LENOIR-RHYNE UNIVERSITY

MASTER OF SCIENCE IN PHYSICIAN ASSISTANT STUDIES
DIDACTIC COURSE SEQUENCE

Semester 1 - Spring

Course Number and Title	***Credit Hours***
PAS 501 Professional Practice-I: Professional Issues, Health Policy and the PA History and Role in Modern Health Care	2
PAS 502 Gross Anatomy	4
PAS 503 Medical Science I: Foundations of Medical Science	3
PAS 504 History and Physical Examination	4
PAS 505 Clinical Laboratory Medicine: Clinical Microbiology, Genetics & Common Diagnostic Tests	3
Total:	16

Semester 2 - Summer

Course Number and Title	***Credit Hours***
PAS 506 Pharmacology I	3
PAS 507 Medical Science II: Physiology/Pathophysiology/Genetics	3
PAS 508 Clinical Medicine I	3
PAS 509 Clinical Medicine Lab I	2
PAS 510 Professional Practice II: Healthcare Law & Ethics	2
Total:	13

Semester 3 - Fall

Course Number and Title	***Credit Hours***
PAS 511 Pharmacology II	3
PAS 512 Clinical Pediatrics (1st half of semester)	1
PAS 513 Clinical Geriatrics (2nd half of semester)	1
PAS 514 Clinical Medicine II	3
PAS 515 Clinical Medicine Lab II	2
PAS 516 Medical Science III: Physiology/Pathophysiology/Genetics	3

PAS 517 Behavioral Medicine (1st half of semester)	1
PAS 518 Women's Health (2nd half of semester)	1
PAS 519 Research Design and Methodology	3
PAS 520 Evidence-Based Medicine and Clinical Case Management	2
Total:	20

Semester 4 - Spring

Course Number and Title	***Credit Hours***
PAS 521 Health Promotion & Disease Prevention	2
PAS 522 Emergency Medicine	3
PAS 523 Essentials of Radiology	2
PAS 524 Fundamentals of Surgery	3
PAS 525 Clinical Medicine III	3
PAS 526 Clinical Medicine Lab III	2
PAS 527 Introduction to the Clinical Experience	1
Total:	16
PAS 529 Didactic Summative Evaluation	2
PAS 528 Capstone	1
Total Didactic Credit Hours:	***68***

The courses above are intended to represent the most current degree requirements for this program. The University Catalog, however, is the ultimate and final authority for all degree-related requirements. Current students should follow the curriculum requirements stated in the University Catalog under the academic year they matriculated to Lenoir-Rhyne as a graduate student, which may be different than the list above. Please refer to the University Catalog for a complete listing of all graduation requirements and/or confer with your Academic Advisor.

Didactic Course Descriptions

Semester 1 - Spring

PAS 501Professional Practice-I Professional Issues, Health Policy and the PA Role in Modern Health Care: This course provides a basis for the future physician assistant to use as grounding and ongoing reference for professional issues and medical practice including professional responsibility, health care disparities the impact of socioeconomic issues affecting health care, health care delivery systems and health policy; cultural issues related to health care and their impact on health care policy. This course will also present the history, development and current status of the Physician Assistant profession within the context of the system of health care in the USA and other global countries. The student will explore the role of the PA in the current health care delivery system as well as develop an understanding of the patient centered health care team within all specialties. The student will acquire a base of knowledge about the organizations that make up the PA profession, the process of certification, educational accreditation and institutional credentialing and reimbursement. An emphasis will be placed on the various local, national and global roles of PAs both past and present.

PAS 502 Gross Anatomy (4 credits): This course will be presented in a combined lecture/lab format and provides a comprehensive study of human gross anatomy. A regional approach is used to study the structures and organ systems of the extremities and trunk. The clinical significance of topographical and radiological anatomical features is emphasized. Lectures are complemented by laboratory study of anatomic models, prosections, dissection, surface anatomy, and critical thinking issues. Laboratory sessions will utilize 3D dissection software to reinforce topics presented in lecture. Typically students will review structures that are presented on the same day. Some gross dissection will occur in the laboratory. Student evaluation will be in the form of written exams and identification of anatomical structures on prosections, models and cadavers.

PAS 503 Medical Science-I (3 credits): The first of three courses designed to provide a comprehensive study of human physiology, the associated pathophysiology and genetics. This course will be an introduction to each area providing an overview and foundational knowledge of the essentials of physiology, pathophysiology and genetics.

PAS 504 History and Physical Examination (4 credits): This course is presented in a combined lecture/lab format and is designed to provide physician assistant students with the fundamental grounding and cognitive knowledge to prepare them for their professional clinical role. The ability to conduct a proper medical interview and physical examination are skills central to the development of clinical competency in physician assistants. This course will provide students with instruction directed toward the development of appropriate interviewing and patient communication skills and the physical examination skills necessary to conduct age-appropriate and thorough comprehensive history and physical examinations on culturally diverse populations. Students will receive instruction on how to accurately record and organize pertinent medical information. Over the course of the semester, students will have the opportunity to practice and demonstrate these skills.

PAS 505 Clinical Laboratory Medicine (3 credits): This course provides students with the essentials of clinical microbiology, genetics and clinical laboratory diagnostic tests. This course introduces the students to clinical laboratory diagnostic tests. The basic theory, selection, and interpretation of procedures most commonly used in a primary care setting are studied. Students study techniques used to obtain, preserve, and handle laboratory specimens as well as use clinical laboratory results to screen, diagnose, evaluate, and monitor patients.

Total: 16

Semester 2 - Summer

PAS 506 Pharmacology-I (3 credits): This is the first in a two semester course sequence designed to provide a solid foundation in pharmacokinetics, pharmacodynamics, and the physiology (including the genetic and molecular mechanisms) associated with drug action and interaction. Specific drug classes will be discussed, with attention given to the most commonly prescribed drugs in each class and their uses, side effects, similarities, and differences. Pharmacotherapeutic agents specific to the treatment of disorders of the autonomic system, respiratory system, cardiovascular system, neurologic system, musculoskeletal system and orthopedics, autoimmune disorders, infectious disease, allergies, pain management, abuse and addiction and the related antimicrobial agents will be addressed in this course. The approach to using these agents in the pediatric and geriatric populations will also be considered.

PAS 507 Medical Science-II Physiology, Pathophysiology and Genetics (3 credits): This course is the second of three designed to provide a comprehensive study of human physiology and the associated pathophysiology. The material is divided into sections and each section covers the function by organ system (neurology, cardiology, and pulmonology, musculoskeletal, autoimmune and infectious disease). The course also provides an understanding of the essential nature of a broad representation of human diseases, with a focus on the structural and functional changes in cells, tissues, and organs caused by each disease covered, as well as the molecular and genetic mechanisms underlying these diseases.

PAS 508 Clinical Medicine-I (3 credits): This is the first course in a sequence of three courses designed to teach the essentials of medicine. PA students learn an organ-system and problem-oriented approach to understanding the etiology, epidemiology, pathophysiology, manifestations, laboratory and diagnostic studies, and diagnosis and treatment of specific diseases encountered in general practice. They will continue to develop and refine culturally appropriate patient communication, medical history taking, and physical exam skills for a diverse patient population. For each disease or

problem, related health promotion, disease prevention, patient education and continuity of care across the lifespan of patients will be considered. An overview of pediatrics, geriatrics, alcohol and substance abuse, elder and child abuse, sexual orientation and eating disorders will be presented. Other professional issues are considered; including competency in managing various conditions and disease processes in neurology, cardiology, pulmonology, musculoskeletal/orthopedics, autoimmune and infectious disease.

PAS 509 Clinical Medicine-I Lab (2 credits): This lab is in conjunction with the first course in a sequence of three courses designed to teach the essentials of medicine. Building on the skills acquired in the History and Physical Examination course, students will learn to perform a focused history and physical exam, develop a differential diagnosis, perform the appropriate diagnostic work-up and develop a treatment plan. The lab will make use of high-fidelity simulation, task trainers, videos and case presentations/clinical scenarios. Students learn an organ-system and problem-oriented approach to understanding the etiology, epidemiology, pathophysiology, manifestations, laboratory and diagnostic studies, and diagnosis and treatment of specific diseases encountered in general practice. They will continue to develop and refine culturally appropriate patient communication, medical history taking, and physical exam skills for diverse patient populations. For each disease or problem, related health promotion, disease prevention, patient education and continuity of care across the lifespan of patient will be considered. An overview of pediatrics, geriatrics, alcohol and substance abuse, elder and child abuse, sexual orientation and eating disorders will be presented. Other professional issues are considered; including competency in managing various conditions and disease processes in neurology, cardiology, pulmonology, musculoskeletal/orthopedics, autoimmune and infectious disease.

PAS 510 Professional Practice-II: Healthcare Law and Ethics (2 credits): The course is designed to prepare the student for licensure, credentialing, professional liability, professional behavior, ethical behavior and decision making in medical practice, prescriptive authority, quality assurance, risk management in medical practice, legal issues and medical ethics in health care issues involving law, policy and politics in health care. Also to be considered are issues involving intellectual honesty, plagiarism, and what is entailed in appropriate academic and professional conduct as a student and as a practicing professional.

Total: 13

Semester 3 - Fall

PAS 511 Pharmacology-II (3 credits): This is the second of a two course sequence designed to provide a solid foundation in Pharmacotherapeutics, Pharmacodynamics, and the physiology associated with drug action and interaction. Specific drug classes will be discussed, with attention given to individual drugs and their uses, side effects, similarities, and differences. Specific Pharmacotherapeutics agents and/or disorders covered in this course include dermatology, otolaryngology, ophthalmology, endocrine, pain management, gastrointestinal, hematopoietic disorders, psychiatric medications, hyperlipidemia, genitourinary/renal drugs, reproductive health and the related antimicrobial agents. The common medications, dosing, interactions and side-effects in the geriatric and pediatric populations will also be considered as well as allergies, abuse and addiction.

PAS 512 Clinical Pediatrics (1 credit): This course provides an introduction to the fundamentals of pediatric medicine, covering the age span from neonate through adolescence. Topics covered include normal growth and development, preventive care and anticipatory guidance, common pediatric illnesses and disorders and their diagnosis and management. Less common, but important disorders that are peculiar to the pediatric population are also included.

PAS 513 Clinical Geriatrics (1 credit): This course is designed to provide students with an understanding of the medical problems of the elderly including the biological and psychological changes commonly associated with aging. The overall goal of this geriatric course is to provide all students with a foundation for competent, compassionate care of the older adult. This foundation includes attitudes, knowledge, and skills needed by those giving care to older people. In addition, this course focuses on developing an understanding of age-related disease, an increased incidence of undesirable drug interactions, multi-system organ failure, and limitations in mobility, communication, and other impairments. End of life issues and palliative care will be addressed.

PAS 514 Clinical Medicine-II (3 credits): This is the second course in a sequence of three courses designed to teach the essentials of medicine. PA students learn an organ-system and problem-oriented approach to understanding the etiology, epidemiology, pathophysiology, manifestations, laboratory and diagnostic studies, and diagnosis and treatment of specific diseases encountered in general practice. An overview of clinical laboratory medicine will be presented that explains the most common diagnostic lab tests, indications and interpretation. The essentials of diagnostic imaging and their indications will be presented as well as an overview of diet and nutrition related to the treatment plan. Specific specialty areas and organ systems covered include Dermatology, Endocrine, Otolaryngology, Ophthalmology, and Gastrointestinal Disorders in adult populations. Students will continue to develop and refine culturally appropriate patient communication, medical history taking, and physical exam skills for a diverse patient population. For each disease or problem, related health promotion, disease prevention, patient education, continuity of care across the lifespan of patients will be considered. Other professional issues are addressed, including competency with various medical instruments and procedures.

PAS 515 Clinical Medicine Lab-II (2 credits): This lab is in conjunction with the second course in a sequence of three courses designed to teach the essentials of medicine. Building on the skills acquired in the History and Physical Examination course and the first Clinical Medicine course, students will learn to perform a focused history and physical exam, develop a differential diagnosis, perform the appropriate diagnostic work-up and develop a treatment plan. The lab will make use of high-fidelity simulation, task trainers, videos and case presentations/clinical scenarios. PA students learn an organ-system and problem-oriented approach to understanding the etiology, epidemiology, pathophysiology, manifestations, laboratory and diagnostic studies, and diagnosis and treatment of specific diseases encountered in general practice. Specific specialty areas and organ systems covered include Dermatology, Endocrine, Otolaryngology, Ophthalmology, and Gastrointestinal Disorders in adult populations. Students will continue to develop and refine culturally appropriate patient communication, medical history taking, and physical exam skills. For each disease or problem, related health promotion, disease prevention, and patient education specific topics are also presented. Other professional issues are considered, including competency with various medical instruments and procedures.

PAS 516 Medical Science-III Physiology, Pathophysiology and Genetics (3 credits): This course is the third of three designed to provide a comprehensive study of human physiology, pathophysiology and genetics. The material is divided into sections and each section covers the function by organ systems. The basic physiology and pathophysiology for the following organ systems will be covered during the spring semester: Dermatology, Endocrine, Otolaryngology, Ophthalmology, and Gastrointestinal disorders. The course also provides an understanding of the essential nature of a broad representation of human diseases, with a focus on the structural and functional changes in cells, tissues, and organs caused by each disease, as well as the molecular and genetic mechanisms underlying these diseases.

PAS 517 Behavioral Medicine (1 credit): This course provides students with an overview of behavioral medicine, broadly defined as an interdisciplinary field that aims to integrate biological, cultural, and psychosocial perspectives on human behavior. The integration of mental disorders and behavioral problems into primary care medicine will be addressed. Topics covered will include normal psychological development in pediatric, adult, and geriatric patients, detection and treatment of substance abuse, human sexuality, end of life issues, response to illness, injury, and stress, and principles of violence identification and prevention.

PAS 518 Women's Health/OB-Gyn (1 credit): This course provides an introduction to women's health issues, including the diagnosis, management, and treatment of common acute and chronic medical problems commonly encountered in reproductive health care and gynecology.

PAS 519 Research Design and Methodology (3 credits): This course provides a foundation in medical research and design for health care providers. The students will review how to search, interpret, and evaluate the medical literature, then focus on a step-by-step approach to the development and implementation of medical research. Students will gain an understanding of the principles of research as they apply to the practical, educational, and societal aspects of the Physician Assistant profession.

*PAS 520 Evidence-Based Medicine and Clinical Case Management (2 credits):*This course involves clinical case discussions in small learning groups designed to facilitate the integration of medical knowledge and clinical skill in order for students to develop critical thinking, clinical reasoning and patient management skills. The course is designed to

prepare students for evidence-based practice, emphasizing the processes of critical inquiry and analysis in a multidisciplinary forum and best practices in clinical measurements, interpretation of diagnostic reliability, validity, prediction and measures of clinically meaningful change. This course will prepare students to search, interpret, and evaluate the medical literature in order to maintain a critical, current, and operational knowledge of new medical findings and provide a basis for future evidence-based clinical work. The cases will focus on neurology, cardiology, pulmonology, musculoskeletal/orthopedics, autoimmune, infectious disease, dermatology, endocrine, otolaryngology, ophthalmology, gastrointestinal disorders, renal/genitourinary, immunology, oncology and hematology.

Total: 20

Semester 4 - Spring

PAS 521 Health Promotion & Disease Prevention (2 credits): This course provides students with an overview of the basic concepts of epidemiology, public health, diet and nutrition and preventative medicine. Epidemiological concepts include distribution, prevalence, causation, mode of transmission, dissemination, control, and preventive countermeasures of infectious and non-communicable diseases, as well as environmental, occupational, behavioral, and chronic conditions. PA students will be introduced to research methodologies related to the study of disease and will investigate epidemiological trends across a variety of cultures, nationally and globally. Attention will be paid to professional responsibility, confidentiality, informed patient consent, and issues of patient welfare.

PAS 522 Emergency Medicine (3 credits): This course focuses on the specialty of emergency medicine including an understanding of pre-hospital care/emergency medicine system (EMS), and the interplay between 911 responders, the hospital emergency department, inpatient hospital services, and community medical providers in the primary care setting, as well as appropriate interaction with other medical providers in a variety of disciplines, including administrative. Emphasis is placed on the special skills and attitudes necessary and required to perform well in the emergency medical setting. As part of this course, students take the Advanced Cardiac Life Support (ACLS) course as well as the Pediatric Advanced Life Support (PALS) course.

PAS 523 Essentials of Radiography (2 credits): This case-based course provides students with a systematic method of interpreting common imaging studies seen in the primary care and emergency setting. Students will learn to appropriately select and correctly interpret imaging modalities including radiography, computerized tomography, ultrasonography, magnetic resonance imaging, and nuclear medicine imaging.

PAS 524 Fundamentals of Surgery (3 credits): This course is designed to provide the students with an introduction and an overview to the discipline of surgery. The management of acute surgical problems, critical illness, perioperative management of the surgical patient, nutrition, fluid and electrolytes, acid-base balance and elective surgical procedures will be discussed, as well as the pre- and post- operative care of surgical patients. Laboratory sessions will teach technical skills such as sterile technique, basic suturing techniques, pre-op scrubbing, pre-op draping, post-op dressing, surgical infections, wounds and wound healing, surgical bleeding, blood replacement, shock, universal precautions, and minor surgical procedures.

PAS 525 Clinical Medicine-III (3 credits): This is the third course in a sequence of three courses designed to teach the essentials of medicine. PA students learn an organ-system and problem-oriented approach to understanding the etiology, epidemiology, pathophysiology, manifestations, laboratory and diagnostic studies, and diagnosis and treatment of specific diseases encountered in general practice. Specific specialty areas and organ systems covered include Renal/Genitourinary, immunology, oncology, and Hematology disorders in adult populations. They will continue to develop and refine culturally appropriate patient communication, medical history taking, and physical exam skills in adult, pediatric and geriatric populations. Students will continue to develop and refine culturally appropriate patient communication, medical history taking, and physical exam skills for a diverse patient population. For each disease or problem, related health promotion, disease prevention, patient education, continuity of care across the lifespan of patients will be considered. For each disease or problem, related health promotion, disease prevention, and patient education specific topics are also presented. Other professional issues are considered, including competency with various medical instruments and procedures.

PAS 526 Clinical Medicine Lab-III (2 credits): This is the third course in a sequence of three courses designed to teach the essentials of medicine. PA students learn an organ-system and problem-oriented approach to understanding the etiology, epidemiology, pathophysiology, manifestations, laboratory and diagnostic studies, and diagnosis and treatment of specific diseases encountered in general practice. Specific specialty areas and organ systems covered include Renal/Genitourinary, Immunology, and Oncology and Hematology disorders in adult, pediatric and geriatric populations. They will continue to develop and refine culturally appropriate patient communication, medical history taking, and physical exam skills. For each disease or problem, related health promotion, disease prevention, and patient education specific topics are also presented. Other professional issues are considered.

PAS 527 Introduction to the Clinical Experience (1 credit): This course is designed to further prepare students for the clinical phase of their training. Practical information and approaches to reimbursement, documentation, coding, billing, quality assurance and risk management in medical practice, legal issues in health care, patient safety, OHSA, HIPPA, Infection Control, Medical Errors, Documentation, Electronic Medical Record (EMR) and Diagnostic codes will be presented.

Total: 19

PAS 529 Didactic Summative Evaluation (2 credits): This course provides a comprehensive review of the entire didactic phase and will involve a written exam and OSCE/OSLER evaluation. This course provides a summative evaluation of the didactic year. It will focus on evaluating history taking and physical examination performance skills, as well as communication and clinical reasoning ability, the ability to summarize and document clinical encounter findings, and demonstration of psychomotor clinical and cognitive critical thinking skills. The summative evaluation will include a variety of assessment tools including multiple choice question examinations, the PACKRAT examination, comprehensive oral case presentations, standardized patient encounters, Objective Structured Clinical Examinations (OSCEs), and clinical procedure performance skill laboratories. Students will be individually evaluated by core and adjunct faculty members.

PAS 528 Capstone (1 credit): Review and discussion of research topics, project selection, written and verbal presentation of proposal abstract. Topic approval by the Course Director and principal faculty is needed for proposal.

Total for Didactic Phase: 68