and application of the parenting skills utilized for work with families in any counseling setting.

**COUN 640 ABNORMAL BEHAVIOR (3)** Prerequisites: COUN 605, COUN 614, COUN 615 or permission of the instructor. An examination of the current diagnostic categories listed in the Diagnostic and Statistical Manual TR-IV. Attention is devoted to the organic, environmental, developmental, and psychological origins of these emotional disorders. Additional training focuses on the counseling interventions designed to address these concerns.

**COUN 645 ADDICTION COUNSELING (3)** Prerequisites: COUN 605 or permission of the instructor. Examines the compelling and emerging questions common to addictive behaviors. Explores the research devoted to the physiology of addictions, societal reinforcers, and the psychological explanations for addictive behaviors as well as the treatment strategies designed to ameliorate the addiction and related concerns.

**COUN 660 EVALUATION AND ASSESSMENT (3)** An overview of test design, construction, and application. Emphasis is placed on intellectual, cognitive, and educational tests, while personality, vocational, and interest inventories also are introduced. Purposes and interpretations are approached historically, theoretically, and statistically.

**COUN 661 SEXUALITY IN COUNSELING (3)** The purpose of this course is to increase students’ awareness, knowledge, and skills regarding the broad range of issues in the field of counseling when addressing human sexuality issues. Students will gain knowledge and skills that are unique and specific to sexuality counseling and intervention strategies. Students will gain perspective on the developmental,
behavioral, emotional, psychological, and cultural aspects related to sexuality. Students will explore empirically supported counseling approaches, interventions and assessment strategies. A systemic framework is used for understanding the role and impact of sexuality on couples, marriages, and families. Students also explore and discuss specific topics including, but not limited to: issues of sexual diversity, gender identity, intimacy, sexual functioning, and infidelity.

COUN 662 LGBT CONSIDERATIONS IN COUNSELING (3) This course is designed to provide an in-depth look at counseling issues and dynamics specific to clients who identify as Lesbian, Gay, Bisexual, or Transgender. Content will highlight and differentiate the experiences of LGBT people and provide information related to the identity development of individuals within each sub-group of the greater LGBT community. Additional topics will be covered that include but are not limited to empirical research on the experience of LGBT people, “affirmative” counseling and supervision techniques, vocational issues and workplace sexual identity management, perceived conflicts between religious and LGBT identities, and LGBT issues in the context of changing legal and social policy environments.

COUN 665 CROSS-CULTURAL COUNSELING (3) Examination and application of counseling strategies appropriate for culturally diverse clients; focuses on the need for counselors to examine their own feelings and attitudes toward diverse populations.

COUN 669 SPECIAL TOPICS IN COUNSELING (1, 2, 3) Intensive study of a problem or topic in counseling. Topic varies according to professor and term offered.

COUN 670 LEGAL AND ETHICAL ISSUES IN COUNSELING (3) An in-depth examination of the major legal and ethical issues facing the counseling profession. Extensive work with case studies is included.

COUN 678 ADVENTURE-BASED COUNSELING (3) This course will provide an overview of adventure-based counseling in the outdoors and other recreational settings. The course will explore the therapeutic uses of wilderness experiences for recreation, personal growth and reflection, physical challenge, and to enhance counseling and psychotherapy. Students will participate in experiential learning for skill development in adventure-based counseling and as a means for understanding the integration of counseling theories, skills, and techniques with adventure-based counseling practices.

COUN 683 DYNAMICS OF PLAY (3) Examination of the theoretical, practical, and therapeutic aspects of play in relation to the development of young children. Emphasis is placed on theories and techniques of child-centered play therapy and its use in a variety of settings. The course is appropriate for both counselors and teachers and is available to post-MEd students seeking professional counselor license.

COUN 686 SCHOOL COUNSELING INTERNSHIP I (3) Prerequisites: COUN 625, COUN 605, COUN 614, COUN 616, COUN 620, COUN 670, AND COUN 602. Students engage in an intensive school counseling internship in the public schools supplemented by on-campus seminar experiences. The internship emphasizes the opportunity for students to engage in the roles, functions, skills, and practices that constitute professional school counseling services. The intern is under the guidance and supervision of both a site and faculty supervisor. The course requires a two-semester sequential commitment.

COUN 687 CLINICAL MENTAL HEALTH COUNSELING INTERNSHIP I (3) Prerequisites: COUN 601, COUN 605, COUN 614, COUN 615, COUN 620, AND COUN 630 and COUN 602. Intensive, counseling internship blending supervised counseling experiences in an agency supplemented by on-campus seminar activities designed to enhance counseling skill development, case management, and treatment planning. The intern is under the guidance and supervision of both a site and faculty supervisor. The course requires a two-semester sequential commitment.

COUN 695 INDEPENDENT STUDY (1, 2, 3) Provides for pursuit of individual interest and projects not covered in existing courses.

COUN 696 SCHOOL COUNSELING INTERNSHIP II (3) Prerequisites: COUN 625, COUN 605, COUN 614, COUN 616, COUN 620, COUN 670, AND COUN 602. Students engage in an intensive school counseling internship in the public schools supplemented by on-campus seminar...
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experiences. The internship emphasizes the opportunity for students to engage in the roles, functions, skills, and practices that constitute professional school counseling services. The intern is under the guidance and supervision of both a site and faculty supervisor. The course requires a two-semester sequential commitment.

**COUN 697**  
**CLINICAL MENTAL HEALTH COUNSELING INTERNSHIP II (3)**  
*Prerequisites: COUN 601, COUN 605, COUN 614, COUN 615, COUN 620, COUN 630, COUN 670, and COUN 602.* Intensive, counseling internship blending supervised counseling experiences in an agency supplemented by on-campus seminar activities designed to enhance counseling skill development, case management, and treatment planning. The intern is under the guidance and supervision of both a site and faculty supervisor. The course requires a two-semester sequential commitment.

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**CRJU 601**  
**CRIMINAL JUSTICE ADMINISTRATION AND MANAGEMENT (3)** This course emphasizes the study of leadership and management as related to the fields of criminal justice. Specifically, this course provides a background on the major theories of leadership and management, the opportunity to analyze leadership styles, and the opportunity to analyze the various internal and external forces that shape the criminal justice environment.

**CRJU 602**  
**CRIMINOLOGY (3)** The major theories of the etiology of criminal behavior, including biological, environmental, and other causative factors.

**CRJU 603**  
**ETHICS AND LEADERSHIP (3)** *Prerequisites: CRJU 602, 620, 610, 612, 696; CRJU 601.* Classic and contemporary theories of ethics and justice and their applications to criminal justice agencies.

**CRJU 604**  
**VICTIMOLOGY (3)** *Prerequisites: CRJU 602.* Overview of victimization to include history, theories, categories of victimization, and victim typologies.

**CRJU 610**  
**RESEARCH METHODS IN CRIMINAL JUSTICE (3)** *Prerequisites: CRJU 602 and CRJU 601.* Scientific methods in criminal justice research to include methods of design, data collection, policy evaluation, interpretation, and implementation of research findings.

**CRJU 612**  
**STATISTICS FOR CRIMINAL JUSTICE (3)** *Prerequisites: CRJU 610.* Descriptive and inferential statistics with particular with particular attention given to nonparametric tests, measures of association, and the development of quantitative methods as relevant to the area of criminal justice.

**CRJU 620**  
**CULTURAL DIVERSITY (3)** *Prerequisites: CRJU 601, CRJU 602.* Importance of culture and diversity and effects on processes of communication and leadership.

**CRJU 625**  
**INTERNATIONAL CRIME AND JUSTICE (3)** *Prerequisites: CRJU 602, CRJU 604.* Effects of history, culture, and politics in the international sphere on policies, crime, and the operations of criminal justice systems and human services agencies. Students will engage in studies related to the evolution of international law including, for example, foci such as Interpol and Europol.

**CRJU 669**  
**SPECIAL TOPICS IN CRIMINAL JUSTICE STUDIES (1,2,3)** Intensive study of a problem or topic in criminal justice studies. Topic varies according to professor and term offered.

**CRJU 670**  
**INDEPENDENT STUDY IN CRIMINAL JUSTICE STUDIES (1,2,3)** This course offers the opportunity for students to pursue in depth a topic of special interest within criminal justice under the supervision of a faculty member. Can be taken more than once.

**CRJU 696**  
**DIRECTED STUDY IN CRIMINAL JUSTICE (3-6 CREDITS)**  
*Prerequisites: CRJU 602, 610, 620 and CRJU 601.* Independent study for advanced students, under faculty supervision.

**CRJU 697**  
**PORTFOLIO (3)** *Prerequisites: CRJU 602, 603, 604, 610, and 612 and EDLS 690.* Agency designed projects in response to an identified problem to include program implementation and evaluation.
DOCTOR OF PHYSICAL THERAPY COURSES

**DPT 710 HUMAN GROSS ANATOMY (6)** Focuses on the normal human anatomy of the entire body with special emphasis placed on the body systems most directly impacted by the practice of physical therapy. This course includes cadaver dissection of the trunk, thorax, head and neck, and internal organs.

**DPT 712 HUMAN PHYSIOLOGY OF SYSTEMS (3)** Focuses on the normal physiology of human body systems. Special emphasis is placed on the body systems most directly impacted by the practice of physical therapy (musculoskeletal, neurological, cardiovascular, renal, endocrine, gastrointestinal, genitourinary).

**DPT 713 PHARMACOLOGY FOR THE PHYSICAL THERAPIST (2)** Focuses on pharmacological principles associated with patient care, with special emphasis placed on the pharmacological agents, potential side effects, and special issues associated with the pharmacological management of patients/clients most likely to be seen in physical therapy practice.

**DPT 714 PROFESSIONAL PRACTICE IN PHYSICAL THERAPY I (2)** This course is designed to introduce physical therapy students to professionalism and the continued evolution of the profession of physical therapy. Professionalism is a systematic and integrated set of core values that through assessment, critical reflection, and change, guides the judgment, decisions, behaviors, and attitudes of the physical therapists in relation to clients, other professionals, and the public. At the completion of this course students will have an increased awareness and understanding of the American Physical Therapy Core Values and demonstrate integration of professionalism into their own development as both student and practitioner. In addition, students will learn, develop, and practice evaluating the learning needs of patients/clients, family members, and other health care providers, design and deliver instructional material to fulfill the learners needs, and develop assessment tools to assess effectiveness of learning.

**DPT 716 CLINICAL PRACTICE I (2)** Students are introduced to the basic foundations of physical therapy clinical skills including communication, screening, examination, evaluation, and interventions. Students apply these skills in the physical therapy management of individuals with diverse health conditions and in a variety of settings. Clinical reasoning, including application of evidence-based practice and the International Classification of Function, is integrated throughout the course.

**DPT 717 CLINICAL PRACTICE II (3)** An introductive study of basic physical therapy clinical skills related to recognition and examination of disorders and injuries of the neuromusculoskeletal, cardiopulmonary, and integumentary systems. Foundational concepts and basic skills essential in the physical therapy management of clients will be introduced and applied consistent with the ICF, Guide to Physical Therapy Practice and evidence based practice. Emphasis of the course will be on Examination with attention to additional components of patient management: Diagnosis, Prognosis, and Outcomes.

**DPT 718 CLINICAL PRACTICE III (3)** An introductive study of basic physical therapy clinical skills related to intervention for disorders and injuries of the neuromusculoskeletal, cardiopulmonary, and integumentary systems. Foundational concepts and basic skills essential in the physical therapy management of clients will be introduced and applied consistent with the ICF, Guide to Physical Therapy Practice and evidence based practice. Emphasis of the course will be on Intervention with attention to additional components of patient management: Diagnosis, Prognosis, Outcomes and Reexamination.

**DPT 719 CLINICAL INQUIRY I (2)** This course provides students with the foundational knowledge and skills necessary to conscientiously, explicitly, and judiciously use current best evidence in making clinical decisions. Using case-based learning, students will develop proficiency in literature searching and appraisal of literature pertaining to diagnosis, prognosis, interventions, outcome measures, and harm. Best evidence will be used to demonstrate efficacious diagnosis and management of patients through case scenario projects.
DPT 720  PATHOLOGY OF BODY SYSTEMS (3) Focuses on pathology of various body systems and their alterations in structure and function with special emphasis placed on the body systems most directly impacted by the practice of physical therapy.

DPT 721  APPLIED KINESIOLOGY (4) This course builds on the foundation of Human Gross Anatomy and provides an in-depth study of the musculoskeletal anatomy as it applies to normal and abnormal human movement. Emphasis is placed on the kinematics and kinetics of human tissue and joints with application to human function including normal and abnormal gait.

DPT 723  INTEGRATED CASE APPLICATION LAB I (2) Provides case-based patient/client scenarios. Students locate and compile information from multiple sources to prepare for a mock patient encounter (in small groups), where they apply and practice the information presented to date in courses and information compiled by the student. First-year students are monitored and mentored through this process by a second year student.

DPT 724  NEUROANATOMY (3) Provides the foundation of knowledge regarding the essential concepts of neuroscience with a focus on the anatomy of the central and peripheral nervous systems; the development of the human nervous system; and the morphology, classification, and basic physiology of neurons.

DPT 725  MOTOR DEVELOPMENT AND MOTOR BEHAVIOR ACROSS THE LIFESPAN (2) Focuses on normal motor development and motor control from a lifespan perspective. Changes in the neurosensory, neuromuscular, and musculoskeletal systems associated with normal development and aging will be reviewed. Principles of motor control and motor learning will be discussed and related to physical therapy management.

DPT 730  PROFESSIONAL PRACTICE IN PHYSICAL THERAPY II (2) Students continue instruction and practical application of the concepts related to professional practice and education of patient/clients, families and other health care professionals introduced in Professional Practice I.

DPT 741  STUDENT PROFESSIONAL INVOLVEMENT I (1) First year students begin to apply concepts of the core values of physical therapy professionalism and responsibility through community and professional service. These students are mentored by faculty and 2nd year and 3rd year students through the planning and development of the community and professional service activities.

DPT 742  STUDENT PROFESSIONAL INVOLVEMENT II (1) First year students continue to apply concepts of the core values of physical therapy professionalism and responsibility through community and professional service. These students are mentored and monitored by faculty, 2nd year and 3rd year students through the implementation of the designated community and professional service activities.

DPT 743  THE ART OF ANATOMICAL DISSECTION: FROM ANCIENT ROME TO THE RENAISSANCE (1-3) Prerequisite: DPT 710. This course is an interdisciplinary graduate health science study-abroad course that will examine the history of anatomical study and cadaveric dissection from Ancient Rome through the Renaissance period in Italy. This course will also explore the influence of anatomical study on Italian art.

DPT 750  PHYSICAL AGENTS (1) In this course, student physical therapist will learn to safely use physical agents commonly used in physical therapy environments.

DPT 769  SPECIAL TOPICS IN PHYSICAL THERAPY (1,2,3,4,5,6) Intensive study of a problem or topic in physical therapy. Topic varies according to professor and term offered.

DPT 770  INDEPENDENT STUDY DPT (1,2,3,4,5,6) Student investigation of various topics in physical therapy under the guidance of a faculty instructor. This course may be repeated for credit. Approval by DPT Program Director required.
DPT 812  DIAGNOSIS AND MANAGEMENT OF PATIENTS WITH MUSCULOSKELETAL DYSFUNCTION I (4) Instruction and skills practice with conditions associated with the musculoskeletal system, utilizing a comprehensive patient/client management approach through integration of the five elements of care (examination, evaluation, diagnosis, prognosis, and intervention).

DPT 813  DIAGNOSIS AND MANAGEMENT OF PATIENTS WITH INTEGUMENTARY DYSFUNCTION (2) Instruction and skills practice with conditions associated with the integumentary system, utilizing a comprehensive patient/client management approach through integration of the five elements of care (examination, evaluation, diagnosis, prognosis, and intervention).

DPT 814  DIAGNOSIS AND MANAGEMENT OF PATIENTS WITH NEUROMUSCULAR DYSFUNCTION I (4) Instruction and skills practice with conditions associated with the neuromuscular system, utilizing a comprehensive patient/client management approach through integration of the five elements of care (examination, evaluation, diagnosis, prognosis, and intervention).

DPT 817  PSYCHOSOCIAL ASPECTS OF HEALTH CARE (2) This course addresses a variety of integrated psychosocial topics involving clients, families, and other caregivers affected by pathology, impairment, functional limitations, and/or disability. Students will develop self-awareness as they learn more about the psychosocial implications on health care.

DPT 818  EXERCISE PHYSIOLOGY AND WELLNESS (3) Provides an in-depth study of exercise physiology and the effects of exercise on both healthy and unhealthy populations. Concepts related to health promotion, prevention, and wellness are all covered in detail.

DPT 819  CLINICAL INQUIRY II (2) Students continue instruction in the foundational knowledge and skills necessary to conscientiously, explicitly, and judiciously use current best evidence in making clinical decisions. Using case-based learning, students will develop proficiency in appraising systematic reviews, literature reviews, epidemiology, and qualitative research. Best evidence will be used to demonstrate efficacious diagnosis and management of patients through a written case report.

DPT 822  DIAGNOSIS AND MANAGEMENT OF PATIENTS WITH MUSCULOSKELETAL DYSFUNCTION II (4) Instruction and skills practice associated with conditions associated with the musculoskeletal system, utilizing a comprehensive patient/client management approach through integration of the five elements of care (examination, evaluation, diagnosis, prognosis, and intervention).

DPT 823  INTEGRATED CASE APPLICATION LAB II (2) Case-based patient/client scenarios. Students locate, compile, and review information from their first year professional instruction sources to prepare for mentoring a small group of first-year students through a mock patient encounter (similar to the process they had encountered as a first-year student with the case being varied).

DPT 824  DIAGNOSIS AND MANAGEMENT OF PATIENTS WITH NEUROMUSCULAR DYSFUNCTION II (4) Instruction and skills practice with conditions associated with the neuromuscular system, utilizing a comprehensive patient/client management approach through integration of the five elements of care (examination, evaluation, diagnosis, prognosis, and intervention).

DPT 826  DIAGNOSIS AND MANAGEMENT OF PATIENTS WITH CARDIOPULMONARY DYSFUNCTION (3) Instruction and skills practice with conditions associated with the cardiopulmonary system, utilizing a comprehensive patient/client management approach through integration of the five elements of care (examination, evaluation, diagnosis, prognosis, and intervention).

DPT 829  DIFFERENTIAL DIAGNOSIS FOR THE PHYSICAL THERAPIST PRACTITIONER (3) Instruction in the complex thought processes and skills which require the physical therapist to make determination of appropriate treatment or identify conditions that may require referral to or examination by a physician. Students practice the skills through case studies from a variety of practice patterns.

DPT 830  LIFESPAN CARE IN PHYSICAL THERAPY I (3) This course focuses on the unique needs of geriatric patient population regarding physical therapy evaluation and management in the various settings where older adults are more likely to seek treatment. Topics include normal aging, common
health conditions, and psychosocial issues related to aging.

DPT 839  CLINICAL INTERNSHIP I (4) Students provide services to patients/clients under the supervision of a licensed physical therapist clinical instructor (eight weeks).

DPT 840  LIFESPAN CARE IN PHYSICAL THERAPY II (3) This course focuses on the unique nature of physical therapy examination, evaluation, and therapeutic management of infants and children. Emphasis will be placed on normal motor development, practice settings typically encountered in treatment of the pediatric population and the psychosocial needs of the child. Students will be introduced to principles of family-centered care, early intervention, and school-based practice. Obstetrical reproductive health issues will be addressed as related to peripartum care of the mother and baby.

DPT 841  STUDENT PROFESSIONAL INVOLVEMENT III (1) Second year students continue to apply concepts of the core values of physical therapy professionalism and responsibility through community and professional service by beginning to explore and undertake associated leadership roles. The second year students, with guidance, will mentor and monitor the first year students through the planning and development of the designated community and professional service activities.

DPT 842  STUDENT PROFESSIONAL INVOLVEMENT IV (1) Second year students continue to apply concepts of the core values of physical therapy professionalism and responsibility through community and professional service through the ongoing exploration of associated leadership roles. The second year students, with continued guidance, will mentor and monitor the first year students through the implementation of the designated community and professional service activities.

DPT 917  PROSTHETICS AND ORTHOTICS (2) Focuses on orthotic and prosthetic components, prescription, and physical therapy application. Additionally, students receive instruction in and practice exercise prescription for amputees, evaluative procedures for orthotics and prosthetics, prosthetic gait analysis, and prosthetic-device care. Other common pathological gait manifestations are examined and corrective physical therapist action is discussed.

DPT 919  CLINICAL INTERNSHIP II (4) Students provide services to patients/clients under the supervision of a licensed physical therapist clinical instructor (eight weeks).

DPT 923  INTEGRATED CASE APPLICATION LAB III (1) Preparation of case-based clinical scenarios utilizing the patient/client encounters in which they have been involved throughout their professional education. These cases are then presented to the faculty.

DPT 927  PRACTICE MANAGEMENT AND LEADERSHIP (3) Practice management strategies for all physical therapists, including billing, coding, delegation and supervision responsibilities are discussed. Potential opportunities and career paths that can lead to mid-level and executive management positions for physical therapists are presented in the context of the complex world of contemporary health-care organizations and their unique business models. Current issues that impact the roles of leaders and managers and their responsibilities in different types of health care settings are presented.

DPT 928  THERAPIST PRACTITIONER–DIAGNOSTIC IMAGING (3) Focuses on the principles, procedures, and interpretation of diagnostic imaging techniques. Special emphasis is placed on plain film radiography, myelograms, CT scans, medical resonance imaging, and nuclear medicine as they relate to the musculoskeletal, cardiovascular, gastrointestinal, and reproductive systems.

DPT 929  CLINICAL INTERNSHIP III (4) Students provide services to patients/clients under the supervision of a licensed physical therapist clinical instructor (eight weeks).

DPT 939  CLINICAL INTERNSHIP IV (8) Students provide services to patients/clients under the supervision of a licensed physical therapist clinical instructor (sixteen weeks).
DPT 941 STUDENT PROFESSIONAL INVOLVEMENT V (1) Third year students will apply and demonstrate concepts of the core values of physical therapy professionalism and responsibility through community and professional service. The third year students will demonstrate and apply their understanding of key concepts by leading the first and second year students through the planning and development of the designated community and professional service activities.

DPT 949 COMPREHENSIVE REVIEW (2) Students review the best practice standards including biopsychosocial decision-making model, evidence-based practice, and patient/client management model with application to current and future practice. Students prepare for continued professional competence including national licensure and professional growth and development. Students have the opportunity to reflect on their past and future planned educational/professional activities.

CURRICULUM AND INSTRUCTION COURSES

EDCI 540 COMMON CORE ENGLISH LANGUAGE ARTS IN A PLC AT WORK™, GRADES K-2 (1) This course provides learners with the background, resources, and protocols required to facilitate mastery of Common Core English Language Arts in a PLC at work for grades K-2. Exploration of Common Core standard types including reading, writing, plus speaking and listening for language are also included.

EDCI 541 COMMON CORE ENGLISH LANGUAGE ARTS IN A PLC AT WORK™, GRADES 3-5 (1) This course provides learners with the background, resources, and protocols required to facilitate mastery of Common Core English Language Arts in a PLC at work for grades 3-5. Exploration of Common Core standard types including reading, writing, plus speaking and listening for language are also included.

EDCI 542 COMMON CORE ENGLISH LANGUAGE ARTS IN A PLC AT WORK™, GRADES 6-8 (1) This course provides learners with the background, resources, and protocols required to facilitate mastery of Common Core English Language Arts in a PLC at work for grades 6-8. Exploration of Common Core standard types including reading, writing, plus speaking and listening for language are also included.

EDCI 543 COMMON CORE ENGLISH LANGUAGE ARTS IN A PLC AT WORK™, GRADES 9-12 (1) This course provides learners with the background, resources, and protocols required to facilitate mastery of Common Core English Language Arts in a PLC at work for grades 9-12. Exploration of Common Core standard types including reading, writing, plus speaking and listening for language are also included.

EDCI 544 COMMON FORMATIVE ASSESSMENT IN A PLC AT WORK (1) This course provides students with the background, rationale, and strategic steps required for planning and implementing common formative assessments in a PLC at work. Learners will gain a deeper understanding of PLCs, learn the importance of common formative assessments, and develop techniques for designing effective common formative assessments.

EDCI 545 MATHEMATICS IN A PLC AT WORK, GRADES K-5 (1) This course provides students with the background, rationale, and strategic steps required for planning and implementing Mathematics in a PLC at work for grades K-5. Learners will study 10 proven high-leverage teaching actions that can be used specifically for teaching Mathematics within a Professional Learning Community. History, research, resources, and protocols are also included.

EDCI 546 MATHEMATICS IN A PLC AT WORK, GRADES 6-8 (1) This course provides students with the background, rationale, and strategic steps required for planning and implementing Mathematics in a PLC at work for grades 6-8. Learners will study 10 proven high-leverage teaching actions that can be used specifically for teaching Mathematics within a Professional Learning Community. History, research, resources, and protocols are also included.

EDCI 547 MATHEMATICS IN A PLC AT WORK, HIGH SCHOOL (1) This course provides students with the background, rationale, and strategic steps required for planning and implementing Mathematics in a PLC at work. In high schools. Learners will study 10 proven high-leverage teaching actions that can be used specifically for teaching Mathematics within a Professional Learning Community. History, research, resources, and protocols are also included.
EDCI 548  RTI AT WORK™; EARLY ELEMENTARY FOCUS ONLINE COURSE (1)  This course provides students with the background, rationale, and strategic steps required for planning and implementing a high-quality Response to Intervention (RTI) initiative. Students will design strategies for developing Tier 1, Tier 2, and Tier 3 intervention systems and the professional learning culture and community needed for implementation in early elementary grades.

EDCI 549  RTI AT WORK™; LATE ELEMENTARY FOCUS ONLINE COURSE (1)  This course provides students with the background, rationale, and strategic steps required for planning and implementing a high-quality Response to Intervention (RTI) initiative. Students will design strategies for developing Tier 1, Tier 2, and Tier 3 intervention systems and the professional learning culture and community needed for implementation in upper elementary grades.

EDCI 550  RTI AT WORK™; MIDDLE SCHOOL FOCUS ONLINE COURSE (1)  This course provides students with the background, rationale, and strategic steps required for planning and implementing a high-quality Response to Intervention (RTI) initiative. Students will design strategies for developing Tier 1, Tier 2, and Tier 3 intervention systems and the professional learning culture and community needed for implementation in middle school grades.

EDCI 551  RTI AT WORK™; HIGH SCHOOL FOCUS ONLINE COURSE (1)  This course provides students with the background, rationale, and strategic steps required for planning and implementing a high-quality Response to Intervention (RTI) initiative. Students will design strategies for developing Tier 1, Tier 2, and Tier 3 intervention systems and the professional learning culture and community needed for implementation in high school grades.

EDCI 552  RTI AT WORK™; GRADES K-12 ONLINE COURSE ETC (1)  This course provides students with the background, rationale, and strategic steps required for planning and implementing a high-quality Response to Intervention (RTI) initiative. Students will design strategies for developing Tier 1, Tier 2, and Tier 3 intervention systems and the professional learning culture and community needed for implementation.

EDCI 553  THE PLC AT WORK PROCESS TODAY – FULL COURSE (1)  This course provides the background, content, and learning context required for effectively implementing Professional Learning Communities in schools. The theoretical foundation and knowledge of the PLC process provide the basis for collaborative teams to successfully address the needs of all learners in grades K-12.

EDCI 554  TRANSFORMING SCHOOL CULTURE, OVERCOME STAFF DIVISION (1)  This course provides the framework for understanding the dynamic relationships within a school culture and ensuring a positive environment that supports the changes necessary to improve learning for all students. The course explores many aspects of human behavior, social conditions, and history to reveal best practices for building healthy school cultures.

EDCI 600  CLASSROOM MANAGEMENT AND INSTRUCTIONAL METHODOLOGY (3)  Focuses on research-based, scientifically-validated strategies for teaching, managing, and motivating students in classrooms and the schools. The course assists with the conceptualization, measurement, and improvement of classroom performance and management for grades K-12, in order to effectively impact, assess, and improve instruction and student academic performance and behavior.

EDCI 606  EFFECTIVE INSTRUCTIONAL STRATEGIES (3)  Focuses on research-based, scientifically-validated strategies for teaching students in the schools. The course assists with the conceptualization, measurement, and improvement of classroom performance and management for grades K-12 and features a variety of organizational patterns and practices, approaches to instruction and their impact on students’ learning, and instruments for evaluating teacher behavior in specific contexts.

EDCI 617  FOUNDATIONS AND CURRICULUM OF AMERICAN EDUCATION (3)  Provides opportunities for future teachers to expand their ability to inquire, explore, engage, conclude and persuade in the foundations and curriculum of American education. The course explores historical, philosophical, sociological, and legal foundations and curriculum of public education. This course is designed to assist teachers in the decision-making processes necessary to implement a standards-based curriculum and both a formative and summative assessment process of curricular initiatives. There is also a focus on contemporary curricular issues and innovations as well as school culture.
EDCI 650  PROFESSIONAL LEARNING COMMUNITIES (1, 3) Introduction to the concepts that underlie professional learning communities (PLC) and the principles for their application in elementary, middle, and secondary schools. The course is offered in conjunction with participation in training institutes and workshops on PLC.

EDCI 661  INSTRUCTIONAL STRATEGIES FOR SCHOOL MATH (3) Focuses on the emerging goals, principles, and practices of contemporary mathematics education, addressing the rationale for change, relevant research and theory, and the resulting recommendations for improving mathematics learning among all students. Specific topics include curriculum, instructional materials and methodologies, assessment, diagnostic and remediation strategies, and the teacher’s role in improving student learning.

EDCI 686  METHODS OF SCIENCE TEACHING (3) A workshop approach modeling recommended practices for teaching science as outlined by the National Science Education Standards. Curriculum topics are consistent with the endorsement levels of the students enrolled.

EDCI 699  INTERNSHIP IN EDUCATION (6) Prerequisites: Passing scores on Praxis II, and VCLA as well as a GPA of 2.75 in the teaching (content) are required. Reading for Virginia Educators (RVE) is required for elementary and middle school licensure. Reading for Virginia Educators (RVE) is required for elementary and middle school licensure. In addition to completion of professional studies/licensure requirements, all content requirements for a student’s particular endorsement must be completed prior to taking the class. Supervised field experience in a classroom setting and seminar sessions are required. Placement is arranged at the elementary, middle, or secondary level based on the teaching endorsement sought. All licensure coursework must be completed prior to or concurrently with the teaching internship. Note: A mandatory criminal and social services background check must be conducted in the prior semester at the student’s expense.

ECONOMICS COURSE
ECON 600  ECONOMICS FOR K-12 EDUCATORS (3) Designed to provide content knowledge in economics to teachers of grades K-12. The course content derives from the Virginia History and Social Science SOLs, providing the economic concepts needed for day-to-day classroom instruction. The economic way of thinking is developed and a variety of instructional strategies are demonstrated to model effective teaching techniques.

EDUCATION COURSES
EDHD 601  DIVERSE DEVELOPMENTAL PATHWAYS IN EARLY CHILDHOOD (3) This course addresses both typical and atypical development in early childhood with a focus on the characteristics, etiology and various approaches to the education and treatment of emotional, behavioral and developmental disorders. This course will contrast typical cognitive, emotional and social development with various developmental psychopathologies. Developmental abnormalities such as autism, behavioral disorders, emotional difficulties and maltreatment will be addressed.

EDHD 602  HUMAN DEVELOPMENT (3) Focuses on the development of the individual from conception through intricate changes of growth and aging over the life span, including information about scientific discoveries and personal insights throughout life.

EDHD 609  RESEARCH METHODS AND APPLICATIONS (3) Examines research methodology, tools, and resources available to the educational practitioner with specific emphasis on the use of quantitative and qualitative research in problem identification and resolution. Enables students to identify and apply relevant research to persistent or emerging problems and to develop appropriate assessment tools and techniques for ongoing educational activities.

EDHD 669  SPECIAL TOPICS IN EDUCATION (1-3) Intensive study of a problem or topic in education. Topic varies according to professor and term offered.

EDHD 670  INDEPENDENT STUDY (1-3) Provides for pursuit of individual interest and projects not covered in existing courses. May be repeated if subjects of study vary and requires approval of the dean of the College of Education, Leadership Studies, and Counseling.
EDHD 671  PROFESSIONAL PROJECT IN EDUCATION (3, 6) Requires the presentation of a proposal before enrolling in the project. The format of the finished project must be consistent with a recognized and agreed on manual of style.

EDUCATION LEADERSHIP COURSES

EDLS 600  CLINICAL FACULTY/NEW TEACHER MENTOR (3) Prerequisites: Open to local school division teachers as recommended by their supervisors. This course is designed to train area school division teachers who will serve as University of Lynchburg Clinical Faculty/New Teacher Mentors. The course curriculum will include the New Teacher Center Instructional Mentoring Professional Learning Series I - IV.

EDLS 603  LEGAL AND ETHICAL ISSUES (3) Explores the responsibility of the school as a social institution for students, parents, taxpayers, and employees; examines the legal framework of constitutional, case and statute law, and ethical issues pertaining to schools and identifies the implications for educational practice.

EDLS 609  RESEARCH METHODS AND APPLICATIONS FOR EDUCATIONAL LEADERS (3) Examines research methodology, tools, and resources for the educational leader. Particular emphasis is placed on action research focusing on effective schools and student achievement. Emphasis is given to the appropriate use of research tools and educational technology in the analysis of data including data driven decision making and implementing school and/or division-based research projects or school improvement plans. Both formative and summative evaluation strategies are emphasized.

EDLS 610  LEGAL AND ETHICAL ISSUES IN HIGHER EDUCATION (3) Prerequisites: Enrollment in M.Ed. in Educational Leadership with Higher Education emphasis or advisor/instructor approval. This course will explore legal and ethical issues that occur in American private and public higher education institutions in the 21st century and their historical context and development. Emphasis will be placed on the legal and ethical principles, regulations, and policies likely to be encountered by higher education practitioners and the applicable leadership decision-making skills, knowledge, and resources necessary for their resolution.

EDLS 611  STUDENT DEVELOPMENT IN HIGHER EDUCATION (3) This seminar introduces graduate students to student development theories and theorists associated with higher education to prepare them for their future leadership roles in higher education. Students will examine the cognitive, interpersonal, identity, and psychosocial theories of human development that shape the University-student experience. In addition this course will examine classroom and teaching pedagogy, student services, and student affairs programs to explore how the development theories influence design and practice in each of these arenas.

EDLS 612  CONTEMPORARY ISSUES IN HIGHER EDUCATION (3) This course provides an opportunity to explore contemporary issues related to higher education.

EDLS 613  FISCAL AND RESOURCE ACCOUNTABILITY (3) Examines the multiple roles and responsibilities of leaders for establishing priorities, budget development and control, accounting procedures and safeguards, resource maintenance and management, and environmental safety.

EDLS 614  HISTORY AND PHILOSOPHY OF HIGHER EDUCATION (3) This course provides an overview of the history and philosophical foundations of higher education.

EDLS 615  HIGHER EDUCATION ADMINISTRATION (3) Examines the mission of higher education and provides an overview of the organization of colleges and universities in the U.S. including admissions, academic programs, student development, financial aid, business and finance, and student support services.

EDLS 617  INTERNATIONAL AND COMPARATIVE HIGHER EDUCATION (3) This seminar introduces graduate students to the international aspects of higher education; concepts necessary for comparing different education systems, their contexts, and outcomes. Students will examine organizations that promote and sponsor international activity; challenges of cross-border academic mobility, education reform, and integrating multiple systems of higher systems will be the focus of discussions.
EDLS 618  CURRICULUM, INSTRUCTION, AND ASSESSMENT (3) Focuses on identifying the knowledge, skills, and attitudes necessary for success in a standards-based curriculum and for a 21st century global economy. Students focus on designing and delivering instruction around identified standards and on determining appropriate assessment strategies and techniques. Particular emphasis is placed on research-based instructional strategies and creating engaging classrooms. Emphasis is also placed on the 3 R’s: Rigor, Relevance, Relationships.

EDLS 619  CURRICULUM, INSTRUCTION, SUPERVISION, AND ASSESSMENT IN HIGHER EDUCATION (3) This course focuses on curriculum, instruction, supervision, and assessment issues connected to higher education. Students will engage in the inquiry and study of a variety of related topics and exploration of their impact on the future of higher education.

EDLS 623  PERSONNEL (3) Examines the theory and practice relative to effective human resource administration. Emphasis is placed on the recruitment, selection, educational development, evaluation, compensation, and legal rights of personnel.

EDLS 643  THE PRINCIPALSHIP (3) A study of the schools as semiautonomous educational units within the structure of the state and the law, policy, and mandates. Emphases are on developing knowledge and skill in the areas of shared decision making, empowerment, developing a sense of ownership, and formative assessments of school effectiveness.

EDLS 646  IMPROVING THE SCHOOL STRUCTURE AND CLIMATE (3) Focuses on the forces and factors that influence the teaching/learning environment and encourages taking charge of change, as well as leading and facilitating the process and the people involved. Emphasis is placed on assessing current educational institutions and developing strategies for implementing improvements.

EDLS 653  SUPERVISION AND EVALUATION OF INSTRUCTION (3) Focuses on the nature and function of supervision as a means to improve student achievement and teacher effectiveness and examines the roles of the supervisor, the building administrator, and the teacher in establishing effective instruction in each classroom.

EDLS 669  SPECIAL TOPICS IN EDUCATIONAL LEADERSHIP (1, 2, 3) Intensive study of a problem or topic in education. Topic varies according to professor and term offered.

EDLS 670  INDEPENDENT STUDY – EDUCATIONAL LEADERSHIP (1, 2, 3) This course offers the opportunity for students to pursue in depth a topic of special interest within Educational Leadership under the supervision of a faculty member. Can be taken more than once.

EDLS 690  PRINCIPLES OF LEADERSHIP (3) Emphasizes the study of leadership theories as they relate to PK-12 education, higher education, athletics, and any professional environment. Students review current literature on leadership, analyze their own leadership style, and work to expand their capacity to lead through knowledge, skills, and attitudes. Communication skills, team building, and conflict management is emphasized. Additional focus is placed on developing leaders in a professional environment.

EDLS 696-697  LEADERSHIP INTERNSHIP HIGHER EDUCATION FOCUS I-II (3, 3) Provide on-campus experiences enabling the prospective higher education leader to observe, assist and execute a wide-range of leadership and administrative tasks associated with the effective operation of the many facets of a University. The course is under the guidance and direction of supervisors across campus and requires a two-semester sequential commitment.

EDLS 698-699  LEADERSHIP INTERNSHIP PK-12 FOCUS I-II (3, 3) Provide on-site experiences enabling the prospective administrator to observe, assist, and execute a wide range of leadership and administrative tasks associated with school principalship. The course is under the guidance and direction of a supervising principal and requires a two-semester sequential commitment.

EDLS 700  ISSUES AND TOPICS IN EDUCATIONAL LEADERSHIP (3) offered as a post-master’s degree course for active building and central office administrators. The course focuses on current and relevant issues and topics related to student learning. The course is designed to improve the instructional
leadership skills of practicing administrators so schools become fully accredited and meet the requirement of Adequate Yearly Progress. The course is designed for individuals who hold the MEd and are seeking advanced professional development opportunities. The course may be repeated for credit.

**ENVIRONMENTAL SCIENCE COURSES**

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<tr>
<th>Course Code</th>
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<th>Description</th>
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<tr>
<td>ENVS 600</td>
<td>CONCEPTS IN EARTH AND ENVIRONMENTAL SCIENCE (3)</td>
<td>Focuses on a variety of specific earth and environmental science content, concepts, and laboratory and field skills that teachers are required to address when teaching earth science at the middle and high school levels. Topics include plate tectonics, the rock cycle, Earth’s history, oceans, atmosphere, weather and climate, the solar system and universe, and land and water resource issues.</td>
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<tr>
<td>ENVS 610</td>
<td>ASTRONOMY (3)</td>
<td>Addresses topics in modern astronomy from the solar system to the wider universe and to ultimate cosmological questions. The emphasis is on easily observed celestial phenomena and understanding their significance, current discoveries coming from interplanetary missions and what they tell us about our own planet, and the latest discoveries and speculations in astrophysics and cosmology. Relevant course content will be adapted by students into lessons and activities suitable for public schools and other educational settings.</td>
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<tr>
<td>ENVS 631</td>
<td>ENVIRONMENTAL HYDROLOGY (3)</td>
<td>This course covers the fundamentals of surface and subsurface water flow and transport, emphasizing the role of groundwater in the hydrologic cycle, the relation of surface and groundwater flow to geologic structure, and the characterization of contaminants in surface and subsurface water. Special emphasis will be placed on improving the laboratory and field skills of middle and high school level biology and earth science teachers.</td>
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<tr>
<td>ENVS 645</td>
<td>PRACTICAL METEOROLOGY (3)</td>
<td>This course covers all key aspects of meteorology ranging from basic atmospheric processes to human induced climate change. Various weather events, tropical weather, air pollution, and forecasting are all addressed, with an emphasis on practical applications and impacts on our daily lives. Special emphasis will be placed on improving the laboratory and field skills of middle and high school level biology and earth science teachers.</td>
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<tr>
<td>ENVS 650</td>
<td>WATER QUALITY (3)</td>
<td>Focuses on integrated content in environmental science, chemistry, and biology that applies to water quality assessment. Appropriate laboratory and field skills for teachers, in any of the scientific disciplines listed above, are addressed. Topics include water quality issues, bacterial monitoring, chemical assessment, and biological assessment. Emphasis is on pedagogical approaches to applying these concepts in the classroom. This course is included within the graduate course sequence in biology.</td>
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<tr>
<td>ENVS 660</td>
<td>APPLIED GEOLOGY (3)</td>
<td>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.</td>
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<tr>
<td>ENVS 665</td>
<td>FUNCTIONAL OCEANOGRAPHY (3)</td>
<td>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.</td>
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<tr>
<td>ENVS 680</td>
<td>APPLIED GEOGRAPHY (3)</td>
<td>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.</td>
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**HEALTH BENEFIT DESIGN AND HEALTH INFORMATICS COURSES**

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<tr>
<th>Course Code</th>
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<tr>
<td>HIM 600</td>
<td>INTRODUCTION TO HEALTH CARE OPERATIONS (3)</td>
<td>This is a required program pre-requisite for students with no prior experience or coursework in healthcare management or health benefit design. It provides students with an overview of the functions and operations of the U.S. healthcare sys-</td>
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