

Course Descriptions

PA 510, 520, 530, and 540 - Principles of PA Practice I, II, III, and IV:

Principles of PA Practice I – IV is a four-quarter series of courses, which focuses on the physician assistant profession, provides instruction in necessary aspects of patient care, as well as covers many elements of professional practice which combine to make the physician assistant profession unique. Topics include, but are not limited to, the origins and history of the profession, PA licensure, credentialing, laws and regulations regarding professional practice, patient communication, cultural competency, medical ethics, the health care system, and an overview of public health.

PA 511, 521, 531, and 541 - Clinical Medicine I, II, III, and IV:

This is a four-quarter series of courses which explore the intricacies of human disease. The courses divide into individual modules of the various medical disciplines, including, but not limited to: Dermatology, Otolaryngology, Infectious Disease, Hematology/Oncology, Cardiology, Pulmonology, Gastroenterology, Renal Medicine, Geriatrics and Rheumatology. In each quarter, Clinical Medicine's content is coordinated and integrated with the content in Physiology and Pathophysiology, and Pharmacology and Pharmacotherapeutics.

PA 512, 522, 532, and 542 - Pharmacology and Pharmacotherapeutics I, II, III, and IV:

Pharmacology and Pharmacotherapeutics is a four-quarter series of courses intended to orient students to the basic concepts of pharmacology. The courses are tailored to the needs of the physician assistant profession while presenting information basic to clinical practice. Students will become familiar with the mechanisms of action of drugs, their adverse effects, and clinical indications, which will allow students to better understand the effects of drugs on living tissues. The course topics integrate with the units being taught in Physiology and Pathophysiology and Clinical Medicine. This integrated teaching method allows students to better understand and correlate the therapeutic actions of drugs with their clinical applications.

PA 513 – Complementary and Alternative Medicine:

This course is designed to introduce the student to the various therapies associated with complementary and alternative medicine, as well as to give evidence as to their safety and effectiveness. This will be accomplished through an Online Continuing Education Series produced by the National Institutes of Health's Center for Complementary and Alternative Medicine.

PA 514 – Medical Microbiology:

Medical Microbiology is intended to orient students to the clinical applications of microbiology and is tailored to meet the needs of the physician assistant profession, presenting information basic to clinical practice. Students will become familiar with the role of microorganisms in human diseases. The interactions of microorganisms with humans will be highlighted, as well as the physical and chemical control of microorganisms.

PA 515 – Genetics and Disease:

Genetics and Disease is designed to assist physician assistant students in understanding the genetic basis of disease. The course is tailored to the needs of the physician assistant profession, while presenting information basic to clinical practice. Students will become familiar with basic genetics and the basic principles of Mendelian genetics. The course will explore the etiology, inheritance pattern, and treatment of various genetic disorders, which are commonly encountered in clinical practice. Information on modern diagnostic tools and the techniques used in medical genetics will be presented. The course will also investigate teratogens and their underlying principles. Students will appreciate the basic principles of gene therapy, as well as the ethical, legal, and social issues associated with genetic testing.

PA 516 – Gross Human Anatomy:

Clinical Gross Anatomy is an online, directed-independent, and group study course, in which didactic modules and discussions provide the student with the knowledge necessary for successful sequential discovery of the human body. The knowledge gained from this experience will lead the student to develop a fine appreciation for not only the structure of the human body, but also the interrelation of its parts, and exposure to clinical medicine from the anatomical perspective. Clinical correlation workshops with cases are included within the modules and discussion sections of this course to provide a clinical context for the learning of gross anatomy. Computer software is used to facilitate learning of anatomic structures and relationships. Students' independent and group study experience will be enhanced with fresh tissue dissection encounters at the University of Louisville Department of Anatomical Sciences and Neurobiology. Throughout this course, instructional emphasis is placed on structure/function relationships and the clinical applications of such knowledge. The course relies on many independent and group study activities adapted for the goal of helping each member of the class to become a life-long learner. An additional goal of this format is the physician assistant-patient relationship, as students begin to develop the behaviors and attitudes of a medical professional.

PA 517, 527, 537, and 547 – Physiology and Pathophysiology I, II, III, IV:

Physiology and Pathophysiology I, II, III, and IV is a four-quarter course intended to orient students to the clinical applications of physiology and pathologic states of diseases. The course is tailored to the needs of the physician assistant profession, while presenting information basic to clinical practice. Students will become familiar with the pathophysiologic basis of signs and symptoms of various diseases. The course emphasis is mainly on pathophysiologic mechanisms related to several common disorders of various body systems, and will parallel lecture topics in Clinical Medicine and Pharmacology and Pharmacotherapeutics. Integration of lectures, visual aids, and case studies will aid students to learn the concepts of pathophysiology and their clinical application.

PA 523 and 533 – Physical Diagnosis I and II:

This is a two-quarter sequence of courses in which the student will learn how to do a complete (comprehensive) history and physical examination, a directed (focused) history and physical examination, as well as the history and physical examinations relating specifically to the

pregnant patient, the pediatric patient, and the geriatric patient. Students will also be introduced to critical thinking and problem solving with a case-based learning lab exercise every week.

PA 524 – Psychosocial Medicine:

Psychosocial Medicine is intended to orient students to the practical aspects of recognizing, evaluating, and comparing normal and abnormal behavior. The course is tailored to the needs of the physician assistant profession, while presenting information pertaining to both inpatient and outpatient settings. Students will be able to assess the various aspects of human behavior in health and illness. Students will also learn the importance of the interrelationships among biology, behavior, cognition, environment, society, and culture. The course content involves the essential aspects of growth and development across the life cycle. In Psychosocial Medicine, students will learn the mind-body interaction involving mood, sleep and anxiety disorders, psychoses, somatoform, and other psychiatric disorders. Students will strengthen their interpersonal and communication skills, flexibility, and equally important, develop cross-cultural tolerance in clinical medicine.

PA 525 – Clinical Laboratory Medicine and Application:

The goal of this course is to provide students with a concise, practical guide on which laboratory tests are ordered, along with their clinical significance. The course will guide students through what tests to order, the significance of specific abnormalities, lab errors, how results might impact on differential diagnoses, and how the results impact the treatment plan.

PA 534, 544 – Clinical Problem Solving I and II:

The focus of this two-quarter series is to help the student to synthesize and practice the theoretical and practical aspects of critical thinking involved in the process of clinical problem solving, and to prepare them for clinical rotations and clinical practice as a physician assistant. These courses use a small group format and problem-based learning theory to develop critical thinking and problem solving skills in the individual student. These groups will apply the knowledge, skills, and attitudes learned from the curriculum to work through individual patient cases, from chief complaint through therapeutic plan, including patient education and lifestyle changes. Through integration of clinical reasoning and utilizing all the knowledge and skills already obtained in the previous two quarters, students will continue to solve problems that are frequently encountered in the day-to-day practice of medicine.

PA 535 – Pediatrics and Women’s Health:

This course is intended to orient students to the practical aspects of diagnosis and patient management of the pediatric and female populations. Students will become familiar with disease prevention, health promotion, evidence-based medicine, diagnosis, and treatment in these two patient populations. The unit on pediatrics will introduce students to the routine health maintenance and common health problems affecting the pediatric patient from the newborn period through adolescence. The lectures focus on health promotion, disease prevention, screening, common illnesses that affect the major organ system, pathology identification, patient education, and counseling for the pediatric patient and his/her family.

The unit on women's health focuses on the biological aspects, prevention, early recognition and amelioration of health issues unique to women.

PA 543 – Applied Clinical Skills:

This course provides the student with lectures and practical experience in the performance of the clinical skills necessary to function as a physician assistant. The course consists of lecture, demonstration, and clinical practice labs, and builds the skills needed to negotiate the clinical year. Skills include, but are not limited to, BLS/ACLS, universal precautions, sterile technique, suturing and wound care, venipuncture, IV line placement, obtaining arterial blood gases, and casting and splinting.

PA 545 – Research Methods and Evidence Based Medicine:

Research Methods and Evidence Based Medicine is intended to orient students to the basic concepts of research process. The course is tailored to the needs of the Physician Assistant profession, presenting information vital to the improvements in public health practice. Students will become familiar with a practical and step-by-step guide to the research process. Students will also discover that not only the outcomes, but also the research practice itself is rewarding and exhilarating. The required research paper in this course will instill in how to contribute to the evidence based medicine, which, in turn, would enhance their decisions about preventing disease and promoting health. The required textbook should serve as a useful resource in preparing students to accomplish the objectives of the course, as well as preparing students for future clinical research practice.

PA 546 – Principles of Surgery:

This course is designed to prepare the PA student for both the General Surgery rotation, as well as practice as a surgical physician assistant. General surgical concepts needed for the PA to function in the general surgical environment, as well as surgical specialties, are presented. The course emphasizes the recognition of surgical problems in general practice. Pre-, intra-, and post-operative care are taught, as well as the various modalities of anesthesia. Evidence-based medicine practice is weaved through the above areas where available and appropriate.

PA 548 – Principles of Emergency Medicine:

The goal of Principles of Emergency Medicine is to provide the physician assistant student with the knowledge base to diagnosis and manage common emergency conditions. Topics include, but are not limited to, multiple trauma, chest trauma, abdominal pain, burns, shock, and cardiac emergencies.

PA 601, 602, 603, 604, 605, 606, 607, - Clinical Rotations:

The clinical phase of the program is 12 months in length and students must complete seven required and one elective six-week clinical rotation. The required clinical rotations are:

- Behavioral and Mental Health
- Emergency Medicine
- Family Medicine
- General Surgery

- Internal Medicine
- Obstetrics/Gynecology
- Pediatrics

Students return to campus the last two days of each rotation cycle for End of Rotation Meetings. These meetings consist of end of rotation examinations and other professional activities.

Note: Students are also required to complete appropriate logging and evaluation forms as delineated in each syllabus and complete written assignments as assigned. Finally, clinical phase students will take a program-administered PACKRAT examination approximately 3 months before graduation. This examination is an indicator of knowledge strengths and weaknesses, and better assists the student in preparation for the Physician Assistant National Certifying Examination (PANCE). Students are also required to successfully pass a comprehensive written examination of the program's design, as well as an Objective Standardized Clinical Experience (OSCE) or other practical examination, prior to graduation in order to successfully complete the program.

PA 614, 615 – Capstone Projects I and II:

Evidence-based practice has emerged as the standard by which established and future providers will be expected to execute the delivery of medical care. The “Capstone Project” is a scholarly integrative project that culminates in a Grand Rounds presentation and submission of a publishable review article and clinical case analysis. This two-quarter course builds on the concepts presented in PA 530's *Introduction to Evidence Based Medicine* module, PA 545 *Research Methods and Evidence Based Medicine*, as well as evidence-based practice presented throughout the curriculum. Students are required to develop a capstone research paper of publishable quality, based on an actual case with which the student has been involved. Students will work closely with their faculty advisors in developing the paper, from the initial proposal question to the final Grand Rounds Presentation. The final Grand Rounds Presentation is an in-depth presentation and demonstrates the evidence-based process that led to the final diagnosis, treatment plan, prognosis, and patient counseling of the selected patient case. The oral Grand Rounds Presentation to students and faculty of the Sullivan University College of Health Sciences is a summative evaluation tool that will be used to measure cognitive, motor, and effective domains at the completion of the program.